The Naturopathy Workbook

Fourth Edition

Stephen Langley

MSc, ND, DCH, DipHom, DBM, DipAc, OMD

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CNM (College of Naturopathic Medicine)
Unit 1, Bulrushes Farm, Coombe Hill Road
East Grinstead, West Sussex RH19 4LZ
Tel: 01342 410 505 Fax: 01342 410 909
info@naturopathy-uk.com www.naturopathy-uk.com

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About the Author

Stephen Langley MSc, ND, DCH, DipHom, DBM, DipAc, OMD, is a registered Naturopath, Homoeopath, Acupuncturist and Medical Herbalist. He has appeared on a number of television and radio programmes concerning a wide range of health issues as well as being a regular contributor in the press for articles on health and healing. Stephen has studied Holistic Medicine in China, India, Hawaii, Australia, Tibet and Japan and has given talks on Naturopathic Medicine in many countries around the world.

Preface

This book is primarily designed as a reference book for students. It represents an overview of Naturopathic Medicine and is in no way complete, only a synopsis of this eclectic modality with succinct points rather than detailed analysis.

With this in mind, it should be seen as an introduction to this marvellous and life-changing subject and further reading of the many sections contained within is recommended.

The book is a synthesis distilled from many sources including books, published papers, mentors, and fellow practitioners. However, it mostly stems from my very own first-hand observations over more than 15 years of clinical practice. I have seen some truly remarkable changes in people's health over this time and it is from these close encounters with my patients that I pass on this knowledge.

It is envisaged that the student will be able to successfully incorporate this knowledge into their own case histories to the betterment of their patients.

Finally I wish to emphasise that this book represents a work in progress that will be continually evolving. Whilst the basic Naturopathic tenets will always remain the same, there will undoubtedly be continued development in scientific methods, identification of new therapeutic herbs and other measures to facilitate healing.

Stephen Langley, London 2003

Introduction

Naturopathy or Nature Cure is underpinned by a fundamental principle – *vis medicatrix naturae* – the healing power of nature. This was made clear twenty-five centuries ago when Hippocrates said "*Health is the expression of a harmonious balance between various components of man's nature, the environment and ways of life… nature is the physician of disease.*"

Man was part of nature and the universe, and health was achieved by living in accordance with this principle. Harmony was fostered with proper nutrition, water treatments, rest, sunshine and fasting.

Medicine, religion and science were intimately related and man was seen as a whole – a physical, mental, emotional and spiritual being. This same vital force or chi (qi) that made up the universe and nature, flowed through man and it was his dislocation from this source that caused illness. Early naturopaths realised that if you could restore the vital force to the patient, the body would naturally heal itself.

The body has this capacity to heal itself if given the right conditions, and naturopathy along with acupuncture, homoeopathy and most other holistic modalities, subscribes to this basic understanding of the body's own innate intelligence.

Modern orthodox medicine, apart from all its positive and beneficial attributes, does not subscribe to this idea of wholism or to the importance of prevention. As long ago as the second century BC, the Yellow Emperor, in the Classic of Internal Medicine, said "*A doctor who treats a disease after it has happened is a mediocre doctor… a doctor who treats a disease before it happens is a superior doctor*". Indeed Chinese physicians were paid to keep their patients healthy and were either dismissed or not paid if the patient became ill. This ensured a 'health system', not an 'ill health' system, as we know it. Unfortunately this understanding has changed to a new paradigm – wait until it is broken and then fix it. This is not intelligent medicine and part of a naturopath's role is empowering the patient to take responsibility for his or her own health. This is not always an easy task amid a hostile environment of toxins and chemicals.

The modern day naturopath faces many more challenges than those of their forefathers. Most of us now live in a "sea" of electromagnetic pollution, coupled with a plethora of chemical pollutants which were completely alien to man 40 years ago. Add to this a dose of denatured food fast-tracked by "technology" and we have a "heady mix" – a health problem waiting to happen. In short most people have too much of what they shouldn't have in their bodies and not enough of what they should have.

The naturopath of today needs a very eclectic approach to meet these challenges and guide their patients back to vibrant health. Whilst never losing sight of the basic fundamentals of the nature cure, the modern-day naturopath might employ a raft of skills such as herbs, homoeopathy, manipulation, flower essences, acupuncture or biochemical supplementation to augment their work. These may be necessary to offset many of the suppressions brought about through living in our modern times with all its concomitant stresses that seek to strangle the life force in our bodies.

01: **History of Naturopathy**

Ancient Times

15,000 BC Shamanic rituals on cave paintings in France (healing mind & soul)

Ayurveda Medicine (3000-1000 BC) ayur (life) and veda (science)
- Sacred medicine from Ancient India
- Holistic philosophy embracing fasts, herbs, enemas, baths and cleansing diets

2700 BC Shen Nong discovers Chinese herbalism

2600 BC Imhotep describes ancient Egyptian medicine

c2000 BC The writings of the *Nei Jing* (Classics of Internal medicine) by Huang-Ti (Yellow Emperor)

c1700 BC Code of Hammurabi (King of Babylon) lays down laws for doctors

1550 BC Ebers papyrus records Egyptian medical practice

1200 BC Asclepius (Greek physician) sets up a healing center in Greece

Hippocrates (468-377 BC) The father of medicine
"Let food be thy medicine and medicine be thy food"
- Greek physician from Cos
- Recognised that disease was a disturbance of the balance of harmony within the body
- A physician would restore this balance with the help of the patient
- He was the first healer to record medical experiences for future reference
- The Hippocratic oath was exacted by his students

Hippocratic Oath

I swear by Apollo physician, by Asclepius, by Health, by Heal-all, and by all the gods and goddesses, making them witnesses, that I will carry out, according to my ability and judgement, this oath and this indenture: To regard my teacher in this art as equal to my parents; to make him partner in my livelihood, and when he is in need of money to share mine with him; to consider his offspring equal to my brothers; to teach them this art, if they require to learn it, without fee or indenture; and to impart precept, oral instruction, and all the other learning, to my sons, to the sons of my teacher, and to pupils who have signed the indenture and sworn obedience to the physicians' Law, but to none other. I will use treatment to help the sick according to my ability and judgement, but I will never use it to injure or wrong them. I will not give poison to anyone though asked to do so, nor will I suggest such a plan. Similarly I will not give a pessary to a woman to cause abortion. But in purity and holiness I will guard my life and my art. I will not use the knife either on sufferers from stone, but will give place to such as are craftsmen therein. Into whatsoever houses I enter, I will do so to help the sick, keeping myself free from all intentional wrong-doing and harm, especially from fornication with woman or man, bond or free. Whatsoever in the course of my practice I see or hear (or even outside my practice in social intercourse) that ought never to be published abroad, I will not divulge, but consider such things to be holy secrets. Now if I keep this oath and break it not, may I enjoy honour, in my life and art, among all men for all time; but if I transgress and forswear myself, may the opposite befall me.

c300 BC The medical school and library of Alexandria is founded

Dioscorides (Ist century AD)
- Greek physician who accompanied the Roman armies
- Wrote the first comprehensive illustrated book on herbal medicine (De Materia Medica)
- He embraced Hippocrates teachings

Claudius Galen (AD 131-200)
- Noted Greek physician and medical writer
- Resided in Rome where he had a successful practice
- Surgeon to the gladiators
- Personal physician to Marcus Aurelius (circa AD 121-180)
- Adopted Hippocratic teaching (i.e. medicine seeks to balance the mental, physical and emotional)
- His influence lasted for centuries and he was recognised as the authority on medicine through the middle ages
- He mixed many herbs together as tonics

- He put great emphasis on the pulse as a diagnostic tool
- Advanced the understanding of the law *similia similibus curentur* (like cures like) that both Stahl (1738) and Hippocrates understood

1760's John Hunter (British surgeon b.1728) revolutionises surgery

1796 Edward Jenner vaccinates against smallpox using cowpox

Samuel Thomson (1769-1843)

- Born in New Hampshire, USA, was club-footed and grew up sickly
- Doctors could not help him
- His father called in a herbalist and the 8 year old boy was fascinated with the green plant medicines
- He grew up with no faith in doctors after his mother died and his own daughter became ill
- Whenever his family was ill, he would purge them with lobelia (his favourite emetic herb)
- He set up practice as a root and herb doctor, his only master – Hippocrates
- His trilogy of cure included lobelia (vomit), cayenne (restore body heat) and a vapour bath (sweat)
- He eventually used 65 other herbs
- 1805-epidemic (probably yellow fever), people could compare both systems of medicine
- Thomson sweated patients and gave herbal tonics
- Doctors bled patients copiously and gave the medicine *calomel* (mercurous chloride)
- Not one of Thomson's patients died, yet half the doctor's patients died
- The doctors rose against him, denouncing him as an illiterate quack
- 1808 arrested on a formal charge of administering lobelia to a patient who had died – he was framed by the medical profession
- Thomson acquitted
- 1835 the governor of Mississippi claimed that half the state depended on Thomsonian medicine
- 1839 he had 3 million faithful followers

1819 Rene Laennec (French physician) introduces the first stethoscope

1840 John Hoxsey (American physician) manufactures herbal cancer cure

1847 Ignaz Semmelweiss (Hungarian doctor) demonstrates that infection is spread by unwashed hands

1853 Queen Victoria uses *chloroform* as an anaesthetic during childbirth

1854 John Snow (British surgeon) demonstrates that cholera is spread through contaminated drinking water

1865 Joseph Lister (British surgeon) carries out the first operation using *carbolic acid* as an antiseptic

1878 Louis Pasteur (French scientist) presents his case for the germ theory of infection

1882 Robert Koch (German doctor) discovers the *tubercle bacillus* that causes TB

1885 Louis Pasteur successfully tests his rabies vaccine

Dr Rudolph Steiner (1861-1925)

- Austrian scientist and founder of the Anthroposophical Society in 1913, which means the wisdom (sophia) of man (anthropos)
- Philosopher, educator and spiritual teacher
- He sought to find the 'soul of plants'
- Advocate of herbal medicine, re-incarnation and vegetarianism
- Believed that ill-health was an imbalance of the four planes of man – Physical, etheric, astral and consciousness of the personal ego. (In health they all work together in a harmonious, holistic way.)

Dr Edward Bach (1886-1936)

- English physician and pathologist
- He believed that there were 38 states of mind which, if corrected, could improve the physical condition
- Made remedies from the petals of wild flowers
- He maintained that the cause of most illness was housed in the mind
- He believed that destructive moods produce body toxins which lowers vitality

1895 Wilheim Rontgen discovers x-rays

1898 Marie Curie discovers the radioactive element *radium*

Mid to late 1800's – The watercure clinics of Europe

Vincenz Priessnitz (1799-1852)
- Austrian farmer who lived in Grafenburg (Part of German Empire at the time) in the Silesian mountains
- A sanitarium developed in 1822 for his patients, built on drugless healing. It reached its peak in 1839
- Exercise, fresh mountain air, cold water treatments in the mountain streams, diet consisting of black bread, fresh vegetables and unpasteurised goat's milk
- "Our task is not to treat the disease; but the patient"

Johannes Schroth (1798-1856)
- A contemporary of Priessnitz, he set up a clinic in Austria
- Suffered a severe knee injury and successfully treated it with cold compresses which he continually changed when they got warm
- At first he only treated injuries but then developed a wider approach based on the Nature cure principles
- Famous 'Schroth Diet' where solid foods without liquids were used
- He used rhythmical change between 'drink' days and 'drain' days
- Probably the first modern Naturopath to employ a specific clinical nutritional diet as part of the therapy

Russell. A. Trall MD (1812-1877)
- Opposed drugs and drug therapists
- Advocate of vegetarianism
- 1852 founded New York Hygieo-Therapeutic College
- Claimed "drugs do not act upon the body but that the body acts upon the drugs"

Theodore Hahn (1824-1883)
- Born in Germany
- Advocated watercures and vegetarian diet
- He believed that a 'Nature Doctor' should be an educator and help patients to take responsibility for their own health

Louis Kuhne (1835-1901)
- Lost his health early in his twenties and turned to Nature cure when Traditional Medicine couldn't help him
- Opened a health home in Leipzig
- Used watercures such as sitz baths and steam baths in addition to sunbathing
- He understood that the "Root cause" of the ailment needed to be addressed in order for proper healing to take place
- His book 'New Science of Healing'

Adolf Just (1859-1936)
- Born in Germany
- His book 'Return to Nature'
- He believed that disease was a punishment for disregarding the laws of nature
- He advocated going barefoot where possible in order to benefit from the life-giving properties of Mother Earth that could touch a person's body
- Used the healing properties of clay extensively
- A great opponent of inoculation

Arnold Ehret {Professor} (1866-1922)
- Stopped teaching at the age of 31 due to heart troubles and Bright's disease
- Was prescribed meat, eggs and milk to replace lost albumin in Bright's disease – this made his kidney condition worse
- After seeing several physicians he turned to natural methods, vegetarianism, fasting and mental healing
- He improved his condition by fasting mainly on fruits
- Developed his "mucousless diet healing system" (particularly citrus, green-leafy vegetables and nuts)
- Set up a "fruit fasting" sanatorium in Switzerland
- He wrote "fasting is a process of elimination to relieve the body from obstructions of solid unnatural foods; tissues are contracted, mucus is pressed out. Friction and obstruction is caused in the circulation"

Dr Max Bircher-Benner (1867-1939) (Swiss)
- 1897 founded the Bircher-Benner clinic in Zurich
- Named "Vital Force Clinic" in 1904 and renamed "Bircher-Benner Clinic in 1939
- Sunlight theory of nutrition – highest potential is in raw food and that potential is degraded by heat
- Advocated a 50/50 raw food diet with emphasis on fruit
- Bircher muesli
- Insisted his patients rose early and walked in the hills before breakfast
- Seedbed analogy: the correct state of the "soil" is needed for proper nurturing of cells, glands & organs

Father Sebastian Kneipp (1821-97) (Bavarian priest)
- Pupil of Priessnitz
- Elaborated the watercures, enlarged and enriched natural healing
- Claimed he cured his TB by bathing in the Danube
- His book "My water cure"
- His famous saying, "Many people died while the herbs that could have saved them grow on their graves".
- 1855 he supervised a Dominican Nunnery in the Bavarian village of Worishofen. This became a magnet for healing. Today Bad Worishofen is a spa with 7000 beds in many hotels.
- He asked for a "different life; not better pills" and "an active patient; not a passive one"

Arnold Rikli (1823-1906) 'The Sun Doctor'
- Born in Bern, Switzerland
- An important pioneer in Naturecure principles
- Moved to Lake Bled in 1855 to build a health resort
- A great advocate for light, air and water

A number of American orthodox physicians came to study under Priessnitz et al and took the knowledge gained from the European watercures back to the USA. Among them:

Benedict Lust (1872-1945) (Physician)
- Born in Germany
- Arrived in the USA in 1892
- Developed TB and returned home to "die"
- Found Sebastian Kneipp and was cured
- Trained at the watercure clinic that Kneipp founded
- 1896 returned to USA and began using the term 'naturopathy' to describe an eclectic approach to natural healing (probably a cross between "nature" and "homoeopathy"
- 1902 founded the first U.S. College of Naturopathic Medicine in New York
- His wife (Louisa) was a student of Arnold Rikli
- His book "The Principles, Aims and Program of the Naturecure"
- A great opponent of the processed food movement

James Caleb Jackson (1811-1895)
- Cured by a disciple of Priessnitz
- Set up Jackson Sanitorium in New York
- Motto:"Health by Right Living"
- Advocated hydrotherapy and vegetarian diet
- Developed the first breakfast cereal (granula)

Dr J.H. Tilden (1851-1940)
- A Doctor (and son of a Doctor). In his early years he questioned the use of Traditional Medicine to cure illness
- He cleared his patients of toxic poisons and allowed Nature to make the cure
- He had no time for those who would not relinquish their degenerating habits
- Treated many pneumonia cases successfully using a regime of cleansing the colon with enemas and colonics as well as using live, natural foods
- 1900 he began to write a monthly health magazine. In 1915 it was called 'Philosophy of Health'. It changed to 'Health Review Critique' in 1926.

Dr John Harvey Kellogg (1852-1943)
- Maintained that 90% of the diseases of civilisation are due to improper functioning of the colon
- He ran the 'Adventist Battle Creek Sanitarium'
- Kellogg brothers (with brother Will) produced shredded wheat and granola biscuits
- Famous for his 15 hour working days and "discovering" peanut butter

Dr Henry Lindlahr (1862-1924)
- Had developed "incurable diabetes" at a young age and sought out Sebastian Kneipp
- Recovered at age forty and returned to USA to spread the word
- He termed 'Nature cure' from which Naturopathy and natural therapeutics have derived
- He wrote four books including 'Philosophy of Natural Therapeutics'
- Founded Lindlahr School of Natural Therapeutics in Chicago
- He considered 'Accumulation of morbid matter' to be one of the primary causes of disease
- He formulated the idea of 'Healing Crisis' (The ascending of Nature's healing forces over disease conditions)
- And 'Disease Crisis' (Those acute disorders in which disease conditions gain ascendancy over the resistance of the organism)
- The 3-fold nature of man *"Physical body is dominated by mind. Mind is inspired through inner consciousness (soul)"*

Priessnitz influenced many, either directly or indirectly, and various systems of natural treatment developed from this fertile period.

Ignatz Von Peczely (1826-1911) (Hungarian)
- Developed the first chart of the iris
- Became a surgeon and would observe changes in his patient's iris in accordance with their condition
- He was influenced by Priessnitz later in his life and the value of iridology was incorporated into natural therapeutics
- Published his findings on iridology in 1866

Dr Andrew Taylor Still
- 1892 set up the first college of osteopathy in Kirkville, USA

Dr Daniel David Palmer
- 1895 re-discovered 'chiropractic' in Iowa, USA

1901-2 Karl Landsteiner describes the blood groups making transfusions possible

1902 Frederick Treves (Knighted British surgeon) makes removal of appendix a regular treatment

Bernarr McFadden (1868-1955) (American health writer)
- Published many health books in USA including a "Health Encyclopaedia"
- He established a British edition of his popular American magazine "Physical Culture"
- Set up an American health training college
- 1909 opened a sanatorium on Brighton seafront accommodating 50 patients
- He returned after the war and set up a health home at Orchard Leigh in the Chilterns

Milton Powell (1881-1978)
- Wrote an early history of the Nature cure movement
- Worked at McFadden's Brighton Sanitorium (1909-1910)
- Worked for Eustice Miles in London (1911-1914). Miles taught health courses as well as doing treatments
- Rallied Naturopaths together to form an association
- 1921 first conference of Nature cure practitioners

Dr Max Gerson (1881-1959)
- Born in Germany and in 1938 was licensed to practise in New York
- Started with a 'migraine prevention' diet
- 446 out of 450 patients with skin TB completely recovered using his diet regime
- His dietary recommendation used successfully for heart disease, kidney failure and cancer
- He cured Albert Schweitzer of his Type 2 diabetes
- 1958 – published results of his last 30 years in clinical practice which including 50 cases of cancer treatment
- His method included flooding the body with organic bioavailable nutrients in the form of 13 fresh pressed vegetable juices daily. In addition (as part of his later strategy), frequent coffee enemas were taken
- He died of Arsenic poisoning in 1959
- He saw Toxicity and Deficiency as the two planks of ill health

1928 The researcher Alexander Fleming discovers *penicillin*

Dr Bernard Jensen (1908-2001) (b. Stockton, California)
- Student of Kellogg
- He claimed a 40% success rate in treating leukaemia
- Advocated bowel cleansing as the most important aspect in maintaining health.
  "Every tissue is fed by the blood which is supplied by the bowel"
- Advanced iridology
- Wrote a number of books including *Health magic through chlorophyll from living plant life*

Paul C. Bragg (1895-1976)
- Opened the first modern health food store in Los Angeles
- Wrote a number of books on nutrition and fasting including *Water: The shocking truth*

Herbert. M. Shelton (1895-1985)
- Founder of the "Natural Hygiene School"
- Fasting, diet, exercise and rest
- His book: *Fasting can save your life*

Stanley Lief (1890-1963)
- South African who was a graduate of Bernarr McFadden's School
- Took over running of the Sanitorium "Orchard Leigh" in 1920's
- The chief exponent of Naturopathy in Britain in the 1920's
- Hygienist school
- Neuro-muscular technique (NMT)
- 1925 moved to larger premises at "Champneys", Tring. World wide reputation as a sanatorium and could accommodate 100 patients.
- 1927 founded a monthly magazine "Health for All"

Harry Benjamin
- Followed Stanley Lief
- His famous book: *Better sight without glasses*
- (1936) *Everybody's guide to Naturecure*

James C. Thomson (1887-1960) (Scottish Naturopath)
- Student from Lindlahr's Chicago Sanitorium returned in 1913
- 1913 set up busy practice in Edinburgh
- 1919 opened the first training college in Britain "The Edinburgh School of Natural Therapeutics" (4 year course). Remained until 1964
- 1938 established the Kingston clinic in Edinburgh
- Emphasised the value of fibre in the diet to maintain intestinal function (e.g. unrefined grains, raw vegetables and fruit)

Alfred Vogel (1887-1960)
- 3rd generation Swiss Herbalist
- His strength lay in simple remedies for common complaints
- Used many different poultices and compresses
- His message "Trust in Nature." He believed that everything we need to protect our health has been given to us by nature
- In 1933 he set up a Naturopathic Practice in the Swiss village of Teufen
- His book (1952) *The Nature Doctor*

1953 James Watson and Francis Crick discover the structure of DNA

1954 The first successful kidney transplant is performed

1955 Jonas Salk introduces the first polio vaccine

1961 *Thalidomide* (a sedative) is withdrawn

1964 Christiaan Barnard (South African surgeon) carries out first heart transplant

Rudolph Breuss (1889-1991) Austrian from Bludenz
- Carried on work at the Kneipp clinic during the 1970's
- Developed his famous "Breuss cancer cure' using juice fasts and herbs
- Advocate of 6 week fasts consisting of vegetable juices and herbal drinks
- His book: *The Breuss cancer cure*

Other Naturopaths who have contributed greatly in taking Naturopathic Medicine forward:

- J.H.Rausse (1805-1848)
- Ernst Schweninger (1850-1924)
- Emanuel Felke (1856-1926)
- Dr Heinrich Lahmann (1860-1905)
- Franz Schonenberger (1865-1933)
- Alfred Brauchle (1898-1964)
- Joseph Boucher (1916-1987)
- John Bastyr (1912-1995)
- Dr John Christopher (1909-1983)
- Maurice Blackmore (1906-1977)

02: **Definition of Naturopathy:**

"A system of health care which encourages and promotes the body's natural self-healing mechanisms using an eclectic approach."

03: **Traditional Methods Used by Naturopaths**

FASTING

- Fasting is not starving
- Juice fasts, water fasts, fruit fasts
- Gives the body the opportunity for self-cleansing
- We lose our appetite naturally when we are ill
- Approximately 50% of our energy can be used up in digestion
- Allows body to re-direct energy for cellular repair and tissue regeneration
- As long as we keep eating, we add to the store of wastes
- Bowel action may become suspended during a fast
- Whilst tongue is coated, body is still detoxing
- During the fast, the body will live on stored surplus material
- Toxins and waste matter that have been stored in the tissues will start circulating
- A transitory healing crisis may occur as the body tries to eliminate toxins via the blood
- Excess fatty deposits around organs and/or excess triglycerides in blood will be used as a source of fuel

DIET

- Restore alkalinity to the tissues
- Organic, live, bio-available foods
- Roughage
- Remove foods that promote acid waste e.g. meat, dairy

HYDROTHERAPY {External and internal}

- Pure drinking water, distilled or reverse osmosis
- Colonic irrigation
- Enemas
- Sitz baths (alternating hot and cold water)
- Hot epsom salt or alkaline baths
- Herbal baths
- Salt rubs
- Wet packs (fomentations), cold and hot
- Poultices e.g. spring herbs, cabbage leaves

HYGIENE

- Adequate rest (convalescence) Economy of vital force
- Dressing sensibly (skin needs to breathe)
- Exercise
- Fresh air
- Sea air breathing (negative ions)
- Earthing (grounding)
- Sleep (melatonin/cortisol levels) – circadian rhythm balance

MIND/BODY INTERACTION

- Mental and physical factors intertwine
- Emotional states will affect physical health
- The body's reaction and adaptations to prolonged stress
- Diet and effects on mind (psychochemical reaction and low nutritional status)
- Blood sugar irregularities and behaviour

MASSAGE

- Helps force toxic matter out of the body (psychic-peristaltic massage)
- Aids lymphatic drainage
- Promotes blood circulation

SUNSHINE

- Sun provides/promotes the growth of all living organisms
- Source of vitamin D
- Tones skin
- Positive action on pineal gland (melatonin biosynthesis)

EXERCISE

- Decreases emotional stress
- Increases breathing and oxygenation
- Increases blood flow to aid healing
- Promotes lymphatic drainage
- Similar to Fasting, excess fatty deposits around organs and/or excess triglycerides in blood will be used as a source of fuel

Various exercise regimes can be implemented depending on age and condition of the patient. For example: Tai Chi, yoga, rebounding, swimming, aerobic activity and weight training training (should include 4 types: cardio-vascular, resistance (weights), stretching & balance)

04: **Naturopathic Principles**

1. *Vis Medicatrix Naturae* {The healing power of Nature} There is a "Vital Force" or "Life Force" that, given the right conditions, will self-heal or self-correct.
The Vital Force is stimulated by factors, which promote health and suppressed by excesses and deficiencies.
For example, the body will heal a wound, absorb an ulcer and mend a bone.

2. Prevention is preferable to cure.

3. The root (underlying) cause of dysfunction is identified and treated. Not the branches (symptoms).
For example, as is commonly seen in skin conditions where steroid creams are applied topically (branch) without addressing the internal imbalance (root).

4. The Whole person is treated {Physically, Mentally, Emotionally & Spiritually}.
For example, the person is not seen as just having a physical ailment or their health being designated to compartments. They are treated holistically, taking into consideration all the aspects in their life.

5. Health is much greater than just "absence of infirmity". It should be abundant vitality.

6. The Person is treated, NOT the disease. For example, we should not be asking what is the problem but why.

7. The individual is unique, each person responds in a different way.
For example, one shoe does not fit all. People will have different constitutions, blood types, doshas, etc.

8. All disease starts with a disruption to the body's homeostatic* mechanisms and Health is a return to balance of these mechanisms. For example, the body is continually rebalancing itself within a narrow pH range and the two pillars governing health-toxicity and deficiency will determine the state of that balance.

9. Ill-Health is a product of the internal environment of the body rather than external influences. It is the soil that is the problem, not the microbes per se.

10. Deficiency and excess. If a person is deficient, treatment would be used to "build them up". If excess (toxicity), treatment would involve "breaking-down" toxins (detoxification). For example, treatment should be tailored to where the patient is, in terms of their health, at that moment.

11. Ailments should not be suppressed. Symptoms are there for a reason and are manifestations of Nature's Healing Force. A Naturopath will encourage the body to promote its innate healing abilities.

12. A Naturopath is an educator/teacher, empowering the patient to take responsibility for his/her own health.

*From the Greek *homoios* (similar) + *stasis* (standing still)= to balance or remain constant

05: **Fundamentals of Cure**

Three fundamentals in affecting cure

1) All forms of disease are due to the same cause
i.e. The accumulation of waste material in the body as a result of any number of contributing factors.

They may include:
- Wrong living habits
- Faulty diet
- Worry and emotional disharmony
- Overwork
- Excesses and neglect

Throwing off these waste products can only cure disease.
If kidneys, liver, lungs, skin and bowel become congested = accumulation.

2) The body is always trying to heal itself
Acute conditions are early manifestations of the body's self-healing mechanism.

For example:
- Fevers
- Colds
- Diarrhoea
- Skin eruptions

This is the body's attempt to 'throw off' accumulation of waste material.

If the main organs of elimination become congested, the body will detoxify itself via vicarious elimination (i.e. using an alternative route.)

If symptoms are suppressed, wastes will be driven deeper into the system creating a chronic condition.
This creates levels of disease:

Acute (hyperactivity)	e.g. a cold
Sub acute (intermittent activity)	e.g. sinusitis
Chronic (hypoactivity)	e.g. bronchitis
Degenerative (necrosis)	e.g. emphysema

Some examples of suppression are: Medical drugs
Vaccinations
Anti-perspirants
OTC prescriptions e.g. aspirin, topical creams

What form the chronic condition will take depends on a number of factors such as condition of the body, underlying constitution and hereditary tendencies.

3) The body has the intelligence and the power to restore itself to health, providing it is allowed to do so.

The cure lies in the self-righting power of the human system.

e.g. If we cut a finger – blood will clot
If a bone is broken – it will mend
The body will build new living tissue
The body will reabsorb an ulcer
Cells are continually renewing themselves (a whole new body within 18 months)

It is important to understand that the body will be unable to self-heal effectively unless the pH of the cells and tissues is maintained at 7.0 to 7.2. The length of time required to turn around a condition (unless there is organic change), will depend on how quickly the cells and tissues can be reversed from their acidic state. All healing modalities (irrespective of their differences) will be (in their own unique way) seeking to ultimately create this ideal pH.

Triad of Health

EMOTIONAL:	Psychosomatic medicine, Bach flowers, homoeopathy, etc.
BIOCHEMICAL:	Nutrition, herbs, celloids, etc.
STRUCTURAL:	Massage, osteopathy, chiropractic, cranial-sacral, Alexander technique, etc.

HERINGS LAW OF CURE

{Dr Constantine Hering b.1800}

1) From top of body downward.
For example a headache will precede a sore throat which will precede a cough (the lung being a larger organ of detoxification).
2) From inside outwards.
For example, vicarious elimination where the skin takes over from the bowel in conditions such as acne.
3) From most important organs to least important.
For example the skin taking over from the liver as in eczema
4) Cure takes place in reverse order to the onset of old symptoms.
For example the diarrhoea will cease after the symptoms of nausea and headache have ceased.

ARNDT SCHULZ LAW

{Rudolph Arndt b.1823 & Hugo Schulz b 1853}

Small stimuli (dosage) will encourage a living system (stimulate vital force).

Medium stimuli (dosage) will impede, moderate or restrict a living system. (may have a neutral effect on the vital force).

Large (strong) stimuli (dosage) will tend to stop or destroy a living system (suppress vital force).

An example of Arndt Shulz Law: A large dose of *digitalis* will stop a kitten's heart whereas a small dose of *digitalis* will start a kitten's heart.

06: **Fundamentals of Naturopathic Medicine**

ASSESSMENT

Principles

The Naturopath aims to identify the causative factors that are creating functional disturbance, i.e. evidence of subclinical disease. Any gross pathology.

1) The underlying cause of dysfunction should be identified.
2) Structural, biochemical, mental/emotional factors may all contribute to the patient's condition.
3) The individual genetic makeup of the patient e.g. miasms, blood types, yin/yang, etc.
4) A diverse range of factors may be in play.

Practice

1) Case history taking.
2) Clinical examination e.g. nails, pulse, tongue, iridology, BP.
3) Clinical tests e.g. pH, urine, blood type.
4) Laboratory tests e.g. **hair** (mineral analysis); **stool** (parasites); **blood** (food allergy, Helicobacter pylori, gluten intolerance, gut fermentation, thyroid, vitamin & mineral status, toxic metals, homocysteine, pesticides); **saliva** (candida, female hormone profile, adrenal stress index); **urine** (gut permeability, toxic metals); **sweat** (mineral analysis).
5) Subtle energy diagnostic methods e.g. kinesiology, vega machine, bio-resonance systems, etc.
6) Dark field microscopy.
7) Facial signs (Chinese medicine).
8) General observation e.g. skin colour, hair, sweat, demeanour, energy.
9) Cardio-vascular index.

TREATMENT

Principles

1) Do no harm.
2) Employ methods that work with the body's healing power and self-correcting mechanism and avoid treatments which may work against these mechanisms and which suppress acute disease.
3) Deal with the underlying cause of dysfunction.
4) Reduce the burden of load. Short term measures for the acute but, in addition, work towards long-term restoration.
5) Address the mind/body/spirit connection.

Practice

1) Nutritional therapy, diet, supplementation, etc.
2) Phytotherapy.
3) Homoeopathy.
4) TCM-acupuncture, acupressure, cupping.
5) Hydrotherapy e.g. enemas, colonic irrigation, sitz baths, compresses.
6) Detoxification methods e.g. liver flush, bowel cleanse.
7) Fasting.
8) Physical-massage, lymphatic drainage, reflexology.
9) Relaxation techniques e.g. meditation, yoga, Tai chi.
10) Breathing exercises (sigh, sink & sag).
11) Bach flowers.
12) Tissue salts (celloids and Schussler).
13) Psychotherapy, counselling.
14) Ear coning.
15) Biofeedback techniques e.g. creative visualisation, affirmations, etc.
16) Miscellaneous e.g. ozone therapy, electrotherapy (scanners), light and heat treatment, heliotherapy (sun).

EDUCATION

Principles

1) Recognise the level of acceptance of individuals and assist them on that level.
2) Lead by example.
3) Recognise that the individual is ultimately responsible for his/her own health. Empower patient to take responsibility.

Practice

The Naturopath should be able to offer well-informed advice on the following:

1) The Naturopathic principles of health and disease. How the patient became unwell, what is keeping them unwell, how can they get well and how can they stay well.
2) Diet and nutrition – ongoing changes the patient can make.
3) Relaxation and stress management.
4) Physical exercise.
5) Hydrotherapy – packs, baths, enemas.
6) Detoxification – e.g. juice fasts, colon cleansing, skin brushing.
7) Phytotherapy and homoeopathy for home use.
8) Management of acute disease, recognising and dealing with a healing crisis.

07: **Clinical Diagnosis**

a) SKIN

- ***Normal/healthy skin:*** Colour normal (neither too pale or too red) and influenced by ethnic background. Skin turgor (elasticity) in relationship to age and neither clammy or dry.

- **Skin colour & pigmentation**

  - ***Pallor:*** cold, deficiency, and lack of vital force
  - ***Abnormal redness:*** infection or inflammation
  - ***Flushing:*** heat has entered the blood
  - ***Cyanosis:*** extreme cold deficiency, stagnation of blood
  - ***Jaundice:*** liver/gallbladder dysfunction
  - ***Yellow palms & soles:*** possible hypothyroid, carotenosis

- **Skin condition**

  - ***Normal/healthy skin:*** Colour normal (neither too pale or too red) and influenced by ethnic background. Skin turgor (elasticity) in relationship to age and neither clammy or dry.
  - ***Oily:*** (caused by overactive sebaceous glands) Liver detox/diet and removal of oral contraceptive pill and steroids
  - ***Excessively dry/flaky:*** deficiency of blood or body fluids, essential fatty acids, possible hypothyroid
  - ***Sweaty/clammy palms:*** adrenal glands
  - ***Cracked:*** lack of vitamins A and C, zinc and essential fatty acids
  - ***Thin skin:*** Can occur from long-term steroid use. Bioflavonoids are indicated, especially rutin.
  - ***Hard skin:*** lack of essential fatty acids
  - ***Elephant skin***: ruled by lung qi, seen in long-term smokers
  - ***Moist:*** lung disharmony
  - ***Swollen:*** skin that pits when pressed is a sign of oedema and excess fluids
  - ***Withered:*** a sign that the fluids are injured
  - ***Stretch marks:*** Loss of elasticity in skin. Vitamin E cream, bioflavonoids and cell salt program during pregnancy (especially calc.fluor).
  - ***Cellulitis:*** Toxic build up in cells. Clean out lymphatic system with skin brushing, exercise, herbs, lymphatic drainage, etc.

b) HAIR

- ***Normal hair colour and texture:*** Strong, thick and lustrous. The Kidney controls the strength and thickness and lung controls sheen.
- ***Dry hair:*** excess, heat or stress, possible hypothyroid
- ***Oily hair:*** overacidity, reduce refined carbohydrates (sugar, soft drinks, etc.)
- ***Excessive hair loss and Alopecia:*** may be a lack of B vitamins, especially biotin, inositol, zinc, iron and especially lack of protein
- ***Dry/itchy scalp:*** lack of essential fatty acids
- ***Dandruff:*** controlled by spleen (pancreas) in TCM too many refined carbohydrates in the diet
- ***Greying:*** lack of B5, PABA, zinc, copper, extreme stress

c) NAILS

- ***Normal/healthy nails:*** pink nail beds and strong, smooth nails

- ***Nails and systemic diseases***

  - ***Splinter haemorrhages (longitudinal dark specks that look like splinters):*** suggests possible Bacterial endocarditis
  - ***Terry's nails (proximal ½ of nail is white and distal ½ is normal colour):*** suggests chronic Liver disease
  - ***Pale:*** Anaemia (When hands are stretched out, nails should go white when tensed and return to pink when relaxed. If they remain white suggests Anaemia).
  - ***Brown nail beds:*** Chronic Liver disease

- ***Nail matrix abnormalities***
  No ½ moons: lung or colon problem

- ***Nail & nail-bed abnormalities***

  - ***White marks (spots):*** zinc or vitamin A deficiency
  - ***Ridges& splitting:*** silica deficiency
  - ***Thick nails:*** fungal infections
  - ***White nails:*** liver problems
  - ***Spoon-shaped nails (concave&brittle):*** severe iron or zinc deficiency
  - ***Curved nails:*** usually a variant from normal nails and are not significant (not to be confused with clubbed nails, where the angle between nail and nail base is greatly increased)
  - ***Soft nails:*** calcium deficiency
  - ***Soft, crumbly & white:*** fungal infections
  - ***Split nails:*** mineral deficiencies, especially calcium, magnesium and boron
  - ***Clubbed nails (growing around swollen ends of fingers):*** respiratory or heart problems among other conditions
  - ***Pitting:*** psoriasis (in absence of trauma)
  - ***Ridging (vertical):*** old age, poor absorption of vit. A, B&C, calcium, zinc, magnesium and essential fatty acids
  - ***Ridging (horizontal):*** injury or infection
  - ***Brittle:*** deficiency of silica, zinc, Iron, calcium or B12 (Hypothyroid)
  - ***Beau's lines:*** transverse depressions in the nails associated with acute, severe illness, usually appearing some weeks later

d) FACE

- ***Correlation between face and body organs***

  - ***Weak lungs:*** will show up as shadows of different colours on the cheeks
  - ***'Corrugated cardboard' lines across the forehead:*** Indicate toxicity in the Large intestine. The deeper they are, the longer the toxicity has been present. Also can be related to digestion and therefore – spleen.
  - ***Small Intestine:*** one deep line on the forehead
  - ***Kidney and adrenal exhaustion:*** will show up as blue/black shadows under the eyes and 'bags' indicating fluid retention
  - ***Bladder:*** represented by a dry, red forehead
  - ***Stomach deficiency:*** will show up as a vertical line between the eyebrows
  - ***Liver problems (often seen in alcoholics):*** present as two vertical lines between the eyebrows (either side of stomach line), often a lot of suppressed anger

- ***Gall bladder:*** indicated in receding hairline
- ***'Purse strings' on upper lip:*** often seen in women after menopause, and point to a weakness in the reproductive organs/ovaries
- ***Cheeks:*** yellow/grey = constipation, green = liver problem
- ***Cracks around mouth:*** possible iron deficiency
- ***Butterfly rash around nose:*** possible B3 deficiency, rosacea

e) EYES

- ***Normal/healthy:*** clear and bright indicating healthy liver and heart
- ***Yellow/jaundiced:*** liver or gallbladder stagnation
- ***Bloodshot:*** inability to sleep properly, liver disharmony
- ***Swollen:*** liver problem
- ***Dry:*** common allergy problem, especially to gluten
- ***Red:*** liver problem (excess heat in liver)
- ***Proptosis of eyes:*** (bulging of eye ball): possible thyroid problem
- ***Cataracts (clouding of lens):*** lack of bioflavonoids and vitamin E
- ***Bags under the eyes:*** kidney or adrenal insufficiency
- ***Floaters/spots:*** blood deficiency – liver detox
- ***Dark circles under eyes:*** possible B3 deficiency
- ***Itchy or watery:*** Candida albicans

f) EARS

- ***Crease across ear lobe:*** may be a relationship with a weakened heart
- ***Itchy and excess wax:*** Candida albicans, lactose intolerance

g) TONGUE

- ***Normal/healthy tongue:*** pink with fine white coating (moss), slightly moist and is neither too big nor too small for the mouth

- ***Inspection of tongue:*** Each part of the tongue corresponds to the condition of an organ. To see the condition of the heart for example, one looks at the extreme tip of the tongue, whereas to gauge the state of the lung one looks near the tip. The progress of illness is also shown on the tongue. As illness improves, the quality of the coating (fur or moss) and the colour become more normal. If the illness worsens, so will the tongue and coating. If the tongue is very red overall or in one area, this indicates the presence of fever or inflammation that is attacking the organ system. The heart, lungs and liver are most vulnerable to damage by heat, which shows up as red on the tip and edges of the tongue.

- ***Map of the tongue – parts of the tongue and their relationship to organs of the body:*** tip of tongue (heart and lung zone) relates to organs and functions above the diaphragm e.g. heart, oesophagus, lung, etc. (heart being right at tip of tongue)
  Centre of tongue (spleen zone) relates to organs and functions between diaphragm and navel e.g. stomach, pancreas, spleen, etc.
  Back of tongue (kidney zone) relates to organs and functions below the navel e.g. bladder and kidneys, intestines, uterus, ovaries, etc.
  Sides of tongue (liver zone) relate to organs and functions in lateral areas of the body, between navel and diaphragm e.g. Liver and gallbladder, spleen

- ***Texture – Geographical tongue (mapped tongue):*** deficiency of complex B vitamins

- **Colour**

  - ***Red:*** heat, excess condition
  - ***Blue/purple:*** stagnation, congestion, and poor circulation
  - ***Pale:*** coldness, deficiency or low vital force
  - ***Bright red (scarlet):*** internal heat, infection, inflammation

- **Shape**

  - ***Swollen (flabby):*** damp present
  - ***Deviation:*** paralysis of 12th cranial nerve (hypoglossal) can cause atrophy and deviation towards the paralysed side
  - ***Thin (elongated):*** deficient blood or fluids
  - ***Reddened with prominent papillae:*** excess heat or congealed blood
  - ***Hairy tongue (excess papillae):*** may follow antibiotic therapy
  - ***Smooth, slick and sore:*** may be deficiency of riboflavin, niacin, B12, B6 or iron
  - ***Scalloped at sides (teeth marks):*** Fatigue and loss of vital force, digestion/assimilation problems (spleen qi deficiency). Consider adrenal exhaustion or poor absorption/assimilation.

- **Coating (fur, moss)**
  The moss is related to digestion and thus can reflect the state of the digestion system. The 'fur' consists of bacteria, food particles and dead cells which accumulate when saliva flow is reduced.

  - ***Slimy:*** phlegm present
  - ***Yellow:*** heat, excess
  - ***Thick:*** excess, spleen disharmony
  - ***Sticky & moist:*** extreme dampness of stomach and spleen
  - ***White:*** cold, deficiency
  - ***Dark brown:*** some form of stagnation

- **State**

  - ***Dry:*** heat, excess, not enough fluids
  - ***Short, horizontal cracks:*** deficiency of vital force (qi)
  - ***Shallow midline crack (not to tip):*** stomach deficiency
  - ***Deep midline crack (to tip):*** heart condition
  - ***Leaden:*** a sign of either extreme heat or extreme cold
  - ***Enlargement of veins under tongue:*** may be vitamin C deficiency
  - ***Dark veins under tongue:*** possible kidney problems

- **Glossitis:** Occasionally condition is a symptom of iron deficient Anaemia, or a lack of vitamin B12, B3, biotin or folate

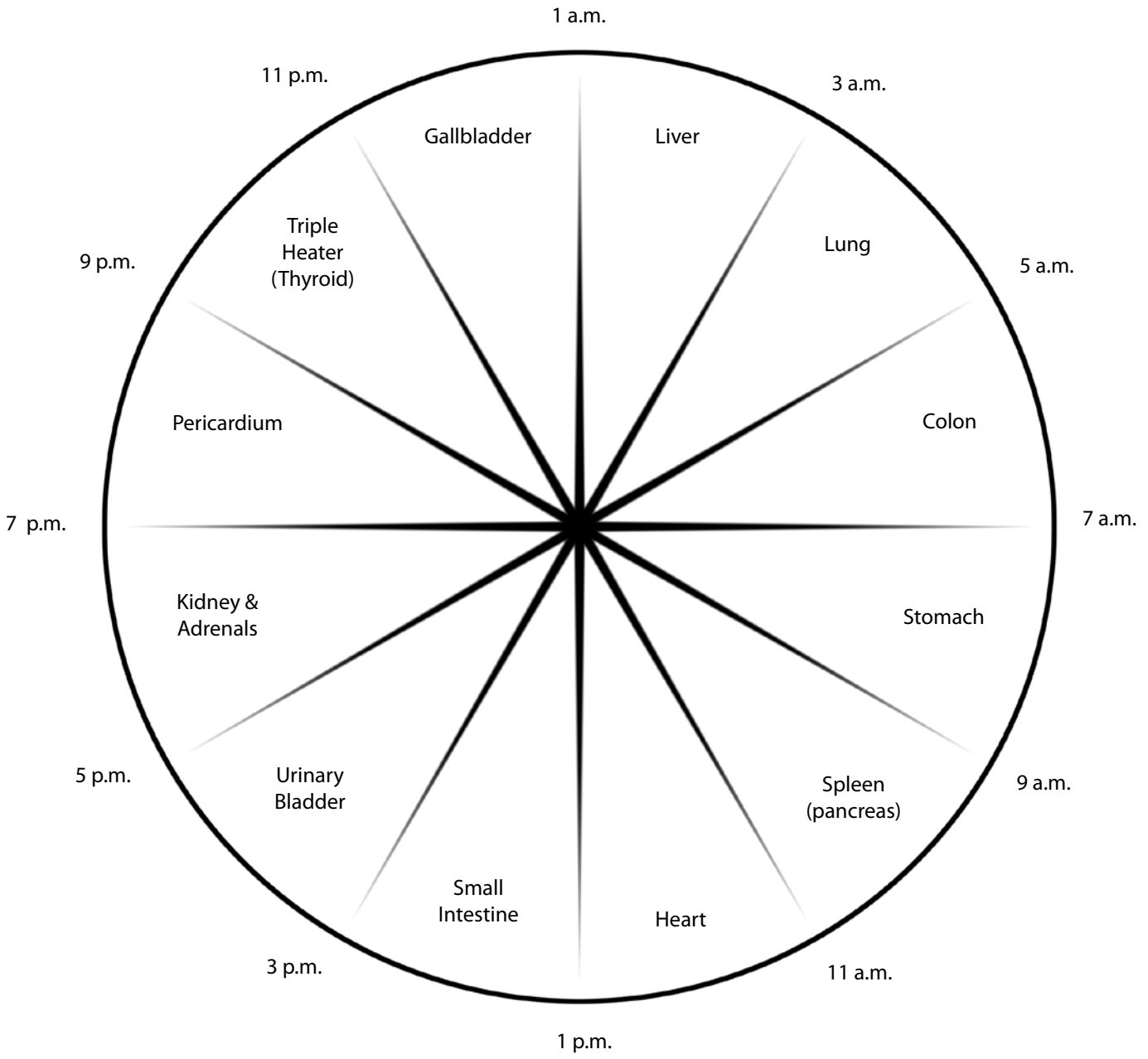
h) GUMS

- ***Normal/healthy gums:*** The gums (gingivae) normally show a pale red stippled surface. Their margins about the teeth are sharp and the crevices between gums and teeth shallow (e.g. 1-2mm).
  - ***Bleeding gums:*** vitamin C and/or zinc or coenzyme Q10 deficiency
- ***Gingivitis:*** (usually result of irritation by calculus formation) diet too acidic
- ***Periodontal disease:*** (often from untreated Gingivitis) reflects high acidity and low bioflavonoid, zinc and coenzyme Q10 status

i) BODY ODOURS

- ***Sweet:*** possible pre diabetic condition
- ***Fishy:*** cold and deficiency
- ***Rotten, putrefying:*** heat syndrome, damp
- ***Oily, fatty:*** congestion, stagnation

08: **Chinese Clock**



09: **Detoxification**

TOXINS

Definition: Toxins are proteins produced by certain bacteria, animals or plants. Toxins can develop from any poison or drug overdose. According to the BMA, toxicity is the property of being poisonous. The term is used to describe the adverse effects of disease or illness which produces a TOXIN. From a Naturopathic point of view, toxicity simply means poisonous. Toxicity will produce self-poisoning of the blood and tissues.

- Toxaemia is therefore a result of accumulated toxins in the body
- Toxins, which are not excreted or deactivated, may end up in the body's fat stores
- Toxaemia seriously compromises the immune system, upsetting the acid/alkaline balance within the body

An unstable blood and tissue pH will disrupt normal immune activity. The body strives on a daily basis to maintain health and a healthy body is one in which toxins are not allowed to accumulate.

Endogenous toxins: are created internally by the body and include breakdown products of protein metabolism e.g. ammonia, urea. Toxic metabolites from bacteria and yeasts and free oxidising radicals formed from superoxide and/or hydrogen peroxide production by mitochondria. (When free radical production exceeds antioxidant nutrients, cellular damage occurs).

Exogenous toxins: are the poisonous by-products that the body ingests but cannot neutralise. These include alcohol, tobacco, caffeine, recreation drugs, prescription drugs, 'over the counter' medicines, additives, preservatives, colourings, hair bleach and skin creams/lotions.

Environmental toxins: include pesticides, fungicides, herbicides, solvents, petrochemicals, exhaust gases, carbon monoxide, chlorine, fluoride, heavy metals, dioxins, PCB's, environmental oestrogens, etc.
These poison the enzyme system and cells and tissues are damaged directly.

Natural toxins in food that help the plant to naturally fight off predators may create intolerances. These may be insidious such as the *lectins* referred to in the 'blood type' diets or more overt by producing immediate symptoms such as, for example, poisoning from some mushrooms. Some proteins may be seen as "invaders" by the body and the body will develop a response to it. For example salicylates in fruit and vegetables can be a problem for some sensitive people and this can set up an inflammatory response such as seen with Crohn's disease. Increasing the natural toxin in potatoes *(solanine)* or courgettes *(cucurbitacin)* through selective breeding for example, could create problems for some people because of the great variations in liver function.

Toxins produced by bacteria such as E.coli, Salmonella, Shigella and Campylobacter sp. are implicated in food poisoning. Any dysbiosis (alteration in balance of friendly gut bacteria) will predispose the body more to the toxic effects of these bacteria.

A leaky gut syndrome is often involved with the dysbiosis. The gut wall can be damaged in two ways:
1) Excess toxic material (food, bacteria, yeast sources)
2) Irritation of the intestinal mucosa

Both of these conditions are influenced by the levels and functional integrity of normal gut flora (L. acidophilus for small bowel and bifidobacteria for the colon. If excessive toxicity prevails and/or gut mucosa integrity is damaged (yeasts, inflammation, bacterial overgrowth, etc.) then what should be a selectively permeable barrier becomes less selective. This allows undesirable food, bacterial and/or yeast by-products to enter the bloodstream with predictably unpredictable results. The immune system becomes compromised and the liver and lymphatic system become overloaded.

Pesticides in food will damage the delicate gut wall, paving the way for toxins to enter the bloodstream. The pesticide *chlormequat* for example, has been shown in studies to damage the stomach linings of rats. Coupled with this are the unknown effects pesticides have on the Central nervous system. The nervous system of an insect subjected to a powerful neuro-toxin is not that dissimilar to that of a human, and long term ingestion can build up in the fat cells having a cumulative effect. For example, the pesticide DDT will be mobilised out of the fat cells and can make the blood levels toxic to the nervous system.

Radioactivity in food is an obvious problem in and around nuclear power stations and especially after the Chernobyl disaster. What are the safe limits? Nobody really knows but varying levels of *strontium B* have been found in a wide range of fruit and vegetables. This is stored in the tissues and fat cells. Microwave ovens 'denature' foods and food becomes a carrier and secondary source of technically generated radiation. The cell walls of vegetables are damaged, allowing free radicals to be released. Research in Switzerland has shown changes in blood chemistry immediately after ingestion of microwaved food that was different to the controls.

Medications, street drugs and volatile chemicals are completely foreign to the body and the body will attempt to rid itself of these via the eliminative channels in a vain attempt to maintain homeostasis (balance). The air we breathe today contains a whole range of other gases, vapours and particles. Exhaust fumes from cars are a particular problem as they contain carbon monoxide, lead, oxides of nitrogen and many hydrocarbons. Carbon monoxide competes for haemoglobin and makes it unavailable to combine with oxygen. The tissues then work on less oxygen and are more prone to produce toxins. Nitrogen produced by diesel lorries is a more powerful carcinogen than lead.

BASIC WAYS TO AVOID TOXICITY

Avoiding heavy metals: It is estimated that around 25% of the U.S. population have some heavy metal poisoning. Avoidance can best be done through examination of our drinking water. This is the source most likely to contribute to heavy metal toxicity. Lead and Aluminium from plumbing pipes are prevalent in many water supplies. Other types of piping such as iron, copper, and cement containing asbestos also cause problems. The effect is heightened in soft water supplies. Reverse osmosis filtration or distillation would be the recommended sources for our drinking water (see CD3 The healing power of water).

Mercury in dental fillings is another problem through its slow leaching of the insidious toxin into the body over decades. Mercury is a known poison which inhibits immune response and is associated with many disorders of the C.N.S. Research has shown that mercury vapour from amalgam fillings (between 48% and 55% mercury) is continuously released into the mouth. Heavy metal exposure during foetal life and in particular mercury has been linked with neurological delay. For this reason it is not advisable to have dental work with amalgam during pregnancy.

Organic food is the best way of reducing harmful pesticides, herbicides and fertilisers in our diet. These harmful chemicals can be found in and on our food. As well as these, there may also be enhancers such as wax or stabilisers to prolong shelf life. This cocktail of chemicals consumed daily can have a cumulative effect, building up in the body's cells.

An Eco-friendly environment addresses the quality of Air, Water and Food. Up to 90% of all cancers are caused through environmental carcinogens. These are found in smoke, food, water and air. Living away from polluted city air with its oxides of nitrogen and carbon monoxide, especially near the sea (with its abundance of negative ions) will reduce much of the air-borne toxins. Avoidance of cigarette smoke (hydrocarbons, cadmium, etc.) water (lead, copper, etc.) and non-organic fruit and vegetables (organo-phosphates, organo-chlorides, etc.) will reduce the toxic overload on the body.

PHYSIOLOGICAL FUNCTIONS IMPORTANT TO DETOXIFICATION

Skin: The largest organ in the body and a major organ of detoxification, is a two-way membrane, allowing toxins both out and in through the layers. We should never put anything on our skin that we would not put in our mouth.

Lymphatics: The spleen, tonsils, bone marrow and thymus are all part of the lymphatic system, the vessels of which spread out to all parts of the body. Lymph vessels have much thinner walls than veins, but like veins they have one-way valves in them and depend on the pumping action of muscles for their circulation. When muscles are tight (as with stress), the lymph cannot move well. The lymph transports lymphocytes to sites of injury and infection; collects emulsified fats from the small intestine, and drains fluid from the spaces between cells. This fluid contains proteins and substances which cannot be actively absorbed by the blood vessels and thus can become congested with pollutants. The lymphatic system does not have a pump such as the heart, so exercise is important to help lymphatic congestion. If lymph is congested, the skin cannot breathe properly, it is therefore vitally important not to suppress its action with such clogging agents as anti-perspirants for example. It is difficult to become ill if our lymphatic system is working efficiently.

Kidneys: In the average adult the kidneys filter the total volume of the blood nearly 300 times a day, producing about 1 litre of urine, passed on 4 to 6 occasions. The kidneys are largely responsible for elimination of toxic products of protein breakdown e.g. ammonia, urea, as well as other toxic elements broken down by the liver. Drinking plenty of pure water and avoiding excessive protein intake supports the kidneys and takes some of the load off the liver.

Thyroid: The thyroid lies in the neck at Adam's apple level, produces thyroxin, which controls metabolic rate, the pace of chemical activity in every cell in the body. If the thyroid is under-functioning, the metabolic rate will be slowed and therefore the rate of detoxification will be reduced.

Adrenals: The two adrenal glands, one perched on top of each kidney, secrete the "fight or flight" hormones *adrenalin* and *noradrenalin* in response to stimulation of the sympathetic nervous system. They also secrete steroids which are made from cholesterol. Two of the most important steroids are *aldosterone* and *cortisone*. *Aldosterone* controls the balance of potassium and sodium in the blood, and *cortisone* plays a crucial part in carbohydrate, protein and fat metabolism as well as other processes. Severe stress will have an effect on *cortisone* levels in the blood, therefore affecting metabolism and

consequently detoxification. The chemicals released during stress will also adversely affect the good microflora in the gut. Therefore the adrenals need to be functioning well in their self-regulating action and not become exhausted.

Stomach and Small Intestine: The most important chemicals produced by the stomach are *hydrochloric acid* and the enzymes *pepsin* and *lipase*. The acid produced by the stomach is of sufficient strength to liquify meat and to kill the bacteria in food. It is the first line of defence in protecting the rest of the digestive system from infection caused by putrefaction. Low stomach acid will predispose the body to more toxic organisms. The small intestine has two functions, to complete the food breakdown process, and to absorb nutrients into the bloodstream. Whatever remains unabsorbed by the small intestine (about 5% of fats, 10% of amino acids, fibre, some vitamins, bacteria, intestinal secretions, salts and water) passes into the colon.

Colon: The contents of the small intestine are passed into the colon where they are gradually compacted into semi-solid faeces. Transit time should be normal and not sluggish so that toxic material cannot build up causing putrefaction. A healthy bowel promotes elimination of unhealthy toxins and microorganisms through regular bowel movements (at least one normal bowel movement daily). The colon will eliminate what the liver breaks down. Friendly microorganisms *Lactobacillus acidophilus, L.bifidus* and *L.bulgaricus* for example, are needed in sufficient populations to keep the toxin-producing bacteria in check. Putrefaction is encouraged through over-eating, poor food combining and eating animal products.

Lungs: An appreciable amount of water, another by-product of cellular respiration, is removed via the lungs. If the kidneys are inefficient, more work will be required by the lungs to vicariously (through substitution) eliminate the water. This creates stagnation and internal dampness in TCM. The walls of the airways produce mucus to keep the internal environment of the lungs moist. They are also lined with tiny hairs which beat together, trapping dust and other foreign particles and ferrying them out of the lungs so they can be expelled by coughing or sneezing. Nicotine from tobacco smoke paralyses this extremely efficient rubbish removal system, resulting in "smoker's cough".

Liver: The Liver is the major organ of detoxification in the body and is greatly imbalanced in the majority of people. When working properly, the liver clears 99% of bacteria and other toxins from the blood. Around 4 pints of blood pass through the liver every minute for detoxification and each day the liver manufactures about 2 pints of bile. The bile helps carry away lipophilic (fat soluble) toxins via the bowel. Reduced bile flow means that toxins are retained longer in the body. Unless there is adequate fibre in the diet, toxins being excreted in the bile will fail to be adequately eliminated and may be reabsorbed, often after being modified by bowel bacteria into a more toxic state.

Liver renewal takes place between 18 months and 2 years (15 new regenerations) i.e. the cells regenerate every 4 to 5 weeks. In TCM the liver is doing its most work between 1am and 3am in the morning (gallbladder – between 11pm and 1am) Liver dysfunction will often wake a person up between these hours. The liver is going to detox better whilst we are lying down and relaxed as in sleep, so 'burning the midnight oil' over these hours is going to put greater strain on the liver's detoxification abilities.

The liver also generates a great amount of heat because of all the chemical reactions going on inside it. Old unresolved, stagnating resentments and repressed emotions are also housed here and need to be detoxed and eliminated. Anger and irritability are the emotions linked to the imbalanced liver and a congested liver will vicariously eliminate through the bowel and if the bowel isn't efficient enough, via the skin. The liver has two phases to the detoxification process, phase 1 and phase 2.

Phase 1: The reactions that occur in this phase include oxidation, reduction and hydrolysis. These are made efficient by a group of enzymes that overlap in the detoxification process to modify toxins. This group of enzymes is called **cytochrome P450** and number between 50 and 100 enzymes. They perform two functions: a) they make a lot of toxins water soluble so as to be excreted by the kidneys. b) and/or transform toxins to be more easily metabolised in phase 2.

Phase 2: This is called **conjugation**. It is essentially a bonding process whereby various enzymes in the liver attach small chemicals to the chemical toxin (xenobiotic). This neutralises the toxin, making it more hydrophilic (dissolvable in water). The most important agent in conjugation is **glutathione,** especially in neutralising free radicals. It is a small tripeptide (protein) made up of cysteine, glutamic acid and glycine). The higher the level of glutathione in the liver, the greater is the liver's capacity to detoxify harmful chemicals. Low levels of glutathione make liver cells susceptible to damage.

The efficiencies of both phases vary considerably. If phase 2 is deficient, the leftover by-products of phase 1 cannot be completed, leading to increased toxicity. Conversely if phase 1 is inefficient, the toxins will not be modified enough for conjugation to take place resulting in increased toxicity. It is therefore undesirable to encourage more efficient Phase 1 activity if Phase 2 is sluggish.

In order to detoxify the xenobiotics, the body needs vitamins, minerals and amino acids from our food. Enzymes cannot function without minerals so if we don't provide the minerals, we cannot manufacture the enzymes required for efficient phase 1 and phase 2 detoxification.

- Vitamins required for proper Phase 1 function are:
  - Vitamin C plus flavonoids – acts as antioxidant and co-factor; cytochrome P450 is dependent on this vitamin
  - Vitamins B1, B2, B3, B6, B12 and folic acid. (Low levels of some of these nutrients are associated with raised levels of *homocysteine* which may not be converted to *methionine* in the methylation pathway of Phase2.
  - Beta carotene – converts to Vitamin A and protects cell membranes. Also helps convert alcohol to aldehyde.
  - Vitamin E – prevents formation of peroxides and oxidation of vitamin A

- Minerals required for proper phase 1 function are:
  - Copper – activates numerous enzyme processes. e.g. helps break down Hydrogen peroxide formed in body as a bi-product of cellular respiration
  - Magnesium – produces ATP, the main energy source of the body
  - Molybdenum (essential trace-mineral) – changes aldehydes to acids which are excreted in the urine. Contains the enzyme *xanthine* required for oxidation of fats.
  - Zinc – co-factor in biochemical reactions e.g. alcohol dehydrogenase (a phase 1 enzyme)
  - Manganese (trace mineral) – functions as co-factor in biochemical reactions
  - Iron – necessary for cytochrome P450 function

- Nutrients which encourage Phase 1: Citrus family (particularly lemons but not grapefruit), Caraway and Dill seeds.

- Lipoic acid – chelates mycotoxins (from fungi) and helps normalise liver enzymes. It helps remove mercury and carbon tetrachloride.

- Grapefruit juice contains a compound *(naringenin)* which can decrease cytochrome P450 activity by as much as 30%. Curcumin (found in Turmeric) inhibits Phase 1 but stimulates Phase 2 activity

- Toxicity builds up in Phase 2 because:
  - Nutrients required for that pathway are deficient
  - Ageing process
  - Reduced activity of the liver mitochondria (metabolic energy deficit)
  - Lack of exercise (leads to mitochondrial under activity)
  - Magnesium deficiency (leads to mitochondrial under activity)

- *Silymarin* (the active ingredient in Milk Thistle), prevents depletion of glutathione by alcohol and chemicals and can raise *glutathione* levels by up to 35%. The suggested dosage is 120mg of *silymarin* three times daily.

- The six different pathways for Phase 2 detoxification are:
  - Glutathione conjugation: Depends on B6 and Glutathione (small quantities are found in fruit, veg, cooked fish and meat.) *Glutathione S transferase* is an enzyme vital for alcohol detoxification. Enhanced by glycine (non-essential amino acid), Brassica family (broccoli, cauliflower, cabbage, etc.) and *Limonene* rich foods (citrus peel, caraway.) Retarded by deficiencies of selenium, B2, glutathione and zinc.

  - Amino acid conjugation: This route varies widely in its effectiveness in healthy individuals and is commonly (sometimes genetically) inadequate in conditions such as hepatitis, hypothyroidism and toxaemia in pregnancy. Depends on glycine (non-essential amino acid), taurine (derivative of cysteine and present in bile; keeps bile acids soluble), glutamine (non-essential amino acid found in juices of many plants and essential in hydrolysis of proteins), arginine (non-essential amino acid) and ornithine (formed from arginine and not present in proteins.) Retarded by protein deficiency.

  - Methylation: Important for detoxification of excess oestrogen and for maintaining bile flow which can stagnate in pregnancy. Depends on S-Adenosyl-Methionine (SAM) which is manufactured in the brain from methionine and is the most active donator of the methyl groups. (It should be noted that SAM may be lowered in patients suffering from depression). Methylation is also enhanced by lipotropic factors (compounds that promote the transportation and utilisation of fats and help to prevent accumulation of fat in the liver.) e.g. **choline (lecithin), methionine, betaine (from beets), folic acid, B12. Retarded by deficiencies of B12 and folic acid.

  - Sulphation: Detoxifies normal body chemicals including hormones. Depends on cysteine, methionine, taurine and molybdenum. Retarded by NSAIDS, tartrazine (yellow dye) and molybdenum deficiency.

  - Acetylation: Depends on Acetyl-CoA (Acetylcoenzyme A.)Detoxifies sulphur drugs, etc. Retarded by deficiencies of B2, B5 and Vitamin C.

- Glucuronidation: Depends on glucuronic acid (an important acid in metabolism which forms glucuronides in the liver which combine with a wide range of toxic substances such as drugs, pollutants and bile acids and renders them more water-soluble). Enhanced by essential fatty acids (omega 3 and 6), limonene – containing foods (citrus peel, caraway). Inadequate function associated with Gilbert's disease (hereditary and approx 6% of population). Retarded by aspirin, cigarette smoke and birth control pill.

- Important nutrients for proper Phase 2 detoxification:
  - N-Acetyl Cysteine – converts to cysteine and raises glutathione levels; detoxifies negative microforms such as fungi and can bond to heavy metals mercury, lead and cadmium escorting them from the body. Protects against a wide range of toxic hazards such as paracetamol overdoses, cigarette and exhaust smoke, and side effects of many prescription drugs.
  - Cysteine (sulphur containing amino acid) – detoxifies many chemicals including pesticides, plastics and hydrocarbons
  - Taurine (derivative of cysteine) – important conjugator of bile acids; needs B6
  - Glycine (non-essential amino-acid) – aids in production of glutathione
  - MSM (Methyl sulphonyl methane) – organic sulphur
  - Sulphur foods (garlic, onions, broccoli, etc.) – necessary for cysteine production; helps remove heavy metals

- Vitamins for Phase2:
  - B1 – regenerates glutathione and helps conjugation
  - B2 – important for glutathione enzyme system (esp. methylation & Acetylation pathways)
  - B3 – essential for recycling glutathione
  - B5 – carries acetyl groups and important in transamination process (the transfer of an amino-group from one compound to another). Acetylation pathway.
  - B6 – converts methionine (essential sulphur-bearing amino acid) to glutathione
  - B12 – acts as a co-enzyme in methylation pathway
  - Folic acid – necessary as coenzyme in methylation pathway
  - Vitamin C – necessary for conversion of N-Acetyl Cysteine to cysteine. Necessary for proper functioning of Acetylation pathway

- Minerals for Phase 2:
  - Magnesium – helps manufacture glutathione and co-factor in conjugation enzyme production
  - Selenium – part of glutathione complex
  - Sulphur – necessary for synthesis of proteins to cysteine
  - Zinc – co-factor in conjugation enzyme production
  - Molybdenum (trace mineral) – co-factor with sulphur-bearing amino acids
  - Germanium (trace mineral) – raises glutathione levels and acts as free-radical scavenger

- Choline:
  - Assists in digestion of all types of fatty foods
  - A lack of choline has a direct relationship to cholesterol levels in the blood
  - Alcohol consumption increases need for extra intake
  - Is only effective when combined with other B complex vitamins
  - Choline foods prevent the accumulation of fats in the liver
  - Helps prevent formation of gall stones
  - Choline foods are natural fat and cholesterol dissolvers
  - Choline can be synthesized by intestinal bacteria with the essential ingredients: folic acid, B12 and amino acid Methionine
  - Good sources of choline: lecithin, egg yolk, wheat germ, soy beans, rice germ, spinach, asparagus, green beans, tahini, brewers yeast

- Methionine: (Essential amino acid)
  - Promotes metabolism of fats and controls fat levels in the blood
  - Is the main limiting amino acid, very few foods supply sufficient amounts
  - Sources: All vegetables, grains, nuts and seeds, apple, apricot, avocado, banana, date, fig, orange, papaya, peach, pear, pineapple, strawberry, tomato

- Taurine (Good sources)
  - Dark chicken and turkey meat
  - Shellfish – particularly scallop, mussel, clam, oyster
  - Squid, octopus, eel, shrimp
  - Only low traces found in plant kingdom (except red algae)
  - Small traces in wide variety of nuts

METHODS OF DETOXIFICATION

Detoxification is better carried out in the spring and/or summer. In winter the qi (vital force) retreats and is building up.

Fasting: The body uses up about 50% of its energy in digestion. By fasting, that energy can be utilised in other processes such as self-healing, tissue repair (e.g. gut mucosa) and enhancement of cell-mediated immunity. Fasting encourages toxins stored in the fat cells and elsewhere to be mobilised into the blood stream and dealt with by the liver. It is important that prior to fasting, the main organs of elimination (liver, colon and kidneys) be in an optimally efficient state. In order to prevent phase 2 detoxification from resulting in toxic overload due to inadequate levels of essential nutrients, supplementation is recommended. This will happen naturally through organic fruit and/or vegetable fasts. It is for this reason that juice fasts are favoured over water fasts. Short fasts (24 to 72 hours) are recommended over longer fasts. Longer fasts should be supervised by a health professional, as should anyone who suffers from an eating disorder, mental illness or chronic condition which needs medication.

Notes on Fasting

- Long fasts (more than 2 days) should be supervised by a naturopath
- Because of the increased toxicity (heavy metals, DDT, dioxins, etc.) stored in tissues, the modern fast is less predictable than in the past
- During a fast, pollutants are mobilised into the bloodstream as fat stores are used up (the body "dumps" most of its toxins in the fat). A body overloaded with toxins can produce reactions which are unpredictable as the "cocktail" of chemicals hits the bloodstream.
- Remember the more acidic the tissues, the more toxic the person. You can gauge this by a pH litmus test of the saliva. The pH should be more alkaline after the fast.
- Common side effects of short-term fasting include: headaches, nausea, coated tongue, dizziness, skin rashes, acne, increased body odour, increased discharge from mucous membranes, aching limbs and muscles, feeling colder than usual, insomnia, urine may be cloudy or darker than usual and bowels may stop functioning during the fast. Note that these symptoms are not serious and will pass so reassure your patient.
  "As long as the waste is in the circulation you feel miserable during a fast, as soon as it is through the kidneys you feel fine" Professor Arnold Ehret.
- Benefits of fasting: clearer skin and eyes, more energy, increased elimination, decreased pain and inflammation, increased concentration and a feeling of wellbeing
- A pattern of eating and living which includes periodic fasting, monodiets and detoxification will encourage: slower metabolic rate, reduced free radical activity, better protein synthesis, less mucous congestion, enhanced immune function and greater growth hormone levels
- Contraindications to extended fast (beyond 48 hours) without professional supervision:
  - Pregnancy and breast feeding
  - Infants
  - Severe liver disease or anaemia
  - Kidney disease
  - Diabetes (Note: If insulin dependent, all fasting is contraindicated)
  - Anyone who is regularly taking prescription drugs
  - Anyone habitually using "social drugs"
  - Emaciation
  - Mental/Emotional problems
  - Eating disorders e.g. anorexia nervosa
- Ensure at least 2 litres of pure, filtered water is consumed on all fasting days
- It is better to break the fast with raw or cooked starch – less vegetables (stewed spinach is ideal)
- Types of fasts:
  - Raw food day – one day per week (eat only fruits, nuts (not salted or roasted), seeds, raw vegetables (salads, etc.). Eat organic

- Vegetable and fruit day – stir fry, bake, steam or stew (no sugar)
- Mono-diet: Eat only one fruit or vegetable for the day e.g. grapes, boiled rice
- Juice fast: Take vegetable juices and fruit juices separately (apples, cucumber and carrots are the exception as these can be mixed). Fruits are the cleansers and being very alkaline are good to do first thing in the morning. Example being apple, grape and lemon. Vegetables are the builders and good to do in the evenings e.g. carrot, kale, cucumber and celery. A good combination is apple, carrot and celery. Three or four x 8ozs glasses of juice per day is a normal amount together with 8 glasses of water.
- Grape/water fast: dilute grape juice 50/50 with spring or filtered water

- If fasting on liquids alone is too difficult then eat one form of fruit only for the period of the fast. People with low blood sugar or blood sugar irregularities should not go hungry and should have a piece of fruit on hand to break their liquid fast if necessary.

- For best results the above fasts are best done periodically e.g. once per week or fortnight or month and should be extended to two days when the person feels comfortable with doing it on one day only.

- It is not necessary to stay in bed when doing a detox but the days should be relaxing and any physical exertion avoided. Dress more warmly, walk in the fresh air, read, meditate, take warm (not hot) baths using essential oils such as lavender, do deep breathing exercises or stretching.

- On fasting days no supplements or medications should be taken. If someone is on medication then fasting will not be possible for them unless they have permission from their doctor. This applies to all fasts (less or greater than 48hours.) An obvious reason for this is someone who is insulin dependent.

- The only supplement exceptions would be liver supporters such as milk thistle (120mg silymarin three times daily) dandelion root (coffee) or amino acids glutamine or glutathione. A probiotic may also be taken.

Juicing: Juices are very bio-available (easily absorbable) to the body. They provide the alkaline balance to an often over-acidic body. This is because they are generally rich in the alkaline minerals – potassium, sodium, magnesium, calcium and manganese. {We are assuming that the soils are not leached of their nutrients}. Juices also provide enzymes, as well as raw foods, which are often lost in the cooking process. Juicing provides an ideal way to fast because it not only provides the valuable nutrients necessary for enzymatic action, but it also allows the body to detox more slowly, lessening the burden on the liver. For example, beetroot is a powerful blood cleanser. Vegetable juice fasts would be recommended over fruit juices for anyone suffering from candida or blood sugar problems. Fruit and vegetable juices should not be combined as they impair digestion. Exceptions to this are carrots (which break down into simple sugars very quickly) and apples, which can comfortably be mixed with vegetables because of the higher starch content.

Detox Diets: It is essential to give the digestive organs a rest occasionally. Mono diets (either fruit or vegetables) or food combining (e.g. Hay diet) can take a great strain off the system and aid digestion. In many homes, every meal contains 5 or more food groups e.g. meat, milk/cheese, sugar, bread/pastries, coffee/tea or alcohol. Even those with strong digestive systems eventually suffer major disorders with such a complexity. The resulting fermentation feeds virus, yeasts, fungi and ultimately carcinogenesis. Macrobiotic diets help the body to balance and efficiently detox. A typical macrobiotic diet consists of 50-60% whole grains (brown rice, millet, barley, oats, buckwheat, and amaranth), 20-30% locally grown vegetables, 5-10% beans or sea vegetables (kelp and other seaweeds) and 5-10% soups. Only light cooking or steaming is used to preserve the nutrients. All processed foods, sugar, dairy foods, salt (other than sea-salt), red meats and poultry are eliminated.

Herbs and supplements:
Psyllium husks (soluble fibre) act like a gentle expanding broom to sweep through the colon's haustra.
Bentonite clay works by expanding into the walls of the colon to pick up toxic waste matter that has become impacted.
Dandelion Root (*Taraxacum officinale*) helps cleanse liver cells of toxins and stimulates bile flow.
Burdock Root (*Arctium lappa*) increases the circulation to the skin for detoxification and acts as a blood cleanser, neutralising many poisons.
Clivers (*Galium aperine*) acts as a powerful lymphatic cleanser.
Liquorice (*Glycyrrhiza glabra*) helps support adrenal function and heal tissues such as the gut lining.
Elecampane Root (*Inula helenium*) removes mucus congestion from the lungs.
Butternut Bark (*Juglans cinerea*) acts on the liver and bowel to eliminate congestion.
Curcumins (from Turmeric) increases efficiency of both glutathione and glucuronidation pathways in phase 2 liver detoxification.

Liver detoxification: A healthy liver supports smooth qi and blood flow throughout the body. To stimulate the liver and unblock stagnation in the liver, organic coffee enemas can benefit. A coffee enema stimulates the liver to dump bile by absorption of the coffee into the haemorrhoidal veins and then into the portal vein.

The chemicals: ***caffeine, theophylline*** and ***theobromine*** stimulate relaxation of smooth muscle causing dilation to blood vessels and bile ducts. This encourages deep cleansing of the colon by stimulating peristalsis.

In addition palminates: kaweol and cafestol found in coffee promote the activity of the key enzyme system, glutathione S-transferase, well above the normal range. This enzyme group detoxifies a vast array of free radical chemicals from the bloodstream.

Directions

- Put 2 tablespoons of organic ground coffee into one litre of distilled (or reverse osmosis) water, which has just been brought to the boil
- Continue to boil for 3 minutes and then simmer on very low heat for 20 minutes
- Cool, strain and insert into rectum (while at body temperature) using an enema bucket and hose. (use a lubricant such as Vaseline)
- Take the enema lying on the right side with knees drawn up to the abdomen
- After a few minutes turn over onto your back
- After a few more minutes switch to left side and wait a few minutes before evacuating bowels
- Total Retention of coffee should be for 10-15 minutes
- This can be done every morning when doing a detoxification program or fast or once per week for good health maintenance
- The coffee enema is recommended after lymphatic drainage massage to cleanse the colon of the lymph, which has drained into the bowel
- Do not use before sleep as it is stimulating
- Enemas should not be taken without adequate mineral intake as this could create electrolyte imbalances

Since the enema is held for 15 minutes, and all the blood in the body passes through the liver every 3 minutes, the enema represents a form of dialysis of blood across the gut wall.

Gallbladder flushes can also aid in the detoxification process by mobilising stones from the Gallbladder. There are a number of different combinations to the method which involves ingesting lemon juice and olive oil, apples and/or Epsom salts. It is important to have colonic irrigation after a gallbladder flush as some stones may be retained in the colon. *L. Bifidus* culture should be put into the last 'wash' to repopulate the colon. It is important to note that the majority of "stones" removed will be a combination of bile salts mixed with oil and will come from the liver rather than the gall bladder.

Colon detoxification: Colon hydrotherapy dates back to at least 1500BC. Filtered water at regulated temperature is introduced into the colon via the rectum. It is more effective in cleaning out the colon than an enema since the whole colon (up to the cecum) is washed out with water. The water progressively softens and expels faecal matter and loosens compacted deposits in the colon.

The colon is often massaged at the same time to promote evacuation and implants of herbs and probiotics can also be introduced into the "wash". Many conditions which are related to poor elimination can be helped through colonic irrigation. For example: constipation, diarrhoea, abdominal bloating, flatulence, halitosis, headaches, diverticulitis, skin rashes, chronic fatigue, candida overgrowth and liver congestion.

Basically, colon hydrotherapy re-educates the bowel by:

- Re-establishing the shape
- Emptying pockets of built-up waste
- Improving transit time
- Decreasing the build up of toxic matter and associated enterotoxins
- Balancing the micro flora
- Toning and exercising the colon
- Removing mucous deposits.
- Freeing up gas pockets

Note: Colon hydrotherapy DOES NOT remove the friendly bacteria from the colon. These organisms are predominantly found within the mucous membranes and will completely repopulate within 18 hours of complete washing of the colon.

Kidney Detoxification;

- One day watermelon/urine/distilled water fast: After first morning urine drink the juice of one watermelon over the course of the day at intervals. In addition all urine passed over the day is to be re-ingested plus as much distilled water as required. Nothing else is to be taken over the 24hours. You will notice how the urine changes throughout the day to become clear and light like spring water.
- Parsley Decoction: Simmer one bunch of parsley in 2 litres filtered water for 10 minutes, strain and place in fridge. Drink one glass per day for 1 week.
- Asparagus puree: Wash salt from one can of asparagus spears and puree. (alternatively use fresh spears). Place puree in bowl in fridge, cover and eat one dessertspoon twice daily – morning and evening.

Saunas/steam baths: Saunas are considered 'dry' and steam baths – 'wet.' The sauna is considered preferable as it increases natural sweating. Contraindications are: pregnancy, heart disease, kidney disease and anaemia. However the Far-infrared sauna is less demanding on the body and produces superior results. It is necessary to sweat to remove plastics which are stored just below the skin. The skin pores are opened allowing toxins to be excreted. A cool shower to wash off toxins and a massage which will relax, stimulate and increase blood circulation should follow the sauna. Lymphatic drainage massage is ideal. While in the sauna and afterwards, plenty of pure water should be drunk to re-hydrate the body. This will also aid in flushing the kidneys of toxins. Adequate minerals should be taken to offset any losses, especially magnesium and potassium.

Exercise and bodywork: Lack of exercise allows toxins to build up in the body and calcium to leach from the bones. The lymphatic system is dependent on exercise to remove toxic waste. Aerobics has the ability to raise the heartbeat and should be done three times per week. Walking is also considered aerobic and is best done briskly. Tai Chi exercises the Cardio-pulmonary system, stimulates blood circulation and encourages mental relaxation Bodywork such as Swedish massage, shiatsu, acupressure and manual lymph drainage all help to move fluids around the body and aid detoxification.

Skin Brushing: This is important in removing dead skin cells, etc. that clog up the pores making it difficult for proper elimination via the skin. It also stimulates lymph flow. A stiff brush is used and the skin is vigorously brushed up the legs and arms, etc., always in the direction of the heart. This should be followed by a detoxification bath. Hot water increases the flow of blood, opens the pores and allows the body to eliminate toxin-loaded perspiration. There are a number of materials, which can be added to the bath to help the detoxification.

Epsom salts will create a pH gradient that will mobilise acids out of the tissues.
Ginger root will heat the skin, causing sweating. It will also stimulate and draw toxins to the skin's surface.
Apple –cider vinegar will change the pH of the skin and increase blood supply to the skin.

Signs and Symptoms of Toxicity

Halitosis (bad breath)
Pruritis
Colon and breast cancer
Irritable bowel syndrome
Foul-smelling stools
Premature ageing
Liver disease
Chronic fatigue
Acne, eczema and psoriasis
Rheumatic conditions

Leaky gut syndrome

The Gut can be damaged in 2 ways:
1) Excess toxic material (bacteria, yeasts, undigested foods).
2) Irritation/inflammation of intestinal mucosa.

(Both conditions are influenced by the presence of good bacterial flora).

Conditions which damage the gut wall:

- Drugs (antibiotics, steroids, alcohol, NSAIDs)
- Age
- Allergies
- Pesticides and other environmental poisons
- Infections of intestine (parasites, yeasts)
- Gut fermentation (dysbiosis)
- Emotional stress (alters pH of gut)
- Lectins

Conditions associated with leaky gut syndrome:

- Asthma
- Autoimmune diseases
- Celiac disease
- Eczema
- Chronic fatigue
- Mineral deficiencies
- Pancreatic insufficiency
- Food allergy

- IBS
- Inflammatory bowel disease
- Inflammatory joint disease
- Malabsorption
- Psoriasis
- Rheumatoid arthritis

Symptoms of Leaky gut syndrome:

- Fatigue
- Arthralgia
- Myalgia
- Abdominal discomfort (bloating, wind, etc.)
- Diarrhoea
- Skin rashes
- Toxic feeling
- Foggy head and memory deficit
- Shortness of breath
- Liver congestion
- Lymphatic congestion

Healing the leaky gut:

- L-glutamine: main fuel that intestinal cells need for maintenance and repair; reduces cell injury and reinforces immune function
- NAG (N-acetyl glucosamine): heals extra cellular tissue surrounding intestinal cells; decreases binding of some lectins to the intestinal lining which cause inflammation (especially wheat lectin)
- Lactobacilus bifidus & L. acidophilus: counteract candida and subsequent perforation of intestinal lining through mycelial action
- FOS (fructooligosaccharides): Jerusalem artichoke and chicory are dietary sources of FOS which attract the beneficial bacteria
- Bone Broth
- DGL (deglycyrrhizinated licorice): increases integrity of mucosal cells; high healing rate
- Slippery elm bark: soothing, protective demulcent
- Colostrum (children): similar action to L-glutamine
- Antioxidants: protect lining from free radical damage

Note that blood types A and AB may be more at risk of leaky gut due to their decreased intestinal alkaline phosphatase.

Bone broth

Bone broth is a must for anyone recuperating and its remarkable "corpse reviving" attributes have been hailed in Chinese Medicine for centuries. Anyone going through any form of convalescence will benefit from eating this soup and it is particularly good for kindling the "fire within" on cold nights.

It nourishes the Spirit and boosts immunity (think Chicken soup for colds and Flu). It helps repair joints, ligaments and tendons, supports connective tissue and is especially beneficial in healing a "leaky gut", something that is at epidemic levels today and implicated in many auto-immune conditions.

There are many recipes for this broth but essentially you just need to get bones from healthy organic grass-fed animals or non-farmed fish. You can use beef, lamb, poultry or fish and by adding chicken's feet, you will get extra collagen. You should simmer the bones for 12 to 24 hours in order to release the minerals and 2 tablespoons of organic apple cider vinegar will help to maximise the leeching process. Then add diced carrots, onions and celery along with some herbs and spices such as parsley, garlic and turmeric for example.

10: **{Endo} Parasites** From the Greek: *para* (beside) and *sitos* (food) (Parasites which live inside the host's body)

There are over 100 types of parasites known to inhabit the human body and the body can host a number of different parasites at the one time. Children, the elderly and people with depressed immune systems are most at risk. Parasites are opportunistic and so can only take up residence if we provide the environment for their existence. The environment may be influenced by a number of factors – poor immune function, poor nutritional status, toxic build up in intestines (e.g. chronic constipation), over-acidity in the cells, reduced enzyme function (e.g. low hydrochloric acid) or general impaired detoxification (e.g. sluggish liver or lymphatic congestion).

3 main categories:
1) **Protozoa** (single-celled organisms)
2) **Nematodes** (round worms and other worms)
3) **Platyhelminthes** (tapeworms and flukes)

Protozoa: These single-celled organisms are microscopic but able to severely affect the body at a cellular level causing problems in the circulatory, endocrine and gastrointestinal systems. Most form a cyst stage which protects it from harm. They generally fall into 5 sub groups – amoebas, ciliates, flagellates, microspordia (blood parasites) and coccidia (tissue parasites).

***Giardia lamblia* (flagellate)**
Sources: Pets, tap water, river water, poor hygiene
Symptoms: **Diarrhoea,** bloating, gas, nausea, cramping, flu-like symptoms

***Blastocystis hominis* (Amoeba – no cyst or larvae stage)**
Sources: Food, water
Symptoms: (If in large numbers) abdominal pain, nausea, vomiting, gas, fatigue, itchiness, headaches, weight loss IBS or **no symptoms.** In addition to *Candida albicans* – it is one of the two most common organisms found in stool samples. Commonly affects cecum area and is hard to eradicate as it lodges in the walls of the intestine. There are 3 forms.

***Entamoeba histolytica* (Amoeba)**
Sources: Fecal matter, river water, poor hygiene
Symptoms: **Amoebic dysentery**

***Cryptosporidium muris* (Coccidia)**
Sources: Contaminated water, animals, fecal-oral route
Symptoms: **Diarrhoea**, nausea, chills and fever

***Toxoplasma gondii* (Coccidia)**
Sources: Pets (especially cats), undercooked food (beef & pork), inhaled.
Symptoms: **Asymtomatic**, chronic fatigue, headache, fever swollen lymph glands, depression, low blood sugar dangerous in pregnancy – possible still birth or abortion

***Trichomonas vaginalis* (Flagellate)**
Sources: Sexual contact, contaminated articles
Symptoms: **Female** – burning, itching and/or discharge of vagina. Painful Urination or inflamed bladder (assoc. with cervical cancer)
Male – small discharge, enlarged prostate, painful urination

***Balantidium coli* (Ciliate)**
Sources: Cysts are transmitted by food and water contaminated with pig feces. Person to person via food handler Uncommon in humans
Symptoms: Largest intestinal protozoan found in humans. Only pathogen that has cilia to 'sweep' it along **Asymptomatic,** self-limiting diarrhoea, abdominal pain, weakness, weight loss

***Dientamoeba fragilis* (Flagellate)**
Sources: Via direct ingestion of the larvae. Can be found within eggs of pinworms
Symptoms: One of the most common parasites. Does not have a cyst stage. Lives in the colon as larvae. Diarrhoea, abdominal discomfort, **autoimmune reactions.**

Nematodes: This group includes the many variety of worms. They are found in most environments – freshwater, marine, earth, plants and animals. Most types of nematodes have separate sexes and they multiply by producing eggs. These eggs usually inhabit the soil or an intermediate host before they move into a human host. Juvenile worms develop to adults through a number of stages or instars (molts).

***Ascaris lumbricoides* (Roundworm)**
Sources: Most common of all parasites, soil, infected food, human faeces
Symptoms: Obstruction (constipation), intestinal discomfort, diarrhoea, malnutrition, insomnia, weight loss, wheezing, **allergies** grinding of teeth at night, anemia, asthma, weight gain around full moon (7-8 pounds). Usually only live for a couple of years inside host. It is the largest of the round worms (6 to 16 inches in length and thick as a pencil). Humans can be affected by many worms at the one time.

***Necator americanus* (Hook worm)**
Sources: Moist and warm soil of tropical areas (through walking in bare feet or via fruits, vegetables or water containing the larvae
Symptoms: Respiratory conditions such as bronchitis, itchy skin, nausea weight loss, **anaemia**. Can live in humans for up to 15 years. Only worm with teeth – can drink large amounts of blood.

***Enterobias vermicularis* (Pinworm)**
Sources: Common in children, contaminated food, water, human contact
Symptoms: **Anal itching**, visual disturbances, grinding of teeth, Hyperactivity. Small, white worm 2-13mm in length

***Strongyloides stercoralis* (Strongyloides or Threadworm)**
Sources: Found mainly in tropical regions such as Southeast Asia, Middle East and Sth. America. Found in the soil and also the body fluids of infected people. It can reproduce entirely within the human host or freely in the soil and can live for up to 30 years.
Symptoms: Pulmonary disease, abdominal pain, bloating, greasy stools peptic ulcer-like pain, **elevated eosonophil count.** More likely in compromised immune systems or with people taking steroids.

***Trichinella spiralis* (Trichinella)**
Sources: Travels in cyst form, undercooked pork
Symptoms: Tiny roundworm. Early stages – diarrhoea, vomiting, colic. Middle stages – **severe muscle pain** (cysts). Late stages – dehydration, enlarged lymph glands, breathing difficulties.

***Trichuris trichiura* (Whipworm)**
Sources: Ingestion of eggs via soil or water. Contaminated fruit and veg.
Symptoms: **Abdominal pain**, diarrhoea, weight loss, nervousness, weakness. Heavy infections can produce appendicitis

Platyhelminthes: This group contains 3 classes: *trematodes*, *cestodes* and *turbellaria*

Trematodes: The Flukes: flat, leaf-shaped worms with two ventral suckers allowing attachment to their hosts. They grow to about 3.5 inches in length and can be difficult to eradicate as they resist attacks from our immune system. The flukes release many eggs which can cause damage to the tissues as they pass out of the body owing to tiny spines on the outside of the eggs. Flukes also release very toxic metabolites which can also damage the host's tissues.

***Clonorchis sinensis* (Liver fluke)**
Sources: Undercooked fish, snails, common in S.E. Asia and Hawaii
Symptoms: **Inflammation of the liver,** fever, chills, jaundice. Liver flukes make holes throughout the liver

***Schistosoma* genus (Blood flukes)**
Sources: Larvae released into fresh water systems via snail. Africa, South America, most of Asia
Symptoms: Schistosomiasis (various forms – liver, bladder, and intestines). Itchy skin rash where parasite enters the skin then fever, headache and abdominal pain. **Person feels toxic.**

***Paragonimus westermani* (Lung fluke)**
Sources: Undercooked crayfish, freshwater crabs, snails, undercooked pork, crab juice
Symptoms: Lung flukes are tiny short and plump and reddish-brown. They weaken and perforate lung tissue attracting pneumonia and fungal infections, **blood-stained, rusty sputum on rising.**

***Fasciolopsis buski* (Intestinal fluke)**
Sources: Unpeeled outer skin of plants such as water chestnuts, Bamboo shoots and lotus plant roots.
Symptoms: **Ulceration of wall of small intestine**, diarrhoea, Nausea, vomiting, anorexia, edema of the face

Cestodes: The Tapeworms: long, flat and ribbon-like, they do not have a digestive system and absorb nourishment through their skin. The bodies of cestodes are usually segmented and each segment contains a full set of reproductive organs. They live in the intestines and can cause considerable damage by absorbing our nutrients from partially digested food, especially B12 and folic acid. They also give off toxic waste by-products. (verinous intoxication)

Taenia saginata **(Beef tapeworm)**
Sources: Raw or undercooked beef.
Symptoms: Often **no symptoms** though diarroea, cramping or nausea can occur. Can live up to 25years and only one worm at a time inhabits the system. Second largest of the tapeworms may grow to a few metres in length.

Taenia solium **(Pork tapeworm)**
Sources: Undercooked pork products
Symptoms: Humans can act as both intermediate host and final host (self Infection (cystircercosis) – a potentially dangerous situation). Larvae develop in the muscles and then travel to the nervous system and organs such as brain, heart and eyes. Can cause seizures and brain deterioration. Shorter than the Beef tape worm. Can also live within host for up to 25 years and there are usually multiple worms present. Cysts may cause an **allergic response.**

Diphyllobothrium latum **(Fish tapeworm)**
Sources: Raw or undercooked fish especially perch, pike, salmon and American turbot
Symptoms: The largest of all parasites. Commonly 3-7 feet in length but may reach 30 feet. Found mainly in Canada, Japan, Alaska and Russia. Abdominal pain, anorexia, nausea, **depletion of B12** and low folate.

Dipylidium caninum **(Dog tapeworm)**
Sources: Common in dogs and cats. Intermediate host is flea or louse. Common in children through contact with pets
Symptoms: Intestinal disturbances, **disturbed sleep**, grinding of teeth, persistent diarrhoea

Hymenolepsis nana **(Dwarf tapeworm)**
Sources: Infected grain via grain beetles and other insects. Poor hygiene
Symptoms: Only a few centimeters long with around 200 segments and commonly children may ingest the eggs. **Asymptomatic**, itching, headaches, diarrhoea, abdominal pain, weakness.

Turbellaria: Only a few of the turbellaria are parasitic

GENERAL PREVENTION OF PARASITES

- Probiotics
- Garlic Cloves
- Colonic irrigation
- Bentonite clay
- Apple cider vinegar
- Grapefruit seed extract
- Bitter melon (protozoa)
- Circuma longa (Turmeric) – not for *Giardia*, growth of which is stimulated by bile flow. Turmeric may increase bile flow.
- Liquid chlorophyll

HERBS TO KILL OFF PARASITES

Allium sativum *(Garlic)* (oral & pessary)
- *Ascaris lumbricoides*
- *Necator americanus*
- *Enterobius vernicularis*
- *Entamoeba histolytica*
- *Giardia lamblia*
- *Cestoda* (tapeworms)

Artemisia absinthium (Wormwood)
- *Ascaris lumbricoides*
- *Enterobius vermicularis*
- *Strongyloides stercoralis*

Artemisia annua (Chinese wormwood)
- *Clonorchis sinensis*
- *Schistosoma species*
- *Giardia lamblia*
- Most other protozoa

Artemisia abrotanum (Southernwood)
- *Strongyloides stercoralis*

Echinacea angustifolia
- *Trichomonas vaginalis*

Gentiana lutea (Yellow gentian)
- *Entamoeba hystolytica*
- Other protozoa

Inula helenium (Elecampagne)
- *Ascaris lumbricoides* (specific)
- *Clonorchis sinensis*

Spigelia mariladicus (Pinkroot)
- Nematodes
- Cestodes

Ficus glabrata (Ficin)
- *Ascaris lumbricoides*
- *Strongyloides stercoralis*
- *Necator americanus*
- *Trichuris trichiura*
- *Enterobius vermicularis*
- *Taenia solium*
- *Taenia saginata*
- *Hymenolepsis nana*

Berberine plants

***Hydrastis Canadensis* (Golden seal)**
***Berberis vulgaris* (Barberry)**
***Berberis angustifolia* (Oregon Mountain Grape)**
***Loptis chinensis* (Golden Thread)**
- *Giardia lamblia*
- *Entamoeba histolytica*
- *Trichomonas vaginalis*
- Most other protozoa

Cucurbita pepo (Pumpkin Seeds)
Adults: 20-30 seeds each morning on empty stomach for 2 weeks (children: half the dose)
- *Strongyloides stercoralis*
- *Enterobium vernicularis*
- *Ascaris lumbricoides*
- *Cestoda*

Picrasma excelsa (Quassia)
- *Ascaris lambricoides*
- *Giardia lamblia*
- *Enterobium vernicularis*

Juglans nigra (Black Walnut Hulls)
- *Cestoda*

Eugenia caryophyllata (cloves)
- Kills eggs of parasites when taken orally

Dryopteris felix-mas (Male Fern)
- Nematodes
- Trematodes
- Cestoda (Aspidium felix-mas)

Punica granatum (pomegranate)
- Nematodes
- Cestodes

CANDIDA ALBICANS

There are many different species of the *Candida* genus (*C. tropicalis, C.lusitaniae, C. glabrata*, etc.). *Candida albicans* is a small, oval, yeast-like fungus which is commonly part of the flora of the mouth, skin, intestinal tract and vagina. In addition there are many other fungal genera which inhabit our bodies.

C. albicans is more of a problem with compromised immune systems which can commonly develop from over-toxicity from chemicals, heavy metals and denatured foods, rich in sugar. *C .albicans* is often seen concomitant with parasites especially protozoans such as *Blastocystis hominis.*

People have widely different populations of this fungus and fungi are natural recyclers of organic matter. It generally does not cause a problem in most people because our immune systems and friendly bacteria keep its colonies in check. However prolonged stress and a diet rich in sugar, caffeine and alcohol can change the delicate pH in the gut, creating a different "biological terrain" which is not conducive to our friendly bacteria (flora) thereby causing the Candida to proliferate.

Candida is polymorphic, that is, it can change shape and form developing as spherical yeasts or filaments. When conditions are right (pH) the harmless 'bud-like' yeast form will change into a rampant fungus setting out long filament-like roots which penetrate the mucosa (small intestine for example) in search of more sugars. This is a common route to a leaky gut.

In addition the yeast produces a lot of toxic by-products which can damage hormones and the immune system. They can also reduce red blood cell flexibility and inhibit function of suppressor cells causing problems with antibodies.

Signs and symptoms of Candida can vary considerably; ranging from bloating, IBS type symptoms, headaches, itchy eyes and ears, skin rashes, joint and muscle pain, hormonal problems, sugar cravings to mood swings, foggy heads and depression. If the Candida gets outside the intestines (via a leaky gut for example) it can infiltrate organ systems and contribute to systemic problems with major consequences. There are many treatment protocols such as strict anti-Candida diets, anti-fungal preparations and probiotics (good bacteria combinations).

The problem is that it becomes quite entrenched in many people's systems, proving very resilient, and will feed off proteins if its diet of sugar is restricted. However it can be starved but a consolidated regime needs to be implemented; perhaps for 12 months as total small intestine and bowel ecology needs to change. There are many areas to consider such as healing the leaky gut, addressing possible low stomach acid, liver congestion, poor enzyme function and toxic bowel. Obviously age plays a big part as levels of the friendly large bowel bacteria *Bifidobacterium bifidum* are reduced with age along with levels of ***glutathione*** in the liver necessary for adequate detoxification of mycotoxins.

Elimination of the following foods are necessary for a minimum of four weeks – all forms of sugar, fruit, yeasts (eat yeast free bread), refined grains, stimulants (coffee, tea, etc.), mushrooms, vinegars and other fermentable foods such as soya, wine and beer.

When Candida is destroyed faster than the body can eliminate the toxins, we can have a 'healing crisis' or "die-off" It is prudent to start with a low dose antifungal (say 400mg daily Caprylic acid) and work up from there when appropriate.

A good daily probiotic plan with *Bifidobacteria* and *Lactobacillus acidophilus* is essential. The probiotics will not colonise unless the "soil" is the correct pH and they have an adequate food supply. Kefir or yoghurt made from raw organic goat or sheep's milk would be best as this provides the probiotics and the prebiotic together without having been altered and damaged through pasteurisation and/or homogenisation.

An anti-fungal regime is necessary. This may include: Caprylic acid, Oil of Oregano, Berberine, Grapefruit seed extract, Pau D'arco or garlic clove suppository, etc. Alternatively eat 1 teaspoon of raw organic virgin coconut oil twice daily. This can also be applied topically to fungal infections of the skin. Remember that all bugs eventually become immune to their poisons (anti-fungals) so the anti-fungal regime should not continue for longer than 2 months and should be essentially used to reduce the burden. Long-term strategies should include biological control (for example using other symbiotic fungals such as Kombucha) and/or specifically targeting the protective cell wall of yeasts which is comprised of fibre and glycoproteins with a systemic protein-digesting enzyme such as proteolytic enzymes or serrapeptase. These should be taken between meals.

An immune-building program also needs to be implemented. Consider poor absorption and assimilation of carbohydrates (disaccharides not being broken down to monosaccharides) by 1) not chewing food adequately i.e. stress (inhaling food) 2) poor enzyme function 3) inflammation to walls of small intestine.

An immune system modulator such as Beta-(1,3)/(1,6) Glucans may be necessary. Increase nutrient status, infra-red saunas and supplements such as olive-leaf extract, etc.

Don't be surprised if that "foggy head" feeling goes away; remember the recipe for alcohol is sugar and yeast.

11: **Water**

The human body is composed of approximately 70% water in the male and slightly less in the female (due to a larger proportion of water-poor fatty tissues) and it supports the internal body functions of humans, animals and maintains plant life. Water makes up approximately 90% of the blood, 80% of the lungs and nearly 98% of intestinal, gastric, salivary and pancreatic juices. The body cannot survive without water for longer than five days.

A baby's body is made up of approximately 75% water and breast milk contains 87% water. Unfortunately as we age, the cell's ability to absorb water is impaired, and levels in the body drop to around 55% by the time you are 65-70 years old. This is because over time we ingest considerable amounts of toxins, not only from our diet, but also from water, which contains more than 350 chemicals such as chlorine, fluoride, pesticides and herbicides, nitrates, plus antibiotic and hormone residues (from the Pill and HRT) and heavy metal residues such as aluminium and lead. These toxins accumulate in our bodies; eventually clogging our cells, thereby reducing their ability to absorb water and eliminate the toxins. This is reflected in the changes in the ratio between intracellular fluid and extracellular fluid. When we are young we have more fluid in our cells (intracellular) than outside our cells (extracellular). Around middle age this ratio starts to shift and we begin to have more fluid outside our cells than inside. The elderly can be technically dehydrated.

The purer the water you drink, the easier it can permeate your cells and the more hydrated you become. Therefore fluids which have less solutes will create a greater osmotic gradient (distilled water for example) and this would lead to faster hydration. We lose around three litres of water a day; 1.5 litres of water are excreted in urine; 750mls through the skin (and more during exercise), 400mls from simply breathing and 150mls from faeces. We get just under a litre from food, and we generate about half a litre by burning fats and carbohydrates, so we need to drink about one and a half litres, around 6 large glasses every day simply to cover our loses. If you eat 4 pieces of fruit and 4 servings of vegetables every day – this will provide almost one litre of water. Tomatoes and lettuce are 95% water; melons, oranges broccoli and carrots are 90% water; apples, pears, berries and many other fruits are 85%, as is yoghurt. Ricotta cheese, bananas and sweet corn contain 75% water; cooked long grain rice, potatoes and white fish are 70% water; meat is 50% water.

Even the smallest degree of water loss can impair physical and mental function. The body siphons what it needs from the colon and faeces become hard and dry and this leads to constipation. Other symptoms include headaches, lethargy, and mental confusion. One way to gauge if you are drinking sufficient water is by the colour of your urine. If it is coloured a very dark yellow then you are not drinking enough liquids. When you are drinking sufficient liquids your urine should be a pale, white wine colour.

FUNCTIONS OF WATER

Water is a vital component of all body fluids, tissues, cells, lymph, blood and glandular secretions. The mucus membranes need plenty of water to keep them free from friction and aid in detoxification. When the body's tissues and cells are kept well supplied with water, they can fight viral attacks more efficiently. If the body's cells are water-starved, they become shrivelled-up, parched and dry, making it easier for viruses to attack. Water is the primary transporter of nutrients throughout the body and maintains normal body temperature. When we drink a glass of water it goes straight to the stomach. Part of the water is absorbed directly into the bloodstream through the walls of the stomach and some of the remainder goes to the intestines to keep the food we eat in a liquid state while it is being absorbed; this water is later absorbed directly into the blood. One of the most important functions of water in the body is to flush out toxins. The kidney's tubules can become clogged and damaged through a build up of inorganic salt (sodium chloride), uric acid crystals and other inorganic matter without proper hydration.

The brain's 15 billion cells hold 74.5% water and functions like memory and concentration are easily impaired in dehydration. The nerves also need the correct amount of water to function correctly. In order for the body to function at its optimum, it needs to get the water into the cells. The mitochondria (power stations of the cell) can then work more efficiently at driving the body's energy. However, most water is 'dead', it has no "vital force" that allows it to be assimilated most efficiently across the cellular membrane.

Fresh fruits and vegetables and their juices provide this energy, allowing maximum absorption in the cell. This can be demonstrated in the difference between drinking fresh organic juices (rich in **organic** minerals) and bottled mineral water. The body will cry out for more liquid sooner after drinking the bottled water than the juice because the cells have more readily taken up the juices. Distilled water will also be more readily taken up due to the removal of **inorganic** minerals as we have mentioned. One way to make distilled water more "alive" is to magnetise it or place a crystal in your jug .

Coffee, tea and alcohol act as diuretics and will tend to remove more of the precious water from the body than they supply.

TYPES OF WATER

Sparkling is water that has been carbonated (either naturally or from the addition of carbonate) and may, because of its "fizziness" interfere with proper digestion; especially if consumed with meals.

Spring water is water that naturally rises to the earth's surface from an underground aquifer.This water will have some "life-force" at source but could contain contaminants depending on its location such as proximity to farms, etc.

Distilled water is water that has been vaporised by boiling. The steam rises, leaving behind most of the bacteria, viruses, chemicals, minerals and pollutants from the water. The steam is then cooled and condensed.

It is very bio-available to the body and reduces the long term hardening of the body and build-up of "stones" that can occur through the intake of inorganic minerals in normal water sources.

Distilled water is acidic, and therefore acts as a good "chelater medium" for removing toxins such as heavy metals (when mixed with chlorella for example) in addition to other inorganic material floating around in the extracellular fluid.. Distilled water will not remove your precious organic minerals from the body (contrary to popular myth). Remember that most of the World's population drink distilled water in the form of rain; nothwithstanding potential pollution from the atmosphere (depending on where you live). In fact distilled water is used in the Gerson therapy for cancer because Reverse Osmosis (RO) may not remove the fluoride and some hormones. The cancer patients have the pH of their tissues raised through drinking continuous fresh organic vegetable juices in addition to distilled water which helps push inorganic matter out of the extracellular fluid and keeps the cells hydrated. Distilled water should not be stored in plastic containers unless they are 'high grade' hardened containers because of its low pH.

Mineral water is natural spring water that must flow freely from the source, cannot be pumped or forced from the ground and must be bottled at source. Some sparkling waters, such as club soda, are called mineral waters only because the manufacturer added bicarbonate, citrates and sodium phosphates to filtered or distilled tap water.

Tap water is collected from either ground water (wells) or surface run-off from rivers, lakes etc and collected in reservoirs. It is then treated with chemicals such as chlorine (a known carcinogenic) and fluoride (an unnecessary additive). In fact, over 350 different man-made chemicals have been detected in British tap water. Alum, chlorine and many other inorganic compounds are put into the water supply to 'purify' it. There are many places where lead and aluminium are a problem in the water. The leakage of animal slurry into rivers causes water pollution particularly from **nitrates**. Nitrates destroy vitamins A and E; cause mineral imbalance and hormone disturbance and they are carcinogenic. Other contaminants include pesticides, herbicides and parasites such as *cryptosporidium*.

Radioactive iodine, natural and synthetic steroids such as oral contraceptives, anti-cancer drugs, antibiotics and other hospital wastes have all been detected in certain water supplies.

Most jug type filters remove some of the chemicals, but many remain.
Chlorine has long been added to public water supplies to kill bacteria. However, the levels of chlorine can be quite high and some by-products of chlorine are known carcinogens.

Once inside the body chlorine destroys the healthy bacteria in our intestines which are vital for immune function. Chlorine in the form of steam such as in a steam room or shower can have a vaso-constricting effect on the airways of some asthma sufferers. Chlorine dries out the skin and hair and can create chloroform when it reacts with peat and other material found in water. There is a link between chloroform ingestion and cancers of the bladder, colon and rectum. Note, if you can't smell the chlorine in the water, you can expect that another chemical has been added to suppress it. Aluminium sulphate is added to make the water look crystal clear. With all those inorganic minerals and chemicals dissolved, the water should look turbid. Aluminium sulphate takes ions out of suspension, creating clear water. Aluminium has been linked to Alzheimer's disease.

Bottled is classified by its source (spring, spa etc) and by its mineral content. It is better if bottled at source. Approximately 40% of bottled waters are now produced using a "reverse osmosis" process and are not from a natural spring.

Reverse Osmosis (RO) water is passed through microscopic filters, which remove all minerals and toxins including pesticides and herbicides. But you can still get minute seepage of some nitrates (from fertilizers) and depending on the RO system you choose you will get between 80-95% purity.

Reverse Osmosis De-Ionized water is 99% pure water, not unlike rainwater from unpolluted skies. It is similar to reverse osmosis water in that it is passed through microscopic filters. But then it is also passed through a resin which attracts and removes any remaining impurities.

HARD AND SOFT WATERS

Hard water, which is found in various parts of the country, contains relatively high concentrations of calcium carbonate and magnesium carbonate. The presence of these minerals prevents soap from lathering, it causes 'scale' to build up inside kettles and this residue can be clearly seen as the slab of hard rock left behind in the distillation process.

These are **inorganic** minerals and the body has a problem assimilating them. There are 16 inorganic minerals in the soil beneath our feet but the body cannot absorb them efficiently enough to sustain life unless they are in small enough units (measured in *angstroms*) to penetrate the cell. Therefore water is a mixture of both organic and inorganic minerals in varying sizes. Some we absorb into the cell for electrical potential and others we don't. *We refer to organic here to mean 'available to the cell' rather than the Scientific definition which means 'containing carbon'.*

Organic minerals, on the other hand, have been processed by the enzymatic action of plants. Only a living plant has the power to extract inorganic minerals from the earth and to transform them into useful organic substances to nourish our bodies. The problem with drinking 'hard' water over many years is the 'fossilisation ' of the human body brought about by the build-up of these inorganic minerals in the joints, tissues and arteries, etc.

Calcium carbonate, or lime, is a very important ingredient in making cement or concrete. This catalytic agent is responsible for the hardening of concrete. When taken into the body and subjected to the normal metabolism over years, this inorganic mineral may well be the main contributor to *arteriosclerosis* (hardening of the arteries) and *atherosclerosis* (thickening of the interior of the arteries), much like the build-up in pipes or kettles over time. Only rainwater, snow water or fresh organic juices are used in the good sanitariums. No hard water is used. In addition to calcium and magnesium carbonates, hard waters also contain potassium carbonate. These are very alkaline (but remember these are alkaline salts in an inorganic form and not well absorbed into the body) Soft water is acidic, better for the skin externally and lathers easily.

Soft water (other than rain or distilled) usually has higher levels of sodium (and may be one of the reasons for higher incidence of heart disease in soft water areas) Water is artificially softened by adding 2 parts sodium which extracts 1 part calcium and 1 part magnesium. The fact that some studies showed higher incidence of heart disease in hard water areas may be because high concentrations of calcium carbonate will over time harden the arteries because it is inorganic (like furring up your kettle).

Most people believe that if you drink mineral rich waters, then these are healthier waters. Minerals are essential to health and you can absorb some of the minerals from water – but they are in an inorganic form – which is not easily utilized in the body. However, plants, vegetables and fruits – with the help of sunlight, transform inorganic minerals into **organic** minerals which humans can absorb and utilise far more easily. Some scientists now believe that excess inorganic minerals especially calcium carbonate (chalk) can end up in your joints – which contributes to problems such as frozen shoulder.

Too much calcium in your arteries adds to the plaque deposits that trigger heart and arterial diseases. Other long term problems associated with drinking hard water is the formation of kidney, bladder and gall stones, where a 'heady' mix of inorganic minerals is combined with the residue from poor dietary habits such as uric acid crystals. Soft water, if naturally soft, is probably better. However, one potentially serious problem with artificially softened water is that it is more likely than hard water to dissolve the lining of pipes. Certain older galvanised pipes and others made from certain plastics may contain the heavy metal-cadmium. Lead and copper pipes also pose a threat through artificially softening water.

So remember water= hydration and food = minerals. Don't depend on water for your minerals. This is another reason to take fresh vegetable or fruit juices where you get both—absorbable minerals plus distilled water.

FLUORIDATION

In recent years, fluoridation of the water supply has been shown not only to be ineffective in preventing tooth decay, but it also poisons the body. The salts used to fluoridate the water supply, sodium fluoride and fluorosalicic acid, are industrial by-products. They are highly toxic substances that are used in rat poison and insecticides.

The **natural** occurring form of fluoride, calcium fluoride, is non toxic – but this is not used in the water supply. Sodium fluoride and its derivative are known bio-accumulators (they are not readily excreted by the body like calcium fluoride) so it is not known what the long-term effects are going to be. In addition, individuals have different levels of tolerance to toxins such as fluoride and many water sources have levels of fluoride higher than one part per million (the level regarded as an acceptable limit). Fluoride has been proven to cause osteosarcoma, a rare bone cancer, squamous cell carcinoma in the mouth; fluorosis of the teeth, osteosclerosis (hardening of bone with increased heaviness) of the long bones; liver cancer; chromosome aberrations; genetic damage; and skeletal fluorosis and deformities. There have also been studies done to suggest a link with cerebral impairment affecting memory and concentration.

STRUCTURED WATER

The best way of hydrating the body is through the use of fresh, organic fruit and vegetable juices. The water content, full of enzymes, is very bio-available to the body and is 'alive'. This is called "structured water" and has a different crystalline shape than water which has no life force. Sunshine and magnets can both structure water.

Urine is an example of structured water. Tap water or bottled water is 'dead water' and has no vital energy. The body will not assimilate the tap or mineral water as efficiently into the cell as the juices and so we will be thirsty again very soon after drinking the mineral or tap water. If you drink bottled water seek a pH of 7.3 and above. The higher the pH the less potential for leakage of plastic.

The amount of water a body needs depends on temperature, climate, one's activities and health. We need to drink at least 8 glasses (8ozs) of water daily. We should not rely on our 'thirst barometer' to tell us when it is time to drink as it is not a very sensitive instrument. By the time we are feeling thirsty, our cells are already dehydrated. We should take a leaf out of the book of good mountaineers who recognise the continual insidious loss of fluids due to high altitude – drink before you are thirsty.

Be aware that protein breakdown requires more water and if you eat a lot of protein, your water requirements will be greater. Increased hydration is also needed if under stress.

Remember not to drink too much water or fluids with main meals. This dilutes the stomach acid and so it is better to drink water between meals.

12: **Oils & Fats**

OILS & FATS TO AVOID

Canola (rapeseed) oil
Corn oil
Safflower oil
Sunflower oil
Cottonseed oil
Soybean oil
All "vegetable" oils
Peanut oil
Grapeseed oil
Commercial salad dressings & sauces
All fried foods
Processed foods (commercial cakes, cookies etc)
Margarine
Butter substitutes
Corn-fed animal products
Farmed fish
Non free-range organic egg

OILS & FATS TO EAT

Grass-fed meats (organic) – limited amounts
Oily fish (non-farmed) – e.g. salmon, sardines, anchovies, swordfish, tuna, mackerel
Krill oil
Calamari oil
Free-range (organic & grass-fed) eggs
Coconut oil (raw organic)
Olive oil (organic extra virgin)
Flaxseed oil (organic)
Macadamia nut oil (organic)
Avocados
Chia seeds (organic)
Hemp oil(organic)
Walnut oil (organic) – higher resistance to oxidation
Goat's milk/cheese/yoghurt (organic if possible)

COOKING/DEEP FRYING (ONLY USE)

Coconut oil (raw organic)
Butter (grass-fed)
Ghee (clarified butter)
Red palm oil (organic)

LIGHT FRYING (ONLY USE)

Olive oil (organic extra virgin)
Macadamia nut oil (organic)

13: **Nutritional Value of Individual Foods & Food Groups**

Foods contain a wide array of nutrients and the following shows the predominant foods containing particular vitamins and minerals. The values are per 100 grams edible portion.

VITAMIN A	Liver (lamb)	50,500 iu
	Liver (calf)	22,500
	Peppers (red chilli)	21,600
	Carrots	11,000
	Apricots (dried)	10,900
	Kale	8,900

Other good sources: egg yolk, whole milk, yellow, orange & dark green veg. & fruit

Vitamin A from animal source foods occur mostly as active, preformed vitamin A (retinol), while that from vegetable source occurs as pro-vitamin A (beta-carotene and other carotenoids) which must be converted to active vitamin A by the body to be utilised. The efficiency of conversion varies among individuals, however, beta –carotene is converted more efficiently than other carotenoids. Green and deep yellow vegetables as well as deep yellow fruits are highest in beta-carotene.

CAROTENOIDS {carotenes, xanthophylls, lycopenes} (best source)		
	Yellow and dark green veg. (e.g. pumpkin, sweet potato, broccoli, kale)	
	Orange fruits (e.g. papaya, peaches, apricots)	
	Watermelon	
	Cherries	
VITAMIN D	Sardines (canned)	500 iu
	Salmon	350
	Tuna	250
	Sunflower seeds	90
	Eggs	50
	Mushrooms	40

Other good sources: sunlight, cod-liver oil, butter, herring

VITAMIN E *(best source)*	Safflower oil	Whole grains
	Wheat germ	Egg yolk
	Vegetable oils	Dark green leafy veg.
	Soya beans	Brussels sprouts

VITAMIN K	Turnip greens	650 mcg
	Broccoli	200
	Lettuce	129
	Cabbage	125
	Beef liver	92
	Spinach	89

Other good sources: egg yolks, parsley, kale, legumes, alfalfa, kelp

THIAMIN (B1)	Yeast (brewer's)	15.61 mg
	Yeast (torula)	14.01
	Wheat germ	2.01
	Sunflower seeds	1.96
	Pine nuts	1.28
	Peanuts (with skins)	1.14

Other good sources: pork, beef, cooked dried beans and peas, oats, rice husks

RIBOFLAVIN (B2)	Yeast (torula)	5.06 mg
	Yeast (brewer's)	4.28
	Liver (lamb)	3.28
	Almonds	0.92
	Wheat germ	0.68
	Wild rice	0.63

Other good sources: milk products, tuna, salmon, leafy green veg.

NIACIN (B3)	Yeast (torula)	44.4 mg
	Yeast (brewer's)	37.9
	Rice bran	29.8
	Wheat bran	21.0
	Peanuts (with skin)	17.2
	Liver (lamb)	16.9

Other good sources: poultry, legumes, eggs, organ meats, milk, kidney, avocados

PANTOTHENIC ACID (B5)	Yeast (brewer's)	12.0 mg
	Yeast (torula)	11.0
	Liver (calf)	8.0
	Peanuts	2.8
	Mushrooms	2.2
	Soybean flour	2.0

Other good sources: fish, organ meats, eggs, avocados, dates, sweet potatoes

PYRIDOXINE (B6)	Yeast (torula)	3.00 mg
	Yeast (brewer's)	2.50
	Sunflower seeds	1.25
	Wheat germ	1.15
	Tuna	0.90
	Soybeans	0.81

Other good sources: meats, poultry, peanuts, walnuts, egg yolk, soybeans, molasses

FOLIC ACID	Yeast (brewer's)	2022 mcg
	Blackeye peas	440
	Rice germ430	
	Soy flour	425
	Wheat germ	305
	Liver (beef)	295

Other good sources: dark green vegetables, millet, orange juice, sweet potatoes, rye

VITAMIN B12	Liver (lamb)	104 mcg
	Clams	98
	Liver (calf)	60
	Liver (chicken)	25
	Oysters	18
	Sardines	17

Other good sources: crab, salmon, egg yolk, beef, pork, kidney

BIOTIN	Yeast (brewer's)	200 mcg
	Liver (lamb)	127
	Soy flour	70
	Soy beans	61
	Rice bran	60
	Egg yolk	52

Other good sources: molasses, milk, kidney

CHOLINE	Lecithin	2200 mg
	Egg yolk	1490
	Liver	550
	Wheat germ	406
	Soy beans	340
	Rice germ	300

Other good sources: yeast, green leafy veg.

INOSITOL	Lecithin	2200 mg
	Wheat germ	770
	Navy beans	500
	Rice bran	460
	Barley (cooked)	390
	Rice germ	370

Other good sources: brewer's yeast, liver, dried lima beans, cantaloupe, peanuts

ASCORBIC ACID (VIT.C)	Peppers (red chilli)	369 mg
	Guavas	242
	Peppers (red sweet)	204
	Kale leaves	186
	Parsley	172
	Broccoli	113

Other good sources: cantaloupe, cabbage, asparagus, strawberries, sweet potatoes

VITAMIN B17 (**Above 500mg per 100 grams edible portion)**

	Wild blackberry	Mung beans
	Apple seeds	Apricot seeds
	Bamboo sprouts	Macadamia nuts

Other good sources: in whole kernels of cherries, plums, nectarines and peaches

PARA-AMINOBENZOIC ACID (PABA) **(best source)**

	Spinach	Oats
	Mushrooms	Liver
	Sunflower seeds	Cabbage

Other good sources: molasses, brewer's yeast, whole grains, wheat germ

PANGAMIC ACID (B15) (best source)

	Apricot kernels	Wheat germ
	Liver	Pumpkin seeds
	Yeast	Sunflower seeds

Other good sources: brewer's yeast, whole brown rice, sesame seeds

BIOFLAVONOIDS (best source)

	Rose Hips	Grapes
	Orange	Broccoli
	Blackberry	Tomato

CALCIUM	Kelp	1093 mg
	Swiss cheese	925
	Cheddar cheese	750
	Carob flour	352
	Collard leaves	250
	Turnip greens	246

Other good sources: broccoli, canned fish with bones, dried peas and beans, walnuts

MAGNESIUM	Kelp	760 mg
	Wheat bran	490
	Wheat germ	336
	Almonds	270
	Cashews	267
	Blackstrap Molasses	258

Other good sources: vegetables high in chlorophyll, soybeans, seafoods, figs, lemons

PHOSPHORUS	Yeast (brewer's)	1753 mg
	Wheat bran	1276
	Pumpkin seeds	1144
	Wheat germ	1118
	Sunflower seeds	837
	Brazil nuts	693

Other good sources: meats, eggs, poultry, milk products

SODIUM	Kelp	3007 mg
	Green olives	2400
	Dill pickles	1428
	Sauerkraut	747
	Cheddar cheese	700
	Scallops	265

Other good sources: milk products, meats, eggs, poultry, fish, artichokes, celery

POTASSIUM	Dulse	8060 mg
	Kelp	5273
	Sunflower seeds	920
	Wheat germ	827
	Almonds	773
	Raisins	763

Other good sources: bananas, orange juice, apricots, meats, milk, potatoes, celery

IRON	Kelp	100.0 mg
	Yeast (brewer's)	17.3
	Blackstrap molasses	16.1
	Wheat bran	14.9
	Pumpkin seeds	11.2
	Wheat germ	9.4

Other good sources: liver, organ meats, lean beef, prune juice, oysters, leafy greens

COPPER	Oysters	13.7 mg
	Brazil nuts	2.3
	Lecithin	2.1
	Almonds	1.4
	Hazelnuts	1.3
	Walnuts	1.3

Other good sources: Wholegrain breads and cereals, shellfish, eggs, poultry, prunes

COBALT (best source)	Figs	Lettuce
	Buckwheat	Cabbage
	Spinach	Watercress

MANGANESE	Pecans	3.5 mg
	Brazil nuts	2.8
	Almonds	2.5
	Barley	1.8
	Rye	1.3
	Buckwheat	1.3

Other good sources; liver, kidneys, spinach, tea, dried peas and beans, wholegrain

ZINC	Fresh oysters	148.7 mg
	Ginger root	6.8
	Round steak	5.6
	Lamb chops	5.3
	Pecans	4.5
	Brazil nuts	4.2

Other good sources: herring, egg yolks, milk, pumpkin seeds, ground mustard

CHROMIUM	Yeast (brewer's)	112 mcg
	Beef (round)	57
	Calf's liver56	
	Whole wheat bread	42
	Wheat bran	38
	Rye bread	30

Other good sources: pork kidney, meats, clams, corn oil

SELENIUM	Butter	146 mcg
	Smoked herring	141
	Wheat germ	111
	Brazil nuts	103
	Apple cider vinegar	89
	Scallops	77

Other good sources: liver, kidney, meats, seafood, onions, tomatoes

IODINE	Kelp	150,000 mcg
	Clams	90
	Shrimp	65
	Haddock	62
	Oysters	50
	Pineapple	16

Other good sources: iodised salt, onions

NICKEL	Soybeans	700 mcg
	Beans (dry)	500
	Soyflour	410
	Lentils	310
	Split peas	250
	Green peas	175

SILICON (best source)	Unrefined grains and cereals	
	Root vegetables	
	Horsetail herb (*Equisetum arvense*)	
	Lettuce	

SULPHUR (best source)	Meat	Poultry
	Fish	Eggs
	Milk	Legumes
	Cabbage	Onions
	Garlic	(High protein foods)

MOLYBDENUM	Lentils	155 mcg
	Beef liver	135
	Split peas	130
	Cauliflower	120
	Green peas	110
	Yeast (brewer's)	109

Other good sources: meats, wholegrain breads and cereals, leafy veg, legumes.

VANADIUM	Buckwheat	100 mcg
	Parsley	80
	Soybeans	70
	Safflower oil	64
	Eggs	42
	Sunflower seed oil	41

Other good sources: fish

ESSENTIAL FATTY ACIDS [linoleic] (best source)

	Vegetable oils-safflower, sunflower, grass-fed meat, wheat germ	
	Sunflower seeds	Peanuts
	Walnuts	Pecans
	Almonds	Avocado
	Evening Primrose oil	Starflower oil (Borage)

Linolenic (best source)	Linseeds (flaxseed)	Chia seeds
	Salmon	Mackerel
	Herring	Rainbow Trout
	Krill and Squid	Cod

As can be noted in the above lists of vitamins and minerals, a number of foods appear again and again. These are often called "super foods", as they are high in a wide range of important nutrients. As well as vitamins and minerals, there are thousands of chemicals in food. All plants contain a chemical army of natural pesticides (phytochemicals) to discourage predators. These can be quite toxic but human beings appear to have become biologically adapted to most plant toxins so that we not only do not react to them, but also actually suffer if we are deprived of them. Moreover, many phytochemicals are being shown to have a protective role in our health. The cabbage family (*Cruciferae*) are rich in compounds called **glucosinolates**. This family includes cabbage, cauliflower, Brussels sprouts, broccoli, calabrese, kohlrabi, turnip, radish, swede, mustard greens and kale. One of these glucosinolates is called **sinigrin** and is found in high levels in Brussels sprouts. Sinigrin has been shown to suppress the development of pre-cancerous cells.

Another glucosinolate is called **glucoraphanin** and is found in high levels in broccoli. This breaks down into a chemical called **sulforaphane**. This chemical neutralises substances that cause cancer, or stops them from forming in the first place. It does this through activating the phase 11 enzymes in the detoxification process. Broccoli also contains **phenethyl isothiocyanate**. This chemical prevents certain enzymes from locking onto DNA and causing mutation in genes that cause cancer. Also in broccoli is another chemical called **indole-3-carbinol**. This helps oestrogen to break down into harmless by-products instead of remaining in a form (oestrone) that can cause breast and other reproductive cancers. It can also inhibit the development of liver cancer. Broccoli is probably the most important cancer preventing food.

Cabbage also contains indole-3-carbinol but in greater levels than broccoli. Cabbage also contains phenethyl isothiocyanate. This inhibited chemically induced oesophagus cancer in rats. Cabbage also protected them against mammary tumours when exposed to a cocktail of chemical carcinogens. **Brassinin**, another phytochemical found in cabbage, protected against mammary and skin induced tumours in mice. Cabbage has also been found to be the single most important food in reducing stomach cancer risk.

Tomatoes are the richest source of the carotenoid **lycopene** which has shown to reduce the risk of prostate cancer. It reduces the harmful effects of radiation exposure and acts as an antioxidant. Tomatoes also contain **p-coumaric acid** and **chlorogenic acid,** which block potent cancer causing nitrosamine compounds which are contained in processed meats such as bacon and ham, and tobacco smoke. These phytochemicals are also found in many other fruits and vegetables.

Carrots contain many other carotenoids apart from beta-carotene. Postmenopausal women who eat carrots have less incidence of breast cancer. Carrots also protect smokers from lung cancer, probably due to another carotenoid called **xanthophyll**. Carrots also contain p-coumaric and chlorogenic acids.

Soyabeans contain **phyto-oestrogens** called **isoflavonoids** and **lignans**. These are chemically very similar to oestrogen and will occupy the same receptor sites that would otherwise be occupied by the hormone, thus protecting the body from excess exposure. Another type of isoflavonoid in soyabeans is called **genistein**. This directly inhibits the development of many types of cancer by inhibiting the formation of new blood vessels that tumours need to grow.

Parsley offers potent protection against carcinogens and is one of the best inducers of detoxification. Garlic, onions and leeks contain **allylic sulphides** which can detoxify carcinogens. **Capsaican** in chilli peppers provides the same effect. Green leafy vegetables contain **lutein** and **zeaxanthin** which help prevent macular degeneration.

By eating a wide variety of fruits and vegetables we can take advantage of their many phytochemicals, helping us to offset carcinogenic and mutating influences.

14: **Superfoods**

CHLORELLA

Chlorella is an emerald green, single-celled freshwater micro-algae. The most important health-promoting ingredient of chlorella has a unique substance that scientists have named Chlorella Growth Factor (CGF). CGF is a complex combination of peptides, carbohydrates and acids, which has the ability to stimulate tissue growth and repair of damaged body tissues. Independent research around the world has demonstrated that CGF, and an acidic polysaccharide in chlorella's cell wall, can stimulate production of interferon by the body, strengthening our natural immune systems. Interferon is a substance that controls macrophage activity, and protects the T and B-helper cells that are our front-line defence against viral, bacterial, chemical and foreign protein invasions.

Chlorella contains the highest natural source of chlorophyll – the "green blood" of all plant life which has a chemical structure similar to haemoglobin – our own red blood molecules. Chlorophyll carries oxygen around the blood supply and builds the red blood cell count. It also cleanses and purifies the blood stream, kidneys, liver and bowel. Many "green" foods are good sources of chlorophyll but chlorella has more than five times more milligrams of chlorophyll per serving than wheat grass, twelve times more than barley and nearly 50 times more than alfalfa. In fact two to three percent of chlorella is chlorophyll – the highest level of any edible plant. Chlorella contains10 times more chlorophyll than spirulina and has 12 times more iron. Chlorella is 3% RNA a 0.3% DNA by weight. This figures show that it contains 5 times the RNA content of canned sardines, a rich source of RNA. The importance of RNA/DNA nucleic acids in our diet is reflected in the link between the body's decreasing production of RNA from the age of about 20 onwards and a corresponding decrease in the rate at which worn-out cells were replaced by new, healthy cells.

Chlorella contains more than 20 vitamins and minerals –all in a highly "bio-available" form. Unlike synthetically produced supplements, the vitamins and minerals found in chlorella are all present in the form that the human body was designed to digest and absorb. Chlorella has one of nature's highest levels of natural beta-carotene (the chemical parent and safest form of vitamin A), a powerful anti-oxidant. Chlorella contains most components of the B vitamin group, including – B1, B2, B3 B6, B12, biotin, folic acid, inositol and PABA. Vitamin B12 in a plant is a rare find for vegetarians and it is difficult to obtain B12 in useful quantities from non-meat sources. Chlorella contains more vitamin B12 than beef-liver – one of the richest sources. Chlorella's minerals include calcium, iron, magnesium, potassium and phosphorous, plus traces of iodine, selenium, zinc and copper. Chlorella is also a superior source of protein. It contains 19 naturally occurring amino acids, including all 8 essentials: isoleucine, leucine, methionine, phenylalanine, threonine, tryptophan and valine making it a complete or superior protein.

One of the most important aspects of chlorella is its proven ability to remove any of the toxins that accumulate in our bodies from the food that we eat, the water we drink and the air that we breathe. The indigestible cellulose of chlorella's cell wall attracts and binds with heavy-metal poisons such as lead, mercury and cadmium and with hydrocarbon pesticides and insecticides such as DDT, PCB and kepone, carrying them out of the body.

CAMU CAMU

Camu Camu (Myrciaria dubia) is harvested from a riverside bush, native to the Amazon jungles. The purple/red fruits with a yellowish pulp are around the size of a large grape or small lemon. Camu Camu contains one of the highest levels of vitamin C and bioflavonoids in the plant kingdom. In addition it has several different flavonoids making it a powerful antioxidant. In addition to its high vitamin C content, it contains good levels of potassium, phosphorus, iron, niacin and beta carotene plus the amino acids valine, leucine and serine.

MACA

Maca (Lepidium meyenii) is sometimes called Peruvian Ginseng and was revered by the Incas for its actions on increasing endurance and regulating the endocrine systems; particularly reproductive health. It belongs to the radish family and has high nutritional value, being a good source of calcium, potassium, selenium, magnesium, iodine, copper and zinc.

MORINGA

Moringa (moringa oleifera) is also called The Miracle Tree and is native to parts of North Africa and Asia, particularly the sub-Himalayan India, Bangladesh and Pakistan, although it is now cultivated worldwide. It is a small tree approximately 5 to 10 metres in height and while all parts are used, it is the leaves that are most commonly used as medicine. It has a long history in Ayurvedic Medicine as a cure=all and indeed many bio-active substances have been isolated in addition to over 90 essential nutrients. All parts of the tree are used, for example the seeds are a rich source of oleic acid and protein. It is a valuable food source, high in antioxidants in addition to calcium, iron, potassium and vitamin A.

POMEGRANATE

Pomegranate (Punica granatum) is a small deciduous tree between 5 and 8 metres high. It is native to Iran and Turkey although cultivated worldwide. The pomegranate has a long history of medicinal use going back to ancient Greece and

Egypt and it has been part of Ayurvedic medicine where (among other things) it is seen as a potent heart and blood tonic. It is rich in polyphenols, high in fibre and its rich garnet colour is due to anthocyanins. In addition to being a good source of vitamins A, C, and E plus iron it has potent antioxidant capacity helping to protect against cellular damage. Recent studies have shown that pomegranate increases synthesis of nitric oxide (NO) and protects NO from oxidative stress, thus potentially reducing blood pressure and protecting epithelial cells from damage; preventing atherosclerosis.

BAOBAB

Baobab (Tree of Life) is the common name of a number of species of the Adansonia genus, native to mainland Africa, Madagascar, Australia and the Arabian Peninsular. The fruit is called "monkey fruit" and the tree grows from 5 to 30 metres high and has adapted to hold a considerable amount of water in its girth. The fruit is a rich source of vitamin C plus good levels of potassium, calcium, and vitamin B6 and B1. It is a good source of fibre and its rich polyphenol profile provides excellent antioxidant potential.

ACAI

The Acai (Euterpe oleracea) is a tall, slender palm measuring up to 25 metres in height and native to Trinidad and the rain forests of The Amazon in northern South America. The small black/purple berries are rich in anthocyanins (a group of polyphenols found in red, blue and purple plants) and are reputed to have a high oxygen radical absorption capacity (ORAC); making them a potent antioxidant. In addition to high fibre, the berries also contain good levels of the B vitamins, trace minerals and monounsaturates in the form of oleic acid.

GOJI BERRY

Goji berries or Wolfberries are the red/orange berries from an evergreen plant of the genus Lycium and Family Solanaceae. The 1 to 3 metre high shrub is a native of China and found in Tibet and Mongolia. It has been used in Traditional Chinese Medicine for over 2000 years to tonify liver and kidney (liver qi stagnation and yin deficiency), boost the immune system and improve eye function. Indeed, it contains the highest levels of the carotenoid zeaxanthin of all edible plant sources. This carotenoid (along with lutein) can protect the lens, macula and retina against damage from ultraviolet radiation. It is rich in many bioactive ingredients, antioxidants and polysaccharides. It also boasts high levels of ascorbic acid as well as good levels of iron, zinc, copper, selenium, and vitamins B1, B2, B6, plus beta carotene and vitamin E.

SPIRULINA

Imagine a plant without roots, leaves, seeds, flowers or fruit, that grows by the hundreds in a single drop of water, barely big enough to be seen with the naked eye, yet it contains over 100 synergistic nutrients. It is an almost microscopic fresh water plant. An aquatic micro-vegetable organism composed of transparent bubble-thin cells stacked end-to-end forming an helical spiral filament. This blue-green algae grows in the world's oceans and on fresh water lakes and is very light sensitive, having the highest photosynthesis record of any known land or sea plant. Spirulina is one of nature's richest sources of *phenylalanine* – a natural appetite suppressant. It is also one of the richest sources of *arginine* – an amino acid that promotes the release of growth hormone (GH), GH stimulates the body's own regeneration processes to build muscle. Spirulina is rich in *Gamma Linolenic Acid* (GLA) – about 3 times richer than the oils of evening primrose. Living in a retreat on Mt Hakone near Tokyo, an old Japanese philosopher named Toru Matsui, is reported to have lived for the past 15 years exclusively on spirulina as a living proof that spirulina is a total food for human nutrition. In general, the nutrient status of spirulina is identical with that of chlorella (rich in B12, iron and protein, etc.), however spirulina is a more primitive organism than Chlorella and lacks a true nucleus. The result is a higher quality of DNA and RNA in chlorella.

KELP

Kelp (Fucus vesiculosis) or Bladderwrack, seaweed, grows amongst the rocks on most coasts. The perennial frond is coarse, yellow or brownish-green in colour and grows from two to three feet. There are approximately 1700 species and they are classified according to their predominant colour. Brown seaweed is usually found in cold waters, while red seaweed is usually a deep-water variety, up to 200 feet below the surface. Green seaweed grows not only in salty seas but fresh water lakes and streams. One variety of green seaweed is called sea lettuce. Most kelp is the brown seaweed. Ninety-two different nutritional elements have been found in sea vegetation and the Japanese are the largest users of seaweed as a food. In Japan, seaweed is used as a condiment, vegetable, jelly, flavouring, soup, stock base and salad. The most commonly eaten species of seaweed are known as nori, kombu, wakame and hijiki. Nori is the most widely used.

Although little seaweed is consumed in Europe and America, there is a long history of its use in the Northern Hemisphere. Sea lettuce and laminaria (seaweeds from the icy depths) were eaten in England in the 1800s. Dulse (a deep red seaweed rich in iron) has been boiled in milk to make pudding. Iceland has used dulse as a food for almost 2000 years. Irish moss, cooked with milk and seasoned with fruit, is a nourishing dish, especially for those recovering from sickness. *Agar-agar* (a seaweed product) is usually bought as a granular powder and can be used as a substitute for animal gelatin. It is a rich source of vitamins, minerals and trace elements. It can add bulk to any meal without adding calories. *Algin* is a colloid found only in certain sea plants. It has the unique quality of being able to absorb large quantities of water. This thickening quality has made it important to the ice cream and baking industries. However it is its role as an anti-pollutant that algin is most important. As

it moves through the body, it draws lead and other pollutants with it so they can be eliminated from the body. It is usually found in tablet form. Kelp contains the 8 essential amino acids as well as being a good source of vitamins B2, B3, choline and beta-carotene. However, it is kelp's mineral wealth which is so abundant. As well as containing many trace elements, it is a rich source of iodine, iron, magnesium, calcium, phosphorus, potassium, copper, manganese, zinc, sulphur and sodium.

ALOE VERA

There are over 200 species of *Aloe* and it has been used in healing for centuries. The Egyptians used it to treat infections, skin disorders and constipation. The best known of the species is called *Aloe vera* and is used in many forms – as a gel, juice, capsules, hair products, moisturising lotions, mouth wash, face creams and anti-perspirants.

Modern clinical use of *aloe vera* began in the 1930's when there were reports of its successful use against x-ray and radium burns. The Russians continued a lot of research into the plant and determined that it didn't have an obvious "active ingredient" that could be isolated. The main benefits of *Aloe vera* appear to lie in the combination of the various chemicals that are contained within it. Aloe vera is a perennial succulent plant and grows in dry regions of the world. It belongs to the Lily family (Liliaceae). A mature plant has about 30 leaves. The bundle sheath cells of the outer rind of the plant contains a bitter yellow substance containing chemicals called *anthraquinones*. These come under various names such as aloin, barbaloin, isobarbaloin, emodin, and aloe-emodin. These have a recognised use as purgatives in medicine and thus its laxative effect. They are removed from the plant during processing. Much of the inner mass of the leaves of the plant contain cells that produce and contain the gel. This is approximately 99% water. The solid component is made up mainly of polysaccharides and other sugars which include glucose, mannose (and glucomannan which is made from these two sugars), arabinose, galactose, xylose, and a type of mannan polysaccharide called acemannan. It contains tiny amounts of the essential amino acids (except *tryptophan*), various minerals: calcium, copper, iron, manganese, silicon, sulphur, chlorine, germanium, magnesium, lactate, potassium and sodium. Vitamins B1, B2, B3, B6, choline and C; organic acids: chrysophanic, cinnamic, salicylic, succinic and uric acid. The whole leaf is used to make aloe vera juice. The components found in both the rind and the gel are also found in the leaf.

Aloe vera is claimed to be an immune system stimulant particularly in regard to making phagocytosis more active and effective. A positive effect on phagocytosis was demonstrated in two human studies in adult bronchial asthma. An animal study found that aloe vera increased the output of nitric oxide by macrophages. Another animal study found local activation of the complement component of the immune system and an increase in antibody production. Aloe vera juice has been shown to inhibit various forms of the influenza and measles virus in vitro and in cats. Aloe has also demonstrated an anti-tumour effect. The growth of tumours has been slowed in mice. In a Russian study the researchers demonstrated reduction in tumour mass and frequency of metastases.

Some research has shown aloe vera to be effective against bacteria and others haven't. In the digestive tract it can alleviate the inflammation that is associated with Crohn's disease and Ulcerative Colitis. It is also claimed to be helpful in healing stomach disorders, ulcers, constipation, haemorrhoids, rectal itching and all colon problems. The gel has many uses when applied topically. To increase blood circulation to the skin, frostbite, mouth ulcers, cuts, insect stings, itching, bruises, acne, eczema, psoriasis, prevention of scarring and to accelerate wound healing. It has also been shown to have anti-fungal properties and is used in anti-candida treatment and athlete's foot for example.

HONEY

Bees make honey from the nectar of flowers. It is a naturally sweet substance comprising the sugars – fructose and glucose, invert sugars which are quickly absorbed. It also contains small quantities of vitamins and mineral salts. Honey has a long history in healing. It has natural anti-biotic properties and is very effective for wound healing. It has also been used to treat bronchitis, sore throats, anaemia and many digestive complaints especially ulceration. The New Zealand Manuka honey (*Leptospermum scoparium*) is derived from the New Zealand Tea tree and is especially effective in the treatment of gastric ulcer. The properties of the honey will vary in accordance with the type of flower. For example, honey made from tea tree blossoms will exhibit an anti-fungal, anti-bacterial action in addition to the other properties. Raw honey (rich in glyconutrients) is best.

ROYAL JELLY

Royal jelly is a unique substance which the worker bees manufacture and feed to the Queen bee. It is the sole source of nutrition of the Queen bee and aids her everyday vitality. Royal jelly contains a complex range of amino acids, vitamins, minerals and hormonal –like substances. It is high in *pantothenic acid* (B5), the anti-stress vitamin, and has been shown in tests on rats to increase endurance whilst under stress.

PROPOLIS

Propolis is a substance which the bees produce to immunise and seal their hives. It is a sweet, resinous substance containing several vitamins and minerals. It stimulates tissue regeneration and is an excellent anti-bacterial agent.

Analysis of propolis has shown that it contains about 50% of resins, 30% beeswax, 15% natural oils and a small amount of pollen. When ingested it has been found to stimulate the immune system, particularly the cells known as phagocytes

which destroy unwanted invaders. But it also kills bacterial and fungal infections and appears to actually enhance the effect of other antibiotics in the body. Propolis also reduces body toxins, and can ease inflammations, particularly the mouth, throat and gums. Ulcers, skin disorders and ear infections all respond well to treatment with propolis.

POLLEN

Pollen is produced by the male element of the flower. Pollen is needed for the fertilisation of the plant and the continuation of the species. Thus it is the spark of life itself and its concentration of nutrients makes it of unique biological value. It is collected by the bees and is a powdery substance whilst on the plant. The bees turn this powdery substance into pellets to take to the hive. Pollen consists of 28% protein, 15% lecithin, 12% vitamins, 3% minerals, but it is in its cocktail of enzymes, co-enzymes, nucleic and fatty acids where it is most potent. It has been described as a complete survival food because of its composition.

Some of its known benefits to humans are:

1. Increases the body's resistance to stress and disease
2. Rejuvenates body cells and glands
3. Improves muscle tone
4. Helps in the treatment of Hayfever
5. Relief of prostate conditions (zinc and selenium content)
6. Anti-biotic effect
7. Anaemic problems
8. Building up resistance to infection
9. Stimulating a sluggish metabolism
10. Promoting new skin tissue

NONI JUICE

Noni (Morinda *citrifolia*) is a member of the *Rubiaceae* family. It is a small tree or shrub that has been used by many cultures over the last 2000 years. It has been part of Ayurvedic medicine, African medicine and Polynesian medicine. The noni plant grows as high as 20 feet and develops a bumpy, pitted fruit that is several inches long. The fruit takes on an offensive odour, described as a "rotten cheese" smell. The various parts of the plant have traditionally been used – leaves, roots, fruit and seeds. For centuries, noni was used as a food staple in Polynesia and other cultures and in times of famine because of its high nutrient content.

Modern day use has shown that a large majority of those taking noni for a specific health condition also experience a notable increase in their energy levels.

Some Scientifically documented conditions for which noni has improved (some dramatically) include diabetes mellitus, hypertension, chronic pain, depression and immune deficiency. While the precise mechanisms and processes by which noni works are not entirely clear, noni does contain a number of substances –enzymes, vitamins, minerals, proteins, and among others a small amount of the alkaloid *xeronine* – that clearly play a pivotal role in maintaining good health. Dr Ralph Heinicke, the pioneering researcher into noni's health-promoting benefits, discovered the "xeronine system", which involves the combination of *proxeronine*, *proxeroninase* and other possible biochemicals to form xeronine, which is needed by the body's cells to help maintain their normal function. Noni contains all of these substances and can help the body increase its supplies of xeronine.

Noni also helps stimulate the production of nitric oxide (NO), a valuable substance that provides the body with numerous benefits. Nitric oxide can strengthen the immune system by stimulating the production of and the action of the body's immune cells. It has also been shown to be instrumental in the lowering of high blood pressure and the improvement of overall cardiac health. Another of noni's health-promoting agents, *scopoletin*, was first isolated from noni in 1993 by researchers at the University of Hawaii and appears to play a key role in modifying blood pressure. Another constituent of noni is *damnacanthal*, which researchers have identified as an effective inhibitor of cancerous cells. Noni's success in alleviating various health conditions may be intertwined with the functions of the Golgi apparatus. The Golgi apparatus functions primarily as an assembler to package and ship various compounds such as proteins, to cells that need them.

The theory postulates that the xeronine system may work hand in hand with the Golgi apparatus in helping "sick" cells to become well again. This could explain why noni is reportedly effective against such a wide variety of ailments and often called a magic bullet.

NEEM (Azadirachta indica)

The Neem tree is native to India and Burma and its properties have been used in Ayurvedic medicine for over 4000 years. It is a tree that thrives in poor soil and resembles the shape of an oak. It produces large white flowers and bears a fruit which is similar in size and shape to an olive. The seeds, roots, bark and leaves have traditionally been used therapeutically. It is a powerful blood cleanser and detoxifier to the system. It has an anti febrile (fever) effect and clears toxins in most

inflammatory skin conditions. Extracts of the leaves and bark have strong anti-bacterial, anti-fungal and anti-viral activity and when taken internally is a good vermifuge for worms. For generations, millions of Indians have daily chewed "Neem twigs", which act like a toothbrush with antiseptic properties, promoting healthy teeth and gums. Neem has been found to be deadly to 14 different common fungi, including those that cause intestinal tract infection (Trichosporon), infections of the bronchi, lungs and mucus membranes (Geotrichum), lesions of the mouth, vagina and intestinal tract (Candida), athlete's foot (Trichophyton) and "ringworm" (Epidermophyton). A paste made from the Neem leaves is rubbed directly onto skin lesions caused by smallpox, chickenpox and warts. German researchers have demonstrated that an alcohol extract of the Neem seed kernel is effective in neutralising the Herpes virus. In Germany and America, research is currently being done to see what effect Neem could have on HIV and other retroviruses.

Neem contains a compound called "salannin" which biting insects dislike; hence it's use as an effective insecticide. It is more effective at repelling biting insects than the synthetic chemical "DEET", which has become the main ingredient of most consumer insect repellents. Neem has also been found to be an effective contraceptive. The oil is a very powerful spermicide (it kills sperm cells within 30 seconds of contact). Its infertility traits were first demonstrated in lab animals.

A single, 100 microliter application of Neem oil in the uterus, caused lab animals to remain infertile for variable periods ranging from 107 to 180 days. With time, the block in fertility reversed and there were no toxicity problems or future birthing problems. Studies have shown that the oil is not absorbed from the vagina, nor is there any irritation commonly associated with vaginal contraception creams. The only disadvantage seems to be the oil's unpleasant odour but this can be overcome by adding a few drops of fragrance.

MOLASSES

Sugarcane is a deep-rooted grass and is more able (like *alfalfa)*) to access minerals and trace elements unlike beet sugar which is manufactured from a shallow-rooting tuber. Crude molasses consists of 48% total sugars (expressed as invert); 12% sugar other than carbohydrate; 5% crude protein; 12% mineral matter and 23% water. It's value lies chiefly in the mineral matter and vitamins. It is a good source of the B vitamins, especially B1, B2, B3, B5, inositol and choline. It is also high in minerals – iron, calcium, potassium, phosphorus and copper. Molasses is a good laxative food, a teaspoon in warm water, two or three times daily is a good preparation to take as an overall nutritional supplement.

WHEY

Whey protein has been used therapeutically since the time of Hippocrates. There are two ancient proverbs which come from Florence. "If you want to live a healthy and active life drink whey", and " If everyone were raised on whey, doctors would be bankrupt". Cow's milk contains around 6% protein of which 80% is casein and 20% is whey. Cheese is made from the casein in milk and what is left over is called whey protein. There are many protein fractions in whey. Four major and various minor components. Each of the major components and some of the minor components have been shown to have properties which fight disease – immune stimulation and antioxidant potential. Protein quality is judged by its biological value, which is a measure of nitrogen retention. The higher the biological value the better the protein is utilised by the body. Whey has the highest biological value –above whole egg, cow's milk, beef and soya. Proteins with high biological value are also more tissue sparing than those with a lower biological value. This makes whey a much better protein for people who have wasting diseases or to help slow the muscle loss that comes with ageing.

Whey is a complete protein, containing all the essential amino acids. It also has the highest amount of branched chain (leucine, isoleucine and valine) amino acid content of any food. Muscles are very hungry for these amino acids and pick them up very quickly. Because of this, whey protein has become popular with body builders and athletes. Whey protein has been shown to elevate cellular *glutathione*. Glutathione, which is composed of three amino acids, glycine, glutamic acid and cysteine, is an important first line antioxidant defence against free radicals and cross linking. It protects DNA against radiation exposure, helps to neutralise hydrogen peroxide, protects against chemical carcinogens and lipid peroxidation in cell membranes and acts as a detoxifier of heavy metals and drugs. Glutathione has also been shown to be needed for the efficient working of the immune system.

With ageing there is a gradual decline in glutathione levels. In a study, Syrian hamsters were fed either 10%, 20% or 40% of their diet as whey protein. The control group had a normal commercial diet adequate in nutrition. Although all groups had similar growth and weight, there was a significant difference in lifespan between the whey group and the controls .The biggest difference was seen in the 20% group. The last surviving control lived to 88 weeks compared to the last surviving whey hamster at an impressive 140 weeks, 59% longer, about the maximum lifespan for these creatures. In another study, this time using mice, those on the 20% whey protein lived around 30% (33days) longer than those eating casein.

WHEATGRASS SPROUTS

Wheatgrass is regarded as the king of sprouted grains with an exceptional ability to concentrate nutrients from the soil. It is highly alkaline; ideal for counteracting the acidic modern diet as well as being high in potassium and as the young sprout, devoid of gluten. Wheatgrass juice is approximately 70% chlorophyll. Chlorophyll is extremely effective in cleansing

and fortifying our blood. It absorbs energy from the sun and transports it to the cells (just like haemoglobin – the oxygen transporters in our own blood cells, where haemoglobin has at its central nucleus the mineral element iron, chlorophyll has magnesium). The importance of a clear, rich and oxygenated blood supply cannot be too highly emphasised and chlorophyll is a potent detoxifier. Wheatgrass is an excellent, live source of vitamins and minerals. It picks up 92 of the minerals present in soil and 17 of the vitamins, including substantial quantities of beta-carotene, C, E, K and the B group. It contains more iron than spinach, more protein than meat, fish or eggs as well as twice the fibre of bran. Its wide variety of enzymes includes *catalase* and *superoxide dismutase*. Wheatgrass can also provide 19 amino acids, including the 8 that are essential to life. It can benefit in the repair of tissues, help purify the liver, improve blood sugar levels and help flush out accumulated toxins.

Japanese scientists have shown that the enzymes in wheatgrass can neutralise many environmental pollutants. Scientists at the University of Texas have demonstrated that it can inhibit the activity of cancer-causing substances. The enzymes and amino acids in young grass plants deactivate the carcinogenic and mutagenic effects of a substance found in smoked fish and charcoal-broiled meats. It has been used to help combat starvation in disaster areas like Ethiopia because it is able to help repair damaged digestive tracts and helps deal with internal parasites and bacterial infections through its immune-building qualities. Other sprouts include barley grass, alfalfa, mung and aduki. These all have similar properties, being "live" sources of chlorophyll and enzymes, with good deep rooting systems for maximum mineral access. The grasses – wheat, barley and alfalfa have generally deeper root systems than the "beans".

KOMBUCHA

History reports of a Korean doctor, Kombu, who in 414A.D. was summoned to Japan to treat the Emperor of a stomach complaint. Kombu recommended his tea drink so Kombu's cha was named. Kombucha reached Russia around the turn of the 20th century and here it became a popular household beverage. The mushroom consists of a gelatinoid and tough mushroom-web membrane in the form of a flat disc. It lives in a nutrient solution of tea and sugar, in which it constantly multiplies through germinating. The fungal disc at first spreads over the entire surface of the tea and then thickens. During the fermentation and oxidation processes, the mushroom effects diverse complicated reactions in the tea setting. The tea-mushroom feeds on the sugar and in exchange, produces other valuable substances which change into the drink: gluconic and glucuronic acids, acetic and lactic acids, B vitamins, amino acids, yeasts, bacteria, antibiotic substances and other nutrients. Glucuronic acid plays a role in detoxification. Accumulated toxins in the body are made water-soluble and kidney-manageable through their conjugation with the glucuronic acid in the beverage and thus being eliminated through the urine. This conjugation is a form of bio-transformation: by it, both endogenic and body-foreign substances become bound with glucuronic acid into glucuronoids, also named "paired glucuronic acid". In addition to enhancing the detoxification process, kombucha's health –promoting properties are numerous, including regulation of the intestinal flora, cellular strengthening, metabolic harmonisation, antibiotic effect and facilitating pH balance.

Prof. B Lindner (1917) reported that kombucha is mostly used as regulator of the intestinal activities. Also Haemorrhoids were cured.

Prof. Dr Rudolf Kobert (1918) recollects that an " unfailing remedy against joint rheumatism" was made with this mushroom.

Prof. Dr Wilhelm Henneberg (1926) reports that a drink made with tea-mushroom was prepared called "Teekwass" in Russia, being used in all those areas as a "remedy against all sorts of diseases, especially against constipation".

Dr Veronika Carstens (1987), wife of the former BR Germany President, recommends Kombucha in a series titled "Help from nature – my remedies against cancer", with the words: Kombucha detoxifies the organism and enhances the metabolism; this improves the defence capacity."

15: **Food Salicylate Content**

{Try to eat foods from the first 3 columns i.e. NEG, LOW and MODERATE}

FRUITS

NEGLIGIBLE	LOW	MODERATE	HIGH	VERY HIGH
Pears (peeled)	Pawpaw	Pears (with peel)	Passion Fruit	Sultana (dried)
	Apple (Golden Delicious)	Loquat	Mulberry	Prune
	Pomegranate	Custard Apple	Tangelo	Raisin (dried)
		Apple (red-delicious)	Grapefruit	Currant (dried)
		Persimmon	Avocado	Raspberry
		Lemon	Peach	Redcurrant
		Fig	Mandarin	Loganberry
		Rhubarb	Apple (Granny Smith)	Blackcurrant
		Mango	Nectarine	Youngberry
		Tamarillo	Watermelon	Date
		Nuts (except almonds)	Lychee	Cherry
			Kiwi Fruit	Blueberry
			Apple (Jonathan)	Orange
				Boysenberry
				Guava
				Blackberry
				Cranberry
				Apricot
				Strawberry
				Rockmelon
				Grapes
				Pineapple
				Plum
				Almonds

VEGETABLES

NEGLIGIBLE	LOW	MODERATE	HIGH	VERY HIGH
Potato (peeled)	Green Bean	Broccoli	Eggplant	Tomato products
Lettuce	Red Cabbage	Sweet Potato	Watercress	Gherkin
Celery	Brussels Sprout	Parsnip	Cucumber	Endive
Cabbage	Mungbeans	Mushroom	Broadbean	Champignon
Bamboo Shoot	Green Pea	Carrot	Alfalfa Sprouts	Radish
Lentils	Leek	Beetroot		Olive
	Shallot	Marrow		Capsicum
	Chive	Spinach		Courgette
		Onion		Chicory
		Cauliflower		Hot Peppers
		Turnip		Water Chestnut
		Asparagus		Sweetcorn
		Pumpkin		

16: **Diets**

FOOD COMBINING {Don't mix foods that fight}

Ideally starchy foods like bread and potatoes are not eaten with concentrated protein foods such as meat and cheese. Essentially, food combining is eating "compatible" foods together so as to facilitate ease of digestion and encourage the simplicity of meals. Food combining is also an excellent way to simplify meals and eating habits. It also encourages people to eat less overall and is great for those with weight problems. Many experienced dieters are in the habit of denying themselves foods because they are "fattening". Food combining dismisses the need for this practice. Before we look at food combining we must first classify foods into several groups, to make it easy and convenient to work out the combinations. The classifications are based on the predominant nutrient content of each food as far as the major nutrient groups are concerned. That is: proteins, fats, and carbohydrates (sugars and starches) and also on the type of food, e.g. Fruits and vegetables.

All foods have some of the major nutrients, but some have higher concentrations proportionately to others.

Therefore, for easy classification, the groups are as follows:

Proteins both plant and animal. Animal meats, poultry, fish, eggs, cheese, yoghurt, nuts – raw and unsalted (e.g. Almonds, cashews, hazelnuts, etc.), seeds (e.g. Sunflower, sesame and pumpkin), soya beans, tofu and peanuts (a legume).

Fats Animal and vegetable. Butter, cream, vegetable oils (preferably cold pressed), avocados, margarine, coconuts, pecan nuts, macadamia nuts and olives.

Carbohydrates (a) Starches: potatoes, pumpkins, rice, wheat, oats, rye, bread, millet, buckwheat, pasta, biscuits, crackers and pulses (e.g. Kidney beans, lentils, lima beans, chickpeas, etc.) (b) Sugars: bananas, dried fruits such as dates, figs, prunes, apricots, sultanas, etc.; honey and sugar.

Fresh Vegetables (non-starchy) Carrots, beetroot, capsicum, cauliflower, spinach, courgette, lettuce, tomato, celery, sprouts, etc.

Fresh fruits (a) Sweet: bananas, fresh dates, figs and persimmons.
(b) Neutral (or sub-acid): papaya, peach, nectarine, mango, plum, apricot, apple, pear, grapes, cherries, etc.
(c) Acid: orange, grapefruit, mandarin, strawberries, kiwi fruit, pineapple, etc.
(d) Melons: watermelon, honeydew and rockmelon.

Now that the food groups have been identified, they can be combined correctly.

(1) Avoid mixing concentrated proteins and carbohydrate foods in the same meal.
Protein digestion occurs mainly in the stomach and may take between three and six hours, depending on the complexity of the meal. Food then moves down into the first part of the small intestine for further breakdown. Carbohydrates such as sugars and starches, on the other hand, are mainly broken down in the small intestine. Excessive delays in the stomach may cause carbohydrates, particularly sugars, to ferment and cause indigestion, gas, and give rise to food allergy conditions. Eating large meals of meat with potatoes or pasta, or meat with bread and/or sweets should be avoided. (It is interesting to note that much of the "junk" food and fast foods are of this combination, e.g. Meat pies, pizzas, sausage rolls, hamburgers, etc.). Here's an example of what to eat in a restaurant with friends. Leave the potato on the plate (if some is served) and ignore the bread roll. Now enjoy the protein and vegetables/salad you've ordered.

(2) Avoid mixing proteins and fats in the same meal.
Fat inhibits proper gastric secretion of the necessary juices for protein digestion, as it coats the stomach wall. Fats are digested in the small intestine; so any "free" fats such as butter, cream, oil or margarine, hang around in the stomach as they wait for protein digestion to progress. Fat and protein eaten together in anything other than small quantities will take longer than anything else to digest and can sit in the stomach for several hours. Fried foods, like fish in oily batter and greasy bacon and eggs, are dietary disasters and very poor food combinations. It is always better to steam, grill or bake food rather than fry it.

(3) Avoid mixing carbohydrates with acid fruits in the same meal.
Carbohydrates such as bread begin to be digested in the mouth by an enzyme (ptyalin) which works well in a neutral or slightly alkaline environment. When acid foods are eaten at the same time, the action of this enzyme in the mouth is halted. Therefore it is a good idea to avoid combining acid foods and starchy foods together, e.g., tomato sandwiches, pineapple or tomato with potato, rice or pasta. Refined sugar products are also acidic in the mouth and the blood stream.

When combined with starches such as cakes, biscuits and processed breakfast cereals they form an awkward combination that does not digest well. You can eat as much as you need from your compatible groups during each meal. If you can eat protein and fresh vegetables for one meal, you can then have starches and vegetables in the next meal. But whatever you do, don't mix them.

Other digestive tips:

Fruits and vegetables are best eaten at separate meals
Fruits contain higher sugar content; have less starch and less protein than vegetables. They are the easiest of all foods to digest and take less time to do so. If fruits are poorly combined with vegetables and other concentrated foods, their sugars can break down when held up in digestion. The result? Fermentation occurs and causes distension and discomfort. However, citrus fruits and pineapple are a reasonable combination with salad vegetables (and especially good with nuts, seeds, cottage or ricotta cheese and yoghurt). So, if you like a fruit salad for dessert after a meal, think again – it is poor food combining.

Melons should be eaten alone
Melons eaten alone are the easiest of foods to digest and take the shortest time in the digestive system.

Because of this, and also because melons are high in natural sugars, they should not be eaten with other foods as they can get held up in the stomach, causing fermentation and gas. Melons make a wonderful breakfast or lunch in the summer months and are very cleansing. Indigestion problems often associated with melons usually occur when they are eaten as part or at the end of a multi-course meal.

Milk should be taken alone or not at all
After weaning, milk is not an essential part of an adult diet. Products made from milk such as cheese and yoghurt are preferable because after the age of about two, the enzyme *rennin*, responsible for milk's proper digestion, dries up. If milk is taken it should be allowed to pass through the digestive system reasonably quickly so that the milk sugar (lactose) does not ferment.

Do not drink with meals
It is not advisable to drink fluids with meals, as this dilutes the digestive juices and inhibits digestion. This includes wine which has the effect of rushing food through the system before it has been properly broken down and its nutrients extracted. This is due to alcohol increasing the speed of muscular contractions I the gastro-intestinal tract. As far as stimulating acid production – this would only be of benefit in protein digestion. It is better to take fluids either half an hour before or after meals.

RAW DIET

Mankind must have eaten raw foods during at last the first 10-50,000 years before fire, tools and implements to kill animals were discovered. The original diet of Homo sapiens must have been vegetables, fruits, berries and nuts as there were no other choices. Clearly a raw, plant based diet has been the main food staple throughout the vast majority of the history of humankind. Raw foods are living foods which contain enzymes. Enzymes assist in the digestion of foods. They are the "life-force" or "energy" of the food. Heating food above 116 degrees Fahrenheit destroys all the enzymes in the food. (Enzymes start to degrade at around 106 degrees F.

All cooked food is devoid of enzymes, furthermore, cooking food changes the molecular structure of the food and renders it toxic. Enzymes are important because they assist in the digestion and absorption of food. If we eat food that is enzyme-less, the body will not get maximum utilisation of the food. This causes toxicity in the body and a propensity to become overweight. Living and raw foods both contain enzymes. In living foods the enzyme content is much higher. Raw, unsprouted nuts contain enzymes in a "dormant" state. To activate the enzymes contained in almonds, for example, soak them in water for 24 hours. Once the almond begins to sprout, the enzymes become "active" and are then considered "living".

The difference between a raw foodist and a vegan is that a vegan believes in only eating a plant based diet while living and raw foodists believe in eating only an uncooked, unheated, unprocessed and organic plant based diet. There are many subcategories of living/raw foodists. For example, fruitarian (people who consume mostly fruits), sproutarian (people who consume mostly sprouts) and jucearian (people who consume mostly fresh juice).

Raw and living foodists eat all fruits, vegetables, sprouts, nuts, seeds, grains, sea vegetables and other organic/natural foods that have not been processed. There are special ways to prepare some of the foods. For example, sprouts, nuts, seeds and grains are soaked before being consumed. Processed foods are usually adulterated (changed from their original state) by heating, additives, preservatives, colourings, salt and sugar. Raw foodists generally drink purified water (never tap water) or freshly made juices which are consumed immediately or coconut milk made from the young coconut. Mostly all the drinks purchased at the stores have been processed (including sodas, bottled juices, coffee, alcohol and most others) and are not included in a raw foodist diet.

The WHO (World Health Organisation) suggests that humans need about 5% of their daily calories to come from protein to be healthy. Other recommendations put protein at approximately 10% of calorie intake (mother's breast milk is 7% protein) On average, fruits have about 5% of their calories from protein. Vegetables have from 20-50% of their calories from protein whilst sprouted seeds, beans and grains contain from 10-25% of their calories from protein. So by eating a variety of living plant foods will provide adequate protein. Numerous scientific studies have shown the daily need for protein to be about 25-35 grams per day. So if we eat 2000 calories per day, and eat raw plant foods which have an average of 10% of their calories from protein, we would get 200 calories worth of protein, or 50grams.This is more than adequate to support optimal well-being. Other studies have shown that heat-treating a protein (such as with cooking) makes about half of it unusable to the human body. Therefore raw plant food protein is an even better source of protein than cooked plant foods or animal foods.

There is a misguided idea that plant protein is not "complete". This is done on studies on rats in the 1940's. This false conclusion was drawn before we discovered the body's protein recycling mechanism and its ability to "complete" any amino acid mix from our body's amino acid pool, no matter what the amino acid composition of a meal consumed. This false idea is still perpetuated by the meat and dairy industries in an attempt to influence people to consume their products. Persons embracing this type of diet invariably experience improvements in their general physical and mental status, including more energy, better health, weight loss, detoxification and a sturdier immune system that better resists and recovers from illnesses.

VEGAN & VEGETARIAN

Every thinking person must, sooner or later, seriously consider veganism. Vegans eat no animal meat or by-products of animals, and avoid making use of animal derivatives (like leather shoes) and animal tested products (like cosmetics) in their lifestyle. This means no meat, milk, eggs, butter or other dairy products, nor shampoos and soaps tested on animals. Basically they do this for moral reasons. Most people who have chosen a vegan lifestyle have done so because they have become aware of the cruelty and exploitation involved in the making of animal products. Cheese is most often made with *rennet,* which is derived from the stomach of newborn calves, so cheese is not acceptable to true vegetarians either.

Apart from the clear conscience one has in not promoting cruelty and suffering, humans are healthier without milk, meat and eggs. Medical science now recognises that the cholesterol and saturated fats of meat, milk and eggs are largely responsible for such degenerative diseases as heart ailments, strokes, cancer and constipation. Vegetables, in many cases, contain much larger amounts of protein per calorie than dairy foods or meat products. Fruits, nuts, grains, seeds and vegetables form the staple vegan diet. With its absence of dairy foods and emphasis on soy by-products, veganism does have some similarities to macrobiotics, but with a more "ethical" emphasis. Where macrobiotics balances foods to achieve maximum health and happiness, with a diet varying according to the person's age, activity, constitution and outlook, veganism seems to drop just animal products from a moral, negative point of view.

ACID/ALKALINE DIET

Whether a substance is alkaline or acid is determined by its pH (potential for Hydrogen), which measures the number of hydroxyl (OH-) ions which are negative and alkaline forming as opposed to the amount of hydrogen (H+) ions that are positive and acid forming. Alkaline and acid-forming reactions are actually electro-chemical in nature. Thus pH is the measurement of electrical resistance between negative and positive ions in the body. That is, pH measures how much the negative ions (alkaline forming) and positive ions (acid forming) push against each other. Certain minerals in the body are *acid binding*; that is, they bind acid toxins and leave alkaline forming ash. These alkaline forming minerals are *calcium, magnesium, sodium, potassium, Iron* and *manganese*. These form an alkaline forming residue and are abundant in fruit and vegetables. Other minerals are *alkaline-binding*; that is, they bind the alkaline reserve minerals and leave an acid forming ash. Acid-forming minerals are *phosphorus, sulphur, chlorine, iodine, bromine, fluorine, copper and silicon*. Foods that contain these minerals usually yield an acid residue. All foods, substances and situations (physical, mental and emotional) will affect the body and either leaves an alkaline or an acid residue in the urine. The acid/alkaline balance will determine whether energy is being provided or taken away. An alkaline forming reaction refers to any chemical alteration in the body that produces an *increased* ability to energise the body. On the other hand, an acid-forming reaction refers to any chemical alteration in the body that produces a *decreased* ability to energise the body.

To maintain optimum health it is important to maintain an alkaline reserve. This buffer system acts like the body's bank account. The body needs to be able to call on it at any time to neutralise acids. Biochemically, the alkaline reserve acts as a buffer to maintain proper balance in the blood. When we ingest more alkaline-forming minerals than we need at the time, the remainder is stored in the body tissues for future use (like money in the bank).

The excess acid wastes are deposited in the body tissues (skin, organs, glands, muscles, ligaments, arteries and vessels). It is difficult to evaluate the state of acid build-up because current diagnostic methods will reveal the state of pH in the body fluids (blood, lymph, urine, mucous and saliva). Waste acids that are not eliminated are reabsorbed from the colon into the liver and put back into general circulation. They then deposit in the tissues. These tissue residues determine our state of health.

The pH of the blood is maintained within a narrow, slightly alkaline range between 7.35 and 7.45. If blood pH drops below 6.8 or increases above 7.8; cells stop functioning. In addition, if tissue pH drops below 6.4, enzymes are deactivated. The pH of the saliva should parallel the pH of the extracellular fluid and so there should be a close association with pH of blood, saliva and spinal fluid. The tissues should be maintained around pH 7.0-7.2. (measured by saliva). Don't let this pH drop below 6.4 for too long as this can be the genesis of destruction of cells, tissues and ultimately; organs. The lower the pH, the less oxygenation to the cells.It becomes more difficult to keep this pH raised with age as detoxification and absorption are diminished and calcium (a major buffer) is commonly deficient.

The body cannot selfheal unless the correct pH is maintained.

- The **heart** is one of the most alkaline dependent organs in the body. The blood, if not toxin free, puts a tremendous strain upon the heart. Correct heartbeat is altered by acid wastes. These acid wastes rob the heart of proper oxygenation. An alkaline system creates an environment for a healthy heart.
- The **pancreas** is highly dependent on a correct alkaline diet. In return it produces alkaline digestive enzymes and sodium bicarbonate. All aspects of pancreatic function reduce excess acidity. The pancreas also regulates blood sugar balance and this will be affected by an over acidic diet.
- The **liver** has many functions and one of its most important is to process acid toxins from the blood. The load on the liver is much heavier when acid waste products are constantly floating in the blood.
- The **kidneys** have the primary function of formation and excretion of urine and excess acids. In an adult, about 1 litre of blood per minute passes through them. By executing their primary duty, the kidneys keep the blood alkaline and extract acid albumin. Too much acidity will obviously overstress them in time. Kidney stones are composed of waste acid cells, and mineral salts which have become structurally gummed together in an albuminous (waste acid) substance. Therefore by reducing acid-forming products from entering the body, this problem can be reduced.
- The **Spleen** performs best in an alkaline environment because of the very hard work that it does to process old blood cells. Systems that are too acidic can enlarge the spleen or slow down its job further toxifying the system.
- The **lymph** fluid flows best in an alkaline medium. When the body is overly acidic it slows. Gradually the lymph dries and begins to form very tiny to very large adhesions throughout the tissues. These adhesions can interfere with blood flow as well as lymph flow. Acid waste products reach the tissues almost always through lymph and blood toxicity. These heavier acid by-products settle in the endothelial and epithelial tissues of the skin, glands and organs. The majority of tissue acid wastes are dumped into the general circulation of blood and lymph by this manner. Not drinking enough pure water will also slow the lymph. Waste products from foods that are not properly digested are reabsorbed into general circulation via the lymphatic ducts of the small intestine. In addition, bowel movements that do not completely clear the body of its daily poisons are also reabsorbed.
- All fruits are alkaline-forming except **cranberries. blueberries, plums, prunes** and **rhubarb.** Cranberries, plums and prunes contain *benzoic* and *quinic* acids (not able to be oxidised to carbon dioxide and water). These convert in the liver to *hippuric* acid. This negates the effects of sodium, potassium and magnesium that are present in the fruits, thereby rendering them acid forming. Rhubarb is high in *oxalic* acid. The most alkaline fruits include: melons (all varieties), cantaloupe, papaya, dates (dried), mangoes, lemons, limes and figs (dried).
- All vegetables are considered alkaline-forming. The most alkaline vegetables include: asparagus (a powerful acid reducer, its high ammonia content quickly detoxifies the person, leaving acid residues in the urine immediately after ingestion), kelp and other seaweeds, endive, parsley, watercress, carrots, celery.
- All grains are acid forming with the exception of amaranth, millet and quinoa. (pronounced keen-wah)
- All meats and animal products (including dairy) are acid forming, as are egg yolks
- All nuts are acid forming except almonds, fresh coconut and chestnuts
- Most sprouted beans and seeds are alkaline, while unsprouted seeds are acidic. Soya beans and products are alkaline as are peas, green beans and lima beans.
- Processed sugars are highly acidic whereas honey and brown rice syrup are alkaline –forming
- Liquor, wine, beer, coffee, caffeine drinks, black tea, soft drinks and sweetened fruit juices are all highly acidic. Beverages such as freshly squeezed fruit juices, vegetable juices, wheat grass and herbal teas are alkaline-forming.

Other valuable alkaline-forming foods include: agar-agar, cayenne pepper, garlic, apple cider vinegar (which increases the flow of Hydrochloric acid in the stomach). However white vinegar is highly acidic. All drugs (medical and social), tobacco and stress are all highly acid forming. Ideally the diet should consist of 80% alkaline-forming foods and 20% acid-forming foods. The modern western diet is the opposite of this, with acid forming foods providing 80% and more.

The hotter and drier the environment, the more the body produces acid-forming reactions. Alkaline-forming foods have a cooling effect on the system and digest quickly. The cooler and wetter the environment, the more the body produces alkaline-forming reactions. Acid forming meats have a heating effect upon the system, digesting slowly Therefore people living closer to the Arctic circle would require more acid foods in their diet such as fish and grains, whereas people living in hot countries would require more fruits and vegetables.

GRAINS

Grains are a source of complex carbohydrates, minerals, dietary fibre and protein and few foods can compare.
Grains have been present in man's diet since the first shoots of grass pushed through the soil. Early kitchens featured grins in some form or another and every national cuisine emphasises one or more – Asia with rice, Central Europe – rye and barley, North America – corn, Africa – millet while wheat is embraced by many nations. Carbohydrate, or starch, is not easily digested raw by the body, so all wholegrains or ground flours must be cooked. Heat causes the starch molecules to burst, thus causing expansion, and this explains why one cup of rice, for instance, may equal two and a half cups when cooked. Different grains vary in nutrition, for instance, barley has twice as much iron as buckwheat and although wheat and rye each have 10% protein, *triticale*, a hybrid of the two, has approximately 15-17%. Until a grain is broken, nutritional loss is minimal.

However, grinding and crushing allow air and light to penetrate the sensitive interior of the grain and loss of nutrients commences immediately. The shelf life of most flours for optimum nutrition is 10 to 12 days. Heat causes the natural oils present in all grains to turn rancid, this explains the strong and unpleasant flavour sometimes found in flour and baked goods made with flour that has been incorrectly stored.

Milling also removes many nutrients found directly under the husk, or outer covering. Grains contain the vegetable albumen, or protein *gluten*. It is found in varying amounts amongst the grains with wheat, rye, oats and barley containing the most gluten. Wheat has the highest content whilst rice is relatively low. Whereas millet, quinoa and buckwheat do not contain gluten.

Amaranth (*Amaranthus spp*) was a staple grain of the Aztecs. It is resistant to disease and can grow in very arid conditions. The protein content of this grain can be as high as 18 percent.

Corn (*Zea mays*) flour, being low in gluten, does not have the binding capacity of flours with high levels of gluten to make breads and so is often mixed with other flour. Whole –grain corn meal contains more than three times more magnesium than degerminated corn meal. It also contains nearly three times more phosphorus and substantially higher amounts of potassium, zinc, copper, manganese, B5, B6 and vitamin A.

Millet (*panicum milliaceum*) is an ancient cereal grass related to sorghum. It is very nutritious, high in fibre, easy to digest because it is free of gluten and a natural antacid. Along with amaranth and quinoa (keen-wah) it is non-acid forming. Millet contains some protein, B vitamins (especially folic acid) and minerals such as iron, magnesium and potassium.

Buckwheat (*Fagopyrum esculentum*) is technically not a grain but a fruit. *Kasha*, simmered buckwheat and egg, is a staple of many central European dishes. In Japan it is sometimes combined with wheat flour to form "soba" noodles. Buckwheat is high in the bioflavonoid *rutin*. It also has a high mineral content, especially calcium, magnesium, potassium, and iron. It also contains most of the trace elements, chlorophyll and like millet is a good protein grain without the gluten. But it is buckwheat's high rutin content that sets it apart. Rutin is found throughout the plant kingdom but especially in the leaves and flowers of buckwheat. Investigations showed that buckwheat was the best source of rutin for medicinal purposes.

Experiments carried out since 1936 have shown the existence of another factor in addition to vitamin C in the juice and rind of citrus fruits and elsewhere. In 1939, H. Scarborough in Scotland reported clinical evidence of the existence of a substance that decreased capillary fragility (a major problem in stroke). This was then named vitamin P (for permeability as this substance stabilised the permeability of blood vessels and referred to the ability of a liquid to pass through a structure without affecting it injuriously) and is known as *hesperidin*, of which rutin is a very close chemical relative, sharing its ability to regulate the permeability of the capillaries thus helping to prevent haemorrhages and ruptures. It is not, however thought to be a vitamin in the true sense of the word but to be the bioflavonoid part of vitamin C. The bioflavonoids are a simple combination of brightly coloured natural substances which are water-soluble and often appear in fruits and vegetables as companions to vitamin C and their absorption and storage properties are very similar. The bioflavonoids consist of rutin, hesperidin, citrin, the flavones and flavonals. Although rutin is only part of vitamin P, it seems to be the major part and the name is often used synonymously.

Spelt (*Triticum spelta*) is an ancestor of the modern hybrid wheat. Unlike other wheat-types it does not have "bristles" on the grains. In the 19th century, spelt crops were replaced by wheat which gave higher yields. The total protein content varies, from 13-19 percent depending on factors such as soil and climate and it contains eight essential amino acids. Overall mineral content, especially iron and potassium, is slightly higher than found in common wheat.

Kamut (*Triticum polonicum*) is an ancient grain and was the Egyptian word for wheat. The grain is much larger than modern-day wheat and humped in the middle. It is reputed to contain 20-40 percent more protein than common varieties of wheat and richer in amino acids and minerals.

Oats (*Avena sativa*) was cultivated in the Bronze Age, over 2, 500 years ago. It is a rich source of soluble fibre, important for both stabilising blood sugar and lowering cholesterol. Oats is also a nervine and helps rebuild the nervous system. One reason for this is its high B vitamin content. Oats also has higher protein levels than most other grains.

Barley (Hordeum *vulgare)* was cultivated by the ancient Egyptians and has a long and important history. The outer grain or "hull" is indigestible and needs to be removed before it is cooked and eaten. It is abundant in vitamins, minerals and the amino acids but takes a longer time to cook than other grains.

Rye (*Secale cereale*) has been grown in Europe for centuries; it is mainly used in breads and is better tolerated than wheat by many people because of its lower gluten content. It is a very hardy grain and can grow in very poor soils. Rye flour is a sticky, heavy flour and so is usually combined with wheat flour to make breads. Unless it is labelled as 100 percent rye, commercial rye bread (despite the word rye) is a mixture of mainly wheat flour (60-89 percent) and rye flour (21-40 percent). A commercial loaf of *pumpernickel* bread consists mainly of rye. However it contains just 38 percent each of rye meal and rye flour. The remaining 24 percent is wheat flour (usually white).

Quinoa (*Chenopodium quinoa*), although a newcomer to the west, it has been around at least since the time of the Incas, when it was a staple food and revered as the "mother grain". Sometimes referred to as "Inca wheat", it has one and a half times as much protein as wheat and contains the full spectrum of amino acids. It is high in lysine as well as cysteine and methionine. (most grains are low in lysine). Its protein content is higher than corn, barley or rice. It has a high fibre content as well as containing a broad spectrum of the vitamins and minerals especially the B group, E, essential fatty acids, calcium, iron and phosphorus. Like Buckwheat, it is technically a fruit.

Rice (*Oryza savita*) is generally gluten free, unless it is *glutinous rice* which contains two sugars – dextrose and maltose. White rice (milled) contains less protein, copper, sodium, riboflavin, niacin and B5 than brown rice. In addition, brown rice has nearly twice the potassium and zinc content; nearly three times more phosphorus, manganese, folacin and B6. Dietary fibre in brown rice is three and a half times greater than white rice.

Semolina consists of small, yellowish granules of the endosperm of wheat and is used as a good thickener.

Triticale is a hybrid (genetically crossed) of wheat and rye. The high yield and protein qualities of wheat coupled with the ruggedness of rye have allowed it to thrive in poor, acid and sandy environments. Compared to other grains it is relatively disease-free. Its nutritional value is high. It contains more protein (averaging 15-17 percent) than either wheat or rye. It contains more of the amino acids methionine, lysine and cysteine than wheat. It's fat and carbohydrate content is lower and it has slightly more thiamine, riboflavin, calcium and iron than its parent grains.

Wheat (*Triticum aestivun*) consists of several varieties and three basic types. Hard red *spring* or *winter wheat* has a high gluten level and is used to make breads (bread flour). Soft red *winter wheat* (lower gluten content) is used as pastry flour to make sweet bakery products such as cookies, biscuits, etc. *Durum* and *red durum* wheat is made into pastas such as spaghetti and noodles. The milling of wheat into refined white flour removes 40 percent of the chromium, 86 percent of the manganese, 76 percent of the cobalt, 68 percent of the copper, 78 percent of the zinc 48 percent of the molybdenum – all trace elements essential for health. In addition, 60 percent of the calcium, 71 percent of the phosphorus, 85 percent of the magnesium, 77 percent of the potassium and 78 percent of the sodium is removed.

Notes on Grains

For gluten-sensitive people (such as 'O' blood types) consider quinoa, buckwheat, amaranth, millet or rice. Some people will be able to tolerate the "ancient grains" which contain gluten such as kamut and spelt. Coeliacs need to avoid wheat, rye, triticale, oats, barley, semolina, kamut and spelt.

MACROBIOTIC {Can be likened to a *Feng Shui* of our body/mind and spirit}

Macrobiotics originated in Japan in the early 1900's and was introduced to the west in the 1960's. The term "Macrobiotic" comes from Greek ("macro" meaning "large" or "long", and "bios" meaning "life" – hence "long life").

Macrobiotics is the art and science and longevity through the study and understanding of the relation and the interactions between ourselves, the food we eat, the lifestyles we choose to lead, and the environment in which we live. Macrobiotics is the way of life according to nature; a life based on a harmonious relationship between people and the environment. Everything we do is influenced by diet – our physical health, our mental health and respect for the environment. The macrobiotic approach regards food as much more than fuel but as something to be respected.

The "Principle", itself, employs the ancient oriental practice of Yin and Yang theory, to determine the quality of the materials in our universe. Though all aspects of the environment in the macrobiotic way of thinking, there is a special emphasis on food. This is because the food we eat becomes our bodies. Food turns into us. Therefore, special attention is paid to the quality of that portion of the environment which we consume. All things, including food, can be classified into a "more yin" or a "more yang" category. Generally Yin foods tend to be more sugary and/or watery and/or cold (raw) and/or tropical in origin. Yang foods tend to be more meaty and/or dry and/or cooked and/or polar in nature. Very Yang food (e.g. mammal meat, poultry, table salt, eggs, coffee) is generally avoided, as well as very Yin food (e.g. sugar, dairy foods, drugs, alcohol). These foods are often called "extreme food".

Balanced foods, which are not so extreme, compose the standard macrobiotic diet. Cereal grains reside at the balance between Yin and Yang, but even they are involved in the Yin and Yang classification. (everything has Yin and Yang components, nothing is neutral) Therefore whole grains and their derivatives (pasta, bread) are considered the mainstay of the diet.

Although the macrobiotic diet does not really exclude any foods, the human body is designed for certain foods. Throughout history, humans have kept a few staples as part of their diet – whole cereal grains, fresh vegetables, beans, and in some cases sea vegetables. Also fish, nuts, seeds and certain fermented foods among others.

The macrobiotic diet, therefore, focuses on these natural staple items, plus soya foods such as tofu and miso (a fermented food made from soybeans). Depending on climate and personal needs, a moderate amount of animal food can be consumed along with these staple foods. The smaller the animal the better and the wilder the species the better. Some of the foods recommended on the macrobiotic diet are actually processed foods. Many of these traditionally natural processed foods have been known for their health benefits.

There are, for instance, documented health benefits for miso. It makes the blood better, eliminates fats, neutralises toxins, boosts protein use and can eliminate harmful effects of environmental pollutants. By paying attention to the benefits of naturally processed, traditional foods such as miso, shitake mushrooms, umeboshi plums and others, and including these foods on a daily basis, we can create our own health.

In addition to classification by type, the quality of the food is also considered. Vegetables should be organically grown. Fish and sea vegetables should be harvested from deep, clean water or from coastal areas located far from city and industrial pollution. Also, genetically engineered foods, even grains and beans, are to be avoided (disturbed qi). Organic food grown from traditional, open-pollinated seed is best.

Whole cereal grains should make up approximately **50%** of the diet. They should be organically grown and include brown rice, barley, millet, oats, corn, rye, wheat and buckwheat. While wholegrains are recommended, a small portion of the recommended percentage of grains may consist of noodles or pasta, un-yeasted wholegrain breads and other partially processed whole cereal grains.

Vegetables should make up approximately **20-30%** of the diet. Locally and organically grown vegetables are recommended, with the majority being cooked in various styles such as lightly steamed or boiled, sauteed with a small amount of unrefined, cold pressed oil, etc. A small proportion can be used as salads. Vegetables for daily use include green cabbage, kale, broccoli, cauliflower, pumpkin, watercress, parsley, onions, turnips, carrots, squash. For occasional use in season (2 to 3 times per week); cucumber, celery, lettuce. Vegetables not recommended for regular use includes: potatoes, tomatoes, eggplant, peppers, spinach, beets and zucchini (courgettes).

Beans and Sea Vegetables should make up approximately **5-10%** of the diet. The most suitable beans for regular use are azuki beans, chickpeas and lentils. Other beans may be used on occasion. Bean products such as tofu and tempah can also be used. Sea vegetables such as nori, wakame, kombu, hiziki, arame, dulse, and agar-agar are an important part of the macrobiotic diet as they provide important vitamins and minerals

Soups should make up approximately **5-10%** of the diet. Soups may be made with vegetables, sea vegetables, grains or beans. Seasonings include miso, tamari soy sauce and sea salt.

Beverages include bancha twig tea, stem tea, roasted brown rice tea, roasted barley tea, dandelion root tea and cereal grain coffee. Any traditional tea that does not have an aromatic fragrance or a stimulating effect can also be used. When drinking water, spring or good quality well water is recommended, without ice.

Occasional foods include **fish** (1-3 times per week); **fruit** or **fruit deserts** made from fresh or dried fruit (2 or 3 times per week) Locally and organically produced fruits are preferred. If you live in a temperate climate, avoid tropical and semi-tropical fruit and instead, eat temperate climate fruits such as apples, pears, plums, peaches, apricots and berries. Frequent use of fruit juice is not advisable. Lightly roasted **nuts** and **seeds** such as pumpkin, sesame and sunflower seeds. Peanuts, walnuts and pecans may be enjoyed as an occasional snack.

Rice syrup, **barley malt**, **amasake**, and **mirin** may be used as sweeteners.

Brown rice vinegar or **umeboshi vinegar** may be used occasionally for a sour taste.
Recommended **condiments** include gomashio, seaweed powder (kelp, kombu, wakame and other sea vegetables) Sesame seaweed powder, umeboshi plums, tekka, pickles and sauerkraut made using sea salt, miso or tamari.

Foods to eliminate for better health:

- Meat, animal fat, eggs, poultry, dairy products (including butter, yogurt, ice-cream, milk and cheese), refined sugars, chocolate, molasses, honey (**except raw**), other simple sugars and foods treated with them, and vanilla
- Tropical or semi-tropical fruits and fruit juices, soda, artificial drinks and beverages, coffee, coloured tea, and all aromatic stimulating teas such as mint and peppermint tea
- All artificially coloured, sprayed, preserved or chemically treated foods. All refined and polished grains. Flours and their derivatives, mass-produced industrialised food including all canned, frozen and irradiated foods.
- Hot spices, any aromatic stimulating food, artificial vinegar and strong alcoholic beverages

Eating a macrobiotic diet is a practical way to take responsibility for our health and the environment. The macrobiotic perspective is that sickness is a progression and that before symptoms arise, you can already be ill.

The macrobiotic diet has healed thousands of individuals, some, from very life-threatening illnesses, such as cancer and heart disease and has even enabled diabetics to wean themselves from insulin. There are many well-documented case histories of people who have healed themselves through macrobiotic procedures.

FRUITARIAN DIET

It seems that fruit is the perfect food in that it is there for the taking, ready for man to spread the seed. It signals when it is ripe and ready by turning red, orange, yellow or purple. It contains all the nutrients that we need – vitamins, minerals, liquids and fibre. A selection of fruit will nourish the system, cleaning and purifying at the same time. And it will leave no damaging or clogging deposits or residue. Generally a fruitarian diet consists of predominantly fruit with some nuts and grains added. There tends to be too much fruit sugar in a pure fruit diet so it is important to include some fresh organic greens (cucumbers and courgettes) as well as some starch in the form of grains. Fore example, no cabbages, lettuce leaves, bean sprouts, celery or root vegetables are used. Tomatoes and avocadoes are eaten because they are fruits. The main diet would include the citrus fruits: oranges, lemons, limes, grapefruit. The berries: raspberries, red and black currants, gooseberries, and cherries. Apples, pears, plums, apricots and nectarines. Dates, grapes and melons such as honeydews, watermelons and cantaloupes. Tropical fruits (unlike macrobiotic) such as mangoes and papayas are also included. Other foods which are often included are green and red peppers, cucumbers, marrows, eggplants, courgettes and pumpkin.

What about protein? When one becomes a fruitarian, their rate of nutrient assimilation increases. The rate might be 70-80% for fruitarians and perhaps 20-30% for omnivores (eating all kinds of food-plant and animal) This translates into fruitarians requiring less protein and other nutrients than omnivores. It is generally accepted that the human body uses up approximately 20-25grams of protein daily at least no matter what conditions or circumstances. Fruits contain an ideal percentage of their calorie content in protein. Melons such as honeydew contain 10% of its calories in protein. Oranges, apricots, grapes and cherries all contain approximately 8% and avocado 5%. Apples contain about 1% protein. Bananas contain all the essential amino acids plus a couple more. What about essential fatty acids? All fruit (except watermelon) contains between 0.5 and 1.3 grams of fat. A varied fruit diet will provide the essential fatty acids and avocado contains approximately 16 to 20 grams of fat including all the essentials.

Fruit is lighter, and well balanced particularly in its moisture content. It nourishes and refreshes at the same time. Another important aspect to consider in the fruitarian diet is that the vast majority of any and all human illnesses are caused by blockages in the "pipework" of the body. This is seen in the small and large intestines, from the larger arteries that pump blood around the body and through the heart to the tiny capillaries on the brain. Fruit doesn't block arteries, most fruits clean, scour and purify the passages. The other aspect of course is that fruit, being raw and in it's natural state, is abundant in enzymes and so digestion is not impeded. Heating food reduces enzymes and makes most foods more difficult to digest. Nuts should be eaten in the morning rather than the evening preferably, as they are not so easy to digest.

ALKALIZING EATING PLAN

Typical Weekly Eating Plan for Alkaline Diet

MONDAY

Breakfast Sardines on toast, Goat/sheep yogurt, fruit (see snacks)
Lunch Mixed bean salad and wild rice, spelt bread
Dinner Tofu with peas, turnip and kale
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

TUESDAY

Breakfast Quinoa (with blueberries & oat/almond milk), fruit (see snacks)
Lunch Tuna sandwich (made with spelt bread)
Dinner Organic Salmon with pumpkin, beans and asparagus
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

WEDNESDAY

Breakfast Boiled free range egg, spelt toast, fruit (see snacks)
Lunch Goats cheese & rocket sandwich
Dinner Soba (Japanese buckwheat noodles) with spinach, squash and courgettes
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

THURSDAY

Breakfast Quinoa with almond/oat milk, fruit (see snacks)
Lunch Bean salad with brown rice
Dinner Cod with carrots, beetroots and green beans
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

FRIDAY

Breakfast Organic oats with almond/oat milk, spelt toast, fruit (see snacks)
Lunch Artichoke and avocado salad
Dinner Mackerel with kale, parsnips and leeks
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

SATURDAY

Breakfast Millet flakes with almond/oat milk, Goat/sheep yogurt, fruit (see snacks)
Lunch Lentil soup, spelt or gluten-free bread
Dinner Rice noodle pasta with fennel, pumpkin and celery
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

SUNDAY

Breakfast Poached free range egg, gluten-free toast, goat/sheep yogurt, fruit (see snacks)
Lunch Tuna salad (ie lettuce, cucumber, beetroot, raw spinach)
Dinner Organic Salmon with kale, artichokes and sweet potato
Snacks Choose from any of the following: almonds, walnuts, rice/oat cakes, spelt crackers, grapes, figs, apples, pears, pineapple, kiwi, cherries, apricots, blueberries, peach, green tea, herb tea

GENERAL GUIDELINES

BREAKFAST

This should include fruits

Fruit: Choose any fruit (try and eat organic) and eat fruit whole
Yoghurt: Eat only bio (live) goat or sheep yogurt (preferably non homogenized and unpasteurizedand) avoid added sugars and flavourings
Cereals: Choose from a wide selection of gluten-free grains
For example – rice, millet flakes, gluten free muesli, buckwheat, quinoa, spelt, kamut, amaranth, organic oats
Added to the cereal can be goat's milk, almond or oat milk
• (Avoid all Cow dairy foods ie cow's milk, ice cream, yoghurt & cheese)

LUNCH

This should consist of mainly carbohydrates

Salads: Beans, celery, nuts, sunflower seeds, etc.
Pasta: Gluten free, rice-noodle pasta, millet & rice pasta
Breads: Try to eat gluten free and soda if possible; avoiding yeast
Soups: Vegetable (e.g. pumpkin), lentil, miso, bean
Brown rice or wild rice (no white rice)
Goats or sheep cheese is allowed

DINNER

This should contain some protein such as:

Organic Fish: (grilled, baked or steamed) with steamed vegetables or stir fried in coconut oil
(include three different vegetables e.g. broccoli, mange tout, carrots, pumpkin, kale)
Organic turkey or chicken (have this only occasionally)
Sardines, tuna
Tofu (cultured) or fermented soy products (avoid soya milk)
Nut roasts
Pulses (beans, peas, lentils)

SNACKS

Rice/spelt/oat cakes, spelt or amaranth crackers
Dried fruit (especially apricots, figs, raisins)
Nuts (especially almonds)
Sprouts (mungbean, aduki etc)

DESSERTS

Brown rice puddings with raisins
Desserts based on rice/oat milk
Fruit crumble using rice, millet or spelt flour
Buckwheat pancakes with organic maple syrup
Baked apples filled with dates, raisins or figs.
Raspberry Fool – fresh raspberries mixed with bio-goat's yoghurt and raw (unheated) honey

DRINKS

- Avoid drinking with meals; allow half an hour either side of the meal
- Reduce coffee and tea and avoid all caffeine based drinks such as cola
- Avoid tap water at all costs
- Avoid Cow's milk (drink Goat's milk in tea or coffee & oat or almond milk on cereals)
- Reduce alcohol (one glass of red wine permitted with main meal)
- Make sure decaffeinated tea/coffee has used water/CO2 as the extraction solvent
- Avoid carbonated drinks and fruit juices

Drink only pure filtered water, preferably from a reverse osmosis system, or distilled water. If this is not possible, drink and cook with bottled or filtered water.
Drink herbal teas such as rose hip, peppermint, chamomile, etc.
Rooibos tea (red bush tea) which contains no caffeine and very little tannin
Grain coffees such as "Barley cup", "Nature's cuppa" or "Caro"
Green tea or organic decaff green tea
Fresh vegetable juices
Hot lemon and ginger
Freshly squeezed lime or lemon with water
Dandelion coffee

OTHER RECOMMENDATIONS

- Use only coconut oil, ghee, red palm oil or butter in cooking
- Avoid all other fats & oils except flax, olive, hemp, chia, pumpkin and walnut (use these cold)
- Always use organic where possible
- Avoid all processed foods, preservatives, colourings and additives
- Avoid all refined sugars. Use stevia or a little raw unprocessed honey/organic maple syrup or blackstrap molasses is allowed occasionally)
- Avoid chocolate (have carob or 70% cocoa occasionally)
- Avoid fruit juices and soak dried fruit. Vegetable juices are a better option.
- Do not use margarine or any refined cooking oils.
- Try to ensure that 70% of the diet consists of Alkaline forming foods (vegetables, fruits, sprouted seeds, seaweeds, bio goat/sheep yoghurt, almonds, millet and quinoa)

FOOD COMBINING DIET

**** 1) **Eat only fruit before midday (12noon)**
2) Separate starches from protein
3) Cut out processed foods
4) 50% fresh fruit, vegetables & salad
5) Drink at least 2 litres of pure water daily

Concentrated proteins: meat, fish, eggs, cheese

ARE SEPARATED FROM

Concentrated starches: potatoes, pasta, rice, bread, sugar & all sweetened foods (sweet fruits)

Combine	***Combine***	
STARCH	**NEUTRAL**	**PROTEIN**
Potato	Vegetables (*except potatoes*)	Meat & Fish
All Grains (*bread, rice, pasta)*	Salads & Herbs	Whole eggs
Dried beans, Peas & Lentils	Fats & Oils (butter)	Cheese (*hard & soft*)
Soya milk & Tofu	Nuts & Seeds	All Fruits (*except on starch list*)
Bananas, Pears Dates, Figs, Grapes		
Honey		

Changing combinations

OUT	IN
Cheese sandwich	Banana sandwich
Meat sandwich	Salad sandwich
Fruit pie	Stewed fruit
Meat pie	Vegetable pie
Roast meat & potatoes	Roast meat & parsnips
Meat & potato pie	Vegetable & potato pie
Pasta with meat or cheese	Pasta with vegetarian sauce
Meat with rice	Vegetables with rice

OUT	IN
Macaroni cheese	Cauliflower cheese
Cheese & biscuits	Cheese & apple
Egg on toast	Egg with grated cheese
Fish & chips	Fish & salad
Beefburger in a roll	Vegeburger in a roll

Other Recommendations:

- Melons should be eaten alone
- Fruit should be eaten at the start of a meal or on its own
- Avoid mixing proteins & concentrated fats e.g. foods such as fish in oily batter or fried bacon & eggs (Fats combine better with carbohydrates than with proteins)
- Do not combine a starch with an acid fruit such as tomatoes, citrus, kiwi or pineapple (e.g. tomato sandwich, pineapple & rice, etc.)

17: **Juicing**

We have, in the form of fruit and vegetable juices, the means of supplying the body with all the essential minerals and vitamins it needs in a form that is most easily digested and quickly assimilated. This is extremely important, especially in debilitated conditions and where the digestive system may be weakened. To more readily appreciate the value of juices we have only to realise that one half pint of raw cabbage juice for example, will furnish the same amount of organic food value as 120lb of cooked cabbage and that this amount of juice will be assimilated into the blood stream in 15 minutes, whereas the boiled cabbage will take 3 to 4 hours to digest.

Further, not only does the mineral and vitamin content of fruit and vegetable juices make them so beneficial, but in them we have various organic compounds of highly complex chemical structure that exist as vegetable amino-acids, compounds which function similar to some of the body secretions, juices and hormones. There are also present compounds having enzyme properties, in other words they act as ferments in the digestive process. All these factors point to fruit and vegetable juices as a distinct and incomparable aid in the reconstruction and rejuvenation of the human organism.

The principle of concentrated fruit and vegetable juices is recognised in many countries. In Russia and France, juice therapy has proved most successful as a one-day menu. During one day in the week, the diet is restricted to fruit and raw vegetable juices only. In that period the system absorbs sufficient organic alkaline elements to counteract the effects of the dietary indiscretions of the other days. The juices extracted from green vegetables are generally too potent to be taken alone and when a course of raw juice diet is undertaken it is advisable to dilute all "green" juices with an equal amount of water or combine them with other juices. As a general rule one pint of juice daily is the least that can be expected to show perceptible results. Preferably from 2 to 8 pints daily is needed, but bear in mind that the more juice taken the quicker the process of detoxification and rejuvenation will be.

It is not infrequent that when a course of raw fruit and vegetable juices is commenced, some physical disturbance may arise but this should cause no uneasiness when it is understood that fruit juices are the **cleansers** of the human system and vegetable juices are the **builders** and **regenerators** of the body. It follows that when the system has been allowed to become clogged with toxic poisons, resulting from an unbalanced diet consumed over a period of months or years, the start of the body-cleansing regime may produce some unexpected changes. There **may be** feelings of aches and pains in the region where the cleansing process is taking place or feelings of nausea. These symptoms need not cause alarm; in fact, they show unmistakably that the clogging wastes are being loosened from the lining of the digestive tract and that the cleansing and healing process is well on its way.

Fresh fruit juice for breakfast has a purifying effect on the body. It helps to eliminate food residue left over from the previous evening meal, neutralises toxins and reinvigorates the glands connected with the digestive organs. It also cleanses the stomach and digestive tract and prepares it ready to receive the first good meal of the day. Especially good first thing in the morning are fresh orange juice, pineapple juice or apple juice. For variety, the fruit can be changed in accordance with what is in season (this is called eating with the seasons and is part of macrobiotic eating). For example, peaches, strawberries, grapes or pears can be included.

Fruits combine well with all proteins (milks, cheese, soya beans, nuts and fish); but do not combine fresh raw fruits with sweet fruits, such as dates, figs, raisins, etc. Also never take starches with citrus fruits or tomatoes. Starches may be eaten with the sweet fruits. Grapes are better eaten alone not mixed with other fruit or juices.

All fruit juices are better taken alone and drunk between meals. Vegetable juices can be mixed, but if fruit juices are added, it is better not to add more than any one kind. Some bad combinations are mixing apricot juice with greens, blackberry juice with beetroot, fig juice with radish, pear juice with tomato and prune juice should not be combined with cabbage, watercress or onion. Another bad combination is if grapefruit, orange or lemon is mixed with the juice of cabbage, turnip leaves or watercress. In general, mixing fruit juices with vegetable juices will create stress on the digestive system causing indigestion and wind as the different fruit sugars and starches compete for digestion. The exception is apples, which because of their higher starch content, can be mixed with all vegetables and carrots can generally be combined with all fruits (except grapes) because of its simpler sugar content.

18: **Blood types**

Our blood type has always been the driving force behind human survival, changing and adapting to new conditions, environments and food supplies. It is our evolution, the genetic memory passed down from our ancestors. It is the key to our immune system and controls the influences of bacteria, virus, chemicals and stress. It has two roles – defining 'self' and killing 'non self'. In other words recognising 'us' and killing 'them'. The immune system has a very sophisticated method to determine whether a substance is foreign or not. The cells of our body have chemical markers called antigens. One of the most powerful antigens in the human body is the one that determines your blood type.

We are not only what we eat, but also what we absorb and assimilate and the old saying "one man's meat is another man's poison " is certainly true. We are not all the same and one major differing fact is our blood group. Dr Peter D'Adamo worked on the link between diet, disease and blood groups for more than 15 years. His father, Dr James D'Adamo was credited with the discovery of these links when he observed differing responses to treatments offered to heart and diabetic patients based on their blood type. Treatments were better controlled in accordance with a diet based on their blood type, as foods were either compatible or incompatible to the blood. In 1960, a Massachusetts study examined connections between blood types and heart disease and found a strong link between blood type and who survives heart disease. Type 0's (aged between 39 and 72) had a higher survival rate than type A's.

The four blood types are O, A, B and AB. Dr D'Adamo's theory revolves around certain toxic proteins in our food called *lectins*. A lectin is any compound but usually a protein, found in nature, which can interact with surface antigens found on the body's cells causing them to agglutinate (to adhere to each other) The antigens, which are chemicals which generate antibodies, on certain blood types react to these 'invaders' in the blood stream and may cause a wide range of problems. When you eat a food which contains these lectins (which are incompatible with your blood type antigen), the lectins target an organ or bodily system (kidneys, brain, stomach, etc.) and begin to agglutinate blood cells in that area. This agglutination reduces the blood's oxygen and nutrient capacity as well as placing huge demands on the liver and kidneys to excrete these 'natural' toxins from the body. It is like running your car on poor fuel; it will still go but the life of the engine will be greatly reduced. In a similar way this is what is happening with our body and over a lifetime it will have marked effects. Lectins will interfere with digestion; slow down the rate of food metabolism; compromise the production of insulin and upset hormonal balance. These lectins can be measured on an indican scale which measures a factor called *bowel putrefaction*. When the liver and intestines are unable to properly metabolise proteins they produce toxic by-products called *indols*. The levels of these are shown on the indican scale. Therefore a high indican scale would suggest that there are many indigestible lectins meaning that you have high levels of carcinogens (possible cancer causing substances) in your body. The quality of our blood is very much a marker of our ageing process. As we age the blood tends to become more adulterated and can become sludgy and sticky, that is it agglutinates. This is an insidious process, in other words, it happens slowly without us being aware of it.

Examples of some of the differences in the blood types are:
Type 0's (about 47% of the population) have hardy digestive tracts; do better on high protein foods; combat their stress through vigorous exercise such as aerobics; are more prone to osteoarthritis, allergies, asthma and duodenal ulcers and tend to have higher instances of type 2 diabetes (diabetes mellitus). They also tend to produce more stomach acid; are worse off in epidemics for example the flu, and have thinner blood.
Type A's (about 42% of the population) are predominantly vegetarian and have sensitive digestive tracts; combat their stress through quieter techniques such as yoga or meditation; have thicker blood; are prone to cardio-vascular disease and high blood pressure; produce lower stomach acid and do better in epidemics. They also tend to produce a lot of mucous.
Type B's (about 8% of the population) have strong immune systems; combat their stress through moderate exercises such as T'ai chi, golf and cycling. They are not generally prone to allergies but are more likely to suffer from autoimmune disorders. In general however, they have a much more balanced system
Type AB's (about 3% of the population) are a modern merging of type A and type B. They have sensitive digestive tracts and can be prone to more parasites and can have difficulty eradicating candida (a fungal overgrowth). They have the least problems with allergies and are more like type A than type B; hence they tend to have thicker blood and high cholesterol and triglyceride levels. They also combat their stress in similar ways to type A's, that is through meditation and yoga.

FOODS TO AVOID

- **O types** should avoid all cow's milk products including cheese and ice-cream; wheat and corn (O's tend to have an intolerance to gluten}; pork, ham and bacon; oranges, avocado and peanuts.
- **A types** should avoid all meats and meat products; cow's milk, cheese and ice-cream; tomatoes, oranges and bananas; chickpeas and vinegars.
- **B types** should avoid chicken, ham, pork and bacon, all shellfish and crustaceans, nuts and seeds, tomatoes, sweetcorn wheat and rye.
- **AB types** should avoid cow's milk products including cheese and ice-cream; beef, pork and chicken; most shellfish and crustaceans; buckwheat, sweetcorn, oranges and bananas.

SUPER FOODS

- **Type O**: Organic beef, lamb, chicken or turkey, fish (especially cod, mackerel and salmon); goat's milk, oat milk or rice milk, goat's cheese, feta or mozzarella; oats, rice, barley and gluten-free breads and pastas (e.g. millet and rice noodle pasta); walnuts, broccoli, spinach, leeks, pumpkin, turnips, parsnips and onions; figs, plums, and pineapple; rooibos tea.
- **Type A:** Fish (except sole, plaice, hake and haddock); soya milk, rice milk and oat milk; goat's cheese; lentils, almonds and peanuts; tofu and all soya products; carrots, broccoli, onions and pumpkin; apricots, figs and pineapple; green tea.
- **Type B**: Lamb, fish (especially cod, mackerel and salmon); dairy foods (except blue cheese); millet, oats, rice and spelt; beetroots, Brussels sprouts and green leafy vegetables; bananas, grapes and papaya; peppermint and green tea.
- **Type AB**: Lamb, turkey and fish (especially trout, salmon, mackerel and sardines; goat's milk and goat's cheese; peanuts, lentils and walnuts; millet, oats, rice and spelt; cauliflower, celery, sweet potato and beetroots; tofu and all soya products; figs, cranberries, grapes and plums; green tea.

SUPPLEMENTS

• **Type O's** diet is rich in all the most common vitamins and minerals, especially iron and vitamin C. They do however, tend to have sluggish metabolisms and would benefit from taking a good B complex each morning with breakfast. It is also difficult for the O type to get adequate amounts of manganese in their diet as this mineral is primarily found in whole grains and pulses so a daily multi-mineral which includes manganese would be beneficial. Because O's don't include dairy foods in their diet (apart from goat's milk and cheese), a good daily supplement of calcium, magnesium and boron would be beneficial. Other good sources of calcium are sardines, canned salmon (unboned), and green-leafy vegetables especially broccoli. Kelp is an excellent supplement for this blood type and can help with the sluggish metabolism. The high stomach acid can lead to gastric erosions and ulcers so a supplement of the liquorice preparation DGL (De glycyrrhizinated liquorice) may be helpful. If you are an O type but not used to a high protein diet, taking a pancreatic digestive enzyme before a large meal may be necessary for a while until your system adjusts. Beneficial herbs are dandelion tea and coffee, peppermint, fenugreek and rose hip teas, ginger and parsley.

• **Type A's** can be deficient in vitamin B12 because they don't eat animal proteins and they also may have a problem absorbing it anyway because of a lack of *intrinsic factor* in their stomachs (intrinsic factor is a substance produced by the stomach which helps absorption of B12 in the body) This problem becomes more common in the elderly where it can be associated with neurological problems and dementia. The soya foods such as tofu, and miso contain B12 and these should be adequately eaten as part of a lifelong diet to help prevent this problem because without the intrinsic factor the B12 won't be absorbed from the diet anyway. A daily supplement of vitamin C (500mg twice daily) can help protect the stomach lining. Iron is another possible problem for the vegetarian –a teaspoon of blackstrap molasses in warm water each day or a daily supplement of *floradix* (a liquid iron and herb supplement) will help build iron stocks. Similar to the O diet, the A blood type can be low on calcium by avoiding dairy foods if they are not eating correctly, blackstrap molasses is a good supplement for calcium as well, or increase foods such as goat's milk and cheese, broccoli, spinach, soya milk and sardines. Zinc is another mineral often lacking in the vegetarian diet though this is generally because of eating processed food. Supplementing daily with 25 to 30mg of zinc picolinate on an empty stomach (such as last thing at night) will help overcome this deficiency. Beneficial herbs for the A blood type are chamomile, fenugreek and rose hip teas, ginger, ginseng, alfalfa and aloe vera.

• **Type B's** diet is rich in vitamins A, B, C and E as well as the minerals calcium and iron. The other blood types may be low on calcium but B types are very efficient in absorbing calcium, so much so that they run the risk of creating an imbalance between calcium and magnesium and consequent deficiency of magnesium. A daily supplement of magnesium (600-800mg daily) would be of benefit. Foods high in magnesium include the leafy green vegetables, whole grains, pulses and beans. If you are not used to eating meats and dairy foods, it may take awhile to adapt to the diet and so taking a digestive enzyme such as bromelain (from pineapple) for a while before each meal may help with bloating and discomfort. Beneficial herbs for the B blood type are sage, peppermint and rose hip teas, parsley, liquorice, ginseng and ginger.

• **Type AB**'s get plenty of vitamins A, B12, E and niacin in their diets but would benefit from taking extra vitamin C (500mg twice daily with food) to help protect the stomach from nitrates (possible cancer causing chemicals) due to having less protection because of low stomach acid. The sensitive stomach may also benefit from taking bromelain (pineapple enzyme) before meals, especially if you suffer from bloating. Taking the immune-boosting herbs Echinacea or Astragalus when a virus threatens can help the more vulnerable immune system of AB. Other herbs which can help with building up the immune system for this blood type are burdock root and rose hip teas, ginger, ginseng, alfalfa and liquorice.

Weight loss can be very stubborn for some people and the blood type eating can be the answer. This way of eating has been the key to weight loss for thousands of people who have tried many different diets. This is a healthy way to eat which doesn't deprive you of calories or put any strains on the body, you just eat the right foods for your body which is like giving your car the best fuel. Your system will become more efficient and I would suggest eating this way for at least three months to see results. This will result in a gradual loss of weight (1 pound per week is good) as it will not take long to lose a stone this way and it won't be 'boom and bust' which can happen to some people where they lose a lot of weight in a short time only to put it back on again. That is not a good way to diet and is not recommended as it places too many demands on the

body. People who follow the blood type diet (which is more a healthy eating plan than a diet) will find that their energy levels increase as they slowly shed the pounds and they will feel so much better. This really is a diet for life and will slow down the ageing process as a consequence. The following are some tips to lose weight for each of the blood types.

- **Type O's** should avoid wheat (try gluten-free products), sweetcorn, lentils, kidney beans, cabbage, Brussels sprouts & cauliflower. They should eat more seafoods, seaweeds such as kelp (sprinkle on your food instead of salt), kale, spinach and broccoli.
- **Type A's** should avoid meat, all cow's milk products (milk, cheese and ice-cream) kidney beans and lima beans. They should eat more flaxseeds (linseeds), soya foods (try soya yoghurts), vegetables (eat a wide variety) and pineapple.
- **Type B's** should avoid wheat, buckwheat, sweetcorn, lentils, peanuts and sesame seeds. They should eat more meat (lamb, venison, rabbit or beef), eggs, and green vegetables.
- **Type AB's** should avoid red meat, wheat and buckwheat, kidney beans, lima beans, seeds (especially sesame) & sweetcorn.

They should eat more tofu and soya products, seafoods, seaweeds such as kelp, green vegetables, pineapple and alkaline fruits such as apples and pears.

Type 0 is the oldest blood type (around 40,000BC), whereas Type AB is the more recent blood type (only 1000 years old).

It should be noted the relationship between our blood types and physiology and this is reflected in the above diet. We are complex creatures and there will be many factors which influence our health such as genetic predisposition, differing liver functions, environment, poor digestion, assimilation and toxicity for example. We may succumb to allergies or intolerances that seem to conflict with the very foods we are supposed to eat. However, once everything is back in balance our blood type is always going to be our default.

Examples of some of the various different physiology relative to our blood types are:
Type A & AB – thicker blood (propensity to clot more easily)
Type O – thin blood
Type A, AB – lower HCL production
Type O – higher HCL production
Type A & AB – higher cortisol levels released under stress
Type O & B – higher levels intestinal alkaline phosphatase
Type A & AB – low levels intestinal alkaline phosphatase

LECTINS

A lectin is a protein or glycoprotein (sugar-binding protein) most commonly found in plants which can interact with surface antigens on the body's cells.
They were first identified by Peter Hermann Stillmark in 1888; when he tested the seeds from the castor oil plant, the deadly lectin (ricin) caused red blood cells to agglutinate. Though some can be antigenic (promote antibodies), many are potentially destructive and in addition to blood agglutination, can damage the gut wall, slow down the rate of food metabolism, interfere with hormones, compromise insulin production and alter immune function.
They can be the "missing link" with many autoimmune conditions, gut permeability, allergies and many chronic conditions such as arthritis (both rheumatoid and osteo).
They are resistant to digestive enzymes and stomach acid but may be wholly or partially deactivated through fermenting, sprouting, cooking or soaking overnight, depending on the food. The only way to ascertain which lectin/s may be a problem is to do an elimination diet.
Through evolution, humans have probably developed resistance to some lectins but there will be great variance amongst the population because of many factors including genetic predisposition, leaky gut or increased exposure to one or a number of lectins. The blood type diet may help in addressing one area; blood agglutination, but other foods may also be contributing to other imbalances because of their lectin content.
Note that lectins are insidious and although there may not be any immediate signs or symptoms, long-term health may be being compromised.
Some of the most common problematic lectins are found in the following foods

- Nightshades (potato, tomato, eggplant, peppers)
- Glutens (wheat, rye, barley) and also oats. In fact all grains may be a problem for some people (wild rice and millet less likely)
- Legumes (all beans – particularly soy and kidney)
- Some nuts (particularly peanuts)
- Corn
- Dairy foods (milk, cheese, yoghurt)
- Eggs (particularly if corn-fed)

You should eliminate one of these food groups at a time for at least 7 days and see if you notice any positive changes in your health.

19: **Acne**

Definition
A common inflammatory condition characterised by papules, pustules, superficial pus filled cysts and sometimes inflamed purulent sacs affecting the sebaceous glands and hair follicles of the skin. Acne lesions predominate on the face but are also common on the neck, chest, upper back and shoulders. Scarring is common.

Etiology
There is a complex interaction between hormones, keratinisation, sebum and bacteria and this determines the course and severity of the condition. Acne begins at puberty, when the increase in androgens causes an increase in the size and activity of the pilosebaceous (hair) glands.

Orthodox treatment
Topical cleansing with soap and water and antibiotic treatment (tetracycline). Contraceptive pill for females.

Naturopathic treatment & management

Possible Contributing Factors

- Stress
- Hormonal changes
- Gut dysbiosis
- Polycystic ovaries
- **Poor liver function/constipation**
- Excessive sebum/keratin production
- Poor diet-trans fats & hydrogenated fats
- Deficiencies – zinc, B6 and/or EFA's

Diet and lifestyle suggestions

Include:

- Drink plenty of pure bottled or filtered water daily
- Relaxation techniques such as yoga, deep breathing exercises
- Three portions of oily fish per week (wild salmon – not farmed, mackerel, tuna, sardines, pilchards, etc.)
- Plenty of fresh, organic (to avoid hormone disrupting chemicals) fruit & vegetables daily (include three different vegetables with meals for antioxidants) e.g. lemons (bioflavonoids and vitamin C); red/black berries (anti-inflammatory); grapes (cleansers); apples (bind toxins); onions/garlic (detox); sea vegetables (minerals)
- Start the day with fresh organic juice (e.g. carrot, apple and celery)
- Snack on seeds such as sunflower, pumpkin and nuts such as almonds, walnuts
- Pulses, beans, lentils, chickpeas & whole grains, etc. for their fibre

Avoid:

- All stimulants including tea, coffee, chocolate and sugar
- Antibiotics
- Foods that contain refined carbohydrates (e.g. biscuits, cakes, puddings, pastries and white – flour products)
- Alcohol
- Foods that are high in saturated fats (e.g. red meat, dairy products)
- Fried food (grill, bake, steam or stir fry instead)
- Artificial sweeteners, preservatives and additives
- Smoking

Consider:

- Bowel detoxification
- L-Glutamine (500mg TDS)
- Colloidal silver (topical)
- Vitamin B complex (extra B6)
- Probiotics
- **Liver detoxification**
- Essential fatty acids (Udo's oil)
- Zinc picolinate (25-30mg daily on empty stomach)

Hydrotherapy

- Coffee enemas

Herbs

Infusions

- Dandelion root *Taraxacum officinale* (laxative, cholagogue) 2-8g TDS

Homoeopathy

- Kali bromatum 6c (bromide of potash): acne worse on chest, shoulders and face

20: **Adrenal Exhaustion (Insufficiency)**

Definition
A state of adrenal insufficiency whereby insufficient cortisol is produced in response to stress. The typical diurnal secretion of cortisol is altered (Aldosterone will follow a similar pattern) producing states of poor physical and mental functioning. Cortisol levels may be exceptionally high preceding this state. A saliva test will determine the secretion of both cortisol and DHEA over a 24hour period.

Etiology
The condition generally arises from protracted, unremitting stress or exhaustion in the absence of good nutrition. High quality fuel, unprocessed and organic, provides the necessary "buffer" to physical and emotional stresses on the body. A deficiency state arises when the demands placed on the body outstrip the supply of nutrients.

Signs & Symptoms
Symptoms vary but usually include persistent tiredness. Commonly fatigue occurs in the morning (difficulty waking up) with an "extra wind" late at night. The fluctuations in tiredness will be relevant to cortisol levels throughout the day. Blood sugar fluctuations are also symptomatic and this usually presents as "low blood sugar" with cravings for stimulants (chocolate, coffee, etc.). There may also be cravings for salt (crisps) as more sodium is excreted in the urine (Aldosterone). Blood pressure is commonly low.

Orthodox treatment
The orthodox approach is relevant to extreme cortisol deficiency (Addison's disease).

Complications
Potential for Addison's disease.

Possible Factors
- Prolonged exhaustion
- Mineral/vitamin deficiencies
- Child birth
- Poor or unrefreshed sleep (common in night-shift workers)
- Prolonged stress/anxiety
- Prolonged caffeine addiction

Naturopathic treatment & management
- Convalescence
- Eliminate alcohol, caffeine and other stimulants
- Eat small meals regularly (Do not skip meals)
- Eat complex foods with a lower glycaemic index
- Avoid sugar and other sweeteners, especially aspartame (raw honey allowed)
- Avoid all processed foods/Lectins
- Avoid high potassium foods (bananas, figs, dates, fruit juices, etc.)
- Increase foods high in sodium (kelp, samphire, spinach, kale, beetroot, etc.)
- One teaspoon daily of Himalayan Crystal salt dissolved in water
- Increase daily intake of pure filtered water (dehydration is common in this condition)
- Magnesium citrate (400-600mg daily in divided doses)
- Vitamin C (2gs daily with food in divided doses)
- B complex plus extra 500mg B5 (pantothenic acid) daily
- Reduce contact with Electro-magnetic fields (mobile phones, computers etc)
- Earthing (studies show sleeping earthed regulates cortisol levels)

Herbs
- Red Ginseng (Panax ginseng)
- Siberian Ginseng (Eleutherococcus senticosus)
- Ashwagandha (Withania somnifera)
- Gotu Kola (Hydrocotyle asiatica)
- Rhodiola (Rhodiola rosea)
- Liquorice Root (Glycyrrhiza glabra)
- Shatavari (Asparagus racemosus)

Homoeopathy
- Constitutional remedy from homoeopath

DHEA (Dehydroepiandrosterone)

This "youth hormone" may be likened to the Chinese Medicine concept of "Jing" or Essence.

DHEA is a steroid hormone which is produced by the adrenal glands. It is a precursor to testosterone, progesterone and estrogen. It is essentially a growth regulator and has an effect on brain biochemistry, ageing, immunity and blood sugar. It decreases body fat, strengthens bones, balances mood and behaviour and can decrease the risks of heart disease (by preventing excessive cell proliferation in blood vessels leading to atherosclerosis). It also lowers LDL cholesterol and decreases abnormal platelet aggregation, in addition to inhibiting tumour growth in some cancers.

Low levels are found in adrenal exhaustion, depression, Alzheimer's disease, cardiovascular diseases, auto-immune disorders and a number of cancers.

When we are stressed the adrenal glands release adrenaline, cortisol and DHEA. DHEA plays a protective role against the long-term ravages of cortisol (a destructive hormone to the body's tissues). However, if we are put under continual stress, the production of DHEA is reduced in favour of making more cortisol (the precursor hormone for both cortisol and DHEA being the same – pregnenolone). Therefore long term stress has an inverse effect on DHEA levels and with the loss of the buffering effect of DHEA, cortisol levels go unchecked causing the body to age faster.

Levels of DHEA peak around the ages of 20 to 25 and then they steadily decline (another reason as to why the raw material cholesterol (which is synthesized to pregnenolone), and needed to make this hormone, increases with age). By age 75 levels may have dropped by as much as 95%. Women produce around 1/3 less DHEA than men and must depend largely on their adrenal glands for DHEA production, whereas men produce a substantial amount in their testes in addition to the adrenals. This may be a major factor as to why women (now faced with the same stresses as men in the modern world), have much higher incidences of stress-related conditions such as depression, fibromyalgia, chronic fatigue, auto-immune problems and irritable bowel syndrome. However, by the time both sexes reach age 70, DHEA levels are roughly the same for both genders.

The way to protect DHEA levels is to reduce cortisol. In addition to physical and psychological stressors, alcohol, caffeine and elevated insulin levels will all cause the body to go into "fight or flight" mode, thereby raising cortisol. In addition to addressing these factors, consider meditation, exercise (not strenuous), proper sleep (10pm to 6am), eating small regular meals and nutrient-rich food that doesn't "spike" blood sugar. Eat protein with carbohydrates to slow glucose release, don't miss meals and eat within one hour of rising in the morning.

As insulin resistance tends to increase with age (even amongst healthy people), in addition to the above recommendations, a daily addition of brewer's yeast (rich in chromium) or cinnamon can help balance glucose levels.

21: **Asthma**

Definition
Paroxysmal (sudden spasm) dyspnoea (air hunger) accompanied by wheezing caused by a spasm of the bronchial tubes or by swelling of their mucous membranes.

Etiology
Bronchial asthma can occur secondarily to a variety of stimuli. It is most common among children under 10 years of age and males are affected twice as often as females. Among the known stresses are viral respiratory infection, exercise, emotional upset, nonspecific factors (e.g. changes in barometric pressure or temperature), inhalation of cold air or such irritants as gasoline fumes, fresh paint and other noxious odours, or cigarette smoke, and exposure to specific allergens. Persons whose asthma is precipitated by allergenic exposure (most commonly airborne pollens and moulds, house dust, animal danders), and whose symptoms are IgE mediated (allergy antibody), are said to have allergic or **"extrinsic asthma."** These account for only about 10 to 20% of the adult population. In perhaps 30 to 50% of adult asthmatics, symptomatic episodes appear to be triggered by nonallergenic factors (infections, irritants, emotional factors). These patients are said to have nonallergic or **"intrinsic asthma."**

Signs and symptoms
An asthma attack may begin acutely with paroxysms of wheezing, coughing, and shortness of breath, or insidiously with slowly increasing symptoms and signs of respiratory distress. The cough during an acute attack sounds "tight" and is generally nonproductive of mucous. Except in young children, who rarely expectorate, tenacious mucoid sputum is produced as the attack subsides.

Orthodox treatment
In acute attacks, conventional treatment is *ventolin*, given by inhaler or nebuliser. Ventolin opens the airways, allowing mucous to be expelled. Steroids are also prescribed, e.g. *prednisone*

Naturopathic treatment and management
- Reduce exposure to airborne allergens
- Identify and remove food allergies (elimination diet)
- Predominantly vegan diet (no meat, fish, eggs or dairy)
- Eliminate alcohol, tobacco, sugar, salt and caffeine
- Drink at least 11/2 litres of pure water daily, avoid 'chlorinated' water
- Avoid all artificial food preservatives, additives, flavourings and colourings (esp tartrazine dye #5)
- Digestive enzymes – low HCL common in Asthma
- L-Glutamine (500mg TDS) to heal gut
- Anti-candida regime?
- Introduce Flavonoids (quercetin) – inhibits histamine release
- Antioxidants – beta-carotene, Vit E, Vit C, zinc, selenium
- B complex with extra B12 and B6 (low in children)
- Bee pollen (airborne pollens)
- Increase magnesium (600mg/day in divided doses)
- MSM (Methyl sulphonyl methane) – 1000mg BD
- Consider removing foods high in *tryptophan* – i.e. bananas, soy, turkey
- Consider removing foods high in *salicylates*
- **Eliminate major Lectin foods**

Hydrotherapy
- Hot fomentations to the chest in acute attacks + Hot foot bath with head kept cool

Cell (tissue) salts
- Kali phos – nervous asthma + Mag phos – anti-spasmodic remedy

Herbs Infusions
- Mullein *Verbascum thapsus* (expectorant, demulcent) 4-8g TDS
- Thyme *Thymus serpyllum* (spasmolytic, broncholytic, antimicrobial) – 0.6-4g TDS
- Coltsfoot *Tussilago farfara* (expectorant, antitussive, anticatarrhal) – 0.6-2g TDS

Homoeopathy Acute remedies include:
- Bromum 3c, 6c (Bromine) – dry cough with hoarseness, croup, spasmodic cough with rattling, worse evening and rest, better for motion
- Nat sulph 6c, 30c (sulphate of sodium) – must hold chest when coughing, asthma in children, worse dampness, better dry, pressure and changing position.

22: **Colitis {Ulcerative}**

Definition
Colitis by definition means "inflammation of the colon" from the Greek "kolon" (large intestine) and "itis" inflammation. A chronic, nonspecific, inflammatory and ulcerative disease of the colon. Any age may be affected, but the disease most frequently begins between ages 15 and 40. The disease usually begins in the rectosigmoid area and may extend proximally, eventually involving the entire colon, or it may attack most of the large bowel at once.

Signs and symptoms
As the lining of the rectum and colon become progressively ulcerated, periodic attacks of abdominal pain, tenderness or cramping in the left lower side (quadrant) of the abdomen occurs. A gradual change in the stool is noticed with recurrent episodes of frequent small watery bowel movements containing mucous, blood and sometimes pus. In severe cases, between five and twenty motions are passed daily. The usual manifestation is a series of attacks of bloody diarrhoea, varying in intensity and duration, interspersed with asymptomatic intervals.

Around two thirds of sufferers experience symptoms intermittently, thirty percent continuously and for five percent, the disease has rapid onset (fulminant).

The area most commonly affected is the sigmoid flexure, which is the "S" shaped lower portion of the descending colon between the iliac crest and the rectum. Malaise, fever, anaemia, anorexia, weight loss, leukocytosis (increased number of leukocytes) and elevated ESR may be present with extensive active colitis. Complications include anaemia, as ulcers bleed and septicaemia, as toxins from ulcers get into blood stream, abscesses (perirectal) and strictures (narrowing of the colon). Haemorrhage (rectally) is the most common local complication.

Diagnosis
Diagnosis is by history and stool examination, sigmoidoscopy (a tubular speculum inserted rectally to examine the sigmoid flexure) and/or barium enema x-rays. Conventional treatment is with steroids with colostomy or surgical removal of the diseased part of the colon as the last resort. The risk of colon cancer is greatly increased in patients with ulcerative colitis, about 5% in cases of long duration.

Possible factors

- Autoimmune component
- Too much fat in diet
- Emotional stress
- Leaky Gut Syndrome
- Lack of fibre in the diet
- Parasites
- Wheat/Gluten intolerance
- Lactose intolerance
- Lectins

Treatment and management

Diet – Foods to be avoided • Irritants

- Bran
- Fruit with peel (cellulose)
- Spiced foods
- Vinegar
- Tap water
- Raw vegetables (cellulose)
- Seeded fruit (e.g. figs, raspberries, tomatoes, strawberries, etc.)
- Coffee
- Nicotine
- Very hot and very cold foods

Food sensitivities/allergies

Main offenders:
- Dairy foods, wheat, corn, tomatoes, citrus, potato, chocolate

Processed foods containing stabilisers and suspending agents.
- Other grains esp. fresh bread
- Fried foods
- Red meats, especially pork (high arachidonic acids)
- Sugar (honey and fruit OK – mono-saccharides)

Foods to introduce
- Slippery elm bark *Ulmus fulva* (pure powder-demulcent) – mix 10grams (2tsps) into a thick paste with water gradually adding more warm water until you have used 200mls. Take this three times daily
- Raw cabbage juice (add 1/8 tsp of cayenne pepper to 6 ozs of juice)

- Alkaline broth (cabbage juice, potato water and chlorophyll or carrot)
- Psyllium husks (non-acute stage)
- Detoxification fasts
- Rice, soya, millet generally well tolerated

Supplements
- Lactobacillus bifidus
- Magnesium, iron, calcium, potassium, zinc
- Curcumins (from Turmeric) 500mg daily

Hydrotherapy
- Enemas (diluted salt water)
- Sitz baths – daily alternating hot and cold
- Footbath (mustard seed – ***rubefacient*) – place 5-10g (1-2 tsp) of ground mustard seed into plastic dish and add hot water, soak feet for 10-15 minutes, dry and go to bed

** A mild irritant

Herbs
- Liquorice root *Glycyrrhiza glabra* (demulcent – allows healing) 1-4g TDS
- Marshmallow root *Althea officinalis* (demulcent) 2-5g TDS
- Cramp bark *Viburnum opulus* (spasmolytic, astringent) – pour 200mls of boiling hot water over 2-4 grams of the herb, allow to steep for 15 mins, strain and drink. Take three times daily.
- Scullcap *Scuttelaria lateriflora* (sedative) – pour 100-150 mls of boiling hot water over 1-2 grams of the herb; allow to steep for 10-15 minutes, strain and drink. Take this morning and night.

Homoeopathy – Acute remedies include:
- Merc cor 6c, 30c (mercury corrosivus) – hot, bloody stools with mucous, cutting pains, painful colon, worse evening
- Phosphorus 6c, 30c–debilitating diarrhoea, discharge of blood from rectum, abdomen feels cold, worse for touch
- Colocynthis 6c, 30c (Bitter cucumber)–agonising cutting pain in abdomen – causes patient to bend double, intestines feel bruised, dysentery after least food or drink, jelly like stools

23: **Constipation**

Definition
Retarded bowel action, difficult or infrequent defecation. Delayed transit of solid wastes through the colon results in irregular, infrequent or difficult bowel movements. The longer the faeces stay in the colon, the more water is absorbed from them and the harder they become. This increases the risk of faecal toxins passing into the blood stream and adversely affecting metabolism of the rest of the body. In addition the other organs of detoxification (liver, lungs, kidneys, skin and lymphatics) have to work harder and eventually this leads to other health problems.

The root cause of constipation is usually dietary and poor bowel habits begin in childhood.

Etiology
- Insufficient fibre in the diet
- Insufficient fluids
- High in acid forming foods – white flour and sugar
- Lack of vitamins B1, B5, B6 and/or minerals potassium, magnesium and zinc
- Too high in animal protein e.g. meat, dairy and eggs
- Too much vitamin D
- Too much aluminium or iron
- Food allergies

Other factors other than diet
- Too little exercise
- Tension, anxiety, worry, depression
- Delaying opening the bowels

- Abuse of laxatives
- Hypothyroidism
- Liver malfunction (reduced bile flow)
- Impairment of nerves supplying colon due to spinal abnormality or injury
- Imbalances if estrogen/progesterone, pregnancy
- Drugs, medication, antibiotics

Treatment & management

Nutritional

- High fibre diet, complex carbohydrates such as wheat bran, whole grains, beans, fruit and vegetables
- Eliminate junk food – white flour, sugar, cheese, etc.
- Reduce animal protein – meat, eggs, dairy
- Juice therapy {8ozs carrot/8ozs apple three times daily} or 8ozs carrot/4ozs celery/4ozs apple (add 1 teaspoon garlic), beetroot juice
- Increase fluid intake – on rising drink a glass of water with juice of half a lemon added or 2 glasses of luke-warm water on rising
- Magnesium (800mg daily in divided doses)
- Natural laxatives e.g. blackstrap molasses (1 dessertspoon dissolved in warm water three times daily), dried fruit (figs and prunes), Linseed tea (dissolve 1 dessertspoon of linseeds in 1 pint water. Simmer for 10 minutes, strain and drink 1 cup 10 mins before food.)
- Slippery elm, psyllium, flaxseed (take 2 teaspoons of psyllium or ground flaxseed daily on cereal or in liquid)
- Remove sulphur foods e.g., eggs, broccoli, and cabbage
- Probiotics – especially Lactobacillus bifidus and L. bulgaricus with FOS
- Increase liver function – include milk thistle (Silybum content)
- Eat foods slowly and in a relaxed environment
- Eat raw vegetables and fruits (especially plums, prunes, figs, grapes, cherries)

Hydrotherapy

- Colonic irrigation
- Warm water or coffee enemas
- Baths (cool sitz baths for 5 mins)
- Cold compress on abdomen and covered with large, dry towel
- Castor oil poultices (soak cloth in castor oil, cover with crepe bandage to keep in place. Cover bowel area and leave overnight).

Exercise

Take a brisk walk early in the morning (major time for colon activity 5-7am according to Chinese clock). Do this for at least 30 minutes.
Exercise: • tones abdominal muscles • stimulates peristalsis action of colon

Reflexology

Large intestine and descending colon areas

Massage

Psychic-peristaltic massage: Massage colon in a 'clockwise' direction, slowly whilst working in tune with patient's breath. When a bowel sound is heard, move to next point.
Aromatherapy: Massage clockwise around abdomen with oils such as fennel (digestion and elimination), marjoram (digestion), rose (balancing), sweet orange (stomachic, anti-spasmodic)

Cell Salts, celloids

Kali sulph: constipation with yellow, slimy tongue
Nat mur: constipation with headache, haemorrhoids
Ferr phos: constipation with inflammation, haemorrhoids, etc.

Herbs

Infusions

** Senna pods *Cassia senna* (milder action than leaflets)
Steep 4 pods in cup of warm water for 6 to 12 hours. Drink up to 1 cup a day in the morning or before bed for no more than a few days.
(Add a pinch of ginger to stop any griping that may occur)
** Contraindicated in Colitis, Crohn's, Ulcers, Haemorrhoids or bowel inflammation

Dandelion root *Taraxacum officinale* – 2-8g TDS
Black root, Leptandra *Veronicastrum virginicum* – 0.5-4g TDS

Homoeopathy
Acute remedies include:
Causticum 6c, 30c – unsuccessful desire with great straining
Bryonia 6c, 30c (Wild hops) – stools dry, hard and difficult to pass
Alumina 6c, 30c – even soft stools difficult to pass
Aesculus 6c, 30c (Horse chestnut) – rectum feels dry and hot

24: **Crohn's Disease** {Regional Enteritis, Ileitis}

Definition
A nonspecific granulomatous* (i.e. containing granulomas) inflammatory disease usually affecting the lower ileum but often involving the colon and occasionally other parts of the GI tract.
*Granuloma: a granular growth usually of lymphoid or epithelial cells

Etiology
Cause is unknown. Most cases begin before age 40, with a peak incidence in the 20's. There is a familial tendency and both sexes are affected equally.

Signs and symptoms
Patchy ulcerations develop on the mucosa, and the combination of longitudinal and transverse ulcers with intervening mucosal oedema frequently creates a characteristic "cobblestone" appearance. Segments of diseased bowel are sharply demarcated from adjacent normal bowel—hence the name "regional enteritis". Between attacks, inflamed tissue heals and scars over, narrowing lumen of ileum and reducing absorption of nutrients. Chronic diarrhoea associated with abdominal pain, fever, anorexia, weight loss and an abdominal mass are the most common presenting features. Four patterns occur most frequently: 1) *inflammation*, characterised by right lower quadrant abdominal pain and tenderness, mimicking appendicitis when acute; 2) *obstruction*, resulting in severe colic, abdominal distension, constipation and vomiting; 3) *diffuse jejunoileitis*, with both inflammation and obstruction resulting in malnutrition and chronic debility; and 4) *abdominal fistulas and abscesses,* usually late developing and often causing fever, painful abdominal masses and generalised wasting. A history of perianal disease, especially fissures and fistulas are found in about 1/3 of patients.

Diagnosis
Definitive diagnosis is by barium enema x-ray. When disease is limited to the colon (10-20% of patients), differentiation from chronic ulcerative colitis may be difficult.

Complications
Obstruction, severe bleeding leading to anaemia, and if the wall of the ileum perforates-peritonitis.

Orthodox treatment
- Anti-bacterials: infected fistulas and abscesses
- Corticosteroids: reduce fever and diarrhoea, relieve abdominal pain and improve appetite
- Surgery is not curative; recurrence rate after surgery is greater than 95%
- Ileostomy (in which affected section of the ileum is removed) is a last resort

Possible factors
- Autoimmune component
- Lack of fibre in diet
- Too much fat in diet
- Emotional stress
- Food intolerance
- Food allergy
- Parasites
- Leaky gut
- Lectins

Naturopathic treatment and management

Nutritional

- Elimination diets to remove food allergy/intolerances – common foods to consider are wheat, corn, dairy, yeast, potatoes, soya, chocolate & eggs
- Eliminate artificial colours, flavourings and preservatives
- Eliminate sugar and refined carbohydrates
- Eliminate alcohol
- Eliminate nicotine
- Eliminate spicy foods
- Eliminate cow's milk and tap water (*Mycobacterium paratuberculosis*)
- Eliminate caffeine drinks, tea, coffee, etc.
- Eliminate orange juice
- Acute stage – juices of cabbage (tissue healing)
- Chlorophyll rich foods – juices of green leafy vegetables, chlorella, blue-green algae, etc.
- Increase zinc and folate (both low in Crohn's disease)
- Supplements of Mg, Ca, Fe, K and B12 in a bio-available way because of decreased food intake and poor absorption from small intestine, e.g. spinach and kale for iron absorption
- Curcumins (from Turmeric) 500mg daily
- Probiotics to re-establish gut flora
- Increase fibre in non-acute stage (prevention)
- Remove foods high in *salicylates*

Other

Demulcents – *psyllium husks*

- Aloe vera juice (I eggcup full three times daily)
- Slippery elm bark (put 1 spoonful of powder in a glass, cover with warm water, stir into a paste, add water and take three times daily before meals. A pinch of cinnamon can be added to taste.

Hydrotherapy

- Sitz baths – daily alternating hot and cold

Herbs

Infusions

- Marshmallow root *Althea officinalis* (demulcent) 2-5g TDS
- Plantain *Plantago major* (Anti-haemorrhagic) 2-4g TDS
- Chamomile *Matricaria recutita* (carminative, anti-inflammatory) 2-8g by infusion TDS

Plant flavonoids such as *quercetin* can help reduce inflammation

Homoeopathy

Acute remedies include:

- Phosphorus 6c, 30c – debilitating diarrhoea, discharge of blood from rectum, abdomen feels cold, worse for touch
- Arg Nit 6c, 30c (Silver nitrate) – great desire for sweets, diarrhoea immediately after eating, belching, colic with much flatulent distension, worse warmth
- Nitric acid 6c, 30c – sticking pains (fistula, fissures, etc.)
- Mercurius 6c, 30c (mercury) – stabbing pain in abdomen with chilliness, sensation of rawness, worse at night, intense thirst.

25: **Depression**

Definition
Mental depression is an affected disorder characterised by altered mood. There is loss of interest in all usually pleasurable outlets such as food, sex, work, friends, hobbies or entertainment. May be **bipolar** (mood and elation are alternately present), **endogenous** (without apparent cause) or **situational** or **exogenous** (usually self-limiting from disappointment, illness or loss of job or loved one).

Signs & Symptoms
Diagnostic criteria include presence of at least four of the following every day for at least two weeks:
- Poor appetite or significant weight loss, or increased weight gain
- Insomnia or hypersomnia (sleeping for long lengths of time)
- Psychomotor agitation or retardation
- Loss of interest or pleasure in usual activities, loss of libido
- Loss of energy or fatigue
- Feelings of worthlessness, self-reproach, or excessive or inappropriate guilt
- Diminished ability to think or concentrate
- Recurrent thoughts of death or suicide

Orthodox treatment
Orthodox treatments of depression suppress the symptoms and don't treat the cause. All orthodox treatments have tremendous and often irreversible side effects.

Possible factors
- Exhaustion – mental or physical
- Hypothyroidism
- Alcohol abuse
- Recreational drug abuse
- Loss of loved one
- Sunlight deprivation
- Poor nutrient status – vitamins B3, B6, lecithin
- Blood sugar imbalances (Hypoglycaemia)
- Hormonal fluctuations (oestrogen/progesterone)
- Postnatal
- Food allergies
- Deficiency of amino acids – tryptophan and phenylalanine
- Medication, drugs, the Pill
- Dehydration
- Dysbiosis – candida overgrowth

Naturopathic treatment & management
- Remove stimulants – caffeine, alcohol, smoking
- Omega 3 EFA – 600mg DHA (Docosahexaenoic acid) daily in divided doses
- Increase tryptophan foods (precursor to serotonin) – chicken, fish, turkey, beans, avocados, cottage cheese, wheat germ, bananas.
- Emotional healing – counselling (e.g. repressed anger)
- Exercise, yoga, Qi gong
- Eliminate refined carbohydrates and sugar
- Vitamin C (500mg BD with food)
- Vitamin B complex plus extra folic acid (400mcg daily)
- Walnut tea (serotonin) – steep a broken half of a walnut in boiling water, drink several over the day
- Porridge (oats) for nervous system restoration
- Aromatherapy – clary sage, lavender, rose, jasmine
- Bach Flowers – mustard, sweet chestnut, star of Bethlehem
- Bowel detox – probiotics
- Eliminate food intolerances or allergies e.g. wheat

Herbs
St John's Wort *Hypericum perforatum* (sedative) 2-4g by infusion TDS

Homoeopathy
Refer to Homoeopathic practitioner

26: **Diabetes Mellitus** {Insulin Dependent Type 1 & Late Onset Type 2 Diabetes}

Definition
A disorder of carbohydrate metabolism, characterised by hyperglycaemia (elevated blood sugar) and glycosuria (sugar in the urine) and resulting from inadequate production or utilization of insulin.

Etiology
The basic cause is unknown but the direct cause is failure of *beta* cells of the pancreas to secrete an adequate amount of insulin (type 1predominantly) or a desensitisation of the body's cells to the insulin –insulin resistance (more commonly type 2). There is a strong genetic tendency.

TYPE 1 (Juvenile – approximately 5-10% of diabetics): Usually onset at a young age (<25) and almost always lean. Insulin levels are absent or significantly low. It is possible to be born with a hereditary lack of *beta* cells or they may be destroyed by virus, autoimmune diseases or drugs.
TYPE 2 (adult onset): Usual onset is adulthood (>40) and 90% are obese. Insulin levels are variable. It is either caused by a mild deficiency in production of insulin from the *beta* cells or due to cells in the body not responding to the insulin that is being produced. The reason is unknown but being overweight appears to desensitise the individual to insulin levels.

Signs & Symptoms
Excessive urination and thirst, fatigue, blurred vision, increase in appetite, weight loss despite eating, poor healing and frequent infections especially fungal.

Orthodox treatment
Insulin, oral hypoglycaemic agents diet – low carbohydrate, regular meals and for type 2, weight loss.

Complications
Heart attacks, kidney failure, hypertension strokes, blindness (diabetic retinopathy) and many neurological problems and neuropathies (peripheral nerve damage); coma

Possible Factors
- Emotional stress or trauma (adrenalin increases blood sugar)
- Obesity (type 2)
- High simple sugar diet
- High fat diet
- Alcohol abuse
- Sedentary lifestyle
- Viral infections
- Food intolerance
- Acid/alkaline tissue imbalance
- Lectins

Naturopathic treatment & management
- Eliminate all cow's milk and cow's milk products
- Avoid all refined foods (white flour and sugar), preservatives and chemicals
- Regular exercise, yoga
- Eliminate alcohol and caffeine, fruit juices (release sugar quickly into bloodstream) – drink green tea
- Eliminate potatoes, figs, dates and grapes (quick sugar release)
- Introduce a high complex carbohydrate and high fibre diet (e.g. dahl, beans, psyllium, rice bran)
- Include complex grains (non wheat) e.g. spelt, quinoa, oats, amaranth, millet, Terence Stamp breads
- Introduce a fish and vegetarian diet (no saturated animal fats)
- Eat 6 small meals throughout the day (snacks of protein between meals)
- Check food intolerances (e.g. corn, wheat, chocolate)
- Most common deficiencies – vitamin B6, B2, folic acid, magnesium, calcium, zinc
- Vitamin B6 levels drop sharply after age 50. (50-100mg daily)
- Biotin works synergistically with insulin and helps in glucose utilization (10-20mg daily)
- Amino-acid deficiencies – cystine, taurine and arginine (raw materials for insulin)
- Increase essential fatty acids (e.g.Udo's oil, flaxseed oil)
- Increase vitamin C with bioflavonoids (deficiency causes degeneration of *beta* cells in the pancreas)
- Zinc is important for normal production of insulin (zinc picolinate 25-30mg daily on empty stomach)
- Coenzyme Q10 stimulates insulin production (60-120mg daily)
- Pancreatic digestive enzymes

- Vitamin E – anti-clotting effect and to help prevent atherosclerosis (400-600iu daily)
- Magnesium and potassium deficiencies create greater glucose intolerance
- Chromium (refined sugars rob body of chromium) – essential for normal insulin function (150-200mcg trivalent chromium daily)
- Aloe vera helps lower blood sugar in non-insulin dependents
- Eliminate smoked foods (they kill off *beta* cells)
- Brewers yeast (B vitamins and chromium)
- Half teaspoon cinnamon in glass of water daily.

Herbs
- *Gymnena sylvestre* (Ayurvedic) decreases blood sugar levels, enhances insulin production and helps regenerate *beta* cells
- Stinging Nettle *Urtica dioica* (hypoglycaemic) 2-4g by infusion TDS
- Burdock Root *Arctium lappa* (hypoglycaemic) 2-6g by infusion TDS
- Goat's Rue *Galega officinalis* (hypoglycaemic) 1-2g by infusion TDS

Homoeopathy
- Constitutional remedy from homoeopath

27: **Diarrhoea**

Definition
Frequent passage of unformed, watery bowel movements. The large intestine does not absorb water from the faeces and transit time is speeded up. Three or more loose motions per day is considered to be diarrhoea.
Chronic diarrhoea can cause potassium deficiency.

Etiology

Acute
- Infections inside gut (Gastroenteritis) e.g. food poisoning or drinking contaminated water
- Infections outside gut e.g. tonsillitis, ear infections, urinary infections
- Antibiotics. and other prescription or OTC drugs
- Unripe or 'greasy' foods
- Too many pulses or prunes, etc.
- Anxiety, fear
- Commercial irritants in foods e.g. preservatives, some artificial sweeteners
- Natural irritants in foods e.g. salycilates
- Antacids (inorganic Mg content)
- Too much vitamin C
- Allergic reactions

Chronic
- Irritable bowel syndrome (IBS)
- Ulcerative colitis
- Crohn's disease
- Worms and other parasites e.g. giardia
- Lactose intolerance
- Other food intolerances e.g. gluten
- Lack of vitamin B3 or folate

Orthodox treatment
- Rehydration with electrolyte solution
- Anti-diarrhoeal agents (suppressants) e.g. Kaolin

Naturopathic treatment and management
- Take no foods for 24 hours
- If painful (e.g. cramps), alternate hot and cold compresses to abdomen (hot flannel or ice wrapped in flannel)
- Fluid replacement: drink plenty of boiled cooled water with a little honey in it
  - Rice or barley water (water in which barley or rice has been cooked)
  - Electrolyte solution (500 mls boiled water, 8 tsp sugar and ½ tsp sea salt)

- Boiled, cooled water with oil of clove or rosemary (carminatives). One drop only of each to a cup of water.

Sustaining drinks

Vegetable drink: Cut 2 to 5 vegetables into small pieces and bring to boil in enough water to make 2 to 3 cups of juice. Simmer for 20 to 30 minutes. This can be taken either warm or cold throughout the day (best vegetables are potato, parsnips, sweet potato, and parsley).

Grain drink: Simmer 60grms of barley, rice or oatmeal in 500mls of water for 30 mins, then strain.

Fruit: Blend organic apples in blender to applesauce. This pulp can be used as the first solid after the 24 hour fast.

Strawberry leaf tea (for children)

Once diarrhoea settles down eat arrowroot, tapioca, semolina or slippery elm food for a day or two before gradually reverting to normal diet.

- Arrowroot: starch obtained from tropical American plant
- Tapioca: granular, floury starch food prepared from roots of cassava plant
- Semolina: the large, hard parts of wheat grains, kept back in the sifting machine after the fine flour has passed.

Other foods that can be introduced include:

Grated apple mixed with live yogurt

Small amounts of cooked, brown (unpolished) rice.

Bananas (Ayurvedic) in a blended drink. This is high in pectin {Pectin absorbs toxins and is also found in peel of citrus, apple, carrot, sugar beet, tomato and potato}

- Lactobacillus acidophilus and L. bifidus should be reintroduced to reconstitute the bowel flora
- A good B complex should be taken for 4 weeks afterwards

Aromatherapy

Roman chamomile (spasmolytic, soothing)
Cyprus (astringent, tonic)
Neroli (sedative) stress induced
Myrrh (healing, soothing)
Geranium (balancing, astringent)

Reflexology

Balance colon

Cell salts, celloids

Some examples include:
Mag phos. (stools watery, griping pains)
Kali mur (diarrhoea after fatty foods, pastry. Pale coloured stools)
Nat mur (chronic diarrhoea of children)
Nat sulph (chronic diarrhoea, worse moving about and eating)
Calc phos (diarrhoea of teething children)
Kali sulph (yellow diarrhoea, yellow tongue and cramps)

Herbs

Infusions:

German chamomile *Matricaria recutita* (carminative, spasmolytic) 2-8g TDS
American cranesbill root Geranium *Maculatum* (astringent) 1-2g TDS
Fennel *Foeniculum vulgare* (carminative) 0.3-0.6g TDS
Catnip *Nepeta cataria* (carminative, spasmolytic) 2-4g TDS
Peppermint *Mentha piperita* (carminative, spasmolytic) 2-4g TDS
Golden seal *Hydrastis canadensis* (anti bacterial, astringent) 0.5-1g TDS

Homoeopathy

Acute remedies (some examples):
Aloes 6c, 30c diarrhoea worse eating and drinking esp beer and worse morning
Podophylum 6c, 30c (May apple) stool watery, profuse, worse early morning
Colocynth 6c, 30c (bitter cucumber) colic, better bending double

28: **Diverticulitis & Diverticulosis**

Definition
Diverticula – (Latin – to turn aside) and *osis* (Greek – condition)**. Diverticula**: small, saccular, mucosal herniations through the muscular wall of the colon may occur in any part of the colon, but most frequently in the sigmoid. They vary in diameter from 3mm to greater than 3cm and are present in 30 to 40% of persons over age 50, the incidence increasing with each subsequent decade of life. The diverticular wall consists of only a thin layer of mucosa and serosa (serous membrane). Diverticula are occasionally responsible for severe bleeding from the rectum, and often become inflamed, causing diverticulitis. The diverticula become filled with thickened faeces and may lead to bacterial invasion and ulceration. Diverticula in the caecum or ascending colon are less numerous but more likely to ulcerate and bleed than those in the descending colon or sigmoid. Most patients with diverticula are asymptomatic.

Signs and symptoms of Diverticulitis
Pain and localised tenderness, most commonly in the left lower quadrant (since diverticula are most numerous in the sigmoid colon). Disturbed bowel function, most commonly constipation which may be interrupted by periods of diarrhoea and rectal bleeding. A mass is often palpable in the left lower quadrant and there may be fever and leucocytosis (an increase in the number of leucocytes)

Diagnosis
Proctoscopic examination is usually negative in patients with diverticulitis, but must be performed to exclude carcinoma of the colon, particularly if rectal bleeding has occurred. A barium enema x-ray will demonstrate diverticula and the presence of perforation, obstruction or fistula.

Complications
With repeated inflammation, the colonic wall thickens, the lumen (space within intestine) narrows, and acute obstruction may occur. Peritonitis can occur from perforation into the free peritoneal cavity, resulting in leakage of purulent or faecal material.

Orthodox treatment
Generally conservative therapy is given – bed rest, IV fluids and nothing given orally.
Antibiotics (oral or IV) for bacterial infection, abscesses, etc. Surgery in severe cases.

Possible Factors
- Low fibre
- Stress (reduced peristalsis)
- Poor abdominal tone (prolapse)
- Constipation
- Dehydration
- Nutritional deficiencies (muscular weakness)
- Low thyroid
- Spinal misalignment (reduced blood and lymph flow)
- Food allergy/intolerance

Naturopathic treatment and management

Acute stage
- Bland foods – no seeds, nuts or grains
- Soluble fibre foods – flaxseed, psyllium, oat bran
- Identify food allergies/intolerances and remove
- Fasting – one to three day fruit/vegetable juice fasts
- Liquid chlorophyll, alfalfa or aloe vera to heal lining
- Beta-carotene, Vit C, bioflavonoids and Vit E to heal wall of intestines
- Garlic or colloidal silver as natural antibiotics
- Garlic clove suppository

Management after acute stage
It is easier to prevent than treat and is a product of the standard Western diet. It is not a product of cultures that eat high fibre diets rich in whole foods. Constipation is a major cause.
- High fibre diet, raw vegetables and fruit
- Remove all refined foods such as white flour, sugar and junk food from diet and eat complex carbohydrates
- Probiotics (antibiotics destroy beneficial bacteria)
- Vitamin B complex (dysbiosis reduces levels of some B vitamins e.g. biotin)

Hydrotherapy

- Sitz baths – alternating hot and cold
- Wet packs applied over affected area (hot & cold)
- Enemas (saline, chlorophyll)

Herbs

Infusions

- Liquorice root *Glycyrrhiza glabra* (demulcent, anti-inflammatory) 1-4g TDS
- Marshmallow root *Althea officinalis* (demulcent) 2-5g TDS

Homoeopathy

Acute remedies include:

- Colocynthis 6c, 30c (Bitter cucumber) – agonising cutting pain in abdomen causes patient to bend double, intestines feel bruised, distension, better doubling up
- Bryonia 6c, 30c (Wild hops) – tenderness of abdominal walls, constipation with dry, hard stools, better lying on painful side, better pressure, and rest and cold applications
- Belladonna 6c, 30c (Deadly nightshade) – abdomen is tender, swollen, transverse colon protrudes, stiches in left side of abdomen, worse touch

29: **Eczema {Dermatitis}**

Definition
Superficial inflammation of the skin, characterised by vesicles (when acute), redness, oedema, oozing, crusting, scaling and usually itching. There are a number of different types of eczema depending on their causes and where they appear on the body. For example ***contact dermatitis*** (skin irritated by chemicals, etc.), ***atopic dermatitis*** (itching with a personal or family history of allergic disorders), ***nummular dermatitis*** (discoid lesions on buttocks and trunk), ***chronic dermatitis*** of hands and feet and ***seborrheic dermatitis*** (scalp and face).

Orthodox treatment
Steroid ointments to relieve inflammation and if necessary antihistamines and antibiotics to control itching and infection.

Possible factors
- Allergies
- Food intolerance
- Nutritional deficiencies
- Hydrochloric acid deficiency
- Leaky gut
- **Bowel toxaemia**
- **Liver congestion**
- Emotional stress
- Lectins

Naturopathic treatment and management
- Whole food diet (remove refined sugar and flour)
- Alkaline diet
- Detoxification of bowel
- Juice fasts – carrot, beet, spinach, cucumber, parsley, red grapes – chlorophyll-rich green juices high in magnesium
- Eliminate allergy foods esp. wheat and cow's milk
- Eliminate citrus and tomatoes
- Increase omega 3 fatty acids (e.g. flaxseed)
- Probiotics
- Heal the gut
- Digestive enzymes
- Increase Vitamins A, B and E, zinc and magnesium
- Remove candida (grape seed extract, Pau D'arco, etc.)

Hydrotherapy
- Warm compresses applied once daily
- Alkaline baths
- Bran or oatmeal baths to reduce itch
- Colonic irrigation/chlorophyll enemas
- Coffee enemas

Herbs

Infusions
- Red clover *Trifolium pratense* (dermatological agent) 4g TDS
- Nettle *Urtica dioica* (dermatological agent) 2-4g TDS
- Equal parts chamomile, cleavers and nettle (one heaped teaspoon combination per cup of boiled water TDS)
- Topically – bathe area with lukewarm or cold chickweed infusion
- For cracked, dry and painful skin – salve of calendula and Hypericum applied topically

Homoeopathy

Acute remedies include:
- Hepar sulph 6c, 30c (calcium sulphide) – skin very sensitive and easily infected, worse cold
- Petroleum 6c, 30c (crude rock oil) – affected skin cracks easily
- Dulcamara 6c, 30c (bitter-sweet) – itching always worse in cold, damp and at night
- Rhus tox 6c, 30c (poison ivy) – itching worse at night and sleep, better warmth

30: **Endometriosis**

Definition
Inflammation of the endometrium (lining of the uterus), fragments of which migrate to various sites throughout the pelvis such as ovaries, fallopian tubes, bladder or the colon and abdominal wall.

Etiology
The cause is unknown and it is commonly seen in women between ages 30 and 40 who defer pregnancy. The condition is stimulated by oestrogen and progesterone levels which, each month, engorges the tissues with blood causing irritation and scarring. Pregnancy inhibits endometriosis.

Signs & Symptoms
Symptoms vary widely, pain may be dull aching, cramping or bearing down pressure. There may be dyspareunia (pain with intercourse). The primary symptom is dysmenorrhea (painful periods). Abnormal bleeding is common and variable.

Orthodox treatment
The orthodox approach is to block the menstrual cycle such as the oral contraceptive pill or drugs which block the pituitary gland. Surgery.

Complications
Infertility, bowel and bladder problems.

Possible Factors
- Candidiasis
- Mineral deficiencies
- Toxic chemical overload (e.g. dioxin)
- Essential fatty acids deficiency
- Tissue acid/alkaline imbalance
- Lectins

Naturopathic treatment & management
- Phyto-oestrogens have a weak oestrogen effect and can help block natural oestrogens – e.g. soya foods, beans, lentils and chickpeas
- Eliminate alcohol and animal fats which can raise oestrogen levels
- Magnesium (400-600mg daily) and Zinc (25-30mg daily) – both low in this condition
- Anti-candida diet, anti-fungals and probiotics
- Increase essential fatty acids (e.g. fish, walnuts, pumpkin seeds, sunflower seeds, linseeds)
- Include soya-isoflavones (50-100mg per day)
- L-methionine (500mg daily) helps detoxify oestrogen in the liver
- Eliminate arachidonic acids (meat, eggs and dairy)
- Include bromelain (pineapple enzyme) for anti-inflammatory action and promote absorption. (200-400mg twice daily on empty stomach before meals)
- Increase foods high in carotenes to promote healing (carrots, apricots, squash, sweet potatoes)
- Vitamin C with bioflavonoids (1g daily with food in divided doses)
- Folic acid and vitamin B6 are often low in this condition – include daily high strength B complex

Herbs
- Chasteberry *Vitex agnus castus* (hormonal balancer) – tincture of 5mls daily
- Wild Yam *Dioscorea villosa* (Anti-inflammatory, mild progesterone action) – tincture of 2mls TDS
- Black Cohosh *Cimicifuga racemosa* (emmenagogue – acts on uterus) – tincture of 2mls TDS

Homoeopathy
- Sepia 30c (ink of cuttlefish) – bearing-down sensation, sadness, indifferent to loved ones, better for exercise and pressure

31: **Gall Stones {Cholelithiasis}**

Definition
Roudish shaped stones found in the gallbladder. Generally the core of the stone contains a mixture of cholesterol, bilirubin and protein. The stones are mixed with various other substances such as uric acid, lecithin and calcium.

Etiology
Several kinds of metabolic defects may lead to gallstone formation. More common if fair, fat, female and forty. (Ratio of women to men is 4:1) 20% of people with gallstones have no symptoms and 20% of adults over 65 have gallstones which create problems.

Signs & Symptoms
Signs and symptoms depend on the size, number and location of stones. The stones may remain dormant and give little distress unless inflammation and distension of the gallbladder takes place or if it enters or is unable to pass through the biliary duct. Pain often radiating to back and right shoulder. There may be right-sided stomach pain. Pain is most common several hours after eating or when the stomach is empty. Flatulence bloating, belching and dyspepsia are common symptoms.

Complications
Acute and chronic cholecystitis, internal biliary fissure and pancreatitis

Orthodox treatment
- Analgesics
- Cholecystectomy (over ½ million surgeries a year are performed in USA alone)
- Oral bile acids

Possible factors
- Food allergies esp. milk, eggs
- Low stomach acid
- Low fibre diet
- Food intolerance
- Parasites –*Ascaris lumbricoides* (round worm) and *Clonorchi sinensis* (liver fluke)
- Stress
- Constipation

Naturopathic treatment & management
- Reduce saturated fats in diet – red meats & fried food (below 20% of total foods)
- Look for food intolerances. Worst offenders (in order) eggs, pork, onion, fowl, milk, corn and nuts
- Eat less (no large meals)
- Eat regularly (reduce burden on gallbladder)
- Increase dietary fibre and reduce refined carbohydrates
- Fast during acute stages
- Juice therapy – carrot, beet, cucumber (add fresh dandelion roots)
- No more than one avocado per week
- Increase water intake
- Add globe artichoke, celeriac, beetroot, kale to diet
- Add black cherries and pears to diet
- Vitamin C (ascorbic acid) 1000mg daily in divided doses
- Vitamin E –200-400iu daily
- Gallbladder flush (if not acute) 1/3 cup fresh lemon juice/½ cup olive oil (soften stones first with a 3 day fast of grapefruit and grapefruit juice followed by 7 days of fruits, salads and steamed vegetables)

Hydrotherapy
- Hot pack to abdomen (10-15 minutes, several times daily). Follow with short period of cold pack.
- Castor oil pack over gallbladder area

Herbs
- Dandelion root *Taraxacum officinale* (cholagogue, laxative) 2-8g by infusion TDS
- Fringe tree bark *Chionanthus virginicus* (cholagogue, laxative) 2-4g by infusion TDS
- Milk thistle – take 500mg of standardised extract TDS

Homoeopathy
- Chelidonium 6c (Greater celandine) constant pain under right scapula, constipation, better for pressure
- Calcium fluoride 6x and silica 6x (tissue salts) take 4 of each per day to help dissolve and expel stones

32: **Gastritis**

Definition
Acute or chronic degeneration and/or inflammation of the stomach's gastric mucosa which occurs in a wide variety of circumstances. Repeated bouts of gastritis can lead to gastric erosion.

Etiology
Alcohol, corticosteroids, nicotine, aspirin and other anti-inflammatory agents, e.g. *ibuprofen,* food or drug allergens or toxins (such as staphylococcus toxin) can generate gastritis. It may also accompany infectious diseases such as influenza or other viral agents in gastroenteritis. Gastritis may be due to an excess or a deficiency of hydrochloric acid.

Signs and symptoms
Most often there are no symptoms or vague symptoms of indigestion, but it is generally characterised by epigastric pain or tenderness, anorexia, nausea and vomiting. Gastric erosion causes bleeding, which can go on for some time without the person being aware of it, first signs may be dark or black streaks in stools, or vomiting, with "coffee grounds" (partly digested blood in vomit).

Diagnosis
Pathologic findings include patchy or diffuse oedema, erosions (shallow ulcers not penetrating through the mucosa) or acute ulcers involving the full depth of the mucosa, and mucosal and sub-mucosal haemorrhages. Endoscopy needs to be performed early, since gastric mucosa heals rapidly and evidence of gastritis may be undetectable after several days. Biopsy confirms the diagnosis. X-ray studies are not helpful, since the lesion involves only the mucosa.

Orthodox treatment
- Antacids are used to relieve pain and may also prevent haemorrhage.
- Severe bleeding requires surgery.

Possible factors
- *Helicobacter pylori* bacteria
- Autoimmune reaction – destroying lining of digestive tract (Leaky gut?)
- Stress
- Long term use of "detergents" on mucosa
- Low grade virus (Gastroenteritis)
- Lectins

Naturopathic treatment and management
- Fasting – to allow stomach to heal, fast for 24 hours, taking nothing but boiled, cooled water. Then, next 24 hours take only arrowroot, tapioca or semolina and water. On 3rd and 4th days eat lightly and often bland foods such as brown rice, mashed apples and pears.
- Avoid citrus and tomatoes
- Avoid hot spicy foods
- Avoid alcohol, nicotine, analgesics, aspirin, tea and coffee, coca-cola, etc.
- Increase vitamins A, E and C, zinc and beta-carotene to help the lining of stomach repair and regenerate
- B12 (possible pernicious anaemia with gut lining destroyed – absorption occurs in terminal ileum and requires presence of *intrinsic factor*, a specific secretion of the gastric parietal cells in the stomach to transport the vitamin across the intestinal mucosa)
- Take chlorophyll rich foods – alfalfa, wheat grass juice, and chlorella
- Aloe vera juice (1 eggcup full three times daily)
- Raw cabbage juice (demulcent, wound healing)
- Alkaline broth (cabbage juice, carrot juice and potato water)
- Shitake mushrooms (anti-viral and immune boosting)
- Bismuth – antacid and antibiotic against *H.pylori* (Bismuth subcitrate 240mg twice daily before meals)
- *Mastica* (Mastic gum) to help remove *H.pylori*
- L-Glutamine (500mg TDS) to help heal gut
- Lectins

Herbs

Infusions
- Marshmallow root *Althea officinalis* (demulcent) 2-5g TDS
- Liquorice root *Glycyrrhiza glabra* (demulcent, anti-inflammatory) 1-4gTDS
- DGL (deglycerinated liquorice) – Liquorice root extract i.e. *glycrrhetenic acid* is removed, contains several

flavonoids and not contra-indicated in hypertension (liquorice should be given 20-30 minutes before eating).
- Marigold *Calendula officinalis* (anti-inflammatory, antiseptic, anti-haemorrhagic) 1-4g TDS
- Centaury *Centaurium erythraea* (stomachic, bitter) 2-4g TDS
- Meadowsweet *Filipendula ulmaria* (stomachic, antacid) 4-6g TDS

Homoeopathy

Acute remedies include:
- Arsenicum album 6c, 30c (Arsenic)–burning pain in stomach, cannot bear sight or smell of food, heartburn, vomiting of blood and bile, restless, better for heat
- Ferrum metallicum 6c, 30c (Iron) – distension and pressure in stomach after eating, heat and burning in stomach after eating, flatulent dyspepsia, vomiting immediately after eating, midnight aggravation

33: **High Blood Pressure {Hypertension}**

Definition

A condition in which tension or blood pressure is higher than normal. Prevalence increases with age and about 25% of hypertensives are unaware of their condition. Hypertension is generally considered to be equal to or greater than 160/95 mm Hg. **Primary (or essential):** not caused by any orthodox disease. **Secondary:** (approximately 6% of people with hypertension). Caused by an underlying condition such as polycystic renal disease, Cushing's syndrome, glomerulonephitis, hyperthyroidism, kidney tumour or oral contraceptives. The primary factor in hypertension is an increase in peripheral resistance resulting from vasoconstriction or narrowing of peripheral blood vessels.

Signs and symptoms
- Headaches
- Dizziness
- Tinnitus
- Epistaxis
- Fatigue
- Flushed face
- Insomnia
- Bloodshot eye
- No symptoms at all

Orthodox treatment
- Diuretics
- Beta-blockers (slows the heart rate or prevent arterial contraction)
- Calcium channel blockers (stops arterial muscle contracting)
- Anti-angiotensins (block controlling hormones from the kidneys)

Possible factors (Primary)
- Stress
- Smoking
- High cholesterol
- Overweight
- Lack of exercise
- Toxins such as cadmium and lead
- Sodium chloride, alcohol and caffeine
- Family history
- High fat diet
- High sugar diet
- High homocysteine levels
- Lectins

Naturopathic treatment and management
- Consider what area/s may be weak:
  a) Thickness of blood (EPA, garlic, stress, blood type)
  b) Heart Rate (stress/anxiety)
  c) Flexibility of arteries (ageing, nitric oxide promoting foods, magnesium)
  d) Blood volume (sodium/potassium ratio)

e) Strength of heart (exercise, weight)
- L-Theanine (Green tea extract – 100mg TDS)
- Eliminate sodium chloride – (use powdered kelp)
- Lifestyle changes – no smoking, reduce stress
- Exercise – blood vessels are able to relax if blood flow increases (Flow Mediated Dilation)
- Reduce or eliminate caffeine and alcohol
- Garlic (900mg daily) and other members of the onion family
- Magnesium citrate (600-800mg daily)
- High potassium vegetables and fruit – celery, asparagus, broccoli, squash, bananas, dried apricots and figs, nectarines (2 bananas, 4 celery sticks daily)
- Address liver congestion and constipation
- Bioflavonoids especially *rutin*
- Co-enzyme Q10 (90-120mg daily)
- Detoxification – juice fasts with cayenne pepper (lemon juice and cayenne)
- Essential fatty acids – Udo's choice, deep-sea fish
- Omega 3 EFA – 600mg EPA (Ecosapentaenoic acid) daily in divided doses
- Detoxify heavy metals e.g. lead
- Increase vitamins B2, B6, B12 and folic acid plus zinc (low homocysteine levels)
- Beetroots (increased nitric oxide production) beetroot/celery/carrot juice
- Pinebark e.g. pycnogenol (nitric oxide)
- Pomegranate juice (50mls daily)—nitric oxide
- Low glycaemic diet (insulin raises blood pressure)

Herbs
- Lime flowers *Tilia platyohyllos* (spasmolytic, diaphoretic, diuretic) 2-4g by infusion TDS
- Hawthorn berries *Crataegus oxyacanthoides* (coronary vasodilator, hypotensive) 0.3-1g by infusion TDS
- Yarrow *Achillea millefolium* (hypotensive, diuretic) 2-4g by infusion TDS
- Passion flower *Passiflora incarnata* (sedative, antispasmodic) 0.25-1g by infusion TDS

Homoeopathy
- Aurum metallicum 30c (Gold) feels despondent. Worse for cold, worse at night.
- Lycopus virginicus 30c (Bugle weed) associated with diabetes, palpitations

34: **Irritable Bowel Syndrome {IBS}**

Definition
Also called 'spastic colon' and 'mucous colitis', it is a functional disorder (i.e. no evidence of structural damage and other pathologies are excluded). Muscular contraction in the colon or ileum is uncoordinated and spasmodic. It affects about 15% of the population and twice as many women are affected as men.

Etiology
No anatomic cause can be found. Emotional factors, diet, drugs or hormones may precipitate or aggravate a heightened sensitivity to GI motility. Psychologically many patients are obsessive-compulsive personalities. Feelings of anxiety, resentment, and guilt are most conducive to the onset of symptoms. Periods of stress and emotional conflict that result in depression, as well as cancer phobias frequently coincide with the onset and recurrences of the syndrome.

Signs and symptoms
Symptoms include abdominal distress, erratic frequency of bowel action, and variation in stool consistency. There are commonly nonspecific symptoms such as bloating, gas, nausea, headache, lassitude and borborygmus (noisy bowel sounds). Two major clinical types are recognised: 1) Spastic colon type – usually alternating constipation and diarrhoea and lower abdominal colicky pain over the sigmoid colon which is relieved by a bowel movement. 2) Painless diarrhoea type – urgent, precipitous diarrhoea that occurs immediately upon rising or immediately after a meal.

Orthodox treatment
Psychological assistance –reassurance that no organic disease is present
Bland bulk-producing agents

Anticholinergic agents (sedatives, tranquilisers, etc.)
Antidepressants

Possible factors

- Stress
- Lactose intolerance
- Overfermentation
- Intolerance to certain foods e.g. wheat, corn, citrus, chocolate, etc.
- Lack of dietary fibre
- Spinal maladjustment (trapped spinal nerve)
- Parasites
- Candidiasis
- Excessive use of laxatives
- Leaky gut
- Low stomach acid
- Prescription drugs
- Smoking (nicotine affects motility of colon)
- Lectins

Naturopathic treatment and management

- Increase dietary fibre (other than grains recommended) e.g. veg, fruit, psyllium, oatbran
- Be aware of flatulence causing foods – e.g. cabbage, brussels sprouts, broccoli, beans, cauliflower, onions, etc. Avoid any foods which ferment easily, especially fruits such as apples, pears and melons. Tropical fruits and berries should be the only fruits eaten.
- Avoid food sensitivities e.g. wheat, corn, citrus, yeasts, tomatoes, chocolate, etc.
- Drink between 6 and 8 glasses of fluid per day to ensure adequate hydration
- Food combining (takes stress off GIT)
- Eat smaller meals more frequently (little and often) to ease burden on digestion
- Eliminate dairy foods for 14days to test for lactose intolerance
- Eliminate alcohol
- Eliminate caffeine
- Eliminate grape fruit juice
- Eliminate pepper, spices, etc.
- Eliminate artificial sweeteners such as *sorbitol*
- Introduce essential fatty acids into diet (often low in IBS sufferers)
- Probiotics
- Digestive enzymes before each meal – e.g. bromelain, papain
- De-parasite program
- Zinc, Vit C, beta-carotene (integrity of tissues)
- Calcium (500mg TDS) and magnesium (200mg TDS) – to calm spasm of colon

Hydrotherapy

- Sitz baths – warm with chamomile
- Hot and cold compresses to abdomen
- Colonic Irrigation

Herbs

Infusions

- Fennel *Foeniculum vulgare* (carminative, anti-inflammatory) 0.3-0.6g TDS
- Ginger *Zingiber officinale* (carminative, spasmolytic) 0.25-1g TDS
  Or equal parts chamomile, ginger and peppermint (1 heaped teaspoon combination per cup of boiled water TDS) Enteric coated peppermint oil for flatulence and bloating

Homoeopathy

Acute remedies include:

- Merc sol 6c, 30c (soluble mercury) – stabbing pain with chilliness, flatulent distension with pain, worse at night, intense thirst for cold drinks
- Carbo veg 6c, 30c (vegetable charcoal) – flatulent colic, abdomen greatly extended, nausea, digestion slow, food putrefies, simplest food distresses
- Arg nit 6c, 30c (silver nitrate) – great flatulence, constipation alternating with diarrhoea, pain in upper left abdomen, mucous in stools, fluttery, tense feeling in stomach
- Nux vomica 6c, 30c (poison nut) – constipation, bruised soreness of abdominal walls, irritable, sensitive, nausea in morning

35: **Kidney Stones {Renal Calculi}**

Definition
Abnormal concretions in the kidney (can occur in ureter, bladder or urethra). They are usually formed of crystalline urinary salts held together by viscid organic matter. Commonly they are formed of urates, oxalates, phosphates and carbonates which vary in size from microscopic crystalline foci to small granular masses and up to an inch (2.5cm) and larger in diameter. The composition may vary with geographic location and age group.

Etiology
Abnormal functioning of the parathyroid glands; disordered uric acid metabolism as in gout. However the cause of most kidney stones is unknown but certain factors influence formation such as dehydration, pH changes and urinary stasis.

Signs & Symptoms
Many calculi present no symptoms. Back pain or renal colic may occur when the calculi form an obstruction either within the kidney or a ureter. Typically symptoms of renal colic include excruciating intermittent pain. The urine may be normal despite multiple calculi however macroscopic and microscopic haematuria are common.

Differential diagnosis
Pancreatitis, peptic ulcer, cholecystitis, appendicitis.

Diagnosis
Urinalysis and x-ray findings.

Orthodox treatment
- Symptoms relieved by narcotics
- Prolonged alkalisation of the urine for some stones
- Surgery

Naturopathic treatment & management
- Distilled water intake (at least 8 glasses per day)
- Eliminate caffeine and fizzy drinks (high phosphates) which increase calcium loss
- Eliminate or reduce foods high in oxalates – rhubarb, chocolate, spinach, oranges, tea, grapefruit, strawberries, beetroot, peanuts
- Eliminate cow's milk, cheese and ice-cream
- Eliminate refined carbohydrates (white flour and sugar) which encourages calcium excretion through insulin release
- Alkaline diet – remove high protein foods – especially red meats (uric acid)
- Remove alcohol
- Alka herb tea or alfalfa
- Supplement with magnesium citrate (300-600mg daily) and boron (2mg daily) – keeps calcium in bones
- Reduce sodium chloride
- Asparagus contains *asparagines* which helps to break up oxalic crystals
- L-Lysine (500mg per day) – necessary for proper absorption of calcium
- 1 teaspoon lemon juice every ½ hour for 2 days to soften stones
- Vitamin B6 (helps reduce oxalic acid)
- Watermelon and/or urine fast

Hydrotherapy
- Apply hot pack to lower back (10-15 minutes)
- Castor oil packs to front, sides and back

Herbs

Infusions
- Nettle *Urtica dioica* (anti-haemorrhagic) 2-4g TDS
- Parsley Piert Aphanes *arvensis* (diuretic, demulcent) 2-4g TDS
- Uva ursi *Arctostaphylos uva-ursi* (diuretic, urinary antiseptic) 1.5-4g TDS
- Parsley decoction (simmer one bunch parsley in 2 litres filtered water for 10 minutes, strain and refrigerate). Drink one glass daily.

Homoeopathy
- Nux vomica 6c (poison nut) backache in lumbar region, irritable, worse morning, renal colic
- Calcium fluoride 6x and silica 6x (tissue salts) – four of each daily (helps break down stones)
- In acute stage – Aconite 6c and Hypericum 6c alternated every 10 minutes until stone has passed

36: **Multiple Sclerosis {MS}**

Definition
A slowly progressive CNS disease characterised by disseminated patches of demyelination (stripping of the myelin sheath that surrounds the neurone) in the brain and spinal cord, resulting in multiple and varied neurological symptoms and signs, usually with remissions and exacerbations. An increased family incidence suggests that genetic factors may influence susceptibility. Women are affected more than men (60% to 40%) and the disease is more common in temperate climates than in the tropics. In most cases, patients present between ages 20 and 40 with one or more symptoms.

Etiology
The cause is unknown but a latent or slow acting virus has been postulated.

Signs & Symptoms
Symptoms vary in accordance with the affected nerve: muscular weakness, paralysis, abnormal sensations, double or blurred vision, lack of coordination, slight stiffness or unusual fatigability of a limb, difficulties with bladder control, nystagmus (involuntary, cyclical movement of the eyeball), loss of balance, vertigo, emotional disturbances.

Orthodox treatment
- There is no specific therapy. Spontaneous remissions make treatment difficult to evaluate. The patient should avoid overwork & fatigue.

Complications
The course is highly varied and unpredictable. Some patients have frequent attacks and are rapidly incapacitated.

Possible Factors
- Environmental toxins (aggregation of blood cells) – tap water, carbon monoxide, diesel fumes, domestic gas, solvents, aerosol sprays
- Nutritional deficiencies
- Candidiasis
- Malabsorption (B1, B2, B12, Folic acid, Mg, Zn, Mn and Selenium)
- Heavy metal toxicity (mercury)
- Stress & trauma
- Viruses (herpes type e.g. Epstein-Barr, measles)
- Celiac (gluten sensitive)
- Gut permeability/lectins

Naturopathic treatment & management
- Eliminate cow's milk and cow's milk products (goat and sheep foods allowed)
- Eliminate caffeine and tannin (tea, coffee, chocolate)
- Eliminate yeasts and ferments (ketchup, vinegars, beers and wine)
- Eliminate simple sugars and refined carbohydrates
- Eliminate gluten
- Eliminate arachidonic acids (meat, eggs, dairy)
- Eliminate any food allergies or intolerances (citrus, potatoes, tomatoes)
- Reduce saturated fats (not more than 15g i.e. 3 teaspoons per day)
- Include digestive enzymes (bromelain, papain)
- Include flaxseed oil – Omega 3 (60%), Omega 6 (15%)
- Include Omega 3 (gamma linoleic acid) – cold water fish – herring, cod, salmon, mackerel, evening primrose oil and borage (star-flower oil)
- Include Omega 6 (gamma linoleic acid) – cold-pressed oils of sunflower, safflower, pumpkin, sesame, nuts, evening primrose oil and borage (star-flower oil)
- Include organic lecithin granules (important for structure of myelin sheath)
- Chelation therapies for toxic heavy metals (e.g. Chlorella)
- Consider removal of mercury amalgam fillings
- Anti-candida regime (diet, anti-fungals and probiotics)
- Juice fasts (mobilise toxins out of tissues)
- Include a more vegetarian diet of raw (live) foods and leafy green vegetables
- Vitamin B1 (100mg daily) and B12 (250mcg daily) needed for formation of myelin and often low in MS cases
- Vitamin C with bioflavonoids (1g daily in divided doses with food) as antioxidant and support for chelation
- Vitamin E (400-800iu) and Selenium (200mcg) daily to prevent lipid peroxidation
- Magnesium, Zinc, B6, B3, Folic acid and copper enhance fatty – acid pathways
- Magnetised water – reduces surface tension encouraging better hydration
- Consider emotional factors esp. anger and repressed anger

Aromatherapy

- Olive oil (95%) and Juniper/rosemary (5%)

Herbs

- Oats *Avena sativa* – rebuilds nervous system-cereal flakes/bread

Homoeopathy

- Plumbum metallicum 6c, 30c (Lead)-progressive muscular atrophy. Paralysis of single muscles. Localised neuralgic pains, neuritis. Worse night and motion.
- Lathyrus 3c (Chick-pea) – paralysis of lower extremities, spastic paralysis
- Aurum metallicum 6c, 30c (Gold) – double vision, upper half of objects are visible, dropsy of lower limbs. Worse in cold weather.

37: **Osteoarthritis**

Definition
The most common form of arthritis, characterised by degenerative loss of articular (place of union between two bones) cartilage.

Etiology
Primary osteoarthritis (OA) develops when cartilage repair does not keep pace with degeneration i.e. wear and tear over age. Secondary OA may occur through chronic trauma or underlying joint disease. About 1/3 of adults in the USA have x-ray evidence of OA in the hand, foot, knee or hip and by age 65 as much as 75% of the population has x-ray evidence of the disease in at least one of these sites.

Signs and symptoms
With age, injury or overuse, cartilage covering articulated surfaces of bones breaks down; underlying bone becomes thickened and distorted, restricting joint movement. Joints most commonly affected are the load – bearing ones – hips, knees and spine. Mild early morning stiffness, pain that worsens on joint use, loss of joint function, local tenderness, soft tissue swelling, creaking and cracking of joints on movement and restricted mobility.

Orthodox treatment
Conventional treatments include painkillers, anti-inflammatory drugs, steroid injections into joints, physiotherapy to prevent muscles wasting and replacement of worn joints, especially hips with artificial ones.

Naturopathic treatment and management
- Alkaline diet
- Anti-inflammatory diet – eliminate sugar, white flour, tea and coffee, malt and white vinegars, chocolate, soft drinks, wheat and all processed food
- Eliminate *Solanacea* family (nightshades) – potatoes, tomatoes, eggplant, peppers
- Eliminate 'purines' – organ meats, red meats, alcohol, shellfish, sardines, etc.
- Increase essential fatty acids (flaxseed, cold water fish) – anti-inflammatory action
- Increase fluids (joint cartilage needs more water) and promote excretion of uric acid
- Reduce weight to take load off weight bearing joints
- Increase phyto-estrogens – soya, fennel, celery, apples, nuts, whole grains, parsley
- Increase antioxidants to stabilise membranes – Vit C, Vit E, beta-carotene, selenium and zinc
- MSM (Methyl sulphonyl methane)and B3 to help joint flexibility
- B5, B6, boron and copper required for formation of normal cartilage
- Glucosamine sulfate (500mgTDS) – helps repair cartilage (blocks wheat lectin)
- Calcium (600 mg/day) and magnesium (400mg/day) in divided doses to buffer
- Eliminate *arachidonic acids* – meat, eggs, dairy
- Supplements – NZ green lipped mussels, sea cucumber, shark cartilage, parsley
- Black-strap molasses & cider vinegar
- Dark red, blue and purple fruits (plums, blackberries, cherries, etc.) – help mobilise uric acid out of joints, favourably affect collagen metabolism and prevent and reduce inflammation of joints

Hydrotherapy
- Clay and cabbage poultice (alternate to joint)
- Distilled water (to remove inorganic matter) Drink 4 x 8ozs daily

Herbs

Infusions
- Celery seed *Apium graveolens* (anti-rheumatic, diuretic) 0.5-2g TDS
- Black cohosh *Cimicifuga racemosa* (anti-rheumatic) 0.3-2g TDS
- Topically – *Gaultheria* (oil of wintergreen)

Homoeopathy

Acute remedies include:
- Calc phos 6c, 30c (phosphate of lime) – affected joints feel cold and numb, pain and stiffness increase when weather changes, weakness on climbing stairs
- Ruta graveolens 6c, 30c (Rue) – spine and limbs feel bruised, tendons sore, worse lying down and from cold, wet weather
- Apis 6c, 30c (Honey bee) – swelling, rheumatic pains in back and limbs, worse heat and better for cold bath

38: **Prostatitis & Enlargement**

Definition
Prostatitis: Inflammation of the prostate gland. May be acute or chronic (bacterial or nonbacterial).
Prostatic enlargement: Hypertrophy of the prostate gland (Benign Prostate Hypertrophy BPH)

Etiology
Prostatitis: Non-bacterial prostatitis is unknown. Bacterial prostatitis is caused by a number of organisms such as bacteria or chlamydia (an intracellular parasite). It is more common in men aged 20-50.
Prostatic hypertrophy: Continual use of this muscle over the years as a consequence of ageing but may also involve alterations in hormonal balance associated with ageing (excess of DHT – dihydrotestosterone – a more active form of testosterone – causing cells in prostate to multiply).

Signs & Symptoms
Prostatitis: frequency, urgency, nocturia, dysuria, lower back pain, pain in perineum, discharge or hematospermia
Prostatic hypertrophy: difficulty in passing urine, diminished flow and force, feeling of incomplete emptying, frequency, urgency, nocturia

Orthodox treatment
Prostatitis: antibiotics
Prostatic hypertrophy: catheter drainage and/or surgery

Possible factors
- Candida overgrowth
- Zinc or selenium deficiencies
- Vitamin C deficiency
- Spine and pelvis misaligned (nerves to prostate trapped)
- Pesticide/herbicide residues

Naturopathic treatment & management
- Increase zinc – zinc picolinate 50mg daily for 6 days of the week for 6 months (take on empty stomach) – on other day take chelated copper (approximately 1mg of copper for every 15mg zinc)
- Increase essential fatty acids
- Increase selenium (200mcg daily)
- Organic foods (certain pesticides can raise levels of DHT)
- Soya proteins (isoflavones – lentils, chickpeas, beans) and lycopenes (cooked tomatoes in olive oil)
- Carotene source of lycopene (20-40mg daily)
- Eliminate diuretics – alcohol (esp. beer-cadmium), caffeine and refined sugar
- Eliminate spicy foods, fried foods, saturated fats (esp. red meat)
- Eliminate dairy foods
- Bee Pollen
- Saw palmetto (320mg standardised extract daily) – reduces swelling, stimulates Immune function and prevents conversion to the DHT form
- Pygeum *Pygeum africanus* (50-100mg daily)
- Probiotics
- Vitamin C (high levels found in seminal fluid) 1g twice daily
- Vitamin E (400iu daily)
- Garlic clove suppository
- Siberian ginseng *Eleuthrococcus senticosus* (100mg standardised extract daily)

Hydrotherapy
- Sitz bath in hot water using a showerhead or bath tap to apply 30 second bursts of cold water to the perineum. Do 5-10 times and continually heat bath water

Herbs
- Stinging Nettle *Urtica dioica* (anti-haemorrhagic – useful in both prostatitis and hypertrophy) 2-4g TDS by infusion
- Red Clover *Trifolium pratense* (high isoflavones)-4g TDS by infusion

Homoeopathy
- Sabal serrulata 6c, 30c (Saw palmetto) Irritability of male genito-urinary organs

39: **Psoriasis**

Definition
A chronic and recurrent disease characterised by dry, well-circumscribed, silvery, scaling papules and plaques of various sizes.

Etiology
The cause is unknown but the physiological mechanism is that the new skin is being produced ten times faster than the old skin is being shed. This creates an accumulation of new skin which forms thickened patches with the characteristic psoriatic scales. About 2-4% of the white population and far fewer blacks are affected. Males and females are affected equally. A family history is common (approx.50%) and it usually occurs between fifteen and thirty years of age, although it can manifest at any time. Patients with psoriasis have a higher incidence of rheumatoid diseases than others.

Signs and symptoms
Onset is usually gradual and often preceded by a throat infection or tonsillitis. The typical course is one of chronic remissions and recurrences. Flaking skin develops on knees, elbows, back, buttocks or scalp, especially behind the ears. The axillas, umbilicus or eyebrows may also be affected and occasionally the disease is generalised. The patches are well defined, slightly raised, deep pink beneath their silvery scaling, and not necessarily sore or itchy. Nails may be affected, becoming thick, rough or pitted, or separated completely from the nail bed. In a few sufferers, joints of hands, fingers, knees and ankles may become inflamed and swollen.

Factors precipitating psoriatic eruptions
- Local trauma
- Severe sunburn
- Topical medications
- Withdrawal of systemic corticosteroids
- Upper respiratory infections (especially children) esp. *Streptococcus* bacteria
- Drugs such as *chloroquine* (Anti-malaria), *lithium*, beta-blockers and *penicillin*
- Emotional stress and anxiety e.g. death of family member
- Skin irritants such as poison ivy
- Surgery

Orthodox treatment
Orthodox treatments include steroid and coal tar ointments, cytotoxic drugs to slow down cell division and ultraviolet therapy.

Possible factors
- Food allergies
- Nutrient deficiencies
- Essential fatty acid deficiencies
- Low digestive enzymes esp. HCL – incomplete protein digestion
- B complex deficiencies
- Bowel toxaemia (Candida, etc.)
- Impaired liver function
- Lectins
- Too many animal fats in diet
- Alcohol consumption
- Leaky gut

Naturopathic treatment and management
- Predominantly vegetarian diet
- Eliminate allergies and intolerances e.g. wheat (rotational diet)
- Remove arachidonic acids (meat, eggs, dairy)
- Eliminate saturated fats, refined foods and hot, spicy foods (mustard, pepper, curry)
- Increase Omega 3's from flaxseed or cold water fish (salmon, mackerel, etc.)
- Reduce stress – increase exercise
- Eliminate alcohol
- Eliminate nuts (except almonds)
- Juice fasts to decongest liver and clean blood (beet, carrot, celery, cucumber)
- Eliminate citrus
- Eliminate de-caffeinated coffee (solvent – *Trichlorethylene*)
- Vit A, Vit E, zinc, selenium (skin conditions)
- Change bowel ecology through using prebiotics and probiotics

- Digestive enzymes – bromelain, papain, apple cider vinegar
- Multi B complex

Hydrotherapy
- Sea salt baths – neutral body temperature bath with one pound of sea salt dissolved. Soak for 45 minutes and pat dry
- Colonic irrigation/chlorophyll enemas

Herbs

Infusions
- Cleavers *Galium aparine* (diuretic, astringent) 2-4g TDS
- Red clover *Trifolium pratense* (dermatological agent) 4g TDS
- Yellow dock *Rumex crispus* (cholagogue, dermatological agent) 2-4g TDS
- Topically: chickweed ointment or fresh plant cleavers

Homoeopathy

Acute remedies include:
- Cuprum met 6c, 30c (copper) – chronic psoriasis, complaints begin left side, worse contact, better perspiration, strong metallic slimy taste
- Sulphur 6c, 30c –dry, red, scaly, itchy patches worse after baths, worse when hot
- Graphites 6c, 30c (black lead) – skin behind ears affected, exuding honey – coloured pus

40: **Rheumatoid Arthritis**

Definition
An autoimmune disease in which the linings (synovial membranes) of joint capsules become inflamed and swollen, inflammation spreads to other joint tissues and, in severe cases, to the bones themselves, causing deformity.

Etiology
Etiology is unknown. About 1% of all populations are affected, women 2-3 times more commonly than men. Onset may be at any age, but most often occurs between ages 25 and 50.

Signs and symptoms
The ESR is elevated in about 90% of cases. Blood tests show Rheumatoid factor (RF) in about 70% of cases. (RF is not specific for rheumatoid arthritis (RA) as it is found in other diseases such as chronic liver disease and subacute bacterial endocarditis, but a high RF titre provides helpful confirmation when the typical clinical syndrome is present. Joint symptoms may onset suddenly or be preceded by vague muscular pains, weight loss, loss of appetite, low-grade fever and fatigue. The condition mainly affects the smaller joints such as the fingers, but also wrists, ankles, and knees. Pain and stiffness are worse in the morning but tend to wear off as the day progresses. Joints are warm, tender and swollen. Nearly half of all patients recover completely after one or more attacks. 5% to 10% become disabled despite conventional treatment.

Orthodox treatment
Painkillers (especially the salicylates such as aspirin, steroids and other anti-inflammatory drugs (NSAIDS), gold compounds, physiotherapy and surgery in special cases.

Possible factors
- Food allergy
- Incomplete digestion
- **Gut permeability**
- Genetic susceptibility
- Microorganisms
- Lectins

Naturopathic treatment and management
- Alkaline diet e.g. organic vegan
- Anti-inflammatory diet – eliminate sugar, white flour, tea and coffee, malt and white vinegars, chocolate, soft drinks, wheat and all processed foods

- Remove allergenic foods e.g. wheat, corn, citrus, food additives, colourings, flavourings, etc. (elimination diet)
- Remove high arachidonic acid foods – meat, eggs, dairy
- Eliminate *Solanacea* family – tomatoes, potatoes, eggplant, peppers (capsicum)
- Fasting (juice fasts) – decreases absorption of allergenic foods and reduces levels of inflammatory mediators
- Consider digestive enzymes – papain, bromelain
- Increase omega 3 essential fatty acids(flaxseed, cold water fish) – anti-inflammatory
- Increase antioxidants – beta-carotene, Vit E, Vit C, selenium, zinc and bioflavonoids to support collagen structure
- Include manganese and copper (low levels in RA)
- Include B complex with additional B5 (royal jelly) and B3
- Calcium (600mg/day) and magnesium (400mg/day) in divided doses to buffer
- MSM (Methyl sulphonyl methane) to help joint flexibility
- Supplements – e.g. NZ green lipped mussels, sea cucumber, shark cartilage
- L-Glutamine (500 mg BD) to help heal leaky gut
- Bromelain (anti-inflammatory) 500mg TDS
- Curcumins (from Turmeric) 500mg daily

Hydrotherapy

- Hot and cold packs – moist hot packs applied for stiffness and pain, cold packs applied for acute flare-ups and inflammation. 20-30 minutes duration and applied 1-3 times daily

Cell (tissue) salts

- Ferrum phos – helps relieve congestion, inflammation and pain
- Nat sulph – helps remove wastes from joints
- Calc flour – gives the tissues the quality of elasticity

Herbs

Infusions

- Celery seed *Apium graveolens* (anti-rheumatic, diuretic) 0.5-2g TDS
- Black cohosh *Cimicifuga racemosa* (anti-rheumatic) 0.3-2g TDS
- Topically – *Gaultheria* (oil of wintergreen)

Homoeopathy

Acute remedies include:

- Aurum metallicum 6c, 30c (Gold) – paralytic, tearing pains in joints, pain in bones, worse cold weather and from getting cold
- Rhus tox 6c, 30c (poison ivy) – hot, painful swelling of joints, worse cold and wet
- Actea spicata 3c (Baneberry) – rheumatic pains in small joints

41: **Rosacea**

Definition
A chronic inflammatory acne-like syndrome with varying degrees of papules, pustules and hyperplasia of the sebaceous glands predominantly on the face and commonly around the nose. The onset is usually between 30 and 50 years of age.

Etiology
Unknown. It occurs three times as often in females than males and is more common in people with fair complexion.

Orthodox treatment
- Broad-spectrum oral antibiotics e.g. Tetracycline in small doses
- Firm massage using a bland lubricant

Naturopathic treatment and management

Possible Contributing factors:
- Stress
- Prolonged use of steroids
- Infections
- Excessive use of antibiotics
- **Lymphatic congestion**
- Vitamin deficiencies (esp, B's)
- Food allergies/sensitivities
- Alcohol & sugar
- Gut dysbiosis
- Low stomach acid

Diet and lifestyle suggestions

Include:
- Drink plenty of pure bottled or filtered water daily
- Relaxation techniques such as yoga, deep breathing exercises
- Three portions of oily fish per week (wild salmon – not farmed, mackerel, tuna, herrings, pilchards, sardines)
- Plenty of fresh, organic fruit & vegetables daily (include three different vegetables with meals)
- Start the day with fresh organic juice (e.g carrot, apple & celery)
- Snack on seeds such as sunflower, pumpkin and nuts such as almonds, walnuts
- Pulses, beans, lentils, chickpeas, etc. for their fibre

Avoid:
- All stimulants including coffee, tea, chocolate and sugar
- Decaffeinated beverages
- Foods that contain refined carbohydrates (e.g. biscuits, cakes, puddings, pastries)
- Alcohol
- Foods that are high in saturated fats (e.g. red meat, dairy products)
- Fried food (grill, bake, stirfry and steam)
- Artificial sweeteners, preservatives and additives
- Smoking

Consider
- Bowel detoxification
- Probiotics
- L-Glutamine (500mg TDS)
- Zinc picolinate (25-30mg daily on empty stomach)
- Vitamin B Complex
- Essential fatty acids (Udo's oil)
- Digestive enzymes
- Lymphatic decongestion (massage, fenugreek tea, rebounding)

Herbs
- Clivers *Galium aparine* (diuretic, lymphatic cleanser) 2-4g by infusion TDS

Homoeopathy
- Arsenicum bromatum 6c (Bromide of arsenic) rosacea with violet papules on nose, worse in spring

42: **Sinusitis**

Definition
Inflammation of the paranasal sinus (situated near or alongside the nasal cavities).

Etiology
There may be a number of causative agents including viruses, bacteria, fungal and allergy. There may be predisposing factors such as inadequate drainage which may result from the presence of polyps, enlarged turbinates (shaped like an inverted cone) or a deviated septum. Acute sinusitis is caused by *streptococci, pnemonococci* and *staphylococci*, and is usually precipitated by an acute viral respiratory tract infection.

Signs & Symptoms
The signs and symptoms of acute and chronic sinusitis are similar. The area over the involved sinus may be tender and swollen. Maxillary (pert. to upper jaw) sinusitis causes pain in the maxillary area, toothache and frontal headache. Frontal sinusitis produces pain in the frontal area and frontal headache. Ethmoid (forms roof of nasal fossae) sinusitis causes pain behind and between the eyes, and a frontal headache that is often described as "splitting". Pain from sphenoid (large bone at base of skull) sinuses is less well localised and is referred to the frontal or occipital area. There may be malaise; Fever and chills suggest an extension of the infection beyond the sinuses. The nasal mucosa is red and there may be yellow or green purulent exudates.

Orthodox treatment
Improve drainage and control infection. Steam inhalation promotes drainage and antibiotics such as penicillin and erythromycin are given orally. If the sinusitis is chronic, prolonged antibiotic therapy for four to six weeks may be given using more broad-spectrum antibiotics such as tetracycline or ampicillin. Decongestants may also be prescribed.

Naturopathic treatment & management
- Candida overgrowth – anti-candida diet and bowel cleanse
- Eliminate mucous – forming foods such as milk, cheese, chocolate and white flour products such as white bread, cakes, pastries, etc.
- Eliminate possible intolerances e.g. wine and wheat
- Include vitamin C with bioflavonoids (1 gram twice daily with food)
- Include B complex (often lacking in this condition)
- Vitamin A (50,00iu for 1 week only) and vitamin E (400iu daily)
- Zinc picolinate (25-30mg daily on empty stomach)
- Increase beta-carotenes – yellow and orange fruit and vegetables
- Increase sulphur foods – garlic and onions
- Quercetin (bioflavonoid) acts as an anti-histamine (400mg twice daily)
- Bromelain (pineapple enzyme – anti-inflammatory) – 250mg TDS between meals)
- Humidify room and avoid dry atmospheres
- Consider possible food allergies
- Eliminate all refined sugar

Hydrotherapy
- Neti wash (saline solution)
- Steam inhalations (add a few drops of tea tree or eucalyptus)

Herbs

Infusions
- Elder flowers *Sambucus nigra* (diaphoretic, anti-catarrhal) 2-4g TDS
- Eyebright *Euphrasia* species (anti-catarrhal, anti-inflammatory) 2-4gTDS
- Hyssop *Hyssopus officinalis* (diaphoretic, anti-catarrhal) 2-4g TDS
- Syrup of Horseradish (*Cochlearia armoracia)*

Homoeopathy
- Kali bichromicum 30 (Bichromate of Potash); discharge is thick, ropy and yellow – green, post-nasal drip and frontal sinuses blocked
- Natrum muriaticum 30 (sodium chloride); discharge thin and watery, nose blocked, worse lying down and in warm room

Cell Salts
- Kali phos (discharge milky-white), Kali sulph (discharge sticky yellow or greenish), Nat phos (discharge yellowish), Kali mur (thick, white discharge)

43: **Ulcers – Gastric & Duodenal**

Definition
Both stomach (gastric) and duodenal ulcers are referred to as peptic ulcers. Duodenal ulcers affect four times as many men as women. Stomach ulcers are more or less equally distributed. The risk for women increases after menopause suggesting that high levels of estrogen have a protective effect.

Etiology
Stomach ulcers are coin-sized raw areas on the walls of the stomach where the protective mucus coating has been eroded. Most patients secrete normal or low gastric acid and tend to be blood type A; they also tend to occur later in life than duodenal ulcers. There may be a failure to produce enough protective mucus, regurgitation of bile from the duodenum (which may be due to heavy smoking and drinking); irregular eating habits, allergy to foods such as wheat and milk, stress, recurrent gastritis or drugs, especially aspirin, steroids and non-steroidal anti-inflammatory drugs (NSAIDS). More common in the elderly and within 30 minutes of eating.
Duodenal ulcers are raw spots on the lining of the duodenum eroded by acid from the stomach, and are somewhat smaller than stomach ulcers. They are more common in blood type 0 and younger people and half of duodenal patients present with high acid output (they have twice as many *parietal cells*, acid-forming cells, in their stomach). Duodenal ulcers are almost always benign, but a gastric ulcer may be malignant. The same factors predisposing stomach ulcer are implicated in duodenal ulcer. 90-100% of people with duodenal ulcers test positive for the bacterium *Helicobacter pylori,* whereas 70% of people with stomach ulcers test positive for *H.pylori.* 50% of the population over the age of 50 will test positive for this bacterium.

The main predisposing factors to loss of integrity of mucosal protection include:
- *Helicobacter pylori*
- Aspirin
- NSAIDS
- Alcohol
- Smoking
- Nutrient deficiency
- Stress

Signs and symptoms
Stomach ulcer: A gnawing or burning pain in the chest or upper abdomen, sometimes lasting for 2-3 hours, indigestion, feeling of acute hunger, nausea and vomiting, pain may or may not coincide with eating.
Duodenal ulcer: Gnawing upper abdominal pain often radiating to the back. It is relieved by food but is commonly felt 2-3 hours after a meal. Typically the pain tends to be absent when the patient awakens, but appears in mid-morning and pain that wakes the patient between 1am and 2am is common.

Diagnosis
- X-ray study with barium usually establishes the diagnosis
- Endoscopy may show craters not visible on x-ray
- Gastric analysis

Complications
- Haemorrhage, perforation and obstruction

Orthodox treatment
Healing generally takes between 2 and 6 weeks and treatment using antacids is designed to neutralise or decrease gastric acidity, even though gastric acidity is usually normal in patients with gastric ulcer. Histamine H2 receptor blocking agents such as *cimetidine* are preferred by some physicians. Radiation therapy and surgery in severe cases where perforation may be imminent. Diet is not considered very important in both prevention and healing. Pepper (the only food that objective studies has shown is harmful) is not recommended along with caffeine and alcohol, both of which stimulate acid production. Evidence shows that patients who give up smoking heal their ulcers quicker.

Naturopathic treatment and management
- Stress reduction
- Alkaline diet – eliminate meat (esp. pork), eggs, dairy, sugar
- Avoid detergents – aspirin, coca-cola, NSAIDS, etc.
- Avoid fats, alcohol, caffeine and smoking
- Aloe vera juice (3ozs of concentrated juice 20 minutes before each meal)
- Eliminate possible food allergies/intolerances (milk increases stomach acid production)
- Increase soluble fibre – flaxseed, psyllium, oat bran

- Avoid overeating
- Raw cabbage juice (1 litre of fresh juice per day in divided doses – heals on average 10 days)
- Bismuth subcitrate 240 mg twice daily before meals to eradicate *H. pylori*
- *Mastica* (Mastic gum) to help remove *H.pylori*
- Coconut oil (raw) to remove *H.pylori* (one tsp twice daily on empty stomach)
- Flavonoids (500mg TDS) – counteract both production and secretion of histamine, helps ulcer to heal (histamine stimulates release of gastric acid)
- Increase Vit E, Vit C, zinc and beta-carotene for tissue healing
- L-glutamine (500mg TDS)
- Slippery elm powder (1 teaspoon dissolved TDS before meals)
- Alkaline broth (equal parts – cabbage juice, carrot juice and potato water)
- Fast one day a week to give respite to digestion
- Avoid citrus
- Manuka honey
- Before breakfast take ½ glass of raw potato juice diluted with warm water

Herbs

Infusions

- Comfrey root and leaf *Symphytum officinale* (astringent, demulcent, anti-haemorrhagic) root 2-4g TDS or leaf 2-8g TDS
- Marigold *Calendula officinalis* (anti-inflammatory, anti-haemorrhagic, antiseptic) 1-4g TDS
- Liquorice root *Glycyrrhiza glabra* (demulcent, anti-inflammatory) 1-4g TDS
- DGL (deglycerinated liquorice) – liquorice root extract i.e. *glycyrrhetinic acid* is removed, contains several flavonoids and not contra – indicated in hypertension
  {Liquorice should be given 20-30 minutes before eating}

Homoeopathy

Acute remedies include:

- Arsenicum album 6c, 30c (Arsenic) – burning pain in stomach, heartburn, gulping up of acid, restless, nausea, retching, vomiting after eating
- Arg Nit 6c, 30c (silver nitrate) – belching, nausea, retching, gnawing ulcerated pain. Ulceration of stomach with radiating pain, worse warmth
- Robinia 3c (yellow locust) – dull, heavy aching in stomach, distension of stomach, great acidity

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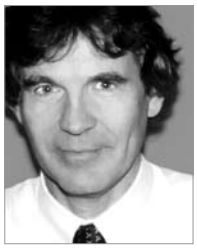
About the Author



Stephen Langley MSc, ND, DCH, DipHom, DBM, DipAc, OMD, is a registered Naturopath, Homoeopath, Acupuncturist and Medical Herbalist. He has appeared on a number of television and radio programmes concerning a wide range of health issues as well as being a regular contributor in the press for articles on health and healing. Stephen has studied Holistic Medicine in China, India, Hawaii, Australia, Tibet and Japan and has given talks on Naturopathic Medicine in many countries around the world.

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