

# Useful Complementary Remedies - Part I

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# Overview - Lecture I

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# Overview - Lecture 2

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- Benefits of Hydrotherapy
- Uses for Activated Charcoal
- Diabetes mellitus, type II

# Introduction

“The number of visits to providers of complementary and alternative medicine, (in the USA), exceeds those to primary care physicians, for annual out-of-pocket costs of \$30 billion.”

J. of the American College of Cardiology 2010;55(6):515

2007 National Health Interview Survey (NHIS)  
estimated \$33.9 billion out-of-pocket in 12 months

of that, \$22 billion on self-care costs  
\$11.9 billion on visits to CAM practitioners

# Introduction

80% Of the world's population relies on natural medicines according to WHO estimates.

Alternative and Complementary Therapies 2007;13(4):199(8)

# Introduction

Health food store clerks have been identified as a source of information ranking higher than physicians, dietitians and other health care practitioners when consumers consider using herbal products.

Patient. Educ. Couns. 2004;52:291

# Introduction

More than 75% of pregnant women using herbal remedies during pregnancy did not inform their doctor or midwife.

Journal of Complementary & Alternative Medicine 2009;15(7):787

# Introduction

**25% Of patients in internal medicine wards consume some kind of herbal or dietary supplement.**

British Journal of Clinical Pharmacology 2007;64(3):373

The medical team was aware of the consumption in only 23% of the cases.

All drug-herbal interactions were missed by the medical team.

Most serious interaction was between chamomile tea and cyclosporin. Out of 299 pt's interviewed, 7 possible herb-drug interactions were encountered.

Only 6% of the patients had been specifically asked about herbal consumption by the medical team.

Only 23% of medical records documented the usage of herbal or dietary supplements.

HERBAL REMEDY CONSUMPTION IS COMMON AMONGST PT'S HOSPITALIZED IN INTERNAL MEDICINE WARDS AND IS OFTEN OVERLOOKED BY THE MEDICAL TEAM.



# My Experience

- 30 y/o female patient
- CC: FUIO, malaise, generalized macular-papular erythematous rash, myalgias
- Good medical hx! Good home instructions!

# About 8 years later - A subpoena!

- The patient's lawyer and a lawyer from Showa-Denka Co. (Japan)
- Pt had seen over 100 doctors subsequently.
- First case of eosinophilia-myalgia syndrome from L-tryptophan on the East Coast!
- 60,000 ill, 37 deceased.

Sx's :  
Generalized severe muscle pain that tends to worsen over weeks and may cause muscle spasms.  
Other symptoms...  
Misdiagnosed as: fibromyalgia, chronic fatigue syndrome, lupus erythematosus or arthritis.

After 4 years, only 10% were fully recovered - can be fatal or lifelong.  
Tx = NSAIDS, prednisone, cyclophosphamide etc. None really effective.

# What If ...?

- ...a detailed herbal and dietary supplement hx had been obtained, and recorded?
- She was permanently damaged and ill
  - 1989 - discovered tryptophan
  - 1991 - banned in the USA
  - 2001 - FDA permitted 5-HTP

# God's "Forgotten" Prescriptions

“For Isaiah had said, Let them take a lump of figs and lay [it] for a plaster upon the boil, and he shall recover.” Isaiah 38:21 KJV

“And Isaiah said, Take a lump of figs. And they took and laid [it] on the boil, and he recovered.” 2 Kings 20:7 KJV

# God's "Forgotten" Prescriptions

"This was done, and Hezekiah was restored to health. It would be well to treasure this prescription which the Lord ordered to be used, more than we do." 2SM 300.1

"The medical fraternity...would call the Lord's prescription for Hezekiah quackery." 16 MR 289.1

On the basis of this study, the National Institutes of Health together with the pharmaceutical industry may consider to try to work on isolation of compounds from fig plants..."  
Annals of Pharmacotherapy 2003;37(2):297-300  
Researchers closely studied account of Hezekiah and Isaiah...

"This means was taken by God to teach them that all their preparations were only depriving the king of the power to rally and overcome disease. While they pursued their course of treatment, his life could not be saved. The Lord diverted their minds from their wonderful mysteries to a simple remedy of nature." 16MR 289.1

# God's "Forgotten" Prescriptions

"A cup of catnip tea will quiet the nerves." 2SM 297.4

"Hop tea will induce sleep." 2SM 297.5

"Light was given that there is health in the fragrance of the pine, the cedar, and the fir." 2SM 301.4

# God's "Forgotten" Prescriptions

“When the head is congested, if the feet and limbs are put in a bath with a little mustard, relief will be obtained.” 2SM 297.7

“Hop poultices over the stomach will relieve pain.”  
2SM 297.5

“If the eyes are weak, if there is pain in the eyes, or inflammation, soft flannel cloths wet in hot water and salt, will bring relief quickly.” 2SM 297.6

“always protect my feet in damp weather.”

“should not work intemperately if it is in my power to avoid doing so.”

2SM 296.4 and 297.1

# God's "Forgotten" Prescriptions

“Let seats be placed under the shade of the trees, that the patients may be encouraged to spend much time out-of-doors. And a place should be provided, ...where, in cooler weather, the patients can sit in the sun without feeling the wind.” 2SM 298.2



# God's "Forgotten" Prescriptions

“For some forms of indigestion, ...a little olive oil into which some of this powder (charcoal) has been stirred tends to cleanse and heal. I find it is excellent.” 2SM 298.5

“...cheerfulness within and without the institution, pleasant words and kindly acts - these are the remedies that the sick need...” 2SM 298.3

# God's "Forgotten" Prescriptions

"I cannot advise any remedy for her cough better than eucalyptus and honey. Into a tumbler of (boiled) honey put a few drops of the eucalyptus (oil), stir it up well, and take whenever the cough comes on. ...The best time to take it is before retiring." 2SM 300.2, 301.1

# God's "Forgotten" Prescriptions

“...warm footbaths into which have been put the leaves from the eucalyptus tree...The oil of the eucalyptus is especially beneficial in cases of cough and pains in the chest and lungs.” 2SM 301.2

# God's "Forgotten" Prescriptions

“The Lord has been pleased to present this matter before me in clear lines. Fever cases need not be treated with drugs. The most difficult cases are best and most successfully managed by nature's own resources. This science, if fully adopted, will bring the best results, if the practitioner will be thorough.”

16MR 288.1

# God's "Forgotten" Prescriptions

“In cases of severe fever, abstinence from food for a short time will lessen the fever and make the use of water more effectual. But the acting physician needs to understand the real condition of the patient and not allow him to be restricted in diet for a great length of time until his system becomes enfeebled.” 2T 384.2

# God's "Forgotten" Prescriptions

“The power of the will is not valued as it should be. Let the will be kept awake and rightly directed, and it will impart energy to the whole being, and will be a wonderful aid in the maintenance of health. It is a power also in dealing with disease.” CH 94.1

# Gods “Forgotten” Prescriptions

“God has caused to grow out of the ground herbs for the use of man, and if we understand the nature of these roots and herbs, and make a right use of them, ... people would be in much better health than they are today.” MM 230.3

# God's "Forgotten" Prescriptions

“The Lord has provided antidotes for diseases in simple plants, ... He can use water and sunshine and the herbs which He has caused to grow, in healing maladies brought on by indiscretion or accident.”

2SM 289.2



# Miscellaneous Remedies

“...take special care to have...clothing such as will conduce to a healthful circulation of the blood.” 2SM 296.3

“Perfect health depends upon perfect circulation” CH 92.3

# Miscellaneous Remedies

Fresh air and the...

“...importance of deep breathing. Show how the healthy action of the respiratory organs, assisting the circulation of the blood, invigorates the whole system, excites the appetite, promotes digestion, and induces sound, sweet sleep, thus not only refreshing the body, but soothing and tranquilizing the mind.” CG 364.4

# Miscellaneous Remedies

Greatly neglected remedy of correct posture -

“God made man upright, and He desires him to possess not only the **physical** but the **mental** and **moral benefit**... which an erect bearing so greatly tends to promote.” CG 364.4

“The one who sits and stands erect is more likely than others to breathe properly.” CG 364.4

# Miscellaneous Remedies

“The training of the voice has an important place in physical culture, since it tends to expand and strengthen the lungs, and thus to ward off disease.

...Let the strain come on the muscles of the abdomen rather than on those of the throat. Great weariness and serious disease of the throat and lungs may thus be prevented.” CG 365.1

# Miscellaneous Remedies

“Many die from disease,  
the cause of which is wholly imaginary.”

CH 344.2

# Miscellaneous Remedies

“Many suffer decayed vegetable matter to remain about their premises. ...There is constantly arising from the decayed substances an effluvium that is poisoning the air. By inhaling the impure air, the blood is poisoned, the lungs become affected, and the whole system is diseased.” HL 140.2

# Miscellaneous Remedies

“Especially in wet seasons the sleeping-rooms become damp, and those who sleep in the beds are troubled with rheumatism, neuralgia, and lung complaints, which generally end in consumption.” HL 141.1

# Miscellaneous Remedies- Red Clover

Owing to its PPAR-alpha activation and modulation of the secreted cytokine profile, red clover (*Trifolium pratense*) extract is a putative candidate for preventing atherosclerosis and, thus, CVD.

Menopause 2010;17(2):379-387

Red clover studies show that the extracts, major compounds (especially several main metabolites) exert significant PPAR-gamma binding and transactivational activity.

Red clover currently used for tx'ing menopausal disorders -  
COULD BE USED simultaneously for ameliorating the metabolic syndrome.

Complications of DM II = inflammation, hyperlipidemia. increase risk of CVD which increases risk of premature death.

The activation of peroxisome proliferator-activated receptor (PPAR)-alpha is a drug target to tx hyperlipidemia and dyslipidemia and get an improved blood lipid profile.

Summary: Red clover is helpful to:

- 1) tx menopausal disorders
- 2) ameliorate the metabolic syndrome
- 3) helps prevent atherosclerosis by decreasing inflammation and hyperlipidemia (by means of activating PPAR-alpha).



# Miscellaneous Remedies- Clove Oil

Healing of anal fissures occurred in 60% of patients in the clove oil (1% cream) group vs. 12% of patients in the control group after 3 months follow-up ( $P < 0.001$ ).

Colorectal Disease 2006;9:549-552

# Miscellaneous Remedies - Clove Oil

Contact bioassays performed on permethrin-sensitive *S. scabiei* var *suis* mites (from pigs) and *S. scabiei* var *canis* mites (from rabbits) showed that clove oil was highly toxic against scabies mites.

PLoS ONE 2010;5(8):e12079

# Miscellaneous Remedies - Tea Tree Oil

Tea tree essential oil showed a 5x greater affinity to bind to *S. aureus* than Eucalyptus oil (faster association rate), and more of the cell was attached.

J. Microbiol. Biotechnol. 2007;17(11):1848

Essential oil activity against a variety of micro-organisms has been demonstrated, including gram-negative and gram-positive bacteria.

Gram neg: J. Agric. Food Chem. 1998;46:3590-3595

J. Microbiol. Biotechnol. 1999;9:778-783

J. Agric. Food Chem. 1996;44:1202-1205

Gram pos: J. Agric. Food Chem. 1995;43:2839-2845

Gram + are generally more resistant to essential oil activity because of lipopolysaccharide present in outer membrane. j. Appl. Bacteriol. 1991;71:191-201

Tea tree gained acceptance as safe and effective antiseptic J. Appl. Microbiol. 2000;88:170-175 also Phytomedicine 1998;5:489-495

Tea tree reported to have powerful antibacterial activity Int. J. Aromather. 1996;7:32-35 also *Candida albicans*. Aust. J. Med. Herbalism 1995;7:57-62

#### MECHANISM OF ACTION:

Essential oils are hydrophobic, ie they partition in the lipid layer of cell membrane and mitochondria, rendering them more permeable. Progress in Essential Oil Research. 16th International Symposium on Essential Oils, Berlin ; 1986:429-445 also J. Biol. Chem. 1994;269:8022-8028

Interesting note: hydrophobicity is the driving force leading to the interaction between beta-amyloid with cells. Colloids Surf. B Biointerfaces 2007;58:231-236

Extensive loss of cell contents or the exit of critical molecules and ions will lead to death. Mechanisms of Action of Chemical Biocides 1991. pg 171-188 Oxford Blackwell Scientific Publication

There is some evidence from studies with Tea Tree essential oil and *E. coli* that cell death may occur before lysis. Lett. Appl. Microbiol. 1998;26:194-198

# Miscellaneous Remedies - GSE

*In vitro* results indicate that GSE has bactericidal effects against a wide range of gram-positive and gram-negative organisms. The experimental results showed that GSE compares favorably to that of proven topical antibacterials.

J. of Alt. Comp. Med. 2002;8(3):325-332

67 distinct biotypes were tested.

Antibacterials included: GSE, Silvadene®, Sulfamylon®, Bacitroban®, Nitrofurazone®, Nystatin.

GSE WAS CONSISTENTLY ANTIBACTERIAL AGAINST ALL BIOTYPES TESTED, WITH SUSCEPTIBILITY ZONE DIAMETERS EQUAL TO OR GREATER THAN 15mm IN EACH CASE.

The initial data shows GSE to have antimicrobial properties against a wide range of gram-negative and gram-positive organisms at dilutions found to be safe. It was evident that GSE disrupts the bacterial membrane and liberates the cytoplasmic contents within 15 minutes after contact even at more dilute concentrations.

J. of Alt. and Compl. Med. 2002;8(3):333-340

# Miscellaneous Remedies - GSE

*In vitro* tests show that GSE is a powerful agent against motile and cystic forms of *Borrelia burgdorferi sensu lato*.  
Infection 2007;35:206-208

A combination of Citricidal™ and geranium oil showed the greatest anti-bacterial effects against MRSA. (with Telfaclear™ as the primary layer in the dressing model)  
Burns 2004;30(8):772-777

# Miscellaneous Remedies - Glycerine

Barrier repair properties: atopic dermatitis and ichthyosis vulgaris.

Increased dermal hydration: winter and senile xerosis, inherited ichthyosiform disorders and atopic skin diathesis.

Anti-irritant properties: irritant dermatitis.

Anti-microbial and wound-healing properties evidenced in experimental research show promise.

British Journal of Dermatology 2008;159:23-34

# Miscellaneous Remedies- Glycerol

Experimental data indicates that antimicrobial effects against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Bacillus subtilis* are attributed to glycerol.

Microsc. Micoanal. 2007;13:18-29

Experimental studies demonstrate a virucidal effect (tested against herpes simplex virus, poliovirus, human immunodeficiency virus). Virucidal action of glycerol is dependent on temperature and concentration.

Burns 1994;20(S1):S77-80

J. Med. Virol. 2000;60:182-8

J. Burn Care Rehabil. 1998;19:494-500

Irritant contact dermatitis treated with glycerol application compensates for skin dehydration, favoring physiological processes to restore water barrier function of the impaired skin. 1-10% solutions of glycerol aqueous solutions were applied to acute chemical irritations by application of 10% sodium lauryl sulphate aqueous solution under occlusion for 3 hours.

RECOVERY WITH GLYCEROL AT LOW DOSES WAS REMARKABLE THROUGH A MECHANISM that implies its hygroscopic properties and which is saturable.

Glycerol appears to substitute for natural moisturizing factors that have been washed out by the detergent action of sodium lauryl sulphate, enhancing skin hydration but without restoring skin barrier function.

Archives of Dermatological Research 2010;302(6):435

# Miscellaneous Remedies - Olive Oil

Oleocanthal from fresh-pressed olive oil inhibits COX-1 and COX-2 in the same way as ibuprofen.

Nature 2005;437:45

Tests showed that identical concentrations of oleocanthal and ibuprofen were equally potent in inhibiting both COX-1 and COX-2 enzymes. Mediterranean diet where olive oil is central - provides many of the same long-term benefits as aspirin and ibuprofen consumption.

INHIBITION OF COX-1 AND COX-2 PRODUCES ANTI-INFLAMMATORY AND ANALGESIC EFFECTS.

Would need a glass of olive oil to tx a headache, but the overall amount consumed in the Mediterranean diet might well ease inflammation and decrease risks of disease...  
NOTE: there are many biological compounds in olives and fresh olive oil that impact our health, not only oleocanthal.



# Miscellaneous Remedies - Olive Oil

Olive oil polyphenols, at nutritionally relevant concentrations, transcriptionally inhibit endothelial adhesion molecule expression.

Arterioscler.Thromb.Vasc. Biol. 2003;23:622-629

Local leukocyte recruitment in to the vessel wall is an early step in atherogenesis and it is largely explained by the increased expression of endothelial leukocyte adhesion molecules. IE. OLIVE OIL POLYPHENOLS CAN INHIBIT THIS EARLY STEP IN ATHEROGENESIS.

Polyphenols from olive oil: oleuropein, hydroxytyrosol, tyrosol,  
Oleuropein and hydroxytyrosol are present in particularly high concentration in extra virgin olive oil (50-800mg/kg) and in olives (2g/100g dry weight).

Research has shown these compounds to have several anti-atherogenic activities, such as the inhibition of LDL oxidation, platelet aggregation, and the endothelial expression of tissue factor. Shows protective effects in inflammation models *in vivo*.

It seems that hydroxytyrosol can reduce cholesterol and may actually pass through capillaries into the surrounding tissues and right on into the coronary plaques themselves.

# Miscellaneous Remedies - Olive Oil

Olive oil biophenols directly affect the DNA transcription of glutathione-related enzymes. By preventing reactive oxygen species (ROS) accumulation through the improvement of the entire GSH redox cycle, extra virgin olive oil biophenols inhibit cell-mediated oxidation of LDL.

J. Nutr. 2004;134:785-791

# Miscellaneous Remedies - Nasal flushing

Nasal flushing, Neti pot/ Neti rinse.

# Miscellaneous Remedies

## - Butterbur

On the basis of its inhibition of mast cell activation and direct smooth muscle reaction induced by released mediators, Japanese Butterbur Extract (*Petasites vulgaris*) was found to suppress the type I allergic reaction.

J.Agric. Food Chem. 2006;54(8):2915

Butterbur (*Petasites hybridus*) extract reduced allergic airway inflammation and airway hyper-responsiveness by inhibiting the production of the Th2 cytokines IL-4 and IL-5, and RANTES. (mouse study)

Phytotherapy Research. 2010;24(5):680

#### BUTTERBUR:

Pharmacologically active components = (petasin, isopetasin, neopetasin). These inhibit leukotriene synthesis in leukocytes.

In an open clinical trial, pt's suffering from allergic rhinitis: a reduction of leukotriene and histamine levels in nasal fluids was associated with the butterbur extract administration.

To better evaluate the clinical value in this particular allergic disease, the clinical efficacy of the drug was compared with an established antihistamine treatment scheme in a double-blind study - no significant difference was observed between the two treatment groups.

International Archives of Allergy & Immunology 2002;129(2):108

# Miscellaneous Remedies - Butterbur

Butterbur (Ze 339) extract and Fexofenadine are comparably efficacious relative to placebo to treat intermittent allergic rhinitis.

Phytotherapy Research 2005;19(6):530

Fexofenadine = Allegra

Only with extracts rich in petasin (37% petasin) and at high and well above therapeutic doses, liver toxicity was observed. (rat *in vivo* and *in vitro* studies)  
Toxicol. Sci. 2009;112(2):507

Butterbur extracts are recommended for the prevention of migraine.

Series of *in vivo* and *in vitro* studies done.

- no signs of hepatocellular toxicity at estimated therapeutic C(max) levels of 60ng/ml.

- 28 day toxicity study at approximately 200x therapeutic doses, induced liver transaminases and bilirubin elevations were observed.

- 6 mo chronic toxicity study, the initial hepatobiliary effects were reproduced, but at the end of the study, liver function recovered and returned to normal as evidenced by clinical chemistry measurements.

Neither chronic rat *in vivo* nor rat *in vitro* investigations reliably predicted hepatotoxicity...need human-based *in vitro* investigations for safe products.

Toxicogenomics enabled the characterization of a novel butterbur extract with no signals for hepatotoxicity.

# Miscellaneous Remedies - Migraine Prophylaxis

Butterbur, Riboflavin and CoQ10 significantly decreased the frequency of migraine attacks.

Mg is also substantiated (especially for children and menstrually related migraine).

Neurological Sciences 2010;31:137

# Miscellaneous Remedies - PMS

*Hypericum perforatum*, St. John's Wort, was statistically superior to placebo in improving physical and behavioral symptoms of PMS (P<0.05).

CNS Drugs 2010;24(3):207

There is a hypothesized role of serotonin in the production of PMS symptoms.  
*Hypericum perforatum* (St. John's wort) influences the serotonergic system.

No significant effects for mood and pain related PMS symptoms.

TAKE NOTE: 2-6% of pts' using St. John's wort report side effects: - SEE "A Word of Caution" section  
nausea and restlessness  
delayed hypersensitivity  
dizziness, dry mouth, constipation.  
photodermatitis is a rare, but well recognized, adverse effect.

# Miscellaneous Remedies - Ginger

Daily total of 100mg ginger in capsule form may be suggested by care givers as an effective herbal remedy to decrease pregnancy nausea and vomiting in women.

Journal of Alternative and Complementary Medicine 2009;15(3):243



# Miscellaneous Remedies - Pelargonium

Pelargonium extract (*Pelargonium sidoides*) can induce the interferon system and can up-regulate the cytokines crucial in protecting host cells from viral infection.

Journal of Family Practice 2008;57(3):157

# Miscellaneous Remedies - Physical Exercise

“Various evidence sustains the hypothesis that the widespread nature of multifactorial diseases is partly due to modified lifestyles (reduced physical activity, over-eating) ...physical activity could therefore be a natural remedy ...”

Sport Sciences for Health 2009;4(1/2);33(3)

# Miscellaneous Remedies- Physical Exercise

Four weeks of downhill walking training was beneficial in improving gait and muscle strength, as well as thoracic posture in individuals with Parkinson's Disease.

American J. of Physical Med. & Rehab. 2010;89(9):706

# Miscellaneous Remedies - Sleep

Accumulating evidence suggests that sleep plays an important role in homeostatic restoration, thermoregulation, tissue repair, immune control and memory processing.

One night of sleep deprivation markedly impairs hippocampal function, imposing a deficit in the ability to commit new experiences to memory.

Sleep Medicine 2008;9(S1):S29-S34

# Miscellaneous Remedies - Sleep

Gene expression studies show that **wakefulness-**related gene transcripts are involved in energy metabolism, excitatory neurotransmission, transcriptional activation, synaptic potentiation and memory acquisition and the response to cellular stress. ...cont...

Gene expression studies have allowed researchers to investigate the molecular correlates of sleep and wakefulness and to gain new insights into the benefits that sleep may bring at the cellular level.

Rat study: of about 15 000 transcripts expressed in the cerebral cortex, about 5% change their expression levels depending on behavioral state, but independently of time of day. 1/2 modulated genes increase in wakefulness. 1/2 in sleep.

WAKEFULNESS-RELATED AND SLEEP-RELATED TRANSCRIPTS BELONG TO DIFFERENT FUNCTIONAL CATEGORIES. ie. we need our sleep...

# Miscellaneous Remedies - Sleep

...cont...

**Sleep-related** gene transcripts are involved in brain protein synthesis, synaptic consolidation/depression, and membrane trafficking and maintenance, including cholesterol metabolism, myelin formation, and synaptic vesicle turnover.

Neuroscientist 2005;11(1):63-74

# Miscellaneous Remedies

## - GAD

“Recently, a herbal remedy, Silexan (oral preparation of *Lavendula* oil), ... demonstrated efficacy in the treatment of Generalized Anxiety Disorder.”

European Psychiatry 2010;25:159

National Comorbidity study in US on 8000 adults showed lifetime prevalence rate of 3.5% for panic disorder.

GAD: 3% rate for one-year chronic illness. 6% rate for lifetime prevalence.

Use

- 1) benzodiazepines
- 2) monoaminergic reuptake inhibitors: SSRI drugs with serotonin selectivity, SNRI drugs with dual serotonin/norepinephrine activity, as well as first generation tricyclics
- 3) azapirones
- 4) pregabalin

Two other classes of medication (antihistamines and antipsychotics) demonstrated effective to treat GAD. Also a herbal remedy Silexan. Need more trials though. Silexan contains 80mg *Lavendula* oil (Lavender essential oil), or 2 drops of essential oil.

# Miscellaneous Remedies - GAD

*Lavendula* oil preparation (Silexan) has a clinically meaningful anxiolytic effect and alleviates anxiety related disturbed sleep. This *Lavendula* oil preparation is both efficacious and safe for the relief of anxiety disorder not otherwise specified.  
(subsyndromal anxiety disorder)

International Clinical Psychopharmacology 2010 (Sept.);25(5):277



# Miscellaneous Remedies - Ellagic Acid

Red raspberry and ellagic acid diets showed a significant reduction, of 59% ( $P < 0.001$ ) and 48% ( $P < 0.01$ ) respectively, in endogenous DNA adducts.

Both diets also resulted in a 3-8 fold over-expression of genes involved in DNA repair.

Int. J. Mol. Sci. 2008;9(3):327-341

Mouse study.  
Sources: red raspberries, strawberries, blueberries, certain nuts.  
Cultivars of raspberries: Meeker (best source of ellagic acid), then Chilliwack, then Willamette.

Current study supports the role of berry polyphenols in sustaining genomic stability *in vivo*. (as well as *in vitro*).  
Suggests that ellagic acid may be effective in hormonal carcinogenesis (prevented oxidative damage induced by 4E2, a potentially carcinogenic metabolite in estrogen-mediated cancers).

# Miscellaneous Remedies - Ellagic Acid

Studies are showing that ellagic acid present as ellagitannins in whole berries is more bioavailable than an ellagic acid supplement.

Int. J. Mol. Sci. 2008;9(3):327-341

Carcinogenesis 2001;22(3):441-446

Carcinogenesis 1990;11(1):55-61

# Miscellaneous Remedies - Ellagic Acid

**Conclusion: “Red raspberry, a natural source of ellagic acid, is more efficacious than pure ellagic acid and also causes upregulation of DNA repair enzymes, making it a suitable candidate for nutritional intervention. Both berries and ellagic acid significantly reduce hepatic oxidative DNA damage.”**

Int. J. Mol. Sci. 2008;9(3):327-341

# Miscellaneous Remedies- Curcumin

Curcumin is a highly pleiotropic molecule capable of interacting with numerous molecular targets involved in inflammation.

Potential therapeutic agent for: IBD, pancreatitis, arthritis, chronic anterior uveitis

Alternative Medicine Review 2009;14(2):141(13) ISSN: 10895159

# Miscellaneous Remedies- Curcumin

Anti-inflammatory

Anti-oxidant

Chemopreventive

Chemotherapeutic

Cellular & Molecular Life Sciences 2008;65(11):1631

## *Curcuma longa*

Pleiotropic activities of curcumin derive from its complex chemistry as well as its ability to influence multiple signaling pathways, including:

- survival pathways such as those regulated by NF- $\kappa$ B, Akt, and growth factors
- cytoprotective pathways dependent on Nrf2
- metastatic and angiogenic pathways.

Curcumin is a free radical scavenger and H<sup>+</sup> donor, and exhibits both pro-and antioxidant activity.

Also binds metals, particularly Fe and Cu, and can function as an Fe chelator.

Curcumin is remarkably non-toxic and exhibits limited bioavailability.

Exhibits great promise as a therapeutic agent and is currently in human clinical trials for variety of conditions, including: myeloma, pancreatic cancer, myelodysplastic syndromes, colon cancer, psoriasis, Alzheimer's disease.

# Indirect Adverse Effects

The use of complementary remedies is often unnecessarily complicated by the following:

- ‘self-diagnosis’...
- Mis-diagnosis at initial consultation with alternative practitioner
- delaying or forgo-ing appropriate treatment in favor of ineffective unconventional treatment!
- Aliment. Pharmacol. Ther. 2006;23:341

“We need to sort out herbal hyperbole  
from the herbal truth.”

Duke, 2000

# A Word of Caution

Patient on warfarin, using GSE, experienced an increase in INR (7.9). Results suggest that benzethonium chloride (synthetic preservative) is responsible for the increase in INR.

No authentic GSE extract was found in any of the three GSE products analysed.

European Journal of Clinical Pharmacology 2007;63(6):565-570



# A Word of Caution

There are documented interactions between St. John's Wort and: warfarin, cyclosporine, indinavir and oral contraceptives.

Only about 10% of SJW product labels contain warning regarding possible drug interactions.

BMC Complement Altern Med 2008;8:42

# A Word of Caution

Germany: How common is polypharmacotherapy?

4,153 patients were Rx'ed at least 10 drugs.

822 were affected by at least 1 DCPI.

268 pts had multiple DCPI's

Among contraindicated combinations, tricyclic antidepressants, St. John's wort and antiarrhythmic drugs were most frequently involved.

Int. J. Clin. Pharmacol. Ther. 2006;44(11):539

# A Word of Caution

Two cases of liver toxicity related to black cohosh use.

Climacteric 2008;11(1):84(5) ISSN: 13697137

Case study: 53 y/o female dc'd oral HRT and started black cohosh to tx menopausal sx's.  
Routine labs showed acute elevation of liver enzymes.  
dc'd black cohosh and the liver enzymes decreased within 1 week. They were wnl after 1 month.

Pt had past medical hx: atypical chest pain, family hx of CAD.  
Concurrent medications: atorvastatin, aspirin, glucosamine/chondroitin, vaginal estradiol.

Commercially available formulation of black cohosh may potently inhibit human cytochrome CYP.

# A Word of Caution

Case study: 33 y/o female

Hemorrhagic cystitis due to intake of herbal slimming product.

Discontinued product. Resolved after 3 months.

Southern Medical Journal 2010;103(1):90

# A Word of Caution

5 herbal slimming products evaluated for synthetic medications.

2 products were found to contain 12.93 and 14.98mg/cap rimonabant respectively.

A third product contained 38.64mg/cap sibutramine.

European Journal of Scientific Research 2009;34(3):348

# A Word of Caution

90 Chinese Herbal Medicine products purchased in NYC's Chinatown.

5 samples had 9 different western pharmaceuticals.

2 of these samples had undeclared or mislabeled substances.

1 sample contained two pharmaceuticals contraindicated in people for whom it was intended.

...cont...

# A Word of Caution

...cont...

Identified drugs include:

Promethazine, Chlormethiazole, Chlorpheniramine,  
Diclofenac, Chlordiazepoxide, Hydrochlorothiazide,  
Triamterene, Diphenhydramine, Sildenafil citrate  
(Viagra <sup>TM</sup>)

Legal Medicine 2007;9(5):258

Promethazine = Phenergan / Anergan etc

Chlormethiazole = (sedative / hypnotic)

Chlorpheniramine = Ahist / Aller-chlor / Allerlief

Diclofenac = Cambia/ Cataflam /

Chlordiazepoxide = (anxiolytic) Librium / Libritabs / Librax / Klopoxid

Triamterene = (diuretic) Dyrenium

Diphenhydramine = (antihistamine) Benadryl / Aler-Tab

# A Word of Caution

49 y/o female physician presented with peripheral edema, weight gain, relative HTN...

...due to overconsumption of licorice candy cigars.

The Journal of the Canadian Association of Emergency Physicians 2009;11(1):94

Sx's resolved spontaneously when consumption stopped.

Glycyrrhizic acid is found in natural licorice extract.

Physicians need to be aware of the toxic effects of natural licorice extract in high amounts.

Present in: black licorice, chewing gum, herbal teas, soft drinks, tobaccos, herbal remedies for cough, stomach ailments and constipation.

We had a "licorice" case at Wildwood as well.

PHYSICIANS SHOULD ENQUIRE about consumption of licorice containing products when pt's present with unexplained HTN, hypokalemia, edema, rhabdomyolysis or myoglobinuria.



# A Word of Caution

*G. biloba* leaf extract has a protective role on red blood cells against  $A\beta$ - and hypotonic pressure-induced hemolysis, peroxide-induced lipoperoxidation, as well as glutathione consumption and methaemoglobin formation.

On other hand, high doses exhibited damage to RBC's by increasing cell fragility, changing cellular morphology and inducing glutathione consumption and methaemoglobin formation.

(ie. more of a good thing is not better...)

Basic & Clinical Pharmacology & Toxicology 2009;104(2):138

# Safety of Complementary Remedies?

Swiss Toxicological Center, 1998-2007

Accidental CAM intake in children (8.6% of total accidental pharmaceutical product intake):

1 015 accidental herbal intakes, 2 143 accidental homeopathic intakes.

3 of moderate severity, 28 of minor severity.

All other accidental intakes evolved harmlessly without manifestations.

European Journal of Pediatrics 2010;169(6):681

# Miscellaneous Remedies - for Dyspepsia

Fennel tea or emulsion of fennel seed oil.

Preliminary evidence for combination of  
peppermint oil and caraway oil.

Alt. Compl. Ther. 2010;16(1):34

Note: oral usage of peppermint oil could cause heartburn in certain patients!!!

CAUTION: side effects of peppermint supplements include heartburn, anal burning, possible drug interactions. Do not use peppermint oil in individuals with gallbladder problems.  
Peppermint oil p.o. may increase blood levels of the drugs felodipine and simvastatin and cyclosporine.  
Peppermint oil on the skin with 5-FU may increase the rate of 5-FU absorption.

# Miscellaneous Remedies

## - *H. pylori*

Early research indicated cranberry may reduce the ability of *H. pylori* to live in the stomach and cause ulcers.

Alt. Compl. Ther. 2010;16(1):34

# Miscellaneous Remedies - Probiotics

Probiotics reduce side-effects from antibiotic usage eg. bloating, diarrhea, taste disturbances.

May reduce levels of *Helicobacter pylori* in children and adults.

Long-term consumption of probiotics is considered safe and well-tolerated.

Alt. Compl. Ther. 2010;16(1):34

# GERD's

Head of bed elevation and left lateral decubitus position improved the overall time that the esophageal pH was less than 4.0.

Weight loss and head of bed elevation are effective lifestyle interventions for GERD.

Arch. Intern. Med. 2006;166:965

(The above is based on cohort or case-control studies - evidence B).

There is also physiological evidence that exposure to tobacco, alcohol, chocolate and high-fat meals decreases lower esophageal sphincter pressure.

There is limited research on specific alternative remedies relating to GERD's in humans. However, simple LS modifications can have a great clinical impact. MOST TRIALS INVESTIGATING LIFESTYLE INTERVENTIONS RELATING TO GERDS ARE SMALL, ONLY INVESTIGATE A FEW DAYS, AND NONE INVESTIGATE A VEGAN OR VEGETARIAN DIET, WITH OTHER PRINCIPLES WE FIND IN GOD'S COUNSELS eg. two meals daily, avoidance of eating in between meals, no drinking with meals, low fat, high carb etc...

example: A study on smoking cessation and its effects on GERDS. 30 health volunteers, 15 (small number...) pts with GERDs. Looked at effect after 24 hours of smoking cessation... other study evaluated after 48 hours... TOO SOON... !! Cant draw reliable conclusions with such a small sample number and only after 24-48 hours!

# GERD's

All patients in group A reported a complete regression of symptoms after 40 days of treatment.

65.7% of group B reported regression of symptoms in the same period. (P<0.05 between the two groups)

J. Pineal Res. 2006;41(3):195-200

group A = 176 pts. Dietary supplement = melatonin, L-tryptophan, vit B6, folic acid, vit B12, methionine, betaine  
group B = 175 pts 20mg omeprazole.  
Single blind randomized study.

Melatonin has known inhibitory activities on gastric acid secretion and nitric oxide biosynthesis. Nitric oxide has an important role in the transient lower esophageal sphincter relaxation, which is a major mechanism of reflux in patients with GERD.  
Other biocompounds of the formula display anti-inflammatory and analgesic effects.

This formulation promotes regression of GERD sx's with no significant side effects.

Melatonin could be used in the treatment of GERD either alone or in combination with omeprazole. The combination therapy of both melatonin and omeprazole is preferable as melatonin accelerates the healing effect of omeprazole and therefore shortens the duration of treatment and minimizes its side effects.  
BMC Gastroenterology 2010;10:7

# GERD's

Case study: 64 y/o caucasian female. Tried option 1.

Option 2: Melatonin 6mg + natural supplements

After 40 days, PPI withdrawn without return of sx's.

Decreased melatonin to 3mg, sx's returned.

All other ingredients withdrawn in 10 mo f/u with minimal sx's.

Alternative Therapies in Health & Medicine 2008;14(4):54(5) ISSN: 10786791

#### CASE STUDY:

1 = D-limonene blend. sx's returned when PPI withdrawn.

2 = Melatonin 6mg + 5-OH tryptophan 100mg, D,L-methionine 500mg, Betaine 100mg, L-taurine 50mg, riboflavin 1.7mg, vit B5 0.8mg, Folic acid 400pg, Ca 50mg.

#### MELATONIN:

Enterochromaffin cells of GI tract secrete 400x as much melatonin as the pineal gland.

Melatonin seems to play an important role in GI functioning.

Animal studies show that melatonin protects against GI ulcerations and lesions.

Randomized clinical trials: suggested efficacy in tx'ing functional dyspepsia and IBS with melatonin.

A randomized, single-blind clinical trial, pt's c GERDS, showed that a combination of melatonin c other natural suppl's was superior to omeprazole (Proton pump inhibitor).



# Wound Healing

“...measurable medical errors cost the U.S. economy \$19.5 billion in 2008.”

“The Economic Measurement of Medical Errors” by the Society of Actuaries’ Health Section, released 9 August 2010

# Wound Healing

According to this report, pressure ulcers produced the largest error cost at almost \$3.9 billion per annum.

“The Economic Measurement of Medical Errors” by the Society of Actuaries’ Health Section, released 9 August 2010

followed by:  
2) post-op infections \$3.7 billion  
3) device complications \$1.1 billion  
4) complications from failed spinal surgery \$1.1 billion  
5) hemorrhages \$960 million

Consequently, the study also identifies the 10 medical errors that are most costly to the US economy each year. Approximately 55% of the total error costs were the result of five common errors:  
-pressure ulcers  
-postoperative infections  
-mechanical complications of devices, implants, or grafts  
-postlaminectomy syndrome  
-hemorrhages complicating a procedure

# Wound Healing

The WoundCare 18+ group had increased incidence of healing, effective desloughing and a lower incidence of infection than control.

At baseline, MRSA identified in 16 wounds (10 honey vs 6 hydrogel)

After 4 wks, 70% (n=7) of honey wounds vs 16% (n=1) of the hydrogel wounds had MRSA eradicated.

J.Wound Care 2008;17(6):241 and 246

SAME TRIAL: wound swabs were taken at the start of treatment and after 4 weeks.  
108 patients enrolled in study. 35 males. 73 females. aged 24-89 yrs (mean 68 y/o).  
18 patients were withdrawn due to a wound infection: six in the honey group and 12 in the hydrogel group.

*S. aureus* was most common isolate - identified in 41 wounds (38%)

the WoundCare 18+ GROUP HAD INCREASED INCIDENCE OF HEALING, EFFECTIVE DESLOUGHING AND A LOWER INCIDENCE OF INFECTION THAN THE CONTROL.

MANUKA HONEY MAY BE CONSIDERED BY CLINICIANS FOR USE IN SLOUGHY VENOUS ULCERS.  
Effective desloughing significantly improves healing outcomes.

# Wound Healing

At baseline, *Pseudomonas aeruginosa* in 14% (n=16) of all wounds.

After 4 wks, 33% (n=2) treated with honey and 50% (n=5) treated with hydrogel had *P. aeruginosa* eliminated.

J.Wound Care 2008;17(6):241 and 246

# Wound Healing

Wounds with pH  $\geq 8.0$  did not decrease in size.

Wounds with pH  $\leq 7.6$  had 30% decrease in size.

A reduction in 0.1 pH unit was associated with an 8.1% reduction in wound size ( $P < 0.012$ ).

The use of Manuka honey dressings was associated with a statistically significant decrease in wound pH and a reduction in wound size.

Int.Wound J. 2008;5(2):185



L to R:  
Thursday 23 Sept 2010 (without flash) - before application.  
Friday 24 Sept, 2010 (with flash) - after 1 day of application.  
Wednesday 29 Sept, 2010 (with flash)



6 days after starting Manuka applications.



Before and after using Manuka honey.  
Surgery done 17 June 2010.  
Picture on left 14 September 2010.  
Picture on right 22 September 2010.





Same patient as previous slide. The other leg.

# Wound Healing

Honey samples of stingless honeybees (*Meliponinae*) inhibited the growth of test strains of *S. aureus*, *Enterococcus faecalis*, *Escherichia coli* and *Pseudomonas aeruginosa*; moreover they exhibited non-peroxide antibacterial activity against those strains.

Polish Journal of Microbiology 2007;56(4):281

# Wound Healing

Manuka honey inhibits *Staphylococcus aureus* by targeting the cell division machinery.

Eur. J. Clin. Microbiol. Infect. Dis. 2010;29(1):45

# Wound Healing

Manuka honey and pasture honey applied to skin at the insertion points of medical devices may have a role in the treatment or prevention of infections caused by coagulase-negative staphylococci.

Journal of Antimicrobial Chemotherapy 2005;56:228

# Wound Healing

10-20% (v/v) medical-grade honey killed the following:

- *Bacillus subtilis*
- methicillin-resistant *Staphylococcus aureus*
- extended-spectrum  $\beta$ -lactamase producing *Escherichia coli*
- ciprofloxacin-resistant *Pseudomonas aeruginosa*, and
- vancomycin-resistant *Enterococcus faecium*.

The FASEB Journal 2010;24:2576

# Wound Healing

Antibacterial activity of medical grade honey has been characterized for the first time.

Antibacterial activity is due to the following: bee defensin-1, H<sub>2</sub>O<sub>2</sub>, methylglyoxal, pH of 3.3 (minimal effect) and sugar.

The FASEB Journal 2010;24:2576

Bee defensin-1 is part of the honeybee immune system and is added by bees to honey. The vast majority of honey's antibacterial properties come from that protein.

After enzymatic neutralization of H<sub>2</sub>O<sub>2</sub> and methylglyoxal, honey retained substantial activity. Using *B. subtilis* for activity-guided isolation of the additional antimicrobial factors, bee defensin-1 was discovered in honey. After combined neutralization of H<sub>2</sub>O<sub>2</sub>, MGO and bee defensin-1... the 20% honey had only minimal activity left. Subsequent adjustment of the pH of this honey from 3.3 to 7.0 reduced the activity to that of sugar alone.

ACTIVITY AGAINST ALL OTHER BACTERIA TESTED DEPENDED ON SUGAR, H<sub>2</sub>O<sub>2</sub>, MGO AND BEE DEFENSIN-1. Thus, the antibacterial activity of medical-grade honey has been fully characterized.

# Wound Healing

Reduced susceptibilities to manuka honey in the test organisms during long-term stepwise resistance training were found, but these changes were not permanent and honey-resistant mutants were not detected.

Eur. J. Clin. Microbiol. Infect. Dis. 2010 Jun 13; (Epub ahead of print)

Honey-resistant bacteria have not been isolated from wounds, but there is a need to investigate whether honey has the potential to select for honey resistance.

Tested against these bacteria:

- Staphylococcus aureus* NCTC 10017
- *Pseudomonas aeruginosa* ATCC 27853
- Escherichia coli*
- Methicillin resistant *S. aureus* (MRSA)
- Pseudomonas aeruginosa*
- S. epidermidis*

The risk of bacteria acquiring resistance to honey will be low if high concentrations are maintained clinically.

# URI - Case Study A

25 y/o black female. 241.4lb

CC: high fever, flu-like sx's, SOB

Vitals: BP 122/78, T 104.9°F, P 122, R 36,

SaO<sub>2</sub> 89% RA. 93% 4L O<sub>2</sub>

Allergies: PCN

Hx of present illness: Early Jan 2010, suspected tooth infection. Self tx'ed with natural remedies. Recovered.

Beginning of week (admitted 01/20/2010) developed fever with headache, mild cough, sore throat. Increased in intensity until for past couple days SOB especially with exertion, nausea, some vomiting, little diarrhea and very intense headache.

Oxygen by nasal cannulae.

Fever reducing measures,

Revulsive fomentations to the sinuses and chest.

Antimicrobial and antiviral herbal medications.



# URI - Case Study A

Admitted: 01/23/2010

Tx plan on admission.

Labs: Nasal swab positive Influenza A.

Mycoplasma IgM negative.

Nasal culture - growth of normal oropharyngeal flora

White count 5.3;  
Hg 14.2;  
Haematocrit 42.3;  
Na 131;  
K 3.4;  
total protein 8.7; .

#### TX PLAN:

Liquid diet (grape, pomegranate, fruit smoothies, broths as tolerated)  
up in chair ad lib. BR with assistance  
vaporizer by bedside with eucalyptus oil  
tea: lemon balm, peppermint, rosemary, licorice root 3T/qt. Drink 1 cup qid (serve cool as long as T>101°F)  
garlic drink: 1 clove blended in 1 glass water with juice of 1/2 lemon. Drink 3-4 glasses daily.  
Astragalus: 1 capsule qid  
Goldenseal / echinacea / cat's claw: 1 capsule qid  
General revulsive fomentations to chest and sinuses bid  
Nasal O2 at 2-4 litres to maintain SaO2 >92-93%  
Cool sponge bathing when temp >102F  
Cool-mildly cold (75-80F) retention enemas for temperature >103F  
Respiratory isolation precautions  
ice compresses to head prn for HA.  
EKG

Labs: stat CBC, CMP. then nasal swab for influenza A&B.

# URI - Case Study A

## Other treatments:

- Steam inhalation treatments - 30 min qid
- keep extremities warm (socks)
- 3 cloves fresh garlic tid
- incentive spirometry 10 times q hour WA
- h/c gargles with salt and charcoal respectively
- h/c face baths
- Russian penicillin

# URI - Case Study A

01/25/2010 (2nd day): afebrile all day. good appetite.

01/26/2010 (3rd day): walked outdoors with deep breathing (without oxygen) while very warmly dressed.

# URI - Case Study A

Discharged 01/29/2010 (6th day) with comprehensive discharge orders.

Discharge orders:  
outdoor walking 20-30 min tid  
general rev to sinus and chest daily  
h/c face soak at home  
tea: lemon balm, peppermint, rosemary, licorice root. 3T/qt. 1 cup qid  
Russian penicillin: whole head garlic, one peeled lemon per qt water. Drink 1qt daily  
Goldenseal / echinacea / cat's claw - 1 capsule qid for one week  
Astragalus - 2 capsules qid for one week  
check Vitamin D levels  
monitor O2 sats

# URI - Case Study B

26 y/o white female (5'8" 135 lb)

CC: Flu sx's, 12-13 week pregnancy

Vitals: BP 90/52; T 100.3°F; HR 106; R 16;

SaO<sub>2</sub> 94% RA; normal FHT

brief history:

high fever of 103F the day of admission with flu-like sx's - aching, rhinitis, cough.

Been sick for a couple of days with more intense sx's.

sore throat 3-4 days prior to admission, then developed fevers, aching, tenderness in entire body, coughing and sinus congestions. Tylenol brought temperature down prior to coming in. No appetite.

No problems with pregnancy at present.

Did labs...

# URI - case study B

Admitted 02/10/2010

Diagnosis: Influenza A with acute bronchitis and sinusitis; IUP about 13 weeks; Crohn's disease with hematochezia intermittently; Endometriosis; Anemia of chronic disease; severe thoracic scoliosis.

Allergies: Gluten

# URI - case study B

## Tx plan

02/11/2010 afebrile, congested, appetite returning, stable FHT's.

02/12/2010 low grade temps, mod. coughing, some noc. sweats

02/17/2010 dc resp. isolation

02/18/2010 discharged, continue hydro and herbs.

Respiratory isolation

Cough syrup 1/2 -1 tsp q 1-2 hrs prn

Diet: mainly liquids for now, fresh green drinks, or fruit drinks

Russian penicillin: ad lib @ bedside

Tea: rosemary, thyme, ginger, echinacea 2Tbsp/qt. Drink 3-4 cups daily.

Buffered Vitamin C 1,000mg tid

Hydro in room: plain rev to chest bid; plain rev sinuses bid (no derivatives ie HFB or fomie to spine); mild h/c shower by pt bid with 3 changes to chest and sinuses.

Steam inhalation tx with eucalyptus 1/2 hr tid

Nebulizer saline tx qid

Deep breathing 10x q hr.

FHT every shift, report if <120 or >160

# URI - case study C

19 y/o Caucasian female (5'7" 211 lb)

CC: several days of cough and on/off high fever; 2 episodes of syncope with falls

Vitals: BP 110/78; T 103.1°F; P 84; R 24

Hx of present illness:

coughing for several days, then Sabbath - high fever. no appetite. 2am passed out in bathroom. Sunday, fever broke, bad HA and cough. Fever returned, HA returned. Tues 5:30am, passed out again. Extremely thirsty. Shoulders and neck very stiff from 2 falls, also calf and left hip muscles sore.

Did labs...



# URI - Case Study C

Admitted: 01/15/03

Initial Dx: cough, fever, HA, polydipsia, polyuria, 2 syncopal episodes with falls.

SaO<sub>2</sub> down to 89% RA when lying on left side (affected side) or supine. Sitting, or lying on right side, it improves to 93-95%. sitting up improves to 97%. Quite hypoxic and SOB if lying on affected side.

---

01/15/03

Hg 11.4 g/dL (11.6-15.4), ESR 40mm (0-20)

Diff: 64% segs, 22% lymphs, 14% monos

01/16/03

Diff: 66% segs, 21% lymphs, 11% monos, 2% eosin

01/20/03

Hct 34.6% (36.0-48),

Diff: 57.7% segs, 18.9% (L) lymphs, 15.4% (H) monos, 1.9% eosin, 6.1% (H) baso

abnormal RBC morphology

01/26/03

platelets 519 (H)

Diff: 57% segs, 26% lymphs, 13% monos, 2% eosin, 2% basophils.

ESR: 64mm (0-20)

# URI - Case Study C

Tx plan:

Diet: liquids, smoothies

0.45% NS @ 100cc/hr IV

O2 at 2L nasal cannulae

BR with assistance

Hydro: gen. rev. to chest bid with cmf. With postural drainage and percussion after each tx.

Steam inhalation with eucalyptus qid

other:

4 hydro daily: 5am - post chest rev fomies only; 10am- anterior chest gen rev c cmf; 4pm - anterior chest gen rev c cold mitten friction; 9:30pm post. chest rev fomies only  
01/20/03: fever therapy

# URI - Case Study C

Astragalus, Echinacea - 2 droppers each qid

Goldenseal - 2 droppers qid

Vit C chewable - 1,000mg tid

Russian penicillin 1 qt/day with 1/4 tsp salt

Tea: Mullein, Fenugreek. 2tsp/cup. Drink 3-4C daily.

White Willow Bark, Passion Flower and Feverfew: 3 droppers of each q 3 hours prn HA.

# URI - Case Study C

01/17/03 *Mycoplasma pneumoniae* serum titers equivocal at 19 (10-20), CXR indicated lingular pneumonia.

01/26/03 *Mycoplasma pneumoniae* IgM >100

(01/16/03 SaO<sub>2</sub> 87-91% RA lying down)  
Cold hemagglutinins negative  
*Chlamydia pneumoniae* culture negative

---

fevers ranged 103 on first day, after that up to 102.2  
Afebrile on 7th day post admission, and from then on.

# URI - Case Study C

CXR:

01/15/03 pneumonic infiltrate lingular segment left upper lobe

01/18/03 infiltrate present, somewhat improved

01/20/03 minimal persistent infiltrate, lobe almost cleared

01/26/03 very minimal residual infiltrate left lower lung field

Discharged: 01/26/03 with continuing orders.