

Clinical Use of Essential Oils and *Activated* Essential Oils

Dan Kenner, Ph.D., L.Ac.

Essential Oil of Lavender



Essential Oils Distillery



The Ancient Egyptians Used Essential Oils



Essential Oils Preserve Tissues and Organs



Urns of Aromatic Plants were Stored in Caves near the Dead Sea



Queen Esther and Oil of Myrrh



Crown Chakra



The Quest for Access to the Spices of the Orient



The Black Plague (Bubonic Plague)



Medieval Physician During the Plague



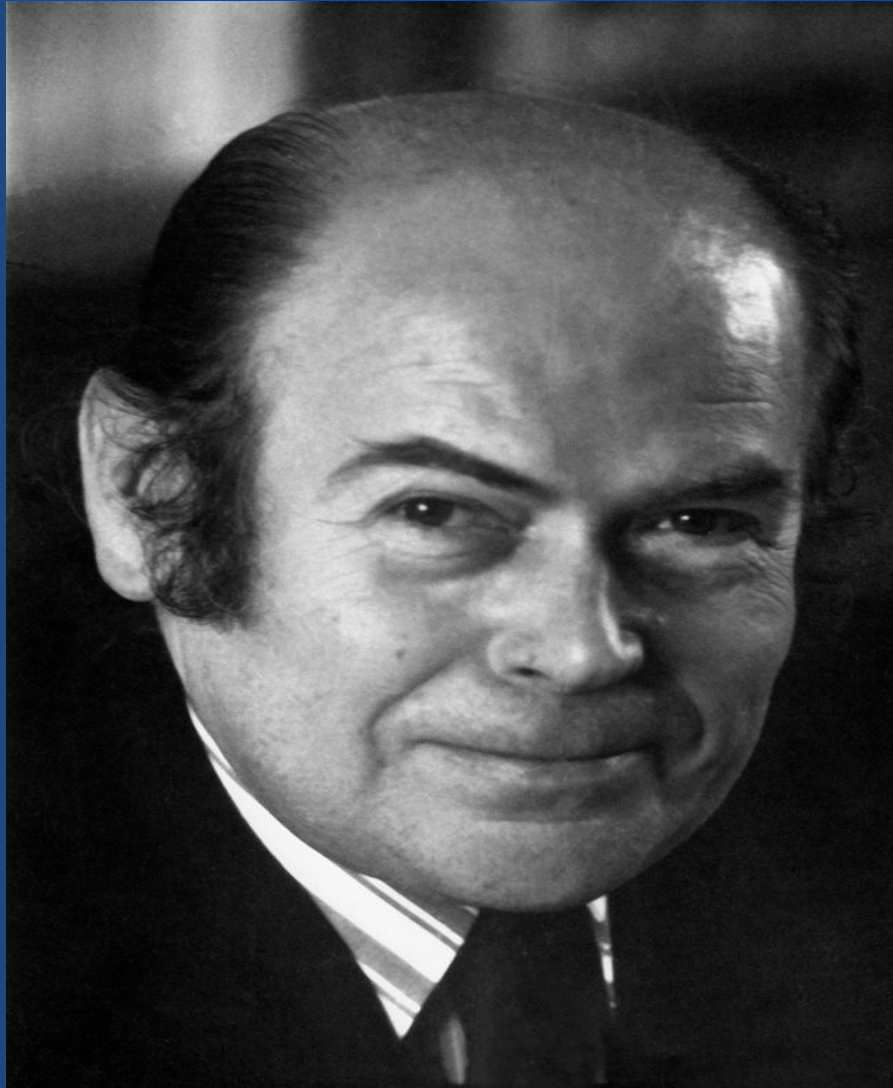


The Legend of the Four Thieves

René-Maurice Gattefossé, M.D.

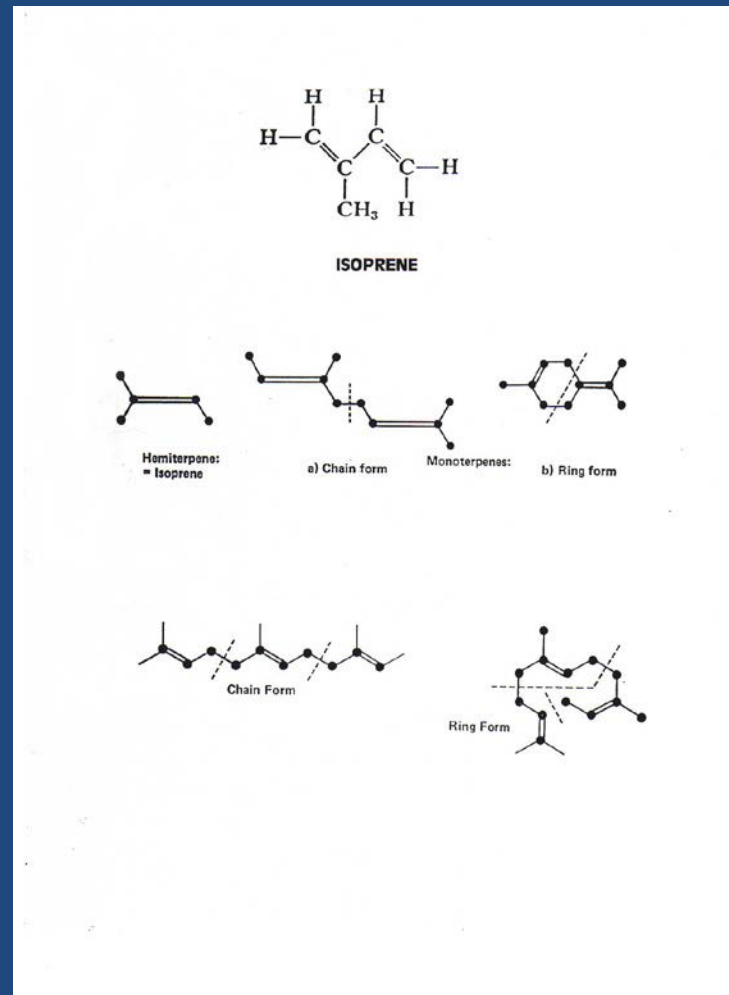


Jean Valnet, M.D.



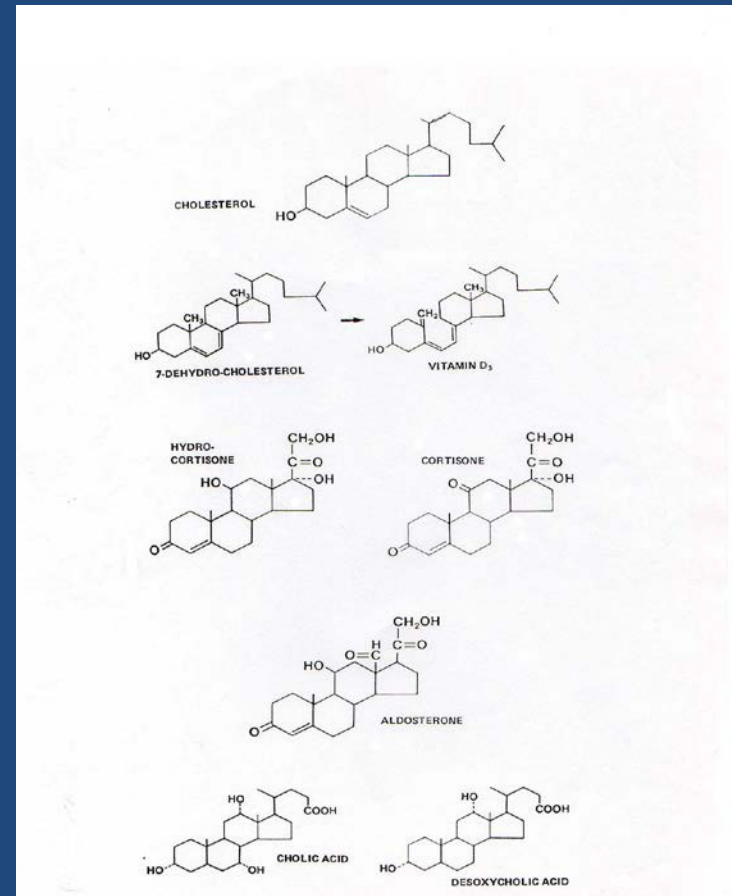
Isoprene

Isoprene combines to create terpenes. All essential oils have terpenes, which have strong penetrating powers. Complex terpenes, such as triterpenes and polyterpenes have interesting properties.

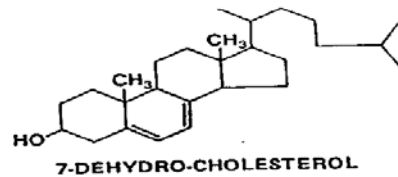
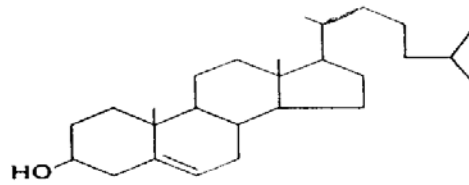


Steroid Structure Develops from Terpenes

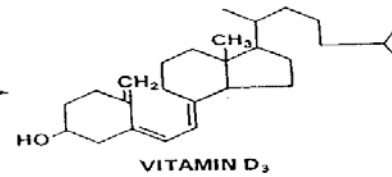
Short terpenes have a linear structure but when they lengthen into triterpenes and larger they fold into a structure similar to the steroid molecular type.



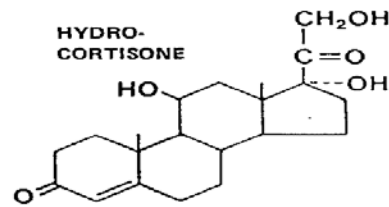
CHOLESTEROL



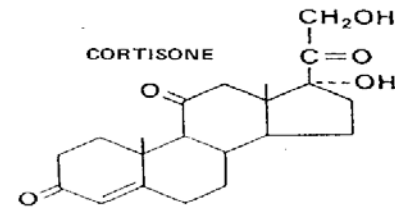
7-DEHYDRO-CHOLESTEROL



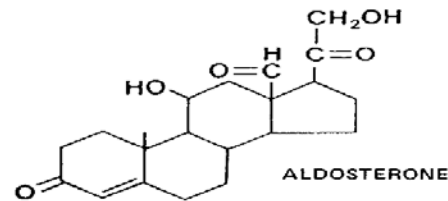
VITAMIN D₃



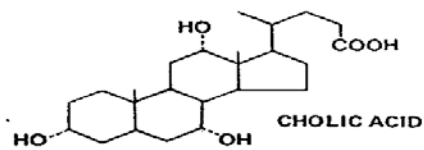
HYDRO-CORTISONE



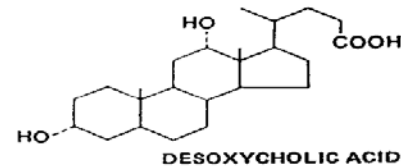
CORTISONE



ALDOSTERONE



CHOLIC ACID



DESOXYCHOLIC ACID

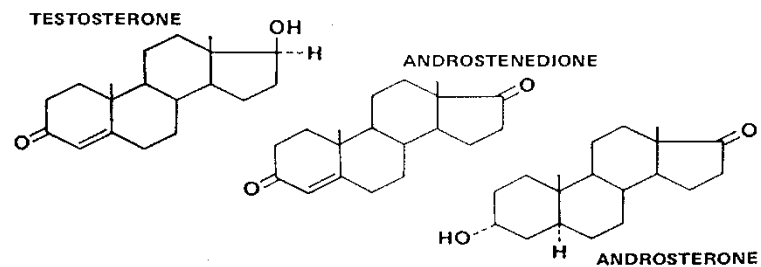
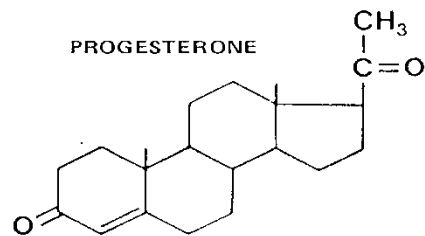
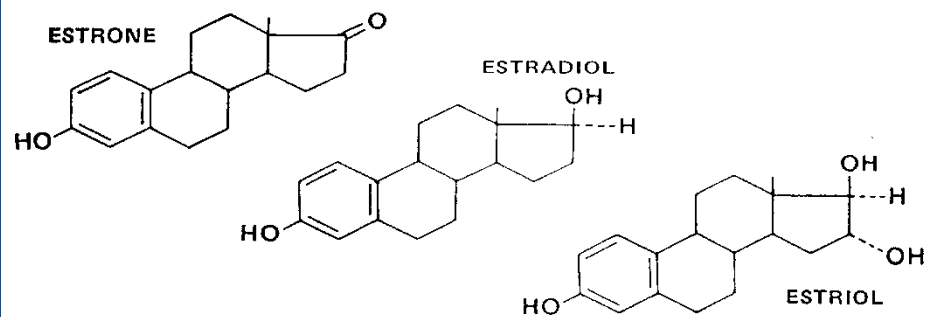


Table 1: Antimicrobial activity of the compound geraniol as an isolated compound vs. geraniol, chemotypes of Thyme and Geranium

Category of Bacteria	Species of Bacteria	Geraniol (100% geraniol)	Geranium (42% geraniol)	Thyme (22% geraniol)
Gram Negative	E. coli	++	0	++++
	Pseudomonas	++	+	+++
	Klebsiella	++	+++	+++
	Enterococcus	++	0	0
Gram Positive	Staphylococcus	++	+++	0
	Streptococcus	++	+++	+

AROMATOGRAMME



Aromatograms of Oil of Savory



(a) *E. coli* /
Sarriette



(b) *S. aureus* /
Sarriette



(c) *S. flexneri* /
Sarriette



(d) *B. cereus* /
Sarriette



(e) *S. paratyphi* A /
Sarriette

**A MICROBICIDAL EFFECT FROM
ESSENTIAL OILS IS PRODUCED
DESPITE THE FACT THAT THE
CONCENTRATION *IN VIVO*
IS FAR TOO LOW TO KILL
MICROORGANISMS BY DIRECT
CONTACT.**

**ESSENTIAL OILS ARE NOT
NECESSARILY SPECIFIC TO
CERTAIN MICRO-ORGANISMS *IN*
VIVO, REGARDLESS OF HOW THEY
BEHAVE IN A GLASS DISH.**

THE SENSITIVITY OF THE
MICROBE TO THE ESSENTIAL OIL
IS A FUNCTION OF THE HOST
ORGANISM, *i.e.*, THE CONDITION
OF THE PATIENT'S TERRAIN.

**THERE IS NO PHENOMENON OF
ACQUIRED RESISTANCE OF
MICROORGANISMS TO ESSENTIAL
OILS. FOR A GIVEN MICROBE
ISOLATED AT A GIVEN MOMENT, THE
ESSENCE WILL RETAIN ALL OF ITS
EFFICACY.**

Cajeput

Especially good for problems in the throat. Used for respiratory infections when there are fever and chills, sluggish bowel, and moderate perspiration. It softens hardened secretions and can relieve pain of otitis media taken orally or used locally in the ear.

Principal indications:

Bronchitis, enteritis, dysentery, asthma, nervous vomiting, chronic laryngitis and pharyngitis, dermatoses, cystitis, urethritis, menstrual pain, gout, rheumatism

Physiological properties:

- * sympatholytic
- * parasympatholytic
- * oxytocic
- * uterolytic (pelvic decongestant)

Eucalyptus

Good for clogged sinuses and sinus headaches, high fevers, complications of measles, pulmonary bacterial and viral infections

Principal Indications:

Pulmonary infections, bronchial infections, hemoptysis, colds, influenza, complications of measles, diabetes, arteriosclerosis, hypertension, febrile disease, diabetic arterial hypertension and arteriosclerosis, neuralgia, malaria, rheumatism, influenza, diphtheria

Physiological properties:

- * hypoglycemiant**
- * astringent**
- * hemostatic**
- * antispasmodic**

Lavender

Volumes could be written on the uses of lavender. Its anticoagulant properties are the only precaution to be observed. It is a very gentle and effective cleansing agent for virtually all tissues of the body, from the skin to the vaginal mucosa. Despite its gentle effect, it is quite an effective antibacterial agent.

Principal indications:

Hypertension, arrhythmias, tachycardia, excitability, anxiety, intestinal spasms, headaches, bronchitis, common cold, pulmonary infections, pertussis, depression

Physiological properties:

- * central nervous system sedative
- * sympatholytic
- * parasympatholytic
- * antispasmodic
- * vasodilator, cardioregulator
- * cholagogue

Precautions: Overdose can cause, nausea, diarrhea, hypotension. Has anticoagulant properties.

Lemon

Lemon clears up "dampness" and blood stasis. It is used for all applications of dissolving mucus or hyperviscosity of the blood, even lithiases of the biliary or urinary tract. It is also a powerful disinfectant and has been used to treat typhus, diphtheria and malaria.

Principal indications:

Biliary dyskinesia (also lithiases), gastric hyperacidity, gallstones, venous pathology, high cholesterol, rheumatism, arthritis, jaundice, vomiting, asthma, bronchitis, gout, rheumatism, fevers

Myocardial congestion, arterial hypertension, arteriosclerosis, hyperviscosity of the blood, hemorrhage, fevers, leukopenia, acute infectious diarrhea, pancreatic insufficiency, obesity, malaria, anorexia, gastric hyperacidity, gastric ulcer, asthma, bronchitis, pulmonary tuberculosis, typhus, asthenia, anorexia, bronchitis, asthma, diphtheria, urinary lithiases (uric), osseous tuberculosis, gout, rheumatism

Physiological properties:

- * sympathomimetic
- * cholagogue

Niaouli (MQV)

Niaouli is a respiratory and urinary disinfectant with a particularly strong influence on the nasal and sinus mucous membranes. It's effective for drying up watery secretions in the respiratory tract.

Principal indications:

sinusitis, rhinitis, pharyngitis, bronchitis, pertussis, dysentery, intestinal parasites, cystitis, urethritis

Physiological properties:

- * epitheliogenic
- * parasympatholytic

Oregano

One of the most powerful anti-infectious and antiparasitic agents, it's also effective for fluidifying bronchial secretions.

Principal indications:

Acute or chronic bronchitis, asthma, tuberculosis, diarrhea, amenorrhea, sluggish digestion, indigestion, aerophagia, gastric or intestinal spasms, anorexia nervosa, rheumatic pain, amenorrhea, intestinal parasites

Physiological properties:

- * antispasmodic
- * sympatholytic
- * parasympathomimetic

Precautions: do not use externally except as a rubefacient.

Ravintsara

Used mostly for viral infections, it is also an excellent lymphatic stimulant topically or internally. It clears "wind."

Principal indications:

viral infections, hepatitis, herpes, varicella, shingles (both topically and internally), ophthalmic herpes, chronic fatigue, influenza, neuromuscular pain and fatigue, irregular menses, amenorrhea, dysmenorrhea, cardiac arrhythmias, angina pectoris, nervous insomnia, cervical lymphadenopathy, rhinitis, sinusitis, pharyngitis, bronchitis, dyspnea, colitis, viral enteritis

Physiological properties:

- * pituitary stimulant (ACTH, gonadotrophins, prolactin, oxytocin)
- * choleric
- * expectorant
- * cardiogenic
- * antispasmodic (neuromuscular)

Savory (*Satureja montana*)

IMMUNE: immunostimulant; **ID:** antibacterial: gram +, gram - , antifungal, antiviral, antiparasitic, antiprotozoal; **GI:** eupeptic, carminative, astringent, rebalances intestinal flora; **ANS:** sympathomimetic beta > Alpha; **ENDO:** Cortico: adrenal cortex stimulant (general), Gonado: increases serum androgens; **Ortho:** anti-rheumatic; **NEURO:** anti-neuralgic

USE: spasmodic colitis, gastroenteritis, diarrhea, candidiasis, all infectious disorders, neurasthenia, depression, asthma, rheumatic disorders, topical infections

CONTRAINDICATIONS: pregnancy, nursing, hemorrhoids, hemorrhagic disorders, Crohn's (esp. rectal administration of EO), **Relative:** adrenal over-stimulation, hypertension (especially people taking beta blockers), gastritis, hepatic failure.

Thyme (*Thymus vulgaris*)

IMMUNE: anti-infectious (ENT, pulmonary, intestinal, pharyngeal, urinary, genital, cutaneous), antifungal, antibacterial (gram +, gram -), antiviral, anti-herpetic, wide spectrum anthelmintic, vermifuge; immune stimulant; antioxidant, anti-inflammatory; febrifuge; **PULMONARY:** Mucolytic, expectorant, antitussive; **DIGESTIVE:** neurotropic digestive carminative, eupeptic, choleric, antigastric; **ANS:** parasympatholytic (strong vagolytic)

ENDOCRINE: Adrenal: adrenal cortex stimulant, Gonad: emmenagogue, binds to estrogen, progesterone receptors; **NEURO:** Analgesic **NEUROMUSCULAR:** spasmolytic; **RENAL:** volumetric diuretic; **USE:** dysmenorrhea, paralytic fear, spasmophilia, hypotension, infections, digestive disorders, rheumatic disorders

CONTRAINDICATIONS: Pregnancy, glaucoma, hyposecretory states

Sage (*Salvia officinale*)

Astringent, choleric, hepatoprotective, stimulates endocrine and exocrine pancreas (alcohol extract contains zinc, nickel and cobalt, which aid in pancreatic support)

Antimicrobial: fungicide, bactericide, bacteriostatic, activates thymus phagocytosis, supports adrenal and thyroid function

Endocrine: estrogenic, thyroid stimulant, prolactin antagonist, mild sympathomimetic (β), volumetric diuretic. *Salvia officinalis* is more anti-mitotic (anti-cancer) than *Salvia sclarea*.

CONTRAINDICATIONS: There is a possible interaction with anti-epileptic medications because it contains ketones like thujone.

TI TREE (*Melaleuca alternifolia*)

Ti tree, also called “tea tree oil” and “oil of Melaleuca,” has become a popular item in natural food stores and is used in whole lines of products from toothpaste to housecleaner. It is an excellent antifungal, but also antibacterial and antiviral. It is especially helpful for fungal infections of the skin.

Principal indications:

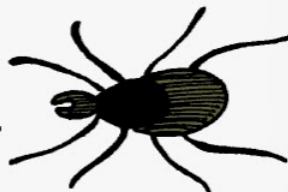
Skin infections - tinea, ringworm, herpes; vaginitis;
urinary tract infections

Physiological properties

* epitheliogenic



LYME DISEASE



Flu-Like Symptoms

- Headache
- Fatigue
- Fever
- Chills
- Sore Throat
- Muscle Aches

— Hearing Loss

— Paralysis of Face

— Heart Complications
Rapid or Slow Heart Rate
Chest Pain

— Syncope, Palpitations,
Dyspnea

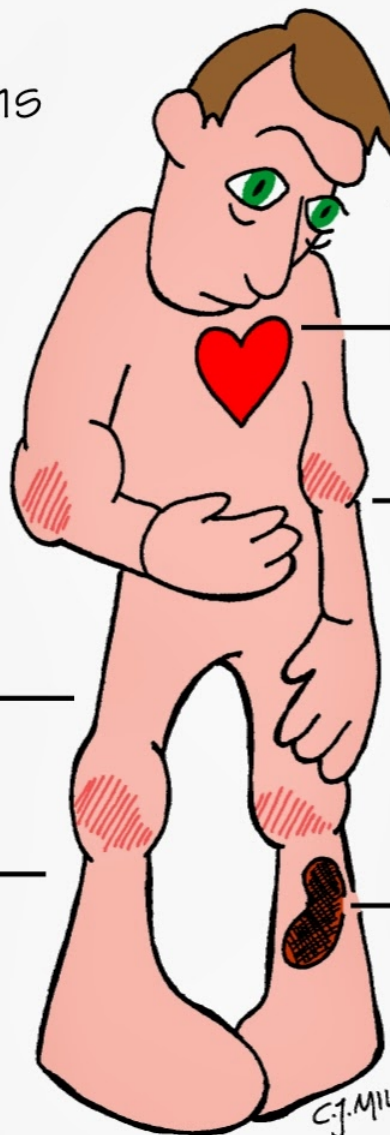
— Insomnia

— Hot, Swollen,
Painful Joints

Psychological Complications (Long Term)

- Depression
- Dementia

— Rash at the Site
of the Tick Bite -
Itching



Lyme Co-infections

- Bartonella
- Ehrlichia/Anaplasma
- Babesia
- Fungal infections
- Viral infections
- Mycoplasma
- Other bacteria and parasites

Components of Treatment

- Disinfection: cleansing terrain, destroying pathogenic microbes
- Drainage: especially liver, heavy metals
- Symptomatic treatment: pain, brain fog, fatigue
- Regulating the terrain: Neuroendocrine regulation, acid-base regulation
- Boosting immunity (the first four will probably do that)
- Tissue repair: Healing membranes, especially gut; nourishing the tissues

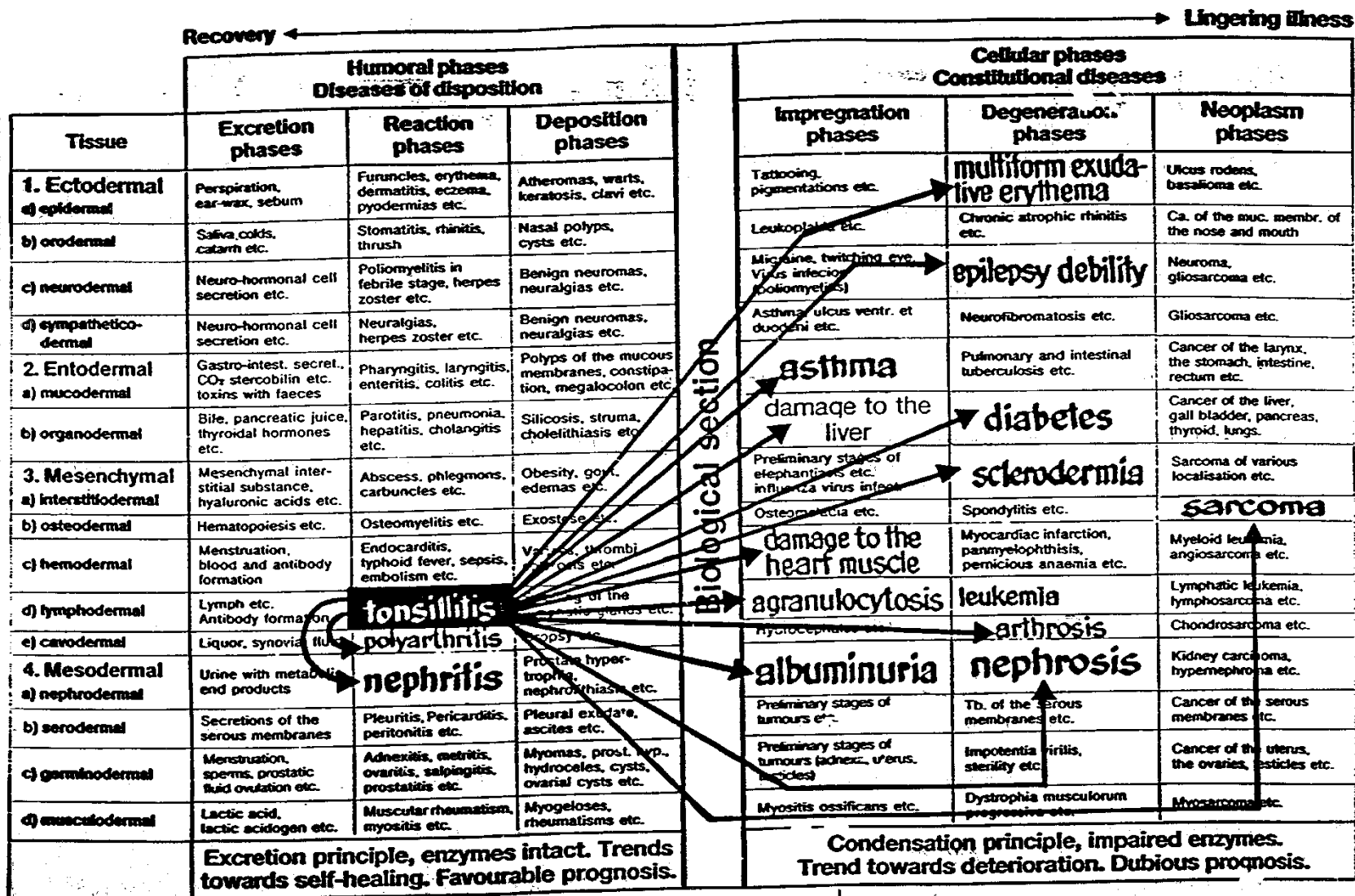
SIX-PHASE TABLE

	HUMORAL PHASES		MATRIX PHASES		CELLULAR PHASES		
Organ system	Excretion Phases	Inflammation Phases	Deposition Phases	BIOLOGICAL DIVISION	Impregnation Phases	Degeneration Phases	Dedifferentiation Phases
Skin	Episodes of sweating	Acne	Naevi		Allergy	Scleroderma	Melanoma
Nervous system	Difficulty concentrating	Meningitis	Cerebroscclerosis		Migraine	Alzheimer's disease	Gliosarcoma
Sensory System	Tears, otorrhea	Conjunctivitis, otitis media	Chalazion, cholesteatoma		Iridocyclitis, tinnitus	Macular degeneration, anosmia	Amaurosis, malignant tumor
Locomotor System	Joint pains	Epicondylitis	Exostosis		Chronic rheumatoid arthritis	Spondylosis	Sarcoma, chondroma
Respiratory Tract	Cough, expectoration	Bronchitis, acute	Silicosis, smoker's lung		Chronic (obstructive) bronchitis	Bronchiectasia, emphysema	Bronchial carcinoma
Cardiovascular System	Functional heart complaint	Endocarditis, pericarditis, myocarditis	Coronary heart disease		Heart failure	Myocardial infarction	Endothelioma
Gastrointestinal System	Heartburn	Gastroenteritis, gastritis	Hyperplastic gastritis		Chronic gastritis, malabsorption	Atrophic gastritis, liver cirrhosis	Stomach cancer, colon cancer
Urogenital System	Polyuria	Urinary tract infection	Bladder stones, kidney stones		Chronic urinary tract infection	Renal atrophy	Cancer
Blood	Reticulocytosis	Leucocytosis, suppuration	Polycythaemia, thrombocytosis		Aggregation disturbance	Anemia, thrombocytopenia	Leukemia
Lymph System	Lymphedema	Lymphangitis, tonsillitis, lymphadenitis	Lymph-node swelling		Insufficiency of the lymph system	Fibrosis	Lymphoma, Hodgkin-/non-Hodgkin-lymphoma
Metabolism	Electrolyte shift	Lipid metabolism disturbance	Gout, obesity		Metabolic syndrome	Diabetes mellitus	Slow reactions
Hormone System	Globus sensation	Thyroiditis	Goitre, adenoma		Hyperthyroidism, glucose intolerance	Menopausal symptoms	Thyroid cancer
Immune System	Susceptibility to infection	Weak immune system, acute infection	Weak reactions		Autoimmune disease, immunodeficiency, chronic infections	AIDS	Slow reactions
	Alteration*	Reaction*	Fixation*		Chronic Forms*	Deficits*	Decoupling*
Psyche	Functional psychological disturbance, "nervousness"	Reactive depressive syndromes, hyperkinetic syndrome	Psychosomatic manifestation, neuroses, phobias, neurotic depression		Endogenous depression, psychosis, anxiety neurosis, organic psychosyndrome	Schizophrenic defective states, mental deficiency	Mania, catatonia

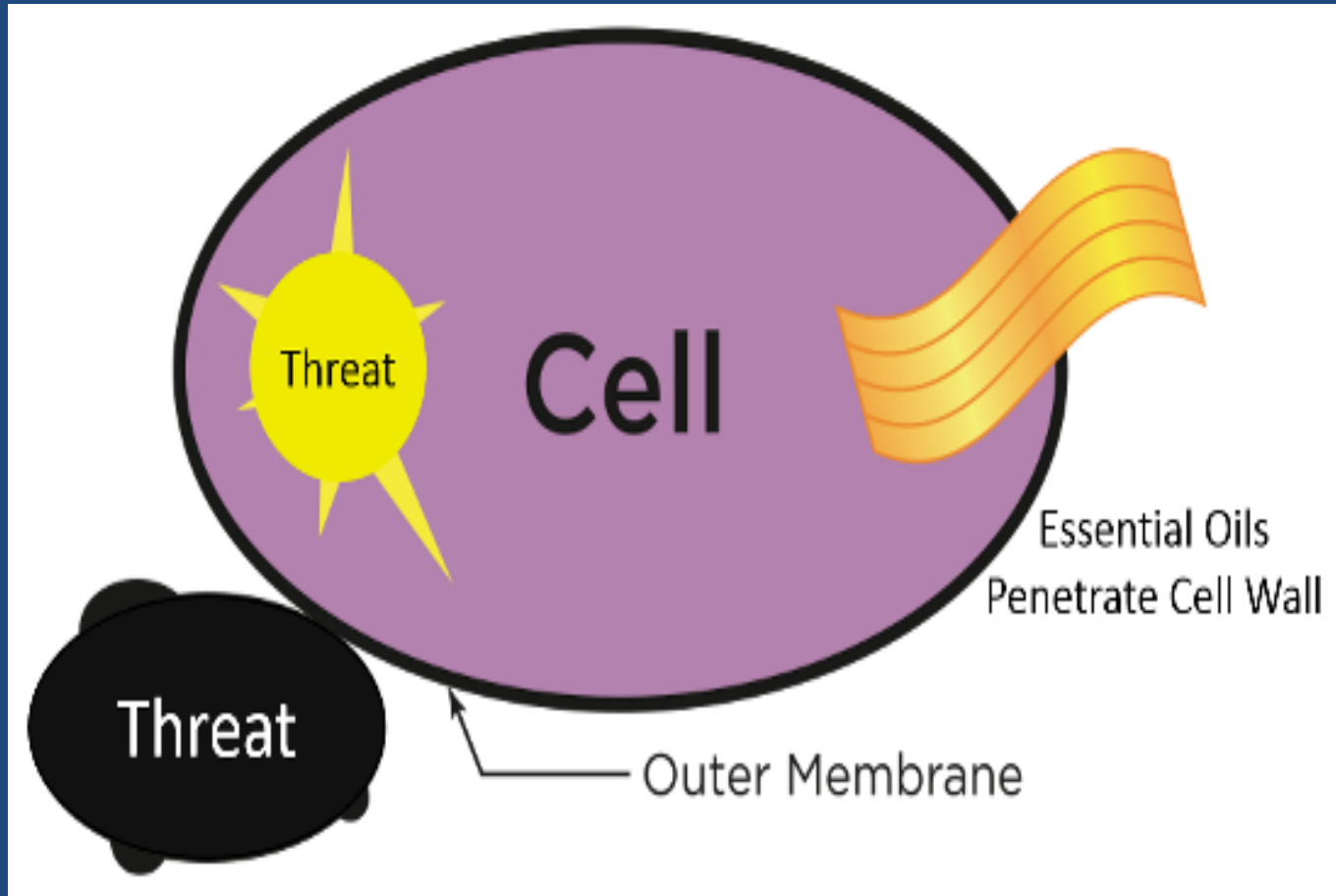
The six-phase table is a field matrix reflecting medical experience based on careful observation and empirical learning. It is a phase-by-phase arrangement of disorders with no direct relationship between them. No causal pathogenetic link between disorders can be inferred. The structure of the table makes it suitable for developing a prediction system giving a better assessment of the possibilities for a vicariation effect.

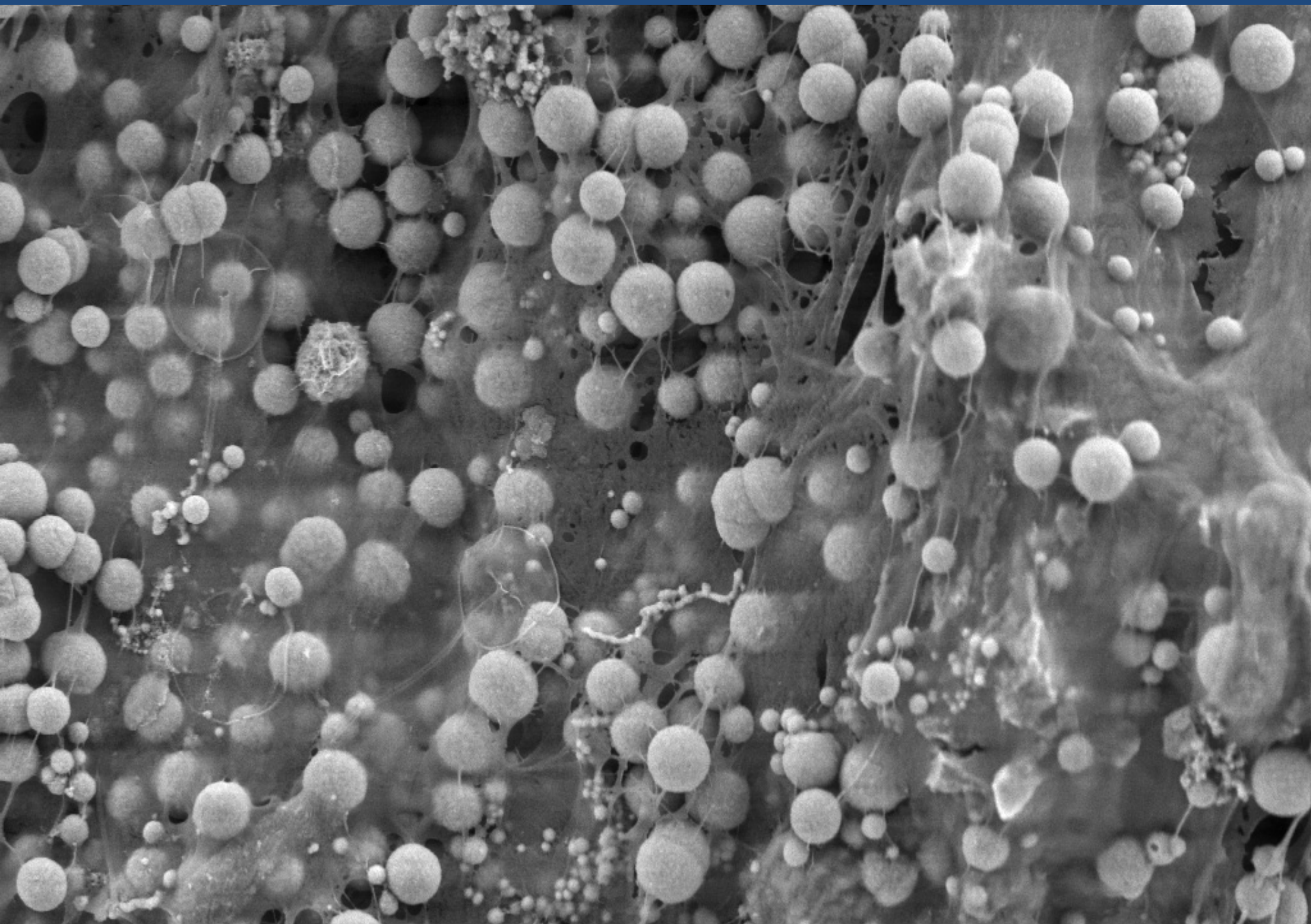
* Phase nomenclature in psychology.

Figure 13: Tonsillitis (reaction phase)



Essential Oils and Phytochemicals Destroy (Reprogram) Viruses





Essential Oils are Solvents



Dissolving Biofilms

“About 80% of human infections affecting the gastrointestinal, genitourinary and respiratory systems, oral mucosa and teeth, eyes, middle ear and skin are caused by biofilm-associated microorganisms. Therefore, the search for modern strategies is even more important as microbial biofilms resistant to conventional antibiotics, antiseptics and disinfectants are involved in the frequent treatment failures of some chronic inflammatory diseases and wounds. Natural products containing secondary metabolites, such as aromatic compounds, sulphurated derivatives, terpenoids (essential oils)...”

Mogosanu G, Grumezescu A, Huang K, *et al*, Prevention of microbial communities: novel approaches based on natural products, *Current Pharmaceutical Biotechnology*, 2015;16(2):94-111.

Bernard Christophe, Pharmacist



Ixogon Softgel Caps

Essential Oils:

- Savory (*Satureja montana*)
- Sage (*Salvia officinale*)
- Clove (*Syzygium aromaticum*)

Sunflower Oil

D3 Technology is a method of enhancing the effectiveness of antimicrobial agents by means of:

Dilution

Dynamization

Dispersion

Use of Metals as Antimicrobials

Silver: The Phoenicians stored water and other fluids in silver coated bottles to discourage contamination by microbes. Silver dollars used to be placed in milk bottles to keep the milk fresh and water tanks of airplanes and ship that are, 'silvered,' have the ability to render water potable for months at a time.

Arsenic: Salvarsan for syphilis

Mercury: Mercurochrome, Thiomersal, Calomel

Copper: New research has revealed that the use of antimicrobial copper surfaces in hospital rooms can reduce the number of healthcare-acquired infections by 58% when compared to people treated in intensive care units with non-copper touch surfaces.

Zinc: Zinc Pyrithione

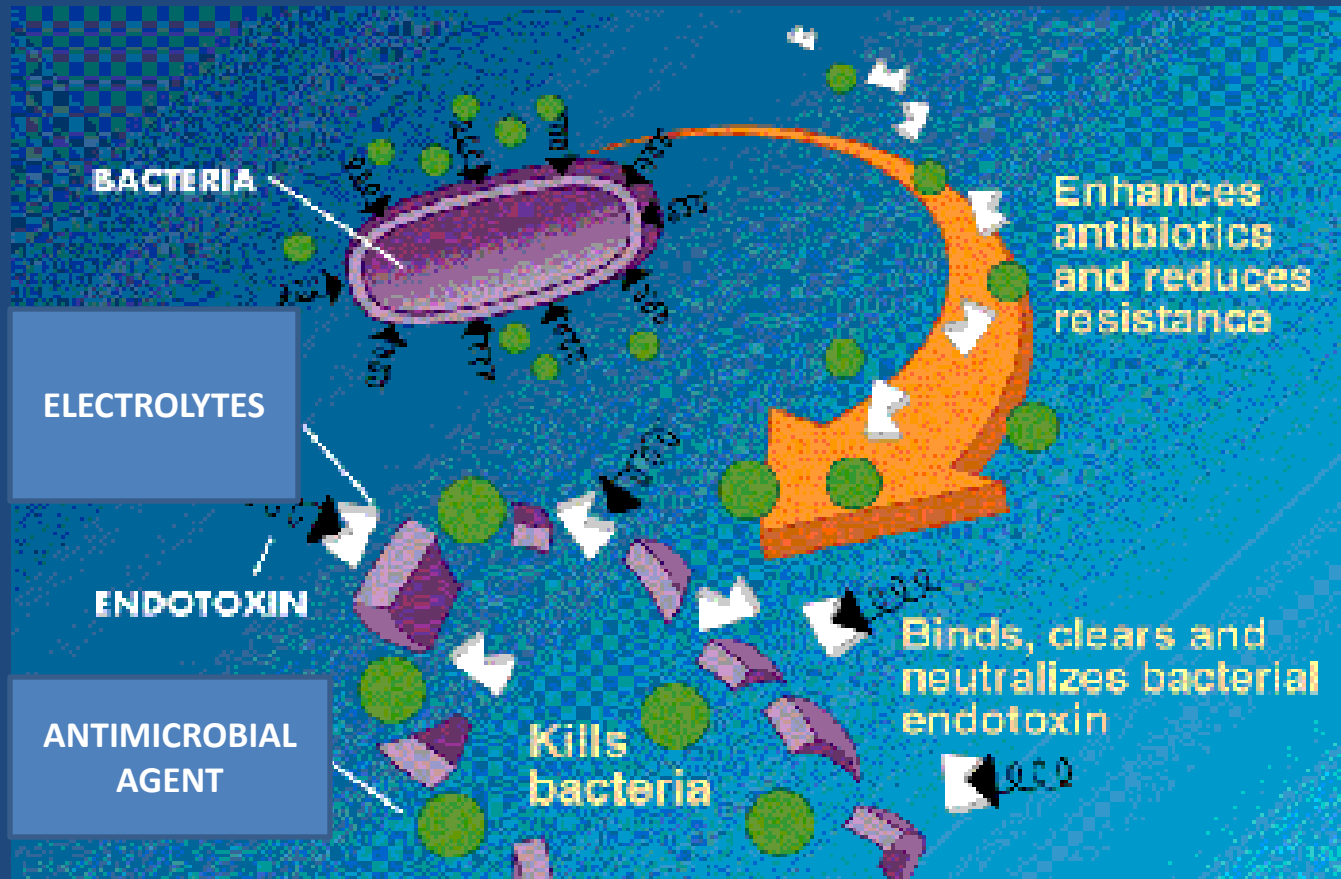
Manganese: Tetraazamacrocyclic complexes of manganese

Antimony: Antimony gluconate, antimony tartrate

Research Literature on Enhancement of Antimicrobial Effect with Electrolytes

- Newbold C, Wallace R, Walker-Bax N, Potentiation by metal ions of the efficacy of the ionophores, monensin and tetronasin, towards four species of ruminal bacteria, *FEMS Microbiology Letters*, 2013 Jan;338(2):161-7. doi: 10.1111/1574-6968.12044. Epub 2012 Dec 4.
- Morones-Ramirez J, Winkler J, Spina C, Collins J, Silver Enhances Antibiotic Activity Against Gram-Negative Bacteria, *Science Translational Medicine* 19 Jun 2013; 5(190): pp. 190 - 198.
DOI: 10.1126/scitranslmed.3006276
- Wolska K, Grześ K, Kurek A, Synergy between novel antimicrobials and conventional antibiotics or bacteriocins, *Polish Journal of Microbiology* 2012;61(2):95-104.
- Syed H, Ravaoarinoro M, LiF Reduces MICs of Antibiotics against Clinical Isolates of Gram-Positive and Gram-Negative Bacteria, *International Journal of Microbiology*, 2012;2012:454065. doi: 10.1155/2012/454065. Epub 2012 Feb 22.

Electrolytes Enhance Microbicidal Effect

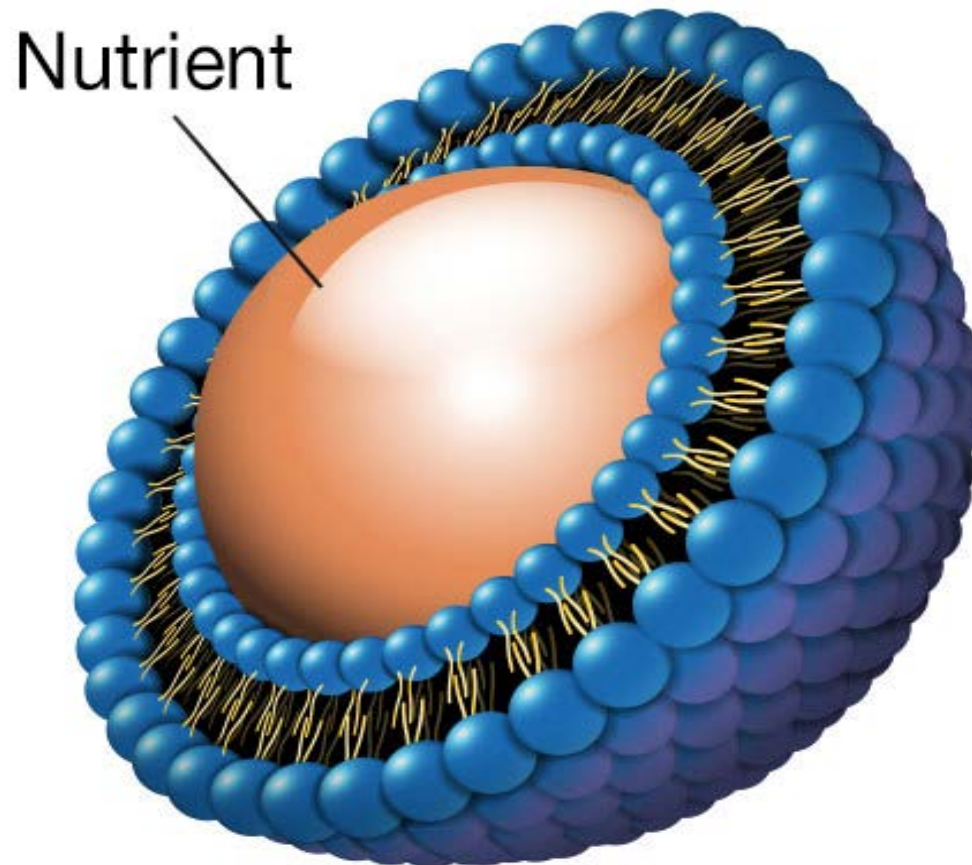


Dispersion:

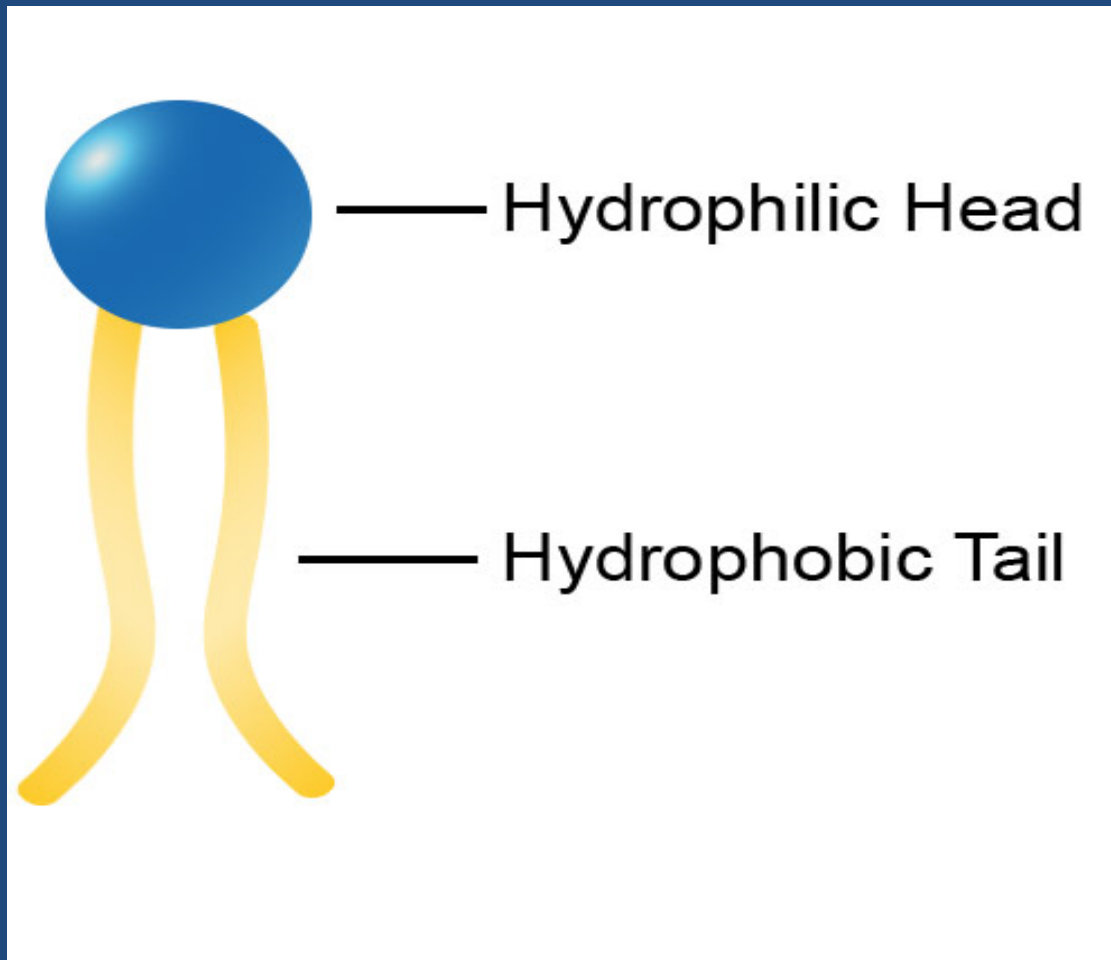
Liposomal Delivery System

With the dispersing agent, composed of plant cell membranes, which transform the anti-infectious agent into thousands of microdroplets, the problem of safety has been addressed further.

Liposome

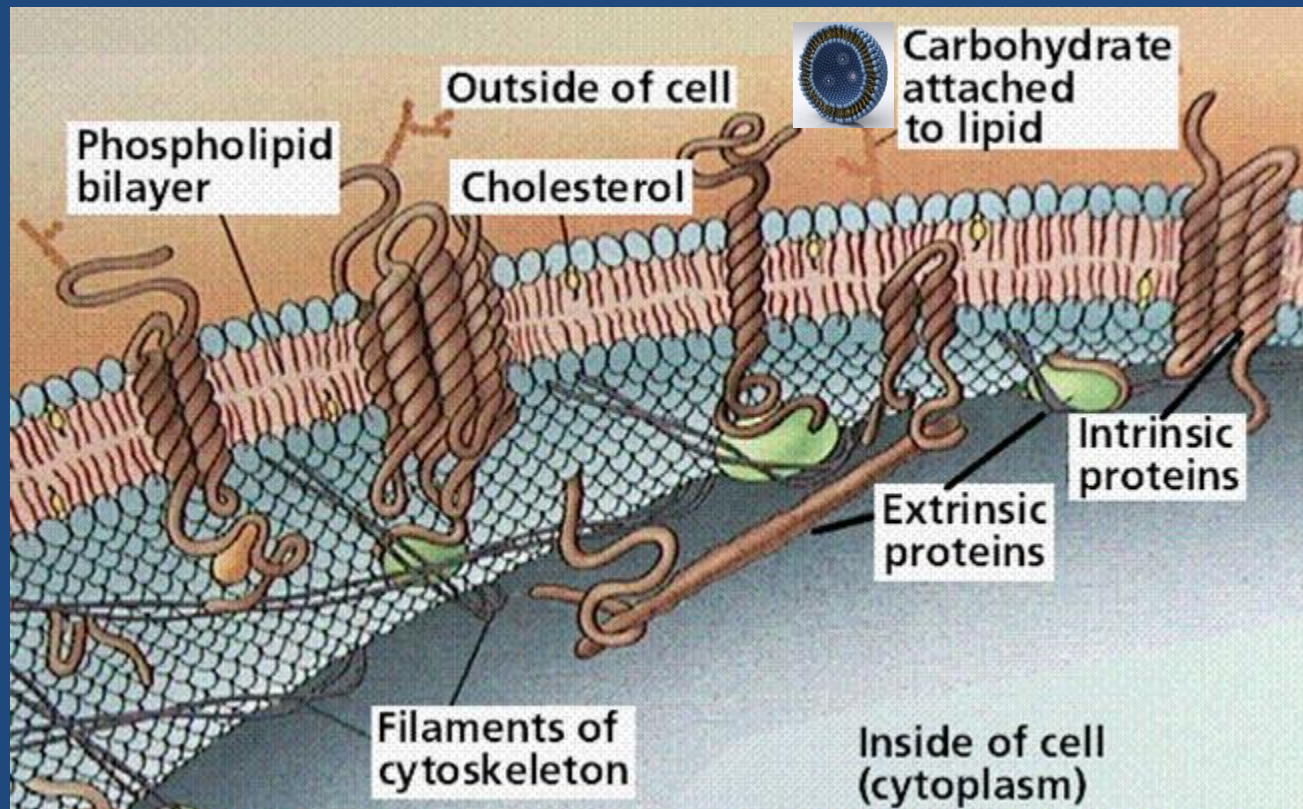


Liposomal Delivery



Liposomal Delivery

Liposome



Grapefruit Seed Extract Formulation

Ingredients:

- Grapefruit Seed Extract in organic alcohol
- Specially processed sodium-reduced marine salts; alcohol solution of plant cell membrane phospholipids

Suggested Use: 20 drops two or three times a day or according to doctor's prescription

Minimum Inhibitory Concentration of Grapefruit Seed Extract Preparations and Pathogenic Microbes

Reference bacterial strains (100 μ L of inoculum)	Negative control 0% growth (sterile culture medium)	Positive control 100% bacterial growth	Grapefruit seed Extract (100 μ L)	Grapefruit seed Extract with sodium- reduced marine salts	Grapefruit seed Extract with sodium- reduced marine salts and liposomal delivery
MRSA ATCC 1026	0	100	1.00	0.125	0.06
<i>Escherichia coli</i> ATCC 25922	0	100	0.50	0.06	0.03
<i>Pseudomonas aeruginosa</i> ATCC 27853	0	100	0.06	0.03	0.015

Ormed Custom D3 Blend

Essential Oils:

- Ravintsara
- Tea Tree
- Niaouli
- Savory
- Oregano
- Specially processed sodium-reduced marine salts
- Alcohol solution of plant cell membrane phospholipids

Suggested Use: 3 drops two or three times a day in water or according to doctor's prescription

Tests of Antibacterial Efficacy on *Borrelia burgdorferi* ATCC 35210 *in vitro*

Product Tested	MIC of Tested Product
Niaouli Essential Oil D3	1/16 Dilution
Savory Essential Oil D3	1/8 Dilution
Grapefruit Seed Extract D3	1/16 Dilution
Vitamin C D3	1/4 Dilution
Propolis D3	1/8 Dilution

Vitamin C D3 formulation

Ingredients:

- Vitamin C (ascorbic acid)
- Specially processed sodium-reduced marine salts
- Alcohol solution of plant cell membrane phospholipids

Suggested Use: 5 drops once or twice a day according to prescription

Minimum Inhibitory Concentration of Vitamin C D3 Preparations and Pathogenic Microbes

Bacterial Strain	Vitamin C 3.5% + alcohol 40% + marine salts 3 mg/L	Vitamin C 3.5% + alcohol 40% + marine salts 3 mg/L + plant liposomes
MRSA ATCC BAA-1026	Dilution $\frac{1}{4}$ = 0.875% of Vitamin C	Dilution $\frac{1}{8}$ = 0.0437% of Vitamin C
<i>Escherichia coli</i> ATCC 25922	Dilution $\frac{1}{4}$ = 0.875% of Vitamin C	Dilution $\frac{1}{8}$ = 0.0437% of Vitamin C
<i>Pseudomonas aeruginosa</i> ATCC 27853	Dilution $\frac{1}{4}$ = 0.875% of Vitamin C	Dilution $\frac{1}{8}$ = 0.0437% of Vitamin C

SUMMARY OF BENEFITS OF THE D3 PRODUCTION METHOD

- **D3 PRODUCTS ARE STRONG ENOUGH BECAUSE OF THEIR EFFICIENT DELIVERY**
- **THEY ARE CHEMICALLY DILUTE SO VERY LOW TOXICITY, NO CHEMICAL RESIDUE**
- **PLANT AND NUTRIENT-BASED**
- **NO SIDE EFFECTS, EXCEPT FOR POSSIBLE DIE-OFF REACTIONS**
- **CAN BE USED ORALLY OR TOPICALLY**