unda® | Gammadyn®

OLIGO ELEMENTS TO STIMULATE ENZYME AND HORMONE FUNCTION

The aim of this comprehensive product reference guide is to assist in building more effective and successful patient treatment strategies. The reference guide is to be used as an adjunct to Seroyal Continuing Education and is not intended to be utilized as a diagnostic tool nor replace any other required education. The remedies indicated in this reference guide are potent medicines that can have profound therapeutic effects on patients. As with any intervention, the dosage may need to be adjusted for those with chronic conditions, very sensitive individuals and those taking multiple medications. Practitioners are solely responsible for the care and treatment provided to their own patients. The information provided by the speaker or speakers in the Seroyal Continuing Education program together with any written material provided do not necessarily represent the views of Seroyal and are not intended as medical advice or an endorsement of any products. This information is for professional use only and is not meant to diagnose, treat, cure, prevent any disease or replace traditional treatment, and has not been evaluated by the FDA or Health Canada.

Seroyal

The Function of Trace Minerals

Over a century ago, French chemist and biologist Gabriel Bertrand discovered that trace minerals (mineral salts) are naturally present within the body. These minerals play an extremely important biological role as key components in the control of cellular metabolism in homeostatic regulation. At the cellular level, trace minerals are used at minute intracellular dilutions, released in ionized form for immediate transportation and utilized throughout the body. Trace minerals function as:

Enzymatic co-factors. Enzymes are the biological catalysts required in most chemical reactions that occur in biological systems. Enzymes allow the body to perform metabolic functions at rates in excess of a million times greater than would be possible without them. Formed out of protein molecules, most enzymes depend on specific, low-concentration trace minerals to provide metal ions as either stabilizers or activators, as well as help determine the enzyme's specificity for a given substrate. Trace minerals become the co-factors to help normalize enzymatic function.

Example: As a stabilizer, the trace mineral metal ion combines with the protein molecule in a permanent structure. Cytochrome C, an enzyme involved in oxidation-reduction processes, contains iron as an integral part of its structure.

Example: As an activator, the protein forms a bond with the trace mineral-metal only during the reaction itself, so that the metal ion acts as an enzyme catalyst. Alkaline Phosphatase, an enzyme essential for bone formation, functions only in the presence of zinc ions.

Example: Trace minerals affect the molecular configuration of enzymes, and can also induce distortions in the substrate, rendering it more susceptible to enzyme modification.Carboxypeptidase, a proteolytic enzyme, contains a zinc stabilizer that alters peptide configuration allowing hydrolysis at the carboxy-terminal.

Hormone modulators: Trace minerals are essential in the production of hormones and vitamins in the body.

Example: iodine is essential in the production of T3 and T4

Example: cobalt is essential in the existence of Vitamin B12

Example: iron is essential in the composition of hemoglobin

Structural components: Minerals possess either a quantitative or qualitative effect, depending on whether they work at the macro (quantitative) level of structural formation and functional processes, or at the micro (qualitative) level of cellular enzyme activation. Trace minerals work at a micro level (qualitative in action) but may have additional roles and work at a macro (or quantitative) level.

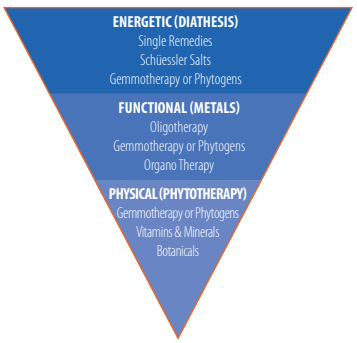
Example: fluoride aids in the normal growth of teeth and bone

Example: silica aids in the growth of the connective tissue

What are Oligo Elements?

"Oligo elements" or "oligotherapy" are trace minerals in a highly bioavailable form, administered in small doses and at low concentrations, providing ions the body cannot synthesize and which are indispensable for cellular enzymatic functions. With a good safety profile, oligo elements have: no known side effects; no known drug to drug interaction; and will not cause any pharmaco-dependancy. Oligotherapy can be well integrated with other modalities.

How different modality therapies "fit"

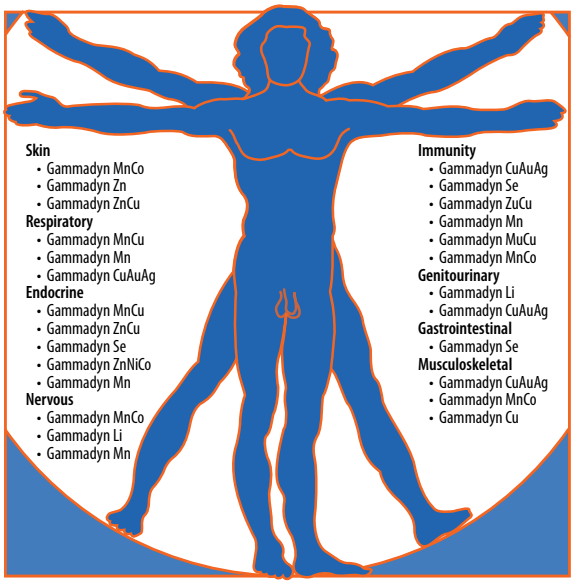


Oligo Elements and Physiological Disorders

Oligo elements are suited to treating functional pathologies and bringing the body back to homeostasis. It is a holistic approach that takes not just the physical but also the constitution of the individual into account. By regulating a particular constitution, practitioners are able to diminish or modulate reactivity in relation to a specific pathological predisposition.

Metabolic disorders involving Oligo elements can be divided into two main groups: disorders of overload and disorders of deficiency.

Gammadyn System Usage



Disorders of Overload

Overload disorders are due primarily to accidental intoxication from adulterated foods and environmental pollutants, such as pesticides, heavy metals, or element disequilibrium.

Metal toxicity has become a major contributing factor in many metabolic disorders and functional diseases. For example, aluminum, a common contaminant in soft drink cans and some cookware, is known to induce neurofribillary formations in the brains of higher animals and has been found in significant concentrations in the brains of individuals afflicted with Alzheimer's disease.

Toxic metals directly interfere with specific enzyme functions. Zinc-dependent enzymes are a prime example. In the presence of even low levels of lead, a close neighbor of zinc in the periodic table, these enzymes can bind to lead and thus be inactivated. Mercury and cadmium are also known toxic enzyme inhibitors. The toxic effect of these heavy metals stems from their ability to distort the substrate binding site of the enzyme rendering it useless. Targeted doses of oligo elements displace toxic inhibitors and reactivate enzyme functions.

An imbalance in the intracellular oligo element equilibrium can cause a build-up of one element at the expense of the other, thus leading to a qualitative insufficiency. This disequilibrium toxicity will respond to oligotherapy. For example, Alkaline Phosphatase is an enzyme activated by zinc, but the complex is highly changeable. Other divalent cations, such as magnesium or cobalt, if present in excessive levels, can bind to the enzyme and deactivate it. Large doses of zinc will only contribute to disequilibrium and are unable to reactivate the enzymes. Only direct administration of targeted doses of oligo elements will reactivate these enzymes.

As therapeutic enzymatic regulators, oligo elements aid in the treatment of biochemical dysfunctions without disturbing the existing equilibrium. Supplying these needed mineral co-factors at precise concentrations unblocks diseased metabolic pathways, allowing healing mechanisms to operate and prepare the patient to respond more readily and successfully to other modalities.

Disorders of Deficiency

Quantitative mineral deficiencies are the result of either a decrease of absorption or increased excretion. Absorption may be affected by alimentary supply. Deficient foods as a result of mineral depleted agricultural soils can deprive the body of essential metal cofactors. As a result, vegetarians have been determined at risk for mineral deficiencies in manganese, zinc, chromium, magnesium, copper and iron. Frequently, absorption is affected by decreased bioavailability of foods due to chelation with inassimilable compounds, such as phytates, phosphates, and antibiotics, or intestinal pathology (malabsorption syndromes), including dysbiosis of the microflora and other diseases.

Deficiencies may also be the result of increased excretion. For example, infants exposed to intrauterine alcohol have decreased plasma zinc levels and increased urinary excretion, resulting in decreased protein synthesis. There is a tight relationship between element equilibrium and metabolism. For example, zinc plays an important role in the synthesis of amino acids as a cofactor for Glutamate Dehydrogenase, magnesium is necessary for digestion as a primary cofactor for protein Peptidase, copper helps prevent free radical pathology as a part of Superoxide Dismutase, and manganese is essential for DNA synthesis and repair in DNA Polymerase. The scientific literature contains volumes of examples of minerals and their affect on the body's metabolism. The proper functioning of each of these processes is dependent on a highly integrated and balanced relationship of one mineral to another. As indicated above, a toxicity, deficiency or imbalance in any one mineral can be at the expense of another, resulting in metabolic disorder.

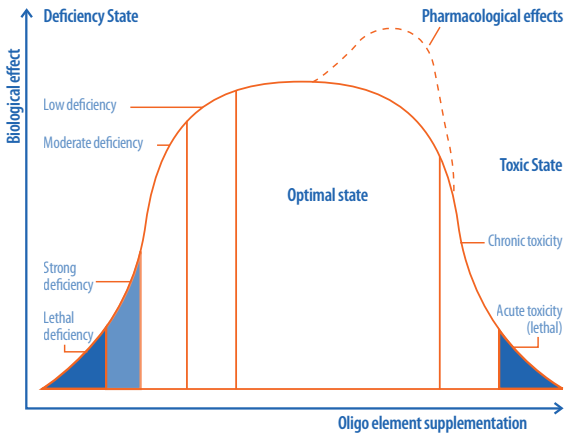
Oligo elements administered in the precise form and concentrations capable of rapid absorption quickly provide essential metals to reactivate cofactor-deprived or -inhibited enzymes. These reactivated enzymes are then capable of returning the cell to normal functioning capacity where they can then utilize other nutrients to promote normal metabolism and cellular homeostasis.
Used as supplementation, oligo elements are suited to treating functional pathologies stemming from trace mineral deficiencies caused by: nutritional imbalances, increased requirements; or insufficient absorption.

The Law of Arndt-Schultz

Conventional pharmacology dictates that a certain amount of an active substance is required in order for it to act upon receptors, enzymatic reactions or any other mechanism, and have an effect. This implies a linear dose-related effect relationship: the higher the dose, the stronger the action and the increased toxicity.

Oligo elements dosage is different. Its effectiveness is based more upon the Law of Arndt-Schultz: low doses stimulate, medium doses regulate and high doses depress. Concentrations higher than those required to maintain essential functions may have a secondary or pharmacological effect.

Arndt-Schultz law of pharmacology
Biological effects on the function of oligo element supplementation



In oligotherapy, enzymatic kinetics follow specific physical laws of optimum concentrations that determine the formation of enzyme-cofactor and -substrate complexes, and the rate at which enzyme activity occurs. Enzymes are influenced by cellular environmental factors and function within a very narrow range of cofactor concentrations.

Benefits of unda® Gammadyn® in Oligotherapy

Manufacturing excellence and stringent testing make unda® Gammadyn® the market leader in oligotherapy products.

Convenient. Small travel-size ampoules for cleaner, easier, and more effective administration than sprays. Helps retain maximum potency and prevent contamination.

Quick Absorption. Liquid formulations keep active ingredients stable and highly bioavailable. Administered in solution for sublingual absorption, where sublingual mucosa, rich in surface capillaries, allow for the unimpaired absorption of the oligo elements into the circulation system and directly to the cell site in their intended concentrations.

Patient compliant. Superior tasting with no aftertaste.

Dose and Administration

Take one ampoule one to two times daily on an empty stomach or as recommended by your healthcare practitioner. Squeeze contents directly into mouth. Hold under tongue for about 20 seconds and swallow.

Gammadyn® Overview

COBALT
(CO)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.059 mg of cobalt from cobalt gluconate.

MODE OF ACTION
Cobalt plays an essential role in the formation of vitamin B12 (cobalamin), and thus performs a number of physiological functions. Cobalt is involved in the regulation of the sympathetic and parasympathetic nervous system via the adrenergetic receptors. Cobalt via B12 can help reduce spasms and increase blood flow. Cobalt stimulates erythroprotein secretion, facilitating the synthesis of erythrocytes. Cobalt via B12 can help prevent congenital anomalies and promote the healthy formation of mature sperm and ovum. Cobalt is also a cofactor for glycy glycine dipeptidase, an enzyme which hydrolyzes specific dipeptides.

INDICATIONS
GENERAL
Cardiorespiratory disorders: Peripheric circulatory spasms
Prediabetic condition due to secretal exhaustion of the Islets of Langerhans
Psychosomatic disorders: Migraine, stage fright
Spasmodic disorders

SPECIFIC
Anxious Agitation
Lumbago
Migraine
Parasite (intestinal)
Travel Sickness

KNOWN USES
Cobalt has been traditionally used with manganese in oligotherapy for the maintenance of healthy circulation; it has been used together with nickel for supporting the digestive system, and with zinc and nickel for supporting the endocrine system.

COPPER
(CU)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.725 mg of copper from copper gluconate.

MODE OF ACTION
Copper forms the central element in a number of metaloenzymes which can help neutralize many toxins and high levels of certain biochemicals in the blood. Copper can stimulate the immune system and increases multiplication of B-lymphocytes and the synthesis of antibodies. Most copper is stored in the liver, heart, brain, spleen, kidneys and usually bound to proteins such as ceruloplasmin, cytochrome oxidase (liver detoxification) and superoxide dismutase (SOD). Copper is essential for decreasing acute and chronic bacterial and viral infections. Copper is also required in the production of various hormones (catecholamine).

INDICATIONS
GENERAL
Cardiorespiratory problems
Chronic and acute inflammation
Digestive disorders
Infections

SPECIFIC
Alcoholism (chronic Anemia)
Bronchitis
Diarrhea
Hepatic Detoxification
Laryngitis (chronic)
Pancreatitis
Prostatitis (acute)
Arthritis
Candidiasis
Hemorrhoids
Influenza
Lumbago
Premenstrual syndrome (PMS)
Warts

KNOWN USES
Copper has been traditionally used as an essential oligoelement and for states of infection and inflammation. In oligotherapy, copper has multiple, enzymatic functions, most notably the cythochrome C oxydase, which is responsible for the oxygenation in the respiratory chain and in the elaboration of elastin and collagen fibres. Copper is indicated for all infectious and viral states, such as flu and inflammatory rheumatism. Copper is a mineral that is a factor in the maintenance of good health, and also helps to produce red blood cells and connective tissue in humans (NHPD, 2004a).

COPPER-GOLD-SILVER
(CU-AU-AG)

INGREDIENTS
Each tablet contains 0.063 mg of copper from copper gluconate, 0.0014 mg of gold from gold sodium thiomalate, and 0.021 mg silver from silver lactate. unda® Gammadyn Cu-Au-Ag is available in tablet form to ensure proper dispensing and product stability.

MODE OF ACTION
Cu-Au-Ag is indicated for arthritis and chronic rheumatism. Copper deficiencies affect the formation of collagen and its tensile strength. Copper affects the central nervous system and is associated with locomotor disorders. These oligo-elements potentiate adrenal function and can decrease fatigue associated with hypoadrenalism. Gold has been used successfully in chronic rheumatoid arthritis (American Rheumatism Assoc., 1970). This combination of oligo-elements is also important in immune function and helps activate the mechanisms of cellular and humoral immunity.

INDICATIONS
GENERAL
Antibiotic: Staphylococci, Streptococci
Cellulohumoral immunodepletion
Collagenosis, psoriasis
Cutaneomucous disorders: common acne
Cystitis
Evolutive tuberculosis: laryngitis - adenitis - osteomyelitis
Functional hypercorticism or adrenal exhaustion - prediabetes
General fatigability, loss of intellectual vitality
Loss of general vitality profound senescence
Osteoarticular and muscular disorders

SPECIFIC
Abscesses
Arteriosclerosis
Boils
Constipation
Fatigue (infection or disease)
Hallucinations
Herpes (zoster)
Insect Bites
Osteitis
Psoriasis
Sleeping Disorder (waking early)
Acne (juvenile)
Arthritis (chronic)
Burns
Cystitis
Gallstones
Hemorrhoids
Hives
Low Blood Pressure
Periodontal Disease
Rheumatism (chronic)
Sore Throat

KNOWN USES
CuAuAg is used in acute cases of rhinopharyngitis presenting with complications of otitis, adenitis, tonsillitis, and sinusitis. It can also act as a flu preventative in the fatigued and elderly. It rapidly modifies intelligence, imagination and reasoning power when they become signs of anergic diathesis. When concentration difficulties are accompanied by an overall reduction of vitality, CuAuAg can be given. CuAuAg increases the bodily defences especially in Anergic diathesis common to the three types of inflammatory rheumatism (chronic evolutive polyarthritis, ankylosing spondyarthritis, and acute articular rheumatism).

FLUORINE
(F)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.2 mg fluorine from sodium fluoride.

MODE OF ACTION
Fluorine is an element that regulates the metabolism of phosphorus and calcium. Fluorine acts to normalize the parathyroid gland and is necessary for the formation of strong, hard bones and teeth that resist decay. Geographical deficiencies of fluoride have been linked to increases of brittle bones in the elderly resulting in disabling hip fractures. As an oligotherapy remedy, fluorine is known to have a positive effect on calcium retention in the osseus tissues, and has been used for ligament and osseus conditions and as part of the preventive treatment for osteoporosis (Padrazzi, 1988). Fluorine It can also play an essential role in inflammatory diseases, such as rheumatoid arthritis. Fluorine makes up an integral part of potassium fluorosilicate (K2SiF6) believed to be the active anti-inflammatory compound found in marine sponges.

INDICATIONS
GENERAL
Arthritis and rheumatism (chronic)
Disorders of the vertebral statics: scoliosis
Hyperparathyroidism
Osteoarticular and muscular disorders
Osteoporosis
Retardation of calcification - prophylaxis of dental caries - toothache - osteoligamentary weakness: ligamentary hyperlaxity

SPECIFIC
Arthritis (chronic)
Decalcification
Growth Disturbances
Menopause (osteoporosis)
Osteochondritis
Osteoporosis
Rheumatism (chronic)
Varicose Veins
Arthrosis (with osteoporosis)
Dental Cavities
Lumbago
Osteitis
Osteomalacia
Pregnancy
Scoliosis

KNOWN USES
Fluorine is traditionally used in oligotherapy for the maintenance of healthy ligaments and bones. It is generally associated with oligotherapy remedy MnCo.

IODINE
(I)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 24 mcg of iodine from potassium iodide.

MODE OF ACTION
The primary role of iodine is as a component of thyroid hormone, and ultimately the regulation of cellular oxidation. The thyroid hormones (T3 and T4) accelerate cellular reactions, increase oxygen consumption, and increase growth and protein synthesis. Iodine is a cofactor for enzymes involved in the immune system. These include catalase and myeloperoidase, which are both bacteriocidal in nature.

INDICATIONS
GENERAL
Cardio respiratory disorders
Hormonal homeostasis: dysmenorrhea, functional myxoedma, endocrine dysfunction, juvenile diabetes
Viral diseases - mycosis

SPECIFIC
Abcesses
Arthritis (rheumatoid)
Fatigue (psychic)
Hypertension (essential)
Impotence
Myocardial Infarction
Premenstrual Syndrome (PMS)
Seborrhea (hyper)
Thyroid (hyper)
Amenorrhea
Burns
Goiter
Hypertension (stress)
Libido, weak (male)
Obesity (hypothyroid)
Sciatica
Seborrhea (hypo)
Vertigo

KNOWN USES
Iodine has traditionally been used in oligotherapy for the maintenance of normal thyroid function. Deficiencies are linked to endocrine disturbances that could lead to increased risk of breast and ovarian cancer. One of the most damaging effects on iodine deficiency is on the development of the brain and may cause mental retardation, as well as hypothyroidism, goiter, and other growth and developmental abnormalities.

LITHIUM
(LI)

INGREDIENTS
Each 2ml (0.07 fl. oz.) ampoule contains 4.07 mg lithium gluconate in a 10% alcohol and 5% glucose aqueous solution.

MODE OF ACTION
Lithium is a trace element that intervenes in the transmission of nerve cells by affecting membrane potential. It has a sedative and non-hypnotic action. Lithium also acts upon urinary function by stimulating the elimination of urea and uric acid. Lithium has been successfully used in the prevention of both manic and depressive mood swings. Studies at Rockland State Hospital, New York (1975) suggest that lithium may play a role in controlling alcoholism. Lithium can change drinking habits by affecting or countering the action of alcohol on the brain. Lithium may boost the level of acetylcholine.

INDICATIONS
GENERAL
Behavior problems, insomnia, manic depression, anxiety, hyperirritability, gout and various types of pain. Lithium can also help in various eating disorders (anorexia nervosa).

SPECIFIC
Anorexia
Depression
Fatigue (non-specific)
Hallucinations
Lumbago
Migraine (tension)
Sleep disorder (bedwetting)
Anxiety
Dysmenorrhea
Gout
Hypertension (stress)
Lumbago (functional)
Obesity (anxious overeating)

MAGNESIUM
(MG)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.1044 mg magnesium from magnesium gluconate.

MODE OF ACTION
Approximately 60% of the body's magnesium is located within the skeletal structure of the body and is essential for normal bone formation. The remainder of the body's magnesium is found in the intracellular form. It performs several functions: controls membrane permeability, muscular contraction, nerve impulse conduction, intracellular fluid regulation, blood viscosity, activation of enzyme systems, and the regulation of protein synthesis and calcium metabolism. As an oligotherapy remedy, magnesium is involved in numerous physiological activities. It primarily affects the initiation of post-synaptic potential (Padrazzi, 1988). Supplementary magnesium has been used successfully in the treatment of various cardiovascular and related metabolic conditions, such as elevated cholesterol and triglycerides (and imbalances of the HDL/LDL ratio), arrhythmias, and for tetanic muscular conditions (such as occur during alcohol withdrawal) and for the premenstrual syndrome. Magnesium plays an essential role in the hormonal regulation via insulin, estrogen and thyroid hormone. Magnesium stimulates the secretion of the adrenal gland (corticosteroids) and of the parathyroid gland.

INDICATIONS
GENERAL
Digestive disorders
Leukocyte formation
Myocardial insufficiency
Osteoarticular and muscular disorders
Parasites
Psychosomatic illnesses
Water retention

SPECIFIC
Adrenal (hypo)
Alcoholism (chronic)
Amenorrhea
Asthma
Constipation
Dysovulation
Enterocolitis
Fatigue (psychic)
Gallbladder Dysfunction
Gallstones
Goiter
Hayfever
Hepatobiliary Insufficiency
Muscle Cramps
Obesity (digestive)
Osteoporosis
Parasite
Premenstrual syndrome (PMS)
Sore Throat (chronic)
Warts
Travel Sickness

KNOWN USES
Magnesium is a complementary remedy for dystonia diathesis, and is indicated for spasmophilic pains, colitis, and neurovegetative dystonia. It is a complementary remedy for dystonic conditions, such as with MnCo and sulfur remedies to alleviate alternation of constipation and diarrhea. Used with MnCo, it alleviates hemorrihoids related to intestinal disturbances. Used with sulfur, it treats asthma accompanied by migraine, eczema, and urticaria. When used in combination as CuMgMnZn, it can be used for alleviating acute pleurisy, tonsillitis, bronchitis, pneumonia, acute rhinopharyngitis, colds, and flu.

MANGANESE
(MN)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0728 mg of manganese from manganese gluconate.

MODE OF ACTION
Manganese plays a chief role in the synthesis of glycoproteins and glycolipids such as collagen. Thus, manganese is important in tissue healing and connective tissue disorders. Mn is a cofactor for many enzymes and activates the mitochondrial form of superoxide dismutase (SOD), a critical antioxidant that is adversely affected by a manganese deficiency. Manganese is required for the production of neurotransmitters. Mn is essential for the biosynthesis of protein via numerous enzyme systems (phosphotases, DNA polymease, peptidases, etc.).

INDICATIONS
GENERAL
Collagen and connective tissue disease, allergies, and inflammatory disorders.
General endocrine function, neurological and psychosomatic disturbances including migraines

SPECIFIC
Arthritis (chronic)
Asthma
Eczema
Gallbladder Dysfunction
Hayfever
Hypermenorrhea
Impotence
Insect Bites
Memory Decline
Menopause (cardiovascular)
Myocardial Infarction
Neuralgia
Rheumatism (chronic)
Sleep Disorders (difficulty waking)
Urticaria
Vertigo

KNOWN USES
Traditionally,manganese has been used in oligotherapy to alleviate symptoms associated with allergy.

MANGANESE-COBALT
(MN-CO)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0728 mg of manganese from manganese gluconate, and 0.0726 mg of cobalt from cobalt gluconate.

MODE OF ACTION
This combination of bio-activating metals is formulated for individuals in mid-life or later. Cobalt plays a control role in the formation of cobalamin (vitamin B12) and in preventing anemia. Cobalt also acts as a co-factor in antioxidant therapy for the enzyme catalase. Manganese is a co-factor for a variety of enzymes and is the central element in the mitochondrial form of superoxide dismutase (SOD).

INDICATIONS
GENERAL
Mn-Co is widely used in psychogenic illnesses, skin disorders, osteoporosis and inflammatory disease.

SPECIFIC
Amenorrhea
Anemia
Anorexia
Anxiety
Arthrosis
Constipation
Dystonia
Enterocolitis
Fatigue (mental strain)
Fatigue (non-specific)
Gallstones
Gout
Headache
Hemorrhoids
Herpes (simplex)
Libido, weak (female)
Lumbago (osteoporotic)
Memory Function
Migraine (hormonal)
Muscle Cramps and Spasms
Numbness
Obesity (water retention)
Sinusitis (chronic)
Varicose Veins
Water Retention

KNOWN USES
Manganese-cobalt is traditionally used in oligotherapy for the maintenance of healthy circulation, and as a combination oligotherapy remedy, primarily for its action on dystonic diathesis. It is indicated for renal insufficiency, arteriosclerosis, circulation problems, and neurovegetative dystonia. It has also been used for conditions such as senile myocarditis (as complementary treatment), coronaritis (as complementary treatment), menopausal anemia (as complementary treatment), varicosis, arteriole hypertension, extra systoles, and tachycardia (as complementary treatment).

MANGANESE-COPPER
(MN-CU)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0728 mg of manganese from manganese gluconate, and 0.0726 mg of copper from copper gluconate.

MODE OF ACTION
The biocatalytic complex Mn-Cu is essential in normalizing enzyme activity associated with all forms of inflammatory disorders. Both copper and manganese play an essential role in the formation of superoxide dismutase (SOD), an enzyme that prevents free radical damage to cellular membranes and tissues. Copper can stimulate the immune system and increase B-lymphocyte production. Mn and Cu are both important in general endocrine functions, including the hypothalamopituitary complex, the adrenal gland (ascorbic acid oxydase) and the stimulation of the thyroid gland. Mn and Cu are required for glucose utilization and the synthesis of glycolipids and glycoproteins such as collagen.

INDICATIONS
GENERAL
Allergies, adenopathies, humoral immunodepletion
Colds, influenza - asthma
Chronical infectious diseases
Cutaneomucous: acne rosacea, dermatitis, burns, wounds
Enterocolitis, duodenal disorders, constipation and diarrhea
Hormonal homeostasis: dysregulation of the sexual cycle, frigidity
Osteoarticular disorders
Psychosomatic disorders
Urinary disorders: nephritis

SPECIFIC
Anorexia
Articular Pain
Bronchitis (chronic)
Cystitis
Dysmenorrhea
Eczema
Enterocolitis
Goiter
Hayfever
Infertility (male)
Lumbago
Menopause (fatigue and depression)
Osteomalacia
Pregnancy
Sciatica
Sinusitis
Thyroid (hypo)
Anxiety (chronic)
Arthritis (chronic)
Cirrhosis
Decalcification
Dysovulation
Emphysema
Gastritis
Growth Disturbance (excess)
Hepatobiliary Insufficiency
Laryngitis (chronic)
Periodontal Disease
Prostatitis
Scoliosis
Sleeping Disorders
Warts

KNOWN USES
Mn-Cu can be used to alleviate hyposthenia. It normalizes enzyme activity associated with all forms of inflammatory disorders. It is important in endocrine functions, including the hypothalamopituitary complex, the adrenal gland and the stimulation of the thyroid gland. Mn-Cu is primarily indicated for physical, intellectual, and psychological fatigue; bronchial fragility; duodenal problems; deforming arthritis; and infectious or allergic oto-rhino-laryngology.

MANGANESE-COPPER-COBALT
(MN-CU-CO)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0728 mg of manganese from manganese gluconate, 0.0726 mg of copper from copper gluconate, and 0.0726 mg of cobalt from cobalt gluconate.

MODE OF ACTION
The biocatalytic complex of Mn-Cu-Co is especially useful in a variety of inflammatory disorders. Both manganese and copper are central elements in a variety of metalloenzymes including superoxide dismutase (SOD) and thus help prevent free radical pathologies and associated inflammatory disorders. Cobalt acts as a cofactor in antioxidant therapy for the enzyme catalase. These three oligo-elements are essential for normal bone and collagen formation. Deficiencies will result in abnormal bone development and decalcification. Cobalt via vitamin B12 can help reduce spasms and increase blood flow.

INDICATIONS
GENERAL
Cardiorespiratory disorders
Colitis
Cutaneomucous disorders: acne
Hormonal homeostasis: thyroid insufficiency
Osteoarticular disorders
Psychosomatic disorders: asthenia

SPECIFIC
Anaemia
Gastritis
Periodontal Disease
Decalcification
Low Blood Pressure
Seborrhea (hypo)

KNOWN USES
Traditionally used in oligotherapy to normalize the state of asthenia. Essential factor for glutathione peroxidase (GSH-Px) an enzyme that catalyzes the reduction of hydrogen peroxidase and various organic peroxides, which are highly reactive compounds produced by normal metabolic and detoxification processes. GSH-Px prevents the free radical damage of these substances in the cell which prevents cellular damage. GSH-Px also reduces the production of inflammatory prostaglandins and leukotrienes. In oligotherapy, selenium is a trace mineral that intervenes with the glutathione peroxidase mechanism and that neutralises free radicals, opposing ageing and cellular degeneration. It modifies the terrain in the course of muscular and cutaneous affections.

PHOSPHORUS
(P)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.14 mg of phosphorus from disodium phosphate.

MODE OF ACTION
Phosphorus exists as phosphate in the body and is found in both skeletal and intracellular fluids. Phosphorus is found in all cells of plants and animals and is essential for normal growth and development. Its mode of action is mainly by way of bonding, polymer formation, hydration, chemical transport and buffering. Intracellularly, phosphorus is involved in four metabolic functions:

1. Energy transport and formation via ATP and ADP
2. A major constituent in cellular membranes as phospholipids
3. Structural requirement for nucleoproteins (DNA, RNA)
4. Buffering, calcium transport and osmotic pressure of intracellular fluids

Phosphorus also plays key roles in circulatory function (RBC), nerve transmission (myelin sheath) and muscle contraction (ATP). Phosphorus is a central component of vitamin B6.

INDICATIONS
GENERAL
Osteoarticular and muscular disorders, cramps
Cardiorespiratory disorders and circulation problems
Hormonal homeostasis: dysregulation of thyrocalcitonin secretion

SPECIFIC
Fatigue (mental strain)
Goiter
Menopause (fatigue and depression)
Menopause (cardiovascular)
Numbness
Osteomalacia
Rheumatism (chronic)
Fatigue (psychic)
Lumbago (osteoporotic)
Muscle Cramps
Osteochondritis
Osteoporosis
Scoliosis

KNOWN USES
Phosphorus has been traditionally used in oligotherapy to act on neurovegetative dystonia (particularly for tetanus), spasmophilia, and Dupuytren disease. Phosphorus has also been used to treat painful back in young people and muscular contractures. It is also used for diuresis disturbance and acts on parathyroid.

POTASSIUM
(K)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.04 mg of potassium from potassium gluconate.

MODE OF ACTION
Potassium in the body occurs intracellularly and serves many functions, including:

1. Intracellular body fluid regulation, including osmotic pressure, buffering, viscosity, C02 transport (RBC), and solubilization of proteins.
2. Membrane effects, including membrane permeability, sodium pump action, muscular contraction, and nerve impulse conduction.

Potassium is often employed in the control of water retention. Potassium is also used with magnesium in the treatment of angina and arrhythmias and in the treatment of other degenerative diseases.

INDICATIONS
GENERAL
Adrenal function
Arthritis (chronic)
Electrolyte balance
Nerve transmission
Water retention

SPECIFIC
Adrenal (hyper)
Arthritis (poly)
Diarrhea
Gallbladder Dysfunction
Hepatobiliary Insufficiency
Neuralgia
Rheumatism (chronic)
Alcoholism (chronic)
Articular Pain
Fatigue (due to mental strain)
Gallstones
Lumbago
Premenstrual syndrome (PMS)
Sciatica

KNOWN USES
Traditionally, potassium has been used in oligotherapy to alleviate symptoms associated with rheumatoid arthritis, and for patients with an elevated sedimentation rate. It seems that potassium is used primarily for its action on chronic rheumatism. In addition, it is also used for cramps and muscular manifestations. Generally, potassium remedy is associated with Manganese and Copper-Silver.

SELENIUM
(SE)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 40 mcg of selenium from sodium selenite.

MODE OF ACTION
Selenium is an essential factor for glutathione peroxidase (GSH-Px), an enzyme that catalyzes the reduction of hydrogen peroxide and various organic peroxides, highly reactive compounds that are products of normal metabolic and detoxification processes. GSH-Px scavenges these free radicals within the cells, in the cytosol and the mitochondrial matrix, to prevent damage to the cell, the mitochondria, the microsome and the lysosome membranes. GSH-Px functions in cooperation with superoxide dismutase (SOD). GSH-Px also reduces the production of inflammatory prostaglandins and leukotrienes. Selenium deficiency results in cardiomyopathy. Free radical damage is also known to be a major component in cataracts, acne, periodontal disease and tendinitis and bursitis. It has been theorized that selenium prevents damage to the inhibitors in DNA that control the cells' tendency to multiply.

INDICATIONS
GENERAL
Auto-immune disorders
Free radical damage
Gastrointestinal disorders
Immune deficiencies
Inflammatory disorders
Male reproductive function
Skin and mucous membrane disorders

SPECIFIC
Acne
Asthma
Candidiasis
Celiac disease
Crohn's disease
Eczema
Myopathy
Periodontal disease
Rheumatoid arthritis (chronic)
Tendinitis
Vasculitis
Aging
Bursitis
Cataracts
Cervical dysplasia
Dermatitis herpetiformis
Multiple sclerosis
Osteoarthritis (chronic)
Psoriasis
Seborrheic dermatitis
Ulcerated skin
Viral hepatitis

KNOWN USES
Selenium has been traditionally used in oligotherapy to neutralize free radicals and to protect against ageing, cellular degeneration, and muscular and cutaneous infections.

SULFUR
(S)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.3 mg of sulfur from sodium thiosulfate.

MODE OF ACTION
Sulfur compounds are metabolically important because of their ability to interconvert disulfide and sulfhydryl groups in oxidation-reduction reactions. Disulfide and sulfhydryl bonds provide the stabilization and configuration for protein molecules. Mucopolysaccharides (especially chondroitin sulfate and collagen) contain sulfur. Sulpholipids are found in the liver, brain and kidneys. Sulfur is found in several amino acids including cysteine and methionine. Taurine, the precursor for bile acid production, also requires sulfur via cysteine and plays a role in neuropathologies.

INDICATIONS
GENERAL
Cardiorespiratory disorders: asthma
Cutaneomucous disorders: dermatosis, dandruff
Digestive disorders: hepatiobiliary insufficiency
Osteoarticular and muscular: intervertebral disk prolapse, arthritis (chronic) and arthrosis
Psychosomatic: migraine

SPECIFIC
Acne
Amenorrhea
Arthrosis (with osteoporosis)
Asthma
Cholesterol
Eczema (chronic)
Epileptic seizures
Gout
Hepatobiliary Insufficiency
Herpes (zoster)
Laryngitis (chronic)
Migraine
Pregnancy
Psoriasis
Sciatica
Vertigo
Adrenal (hyper)
Arthritis (chronic, rheumatoid)
Articular Pain
Bronchitis (chronic)
Dysmenorrhea
Emphysema
Gallstones
Hayfever
Herpes (simplex)
Insect Bites
Libido, weak (male)
Neuralgia
Prostatitis (acute)
Rheumatism (chronic)
Sinusitis

KNOWN USES
Traditionally used in oligotherapy in the course of repeating affections such as migraines, eczema, superficial body growths, arthritis and osteoarthritis. Sulfur is a complement to manganese in the treatment of arthritic or athro-tuberculosis states. For symptomatic treatment (oligostim), use sulfur as a terrain modifier in the course of cutaneous repetitive affections and rheumatic complaints.

ZINC
(ZN)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0674 mg of zinc from zinc gluconate.

MODE OF ACTION
Zinc plays a major role in the synthesis and metabolism of protein. Because of its importance in protein synthesis, it is essential to healing, growth and sexual maturation. Zinc activates over 70 enzymes, including nucleic acid polymerases (cell growth and repair), superoxide dismutase (antioxidant) and peptidases (protein digestion). Zinc acts in a synergistic manner with vitamins A and C, and the minerals magnesium and manGanese. The zinc requirement of most adults is in the vicinity of 10-20 mg/day. Strial and white spots on the fingernails may indicate long-term zinc depletion. Zinc is now used for a variety of medical problems, including: postsurgical use; parenteral nutrition; sickle cell anemia (prevents sickling of red blood cells); rheumatoid arthritis (anti-inflammatory); acne and other skin disorders; loss of taste; impaired immunity and gonadal insufficiency. Research has demonstrated that zinc deficiency can compromise cellular immune function. Patients on total parenteral nutrition developed T-cell dysfunction in association with severe zinc deficiency After 12 days of intravenous zinc supplementation (12 mg/day) T-cell function increased dramatically and averaged 160 percent of control.

INDICATIONS
GENERAL
Adrenal insufficiency
Cutaneous disorders: acne
Gonadic disorders - impotence, infertility
Hypothalamo - pituitary disorders
Immunity homeostasis - candidiasis

SPECIFIC
Alcoholism (chronic)
Cholesterol
Growth Disturbances
Infertility
Lumbago
Thyroid (hyper)
Asthma
Cirrhosis
Hayfever
Libido (weak)
Prostatitis

KNOWN USES
Zinc has been traditionally used in oligotherapy to help maintain immunity. It helps in tissue formation, and also helps the body to metabolize proteins, fats, and carbohydrates. Its anti-inflammatory activity, which is the basis of therapeutic use, other than acrodermatitis enteropathica, is not well known: production of cytokines, antioxidant activity.

ZINC-COPPER
(ZN-CU)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0674 mg of zinc from zinc gluconate, and 0.0726 mg of copper from copper gluconate.

MODE OF ACTION
The catalytic complex of Zn-Cu is essentially used in problems associated with the regulation of steroid secretion. These oligo-elements also play an essential role in skin and inflammatory disorders via superoxide dismutase. Zinc and copper are essential for proper endocrine function (hypothalamo-pituitary, adrenal, etc.). Copper functions as the central element in the metallo-enzyme, dopamine-hydroxylase, which is essential for the synthesis of norepinephrine by the adrenal gland. Deficiencies of zinc and copper effect affect neurotransmitters and histamine release in the brain, thus effecting also affecting neurological behavior.

INDICATIONS
GENERAL
Adrenocortical dysregulations
Cutaneomucous disorders:
Dysthyroidism with a hypo-tendency
General immunodepletion (humoral and cellular)
Hormonal homeostasis: all syndromes of hypothalamo-pineal gland- glandular dysregulation, hypomenorrhea, sterility, menopause, impotence
Inflammatory syndromes
Pancreas: dysregulations of insuline secretion

SPECIFIC
Growth Disturbances
Libido, weak (male)
Psoriasis
Impotence
Menopause (neuroendocrine)
Sleep Disorder (bedwetting)

KNOWN USES
Zinc-copper has been traditionally used in oligotherapy to support the thyroid and endocrine systems. It has been used to address the functional problems of benign prostatic hypertrophy (BPH), hormonal development abnormalities in children. ZnCu can also resolve the symptoms of pituitary dysfunction as well as treat the pituitary/genital maladaptation syndrome. In summary, zinc can assist the pituitary and gonads, while copper assists the adrenals.

ZINC-NICKEL-COBALT
(ZN-NI-CO)

INGREDIENTS
Each 2 ml (0.07 fl.oz.) ampoule contains 0.0674 mg of zinc from zinc gluconate, 0.0726 mg of nickel from nickel gluconate, and 0.0726 mg of copper from copper gluconate.

MODE OF ACTION
This association of three trace-elements has a first-rate catalytic role in hypophyso-pancreatic dysfunctions and prediabetic conditions: indeed, they concentrate preferably in the pancreas and, by their hyperglycemiant, synergistic effect, improve the tissular fixation of glucose. Zinc forms specific metallo-enzymes such as carboxypepitidase and renal dipeptidase that digest protein. Zinc also plays an active role in glucose metabolism. Cobalt is the central element in various peptidases and stimulates glycogen and insulin release by the liver and pancreas. Nickel is important for liver function and glycogen release from tissues. Nickel has been shown to enhance the uptake of glucose into rat adipose tissue and the incorporation of glucose into glycogen. Nickel also plays an important role in several enzymes that deal with carbohydrate metabolism.

INDICATIONS
GENERAL
Digestive disorders: food allergies
Pituitary-pancreatic dysregulations

SPECIFIC
Adrenal (hyper)
Gallbladder Dysfunction
Indigestion
Pancreatitis
Diabetes (mellitus)
Hypoglycemia
Libido, weak (male)
Sleep Disorders (bedwetting)

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THE PUREST HOMEOPATHIC SOURCE IN THE WORLD

Established over half a century ago in Belgium, unda® is renown for manufacturing exceptional homeopathic products utilized in supporting immune, lymphatic and endocrine systems to properly process and eliminate toxins from the body. In the production of all homeopathic remedies unda® uses only pure materials and herbs that are biodynamically grown or wildcrafted. unda® produces a broad range of homeopathic products in various potencies including: the unique Numbered Compounds, Gemmotherapy macerates, Schüssler Tissue Salts, Gammadyn Oligo Elements, Organotherapy, creams and oils, as well as homeopathic compatible dental care.

Numbered Compounds

unda® Numbered Compounds are the only complex remedies of their type, formulated with both plants and metals, acting on organotropic and energetic sensitivity levels respectively. Each remedy has its own fingerprint and is combined synergistically based on the integrated principles and theories of anthroposophy, oligotherapy, botany, Traditional ChineseMedicine and homeopathy. unda® Numbered Compounds are key in Biotherapeutic Drainage™ as they work on a physiological and "terrain" level, making them an excellent addition to practitioners'prevention and treatment armamentarium.

Gemmotherapy

Gemmotherapy uses the extracts of fresh buds, shoots, roots or stems from developing plants, where the plant's life essence is at its peak in the young growths. unda® Gemmotherapies are prepared in a natural glycerine and organic ethanol medium, which is then filtered and potentized at a 1/10th dilution (1X Hahnemannian) in a pure water, natural glycerine and organic ethanol medium. These complex remedies are macerated for increased patient compliance. This methodology captures the most complete set of highly-concentrated active constituents necessary for tissue regeneration, favourable growth development and essential drainage properties. unda® Gemmotherapies facilitate Biotherapeutic Drainage™ and is an excellent adjunct to the unda® Numbered Compounds.

Schüessler Salts

Schüessler Tissue Salts act on the cellular level to balance and restore cell function. unda® Tissue Salts are are prepared using methods based on Dr. W. H. Schüessler Biochemical System of Medicine (in accordance with the German Homeopathic Pharmacopia (HAB).

Seroyal Continuing Education

Seroyal offers research and practice-based continuing education. The mandate of Seroyal's professional education program is to provide healthcare practitioners with world-class, clinically relevant information to assist in the integration of therapeutic modalities for a more complete, holistic approach. International experts in natural medicine and science will share knowledge, clinical experiences and reference materials to help expand your therapeutic capabilities and support your practice.

To learn more visit:
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