In the world that surrounds us and even in our body, a lot of homotoxins are present. More than a 100,000 substances are described in books on toxicology and every day new substances are added. Some of them are obvious and known very well, others might be less known or even will become toxic under certain circumstances. Although being a very complex materia it is necessary to go through a rough classification of the types of homotoxins to end up with a therapy protocol that has the highest chance to lead to therapeutical success.
Objective:

- Identify the different types of homotoxins present in the natural environment.
- Describe the effects of homotoxins on living organisms.
- Indicate the possible antihomotoxic preparations that can help neutralise them.

The objectives of this lecture are to identify the different types of homotoxins present in our natural environment, to describe their toxic effects on the human organism and to indicate the possible preparations that might help to neutralise them.

For a general drainage and detoxification we refer to the lecture IAH AC Drainage and Detoxification
Agenda:

- Definition of homotoxin
- Types of homotoxins
- Chemical toxins
- Insidious toxins
- Diet and toxicity
- Drugs as toxins
- Neural interference fields
- Psychotoxins
Definition of a homotoxin

- A homotoxin is any substance that creates a direct or indirect toxic burden in the human organism.

A homotoxin is defined as any substance that has a direct or indirect damaging effect on the human organism. Not the substance in itself is the most important. Crucial is its effect on the organism.
Types of homotoxins

- Exogenous homotoxins
  - Extern toxic burdens that comes into the body or interferes with it (e.g. arsenic, tobacco smoke, heavy metals etc.)

- Endogenous homotoxins
  - Created in the body, mostly as consequence of metabolic processes (e.g. ammoniac, CO₂, etc.)

We divide homotoxins into two big groups: the exogenous and endogenous ones.

Exogenous homotoxins are substances that come from the environment into the body and have a direct or indirect toxic effect on tissues, organs or regulation mechanisms. Even a healthy lifestyle is no guarantee for being free of exogenous homotoxins as in a lot of them we can barely influence the intake (dust in the air, radiations, gasses, etc…). Some of them are toxic in small dosages, others need a higher doses or prolonged intake of smaller quantities. Some of the exogenous homotoxins become extremely toxic in combination with other substances. Avoidance behaviour is not enough to stay clean of toxins as a huge part may come in without the person is knowing it.

Endogenous homotoxins are created by the organism itself. Hereunder we find a lot of metabolic intermediary or end products. Even substances that under normal circumstances are present in the body but that are toxic if they accumulate must be seen as homotoxins and become therapeutically important when we can't eliminate them over normal physiological processes.
Centuries ago Paracelsus already referred to the importance of a dose to call a substance toxic. Arsenic is commonly known as a very toxic substance but few people are aware that we find arsenic in a lot of food we daily eat, but only in very minor doses. Higher dosages are deathly, very low dosages of a toxin can even be beneficial to the organism. Other substances we declare without any doubt as healthy can become extremely toxic in high doses (to drink more clean water than 30% of our body weight within 24 hours is deathly dangerous). So there is more than just the substance itself that makes it toxic. We should look at

•the substance
•the (repeated) doses
•the time of interaction with the organism
•the adaptation to the intoxication
•the susceptibility of the organism
•the storage capacities (ECM)
•the excretion capacities
•the (potentialising or inhibiting) interactions with other substances out of the direct environment of the organism
•The combination of the doses and time of impact of the toxin might cause unexpected intoxication effects. A high acute doses of a toxin is almost always dangerous but so so might be a long term intoxication with a small doses.

So, in fact we could say that a homotoxin only becomes toxic in the organism under well defined conditions and that not every homotoxin has the same toxicity degree of toxicity for every human organism. We can put down guidelines and standards but they are not applicable without nuances to all human beings in the same way.
Homotoxins:

• Chemical toxins
• Insidious toxins
• Diet and toxicity
• Drugs as toxins
• Neural interference fields
• Psychotoxins

Beside the homotoxin itself aspects of lifestyle and environment have to be studied. There are chemical aspects, nutritional aspects, modern medication or pharmacological aspects and even factors that are related to regulation rigidity and interference fields. So these are the main factors determining homotoxic overload.
In these modern times with high industrial environment, synthetic molecules, social bereavement, psychological pressure and suppression medicine, chemical poisoning will find a lot of potentizing factors to create toxicity in the human body.

As mentioned before, chemical homotoxic overload is not that easy to escape from as in highly economically developed countries they became part of life due to governmental choices made in the past and consequential environmental pollution. Cosmic radiations (ozone layer damaging), radioactivity, pseudo-estrogens in fish, heavy metals in the direct environment,… they all are the same for everyone, independent the lifestyle or choices made. Even moving out from a region is not always a solution as some of the toxic substances are travelling over the air to so called pure and natural regions.
Chemical poisoning: toxicological criteria

- Bioaccumulation
- Tendency of a substance to accumulate in the tissues of live organisms by bioaccumulation
  - Related to hydrophobic and lipophylic characteristics

Paracelsus stated that the doses makes the poison. In this way it looks like that only a high doses of a toxin will create an intoxication status which is not always true. Even very little amounts of chemical loads, repeated over decades, can create a bioaccumulation that becomes extremely dangerous after a long period.

In the lecture ‘IAH AC Matrix histology and physiology’ we mentioned already that there are at least 3 ways in which toxins can get incorporated into the structure of the extra cellular matrix. This can be due to a positive charge (the ECM structure is predominantly negative charged), by hydrophilic characteristics or due to pure mechanic aspects (size of the toxin). So, even presented in very small amounts at the time, bioaccumulation can be the cause that a toxic level is reached, even if it takes years to do so.

Still now in Europe, older people are found that were active in the flora sector and have still a high accumulation of DDT in the liver, a substance that has been banned for more than 2 decades now.
The toxic effect of a chemical substance is dependent on certain criteria. Not all chemicals are toxic in the same way for living species. Some of them are extremely toxic for plants and almost not to animals or humans and vice versa. That is why a more specific and closer look at this materia is needed.
Chemical poisoning: toxicological criteria

- Toxicity
  - Acute lethality
  - Sublethal effects on non-mammalian species
  - Sublethal effects on plants
  - Sublethal effects on mammals
  - Teratogenicity
  - Genotoxicity/mutagenicity
  - Carcinogenicity

For most chemicals the acute lethal dose is described in professional literature. We have to be aware that not the single lethal dose alone is toxic but also that bioaccumulation is possible and repeated dosages are added to residual amounts of an earlier intake, a lethal dose can be reached. Think about the bioaccumulation of heavy metals like lead.

Toxic effects can be seen on non mammalian species and can have an effect on long term due to the food cycle. The same is the case for poisoned plants.

The sublethal effects of chemicals on mammals are quite well described but often forgotten in the patient’s history. Work related intoxications, domicile (industrial or not), chemically treated food, especially in the long term can cause sublethal intoxicating effects.

Some chemicals can induce consequences in embryological development. In this case the toxicity in the mother causes deviations in the child. This is not only the case with pure chemicals out of the environment but also chemicals or substances used in pharmacology (e.g. Softenon children in the 60-ties)

Other chemicals have a genotoxicity and are the cause of genetic dysfunctions. This has often not only physical but also physiological consequences.

Many substances are known to be carcinogenic. They are described in professional literature due to their carcinogenic properties. Also here we see both: the acute toxic doses that triggers cell dedifferentiation and accumulated dosages that after long term induce the same.
Chemical poisoning: principal pollutants

- Acidifying substances
  - Ammonia
  - Nitrogen oxides
  - Sulfur dioxide, etc.

The pH of the cellular environment is extremely important and the slightest deviations might cause dysfunctions or even irreversible damage.

Ammonia is a product of protein catabolism and is metabolized by the liver. Normal blood ammonia levels range from 80-110 mcg/dL. Theoretically, patients with liver dysfunction are at increased risk for ammonia toxicity; we even measure ammonia as a sign of liver failure.

NOx is a generic term for the various nitrogen oxides produced during combustion. They are believed to aggravate asthmatic conditions, react with the oxygen in the air to produce ozone, which is also an irritant and eventually form nitric acid when dissolved in water. When dissolved in atmospheric moisture the result can be acid rain which can damage both trees and entire forest ecosystems, with the human being at the end of the chain.

Sulfur dioxide is sometimes used as a preservative in alcoholic drinks, or dried fruits due to its antimicrobial properties. The preservative is used to maintain the appearance of the fruit rather than prevent rotting. This can give fruit a distinctive chemical taste.

Sulfur dioxide is also a good reductant. In the presence of water, sulfur dioxide is able to decolorize substances that can be reduced by it; thus making it a useful reducing bleach for papers and delicate materials such as clothes. The emissions of tons of sulphur dioxide over decades is one of the main causes of acid rain.
Chemical poisoning: principal pollutants

- Metals and metalloids...
  - Cadmium
  - Mercury
  - Lead

Heavy metals are all around in the modern industrial environment.

**Cadmium** is one of the few substances in nature that have absolutely no value to living beings. Due to bioaccumulation, even in very small concentrations, isolated or in combination with other substances it is extremely toxic for living organisms and eco systems. Inhaled cadmium gasses are highly toxic to the kidneys and lungs. Oral intake can damage kidneys and liver severely. A lot of reactions and binding with cadmium are known to be cancer inducing. Cadmium intoxication can lead to the itai-itai syndrome, Japanese for ‘pain-pain’ disease. Emitted cadmium does end up in our bodies because it is taken up by plants and in this way comes into the food chain. Especially our detoxifying organs (kidneys and liver) are damaged by this exogenous homotoxin and therefore it is double dangerous as intoxication as it makes other toxins less possible to eliminate them.

**Mercury** is used in lots of modern materials and is even used in dentistry (amalgam dental fillings). Human activities, like the application of agricultural fertilizers and industrial wastewater disposal, are examples of how humans release mercury directly into the soil or water. The mercury that is released in the environment ends up in surface water or soils eventually. When the pH values in acidic surface waters are between five and seven, the mercury concentrations in the water will increase. This is due to the mobilization of mercury in the ground near a water source. Microorganisms are able to convert the mercury that reaches the surface water to methyl mercury and most organisms absorb this substance quickly. Methyl mercury is also known to cause nerve damage. Fish are among the organisms that absorb methyl mercury in great amounts from water. As a consequence, methyl mercury accumulates in fish and passes into the food chain. The deleterious effects of mercury consumed by animals that eat fish include reproductive failure, damage to intestines, stomach disruption, DNA alteration, and kidney damage.

**Lead** is a poisonous metal that can damage nervous connections (especially in young children) and cause blood and brain disorders. Long term exposure to lead or its salts (especially soluble salts or the strong oxidant PbO2) can cause nephropathy, and colic-like abdominal pains. The historical use of lead acetate (also known as sugar of lead) by the Roman Empire as a sweetener for wine is considered by some to be the cause of the dementia which affected many of the Roman Emperors. At one point in time, some lead compounds, because of their sweetness, were used by candy makers. Although this has been banned in industrialized nations, there was a 2004 scandal involving lead-laced Mexican candy being eaten by children in California.
Chemical poisoning: principal pollutants

- Organic compounds...
  - Non-halogenated compounds:
    - Aliphatic compounds (formaldehyde, methane)
    - Aromatic compounds (benzene, toluene)
  - Halogenated compounds:
    - Aliphatic compounds (chlorofluorocarbons, trichloroethane)
    - Aromatic compounds (chlorobenzene, dioxins)

Between the chemicals also a lot of halogen and non-halogen compounds are extremely toxic and even can cancerogenous.

Because formaldehyde resins are used in many construction materials, including plywood, carpet, and spray-on insulating foams, and because these resins slowly give off formaldehyde over time, formaldehyde is one of the more common indoor air pollutants. At concentrations above 0.1 mg/kg in air, inhaled formaldehyde can irritate the eyes and mucous membranes, resulting in watery eyes, headache, a burning sensation in the throat, and difficulty breathing.

Benzene exposure has serious health effects. Breathing high levels of benzene can result in death, while low levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

Chlorobenzene has been used in the manufacture of certain pesticides, most notably DDT by reaction with chloral (trichloroacetaldehyde). It also once found use in the production of phenol. However, use of these manufacturing processes has declined significantly in the past few decades. Today the major use of chlorobenzene is as an intermediate in the production of nitrochlorobenzenes and diphenyl oxide, which are important in the production of commodities such as herbicides, dyestuffs, and rubber.

Dioxins build up in living tissue (bioaccumulation) over time, so even small exposures may accumulate to dangerous levels. TCDD has a half-life of ~7 years in humans, but at high concentrations, the elimination rate is enhanced by metabolism. The health effects of dioxins are mediated by their action on a cellular receptor, the Aryl Hydrocarbon Receptor (AhR). Exposure to high levels of dioxin in humans causes a severe form of persistent acne, known as chloracne. Other effects may include: developmental abnormalities in the enamel of children’s teeth, damage to the immune system, endometriosis, birth defect, COPD, diabetes and at least in laboratory animals, increased rates of liver and thyroid cancer are observed.
Other substances, better known by the public but extremely toxic too are substances like asbestos, carbon dioxide and carbon monoxide. Although great efforts are done in Europe to get asbestos banned out of building materials and fire protection materials, it is still in mass in the environment as it remains for years. The hook-like particles of asbestos can intrude in the deepest parts of the lungs and are known to be cancerogenic.

CO₂ and CO both are polluting toxic gases that are very common in modern societies, especially living in heavy traffic and industrial regions.
Emissions of combustions are worldwide spread. Their toxic load increases with the air concentrations. Living in a city or near to industrial factories will higher the risks for sulphur dioxide and volatile organic compounds intoxications.
Factors determining homotoxic overload

Lesions provoked by the exposure to environmental toxins
Carbon dioxide is an end product in organisms that obtain energy from breaking down sugars or fats with oxygen as part of their metabolism, in a process known as cellular respiration. This includes all plants, animals, many fungi and some bacteria. In higher animals, the carbon dioxide travels in the blood from the body's tissues to the lungs where it is exhaled. In plants using photosynthesis, carbon dioxide is absorbed from the atmosphere.

Carbon dioxide content in fresh air varies and is between 0.03% (300 ppm) to 0.06% (600 ppm), depending on location and in exhaled air approximately 4.5%. When inhaled in high concentrations (greater than 5% by volume), it is immediately dangerous to the life and health of plants, humans and other animals. The current threshold limit value (TLV) or maximum level that is considered safe for healthy adults for an 8-hour work day is 0.5% (5000 ppm). The maximum safe level for infants, children, the elderly and individuals with cardio-pulmonary health issues would be significantly less.

As in modern times forests have to move for industrialization the reverse of CO₂ to oxygen is decreased with higher peak concentrations in industrial areas as consequence.
Atmosphere - pollution

• Pollutants are carried from one place to another over great distances by the winds.
• The processes of heavy pollution are strongly influenced by the circulation of air masses.
• A given place will be polluted to a greater or lesser extent depending on how good is the circulation of air in the geographical region in which it lies.

As mentioned before atmospheric conditions might increase concentrations of certain pollutants. Not living in an industrial area is no guarantee for being free of pollutants. High winds can transport pollutants within hours from one place to another. The fallout of radioactive material after the Chernobyl accident was within days spread over western Europe, thousands of kilometres away of the source.

Acid rain is not a local phenomenon but is the synthesis of different parameters in different places. Acid rain is destroying forests in places where no industry is present hundreds of kilometres from the region. Pollution is not a local phenomenon but due to atmospheric characteristics a worldwide problem.
Factors determining homotoxic overload

Heavy metals
Metals and metalloids

- Classification of metals according to the Environmental Protection Agency (EPA) of the United States

- Hazardous metals:
  - Mercury (heavy trace metal)
  - Beryllium (light trace metal)
  - Mild exposure can harm human health

People in the U.S. are mainly exposed to methylmercury, an organic compound, when they eat fish and shellfish that contain methylmercury. Whether an exposure to the various forms of mercury will harm a person's health depends on a number of factors (below). Almost all people have at least trace amounts of methylmercury in their tissues, reflecting methylmercury's widespread presence in the environment and people’s exposure through the consumption of fish and shellfish. People may be exposed to mercury in any of its forms under different circumstances. The factors that determine how severe the health effects are from mercury exposure include these:

  - the chemical form of mercury (methylmercury is more toxic than elemental mercury); the dose; the age of the person exposed (the fetus is the most susceptible); the duration of exposure; the route of exposure: inhalation, ingestion, dermal contact, etc.; and the health of the person exposed.

For fetuses, infants, and children, the primary health effect of methylmercury is impaired neurological development. Methylmercury exposure in the womb, which can result from a mother’s consumption of fish and shellfish that contain methylmercury, can adversely affect a baby’s growing brain and nervous system. Impacts on cognitive thinking, memory, attention, language, and fine motor and visual spatial skills have been seen in children exposed to methylmercury in the womb.

Short-term: the EPA has found Beryllium to potentially cause the following health effects: inflammation of the lungs when inhaled; less toxic in drinking water. Long-term: Beryllium has the potential to cause the following effects from a lifetime exposure at levels above the minimal concentration level (MCL): damage to bones and lungs; cancer.
Metals and metalloids

- Classification of metals according to the Environmental Protection Agency (EPA) of the United States:
  - Potentially hazardous metals:
    - Barium
    - Cadmium
    - Copper
    - Lead
    - Manganese
    - Nickel
    - Zinc
    - Vanadium
    - Tin

Other metals are accordingly to the EPA to be monitored with care as they also create health risks. Some of them are even needed as trace elements for good body functioning but are toxic in elevated concentrations. Zinc and copper for example are essential for certain physiological processes and symptoms are related to a lack of them. To high levels on the other side will also cause problems so it is again a question of homeostasis.
Metals and metalloids

- Toxicity of metals according to dose level and time of exposure
- In cases of acute exposure
- Through drinking water, foodstuffs or occupational exposure
- Symptoms: acute gastrointestinal syndrome, renal impairment, neurotoxicity, etc.

Dose level and time are the main parameters for the toxicity of a substance. Of course an acute exposure to a high level has on short term more risks as a lethal level might get reached. Metals and metalloids are in soil, water and air and therefore drinking water, exposure in open air and even food (over the food chain from lower to higher level) might be a risk.

Main symptoms for metal or metalloid intoxications are gastrointestinal syndrome, renal impairment till failure, neurotoxicicy, liver damage, respiratory complaints etc…
Toxicity of metals according to dose level and time of exposure

• In cases of prolonged exposure
• Through drinking water, the air, or contact with contaminated soil
  • Symptoms:
  • Development of various types of cancer, hyperkeratosis
  • Hyper- and hypopigmentation of the skin, particularly in the case of arsenic
  • Chronic inflammation of the airways
  • Renal failure

As mentioned before very small amounts of metals and metalloids can reach a severe toxic level due to bioaccumulation over the years or even decades.

Various types of cancer are described in prolonged exposure to metals and metalloids. Changes in skin pigmentation might appear. Very often irritation and even damage of the respiratory system is seen. Very common is also renal failure as lots of metals and metalloids will induce renal damage.
Toxicity of metals according to dose level and time of exposure

- In cases of prolonged exposure
- Through drinking water, the air, or contact with contaminated soil
  - Symptoms:
    - Dermatitis
    - Neurological symptoms
    - Damage to the reproductive system: fetotoxicity, teratogenicity, spontaneous

Prolonged exposure to metals and metalloids can also induce dermatitis, neurological symptoms and damage to the reproductive system. Many metals, especially heavy metals, are fetotoxic and/or teratotoxic and might be the cause for spontaneous abortion.

Over the bloodstream many metals are able to pass the foetal barrier and intoxicate the foetus.
Environmental homotoxins

- Heavy metals specific medication:
  - Plumbum metallicum-Injeel
  - Mercurius solubilis Hahnemanni-Injeel
  - Arsenicum album-Injeel

Over the inverse principle in homeopathy we can try to treat the patient with a metal intoxication. Micro or nanoconcentrations of a metal will inverse the symptomatology of the intoxication due to the high concentrations in the body. Micro dosages have even a detoxifying effect.

Basic research has been done on this phenomenon. Artificially arsenic poisoned rats excreted arsenic in their urin. In function of the doses of intoxication the excretion of arsenic stopped after a few days. Dilutions above the number of Avogadro of arsenic made new excretion of arsenic in the urine appear¹.

In the same way metal specific medications (homeopathic dilutions) of a metal are given to inverse the effect of intoxication and detoxify the body specifically for this metal. Plumbum Metallicum-Injeel is used for lead intoxication, Mercurius Solubilis Hahnemanni-Injeel for mercury (amalgam, dentistry) and Arsenicum album-Injeel for arsenic intoxication.

Factors determining homotoxic overload

• Agrochemicals
• Agricultural pests are being controlled with pesticides that did not exist prior to 1940.

In agriculture lots of pesticides and insecticides are used. They end up in plants and soil. Even if maximum levels are set there are no effect studies on long term intake of repeated minor dosages.
Environmental homotoxins

- Insecticides:
  - Injeel-Chol
  - Hepar compositum

As lots of pesticides will be mainly bioaccumulated in the liver Hepar compositum will support this detoxifying organ. The same is a fact for Injeel-Chol.
Some homotoxins are not very obvious as they are unknown to most people and difficult to detect without specialized electronic equipment. These are the most insidious homotoxins.
Lifestyle brings a lot of oxidants into the body. Not only by air (smoking) but also in foods and drinks. It is proven they do not only age the tissues but also induce degenerative pathologies.

Radiation is very difficult to monitor, certainly for layman. They can be from industrial origin or cosmic origin and already a very short exposure can have life threatening consequences. Most radiations are cancerogenous.
Electromagnetic fields in everyday life: sources

Natural:
• Earth’s magnetic field
  • Natural solar radioactivity
  • Radioactivity from space:
    • Cosmic, gamma, x, infrared, visible and ultraviolet rays.

Human:
• Voluntary
  • Telephones, radios, radars, remote control units, cordless instruments
• Involuntary
  • Electricity pylons

Magnetism and electromagnetic fields can create geopathic charges to which some people seem to be sensible for. Cosmic radiations can induce cellular diseases.

Modern lifestyle where emissions and receivers of radio signals are at every corner of the street, in most homes, at work. Remote controls, micro waves, high voltage inductors (television screens and monitors) all emit radiations or electromagnetic fields in which we live every day again, for decades. Knowing transmission of information in the body with very subtle electric potentials it is reasonable to state interferences with induction streams from exogenous origin.
Geopathies

• Buildings are being built where there are:
  • Underground watercourses
  • Faults
  • Fault troughs
  • Deposits of certain minerals
  • Cavities

Beside materials used in buildings that might emit or release toxic substances (diseases related to that are classified under ‘sick building syndrome’) also the place where they are built might cause a problem. Although not always scientifically accepted by the establishment and academic world geopathic interferences exists and might cause psychological (like nervousness, sleeplessness,….) and physical disorders (psychosomatic complaints, headache,….)
Geopathies

- In geopathogenic zones influenced by emissions of harmful waves there is an increase in...
  - Insomnia, night terrors, morning exhaustion, cramps, palpitations, depression, colds and migraine,
  - Degenerative processes such as cancer tend to accelerate.

A lot of symptoms are related to a long or repeated stay within geopathic charged locations. Most of these symptoms are psychological. Sleep disorders, nightmares, mental exhaustion and depression are only a few out of a list of psychological related geopathic induced disorders. Beside this even more physical symptoms and diseases are related to geopathic charges. Immunodeficiency (more colds and flu like conditions), migraine, cramps, physical exhaustion. Geopathic charges are even related to the development or acceleration of cancer.
Sick-building-syndrome

Definition (WHO):

- Set of symptoms caused by chemical, physical or biological agents and/or ergonomic factors, frequently related to the structure, distribution, installations and/or equipment in the building, symptoms whose severity tends to increase with the time people spend in the building and not always having an obvious cause, and which is frequently diagnosed by exclusion and does not affect all of the building’s occupants.

Sick building syndrome is officialized by a definition of the world health organization (WHO). As we see this definition is very large (complete) and does not only refer to the building itself but also to the installations and equipment used in the building.
Sick-building-syndrome

- Causes:
  - Poor ventilation
  - Changing temperatures
  - Ionic and electromagnetic charge
  - Suspended particles
  - Gases and vapours of chemical origin
  - Bioaerosols

Modern architecture, due to safety artificially aerated and air-conditioned and humidified, use en masse of unnatural building compounds, electromagnetic induction due to high voltage equipments (elevator motors, high voltage cabins for power supply, etc…) are all plausible reasons for the development of sick building syndrome symptoms.

In some modern buildings the percentage of appearance of certain symptoms in the building population is so high that adaptations has been done to ameliorate the situations.
Noise pollution

• At 100 dB and above, hearing starts to be impaired irrespective of length of exposure,
• The pain threshold starts at 120 dB.

In our modern society, especially in cities and near to airports and industrial areas and some working places at factories, but also voluntary in disco and concerts, noise pollution is often present. Although background noise is needed to feel confident (absolute silence is seen by the brain as an alarm) noise can be a pollutant. Continuous noise above the speech level (50-60 dB) works irritable at the end. Sounds above 100 dB are absolute unpleasant and above 120 dB cause ear pain and even irreversible ear damage.
Noise pollution

- At levels in excess of those at which the auditory apparatus suffers damage one starts to see the onset of temporary deafness and acoustic trauma
  - Loss of balance
  - Irritability
    - Nervousness
  - Disturbances of heart rhythm
  - Loss of concentration

Excessive noise levels, especially when longer time exposed to, may create ear damage (Corti organ: hair cells damaging). Sounds and noises are present all around us in different levels. Only high levels can injure.

0 dB: Faintest sound heard by human ear
30 dB: Whisper, quiet library.
60 dB Normal conversation, sewing machine, typewriter
90 dB Lawnmower, shop tools, truck traffic; 8 hours per day is the maximum exposure to protect 90% of people.
100 dB Chainsaw, pneumatic drill, snowmobile; 2 hours per day is the maximum exposure without protection
115 dB Sandblasting, loud rock concert, auto horn; 15 minutes per day is the maximum exposure without protection
140 dB Gun muzzle blast, jet engine; noise causes pain and even brief exposure injures unprotected ears. Maximum allowed noise with hearing protectors.

Lots of symptoms can be causes by permanent air pollution:
- Deafness
- Irritability
- Nervousness
- Loss of balance
- Heart rhythm disturbances
- Concentration loss
Also on nutritive level a lot is going the wrong way in industrialized countries. Not only is the consumption of refined sugar growing explosively in the last decade, the quality of the food went from natural fresh food to prepared dried food or conserved. Younger people are having in high percentage fast food with lots of colorants aromatic components and taste enhancers. Already now in the US the population of obese and even diabetic children under the 12 years old is increasing dramatically.
Industrial and refined food is certainly one of the reasons for an increasing food intolerance in children and young adults. With a lower nutritional value (biological value) and even calorie value (light products) we see a higher use of preservatives and additives. Food substances that initial were natural components become homotoxins due to the production facilities and treatment they undergo before ending up in the store. Food is heated and dried, vacuum packed and radiated, conserved with antioxidants and chemicals. Even if standards are set on maximum daily levels, most of these substances have not been monitored for daily intake over decades.
In modern societies medications are within the reach of everybody. Some countries even accept medications that block regulation mechanisms as OTC (over the counter, without medical prescription) products (e.g. acetyl salicylic acid).
In some West European countries anxiolitics, anti-depressiva and sleeping pills are among the most sold medications on the pharmaceutical market. Nervousness and stress are common complaints in first line medicine's practice. Social deprivation increased the feeling of isolation, inducing depressive thoughts and behaviour.

The main antihomotoxic medication for the treatment of patients with long term use (abuse) of psychotropic drugs is Cerebrum compositum. As most compositum preparations it should be used on long term to have an organ supportive effect and to regulate deregulated functions.
Aggressive therapies: antibiotics

- Overgrowth
  - Some antibiotics eliminate certain kinds of bacteria but encourage growth of other bacteria or fungi
- Dysbacteriosis
  - Eliminating “good” bacteria (whose presence in the digestive tract is desirable)
- Allergy
  - Many antibiotics produce skin rashes and other signs of allergy (fever, arthritis, etc.) in predisposed subjects

Beside an over consumption of psychotropic drugs there is also an over consumption of antibiotics. Although there is in most industrial countries a governmental campaign against the overuse of antibiotics (resistant bacteria in clinical environment) in the last years, antibiotics are still widely used in first line medicine.

The use of an antibiotic is a direct attack to the terrain of the patient. Although antibiotics will inhibit the proliferation of a certain bacteria or class of bacteria, they will favour the other ones that remain and get the whole terrain for themselves. In a certain way we can state that the use of antibiotics will cultivate the stronger species.

Some bacteria live in symbiosis with the human organism. This is with certitude the fact with a whole range of intestinal bacteria. Broad spectrum antibiotics will also affect them and deregulate the intestinal flora with all kind of symptoms and diseases as a consequence.

Many antibiotics have a low tolerance rate and cause intolerances and even allergies in predisposed persons.
Aggressive therapies: antibiotics

- Resistance
  - Bacteria develop resistance to antibiotics
  - Continuous or repeated administration of antibiotics for minor diseases promotes the appearance of this type of resistance

- Toxicity
  - Antibiotics can cause damage to the kidneys, liver and nervous system and produce haematological changes

Frequent use of antibiotics on the same stem of a bacteria will in the long term induce resistance of that bacteria against that antibiotic. For the moment this is a main issue in middle European hospitals as in immune deficient patients (elderly people, post operative, etc…) these resistant bacteria can induce life threatening infections.

Antibiotics are exogenous homotoxins and can create liver and kidney damage. Some of them are even neurotoxic. We also see changes in blood platelet aggregation and functioning of other blood corpuscles.
After antibiotic treatment, according to an anamnestic or symptomatological similarity, we can use Penicillin-Injeel to treat the patient.
Aggressive therapies

- Anti-cancer chemotherapy

Although often absolutely necessary in life threatening cancer we should not forget the aggressive kind of cancer therapies. Chemotherapy is a huge intoxication status, not only for the cancer cells but for every living cell of the human organism. If not as a first choice for therapy, in the background we should support cell and organ to overcome this heavy intoxication status and to ameliorate the life quality of the patient during the chemotherapy. We can inhibit symptoms like nausea and vomiting, vertigo, stomatitis, etc… We can ‘energise’ the patient by organ and in a later stage cell support. After the chemotherapy, when a certain state of recovering is reached we can even start a deeply drainage and detoxification.
The effects of antihomotoxical therapy in the treatment of chemotherapy induced stomatitis in children (double blind pilot study) was published in Cancer in 2001 and was the start for further research on that issue.
Chemotherapy

• Modulation
  • Traumeel
  • Pulsatilla compositum
  • Hepar compositum
  • Medulla ossis suis-Injeel

Antihomotoxic modulation during and after chemotherapy can be done by cocktails of Traumeel, Pulsatilla compositum, Hepar compositum and Medulla ossis suis-Injeel.

Traumeel: Inflammation regulating drug (IRD), immunomodulating effect
Pulsatilla compositum: to stimulate the defense in depositional regulation rigidity (ECM intoxication status)
Hepar compositum: to stimulate and support the function of the liver
Medulla ossis suis-Injeel: to stimulate and support the bone marrow function
Factors determining homotoxic overload

- Neural interference fields
- Cybernetic noise

We can even go further in a more complementary approach on the presence of homotoxins influenced by the terrain of the patient. Within the neural therapy the neural interference field is a well known phenomenon as it can create a regulation rigidity that blocks off any regulation therapeutic initiative taken.
Interference field: histology

- “Chronic inflammation by non degradable substances deposited in Pischinger’s Ground Regulation System”.  
  G. Kellner, University of Vienna

- Every disease or disease phase can begin with or be aggravated by an interference field.

- In every chronic pathology it is necessary to take the involvement of an interference field into account.

- Chronic conditions favor the formation of interference fields.

Not only homotoxins but also scarring can create an interference field. Interference fields will, as the name suggests already, interfere into autoregulating systems at the level of the extra cellular environment. This means that the transmission of messengers of all kind (mediators, electrical impulses, PH regulation, etc…) will be deregulated or even made impossible by blockage or obstruction.

An interference field can amplify the toxic effect of an homotoxin. On the other hand, the long term presence of homotoxins and their degenerative effect at the end may induce the creation of an interference field that can be even active long after the homotoxins are gone.
Interference field: summary

• With the continuing presence of an interference field, problems of regulation can permanently impair therapeutic response.

Interference fields can be the cause of a complete blocking of regulating systems and even interfere and become a blockage for regulation therapies like antihomotoxic medication in his injected or oral form.
An homotoxin can, in its highest state, even be immaterial. That means that no molecule is causing the damaging effect but a psychic condition, an emotion or even a thought. This is what is called psychotoxicity. It strongly refers to the PNEI (psycho-neuro-endocrine-immunology, see the lecture ‘IAH AC The Living Matrix’).

The PNEI evaluates the consequences of stress on our health in general and on our immune balance in particular.

Certain emotions can be very traumatic and mark the start of a chronic mental problem like in unresolved latent conflicts.
Mind and disease

• Hippocrates was the first to give an indication of the role of the mind in human beings.

• Sickness starts in the mind and materializes (somatisation) in the body. (Hahnemann)

• He created a homeopathic therapeutic method based on the study and treatment of mental symptoms. (J.T. Kent)

• T. Dethlefsen and R. Dahlke write about the mind and aetiology.

Before Samuel Hahnemann Hippocrates was the first to give an indication that the mind can play a directive role in the human being. Hahnemann sees many diseases as a materialization of mind aspects and even the ‘dynamis’ (life energy) is according to him a mental related status. In homeopathy one of the therapeutical pillars is the treatment of mental symptoms (mind symptoms). Also Dethlefsen and Dahlke wrote a lot about the etiological link between a disease and the mind status of the patient.
To work regulative on the level of the PNEI and psychogenic effects we can use one or more of the antihomotoxic medications above. We refer to the antihomotoxic vademecum of Heel for their indications and application areas. We underline the therapeutical difference between the regulative effect of the specialities and the organ supportive effect of the compositum preparations.
Chemicals belong to the most toxic exogenous homotoxins. We simply take them in out of the micro environment. Some of them are obvious, others are not easy to recognise and are called insidious homotoxins. They are even more dangerous as difficult to detect and avoid.

Not only chemicals out of the environment should be seen as endangering health but also chronically and voluntary intake of certain conventional medications as in the long term they can create a highly toxic charge.

Beside the molecular intoxications there are other factors that can influence or aggravate the toxic load of a material homotoxin. This is certainly the case with interference fields and cybernetic noise. Also psychotoxicity, over a PNEI influence can negatively influence the presence of a toxin and even synergic aggravate the disease situation of the patient.