ALPSTEINACADEMY

Continuous Professional Development

Seminars & Webinars

 www.alpstein-clinic.ch

1

ALPSTEINCLINIC

WHO WE ARE…

ALPSTEINCLINIC
GAIS / SWITZERLAND

- ALPSTEINCLINIC — INTEGRATIVE BIOLOGICAL MEDICINE CENTER
- INUSpheresis® Center ALPSTEIN CLINIC Appenzell - Switzerland
- CENTER FOR INTEGRATIVE DENTISTRY
- CHILDREN- AND FAMILY COMPREHENSIVE CENTER
- ALPSTEINCLINIC — HYPERTHERMIA AND CANCER THERAPY CENTER





 www.alpstein-clinic.ch

2

ALPSTEINCLINIC

GRÜEZI!


The Alpstein Mountains in Appenzell


Market Place in Gais near Appenzell


Alpstein Clinic in Gais

Why do we have to die?

and what can we learn from single cell research?

Or: the secret of Longevity

Dr. Ralf Oettmeier und Team, Alpstein Clinic Gais / AR, Schweiz

 www.alpstein-clinic.ch

3

ALPSTEINCLINIC

Fit and Vital until high Age…

 www.alpstein-clinic.ch

4

ALPSTEINCLINIC

Problems and Disease of Aging

Neurodegeneration

Heart and vascular Diseases

Mood & Cognition

Loss of Vitality

Osteoarthritis

Hormonal Deficiency

source: welt.de

Chronic Pain

Cancerous Diseases

5

ALPSTEINCLINIC

A successful Series …

Want to Live to 100?

Secrets of the Blue Zones' May Reveal How

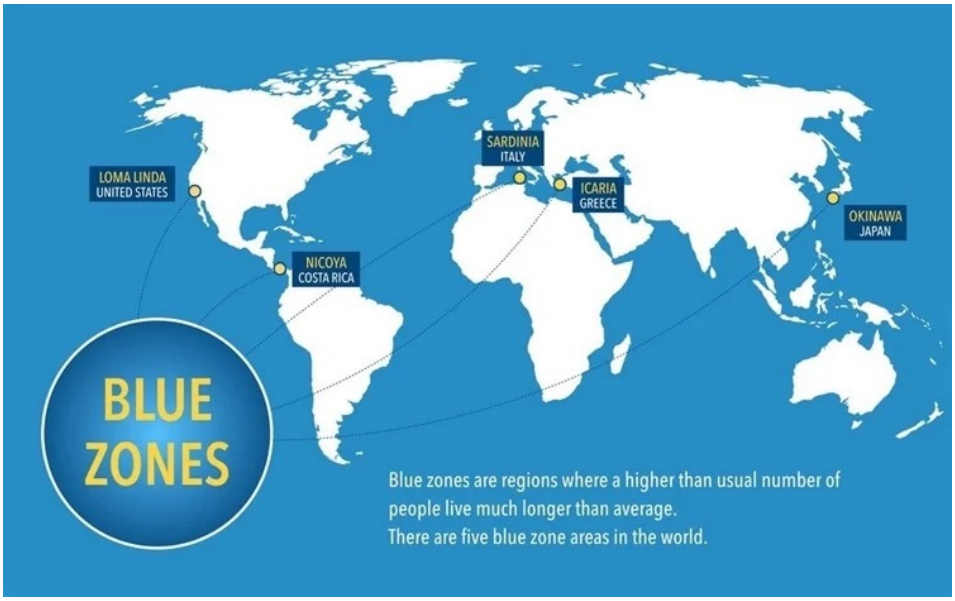
Bestselling author and founder of Blue Zones, Dan Buettner's new doc series explores the science and lifestyles behind longevity.

Most people hope they'll live a long, healthy, and happy life, but few are able to travel the world in an attempt to reverse-engineer the formula for longevity. That's exactly what Dan Buettner did: Beginning in the early aughts, Buettner collaborated with National Geographic, scouring the globe in pursuit of places where people live much longer than average — and thus, the concept of "Blue Zones" came to be. Following Buettner's bestselling book *The Blue Zone: 9 Lessons of Living Longer from the People Who've Lived the Longest*, the new doc series **Live to 100: Secrets of the Blue Zones** travels around the world to investigate the diet and lifestyles of those living the longest lives.

6

ALPSTEINCLINIC

The Blue Zones of the World



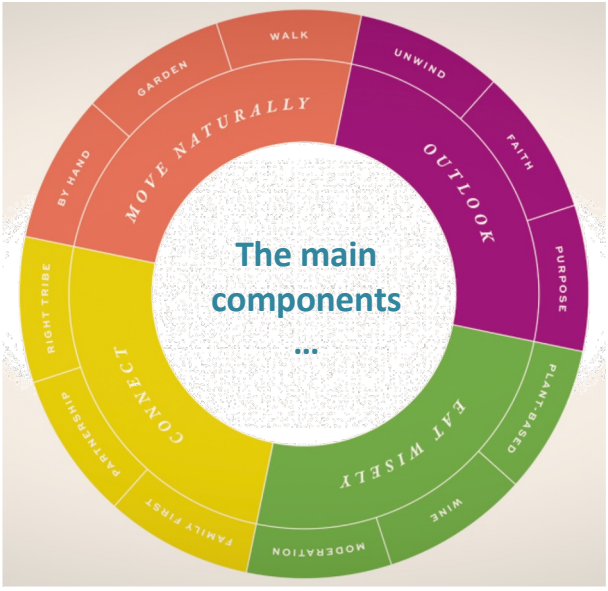
Source:
https://www.news-medical.net/health/Unlocking-the-Secrets-of-Blue-Zones-A-Blueprint-for-Longevity-and-Health.aspx

7

ALPSTEINCLINIC

Source:
https://www.netflix.com/tudum/articles/live-to-100-secrets-of-the-blue-zones-documentary

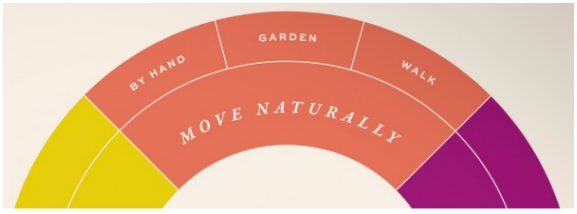
A successful Series …



8

ALPSTEINCLINIC

Source: https://www.netflix.com/tudum/articles/live-to-100-secrets-of-the-blue-zones-documentary



Make movement a Habit

People in the blue zones don't necessarily have subscriptions to fancy gyms. Though some play pickleball three hours a day (we're looking at you, Loma Lindans), many of their physical activities of choice aren't technically even exercise at all. By weaving physical activities seamlessly into their lives, they get active everyday without even trying. Some of the ways they do this include:

Longevity – the main components …

By Hand:
- chopping wood, kneading bread, making crafts, and doing their hobbies by hand,
- seeing the fruits of their labor can help derive a sense of fulfillment.

Walk:
- blue zone members walk everywhere,
- helps to get regular exercise while spending time in the great outdoors.

Garden:
- green thumb helps to lower the center of gravity and practice their balance
- Just like doing things by hand, gardening can be both rewarding and stress-relieving.

9

ALPSTEINCLINIC

Source: https://www.netflix.com/tudum/articles/live-to-100-secrets-of-the-blue-zones-documentary

A positive outlook is everything

According to Buettner's research, those who live in blue zones tend to maintain a state of calm and have lower stress levels reported across the board. Some of the ways they cultivate peace of mind include:

Longevity – the main components …

Unwinding regularly:
- work hard and well past the typical retirement age,
- they find time to decompress every day, de-stressing by sitting on a couch doom-scrolling,
- turn to socializing, dancing, and even drinking together.

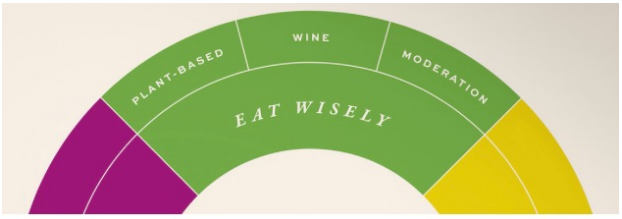
Finding faith:
- tend to belong to faith-based communities and devote time towards their respective religious communities.

Developing a sense of purpose:
- Whether it's *ikigai* or *plan de vida*, have a vocabulary for why they wake up every morning with an idea of what they bring to the world.

10

ALPSTEINCLINIC

Source: https://www.netflix.com/tudum/articles/live-to-100-secrets-of-the-blue-zones-documentary



Eating wisely

What and how much we eat can greatly impact our health and longevity. But the answer isn't necessarily strict, sad diets devoid of the good stuff.

Longevity – the main components …

Plant-based:

- primarily plant-based diets, with up to 95% of their diets coming from a diverse array of vitamin and protein-rich vegetables, beans, and nuts.

Wine:

- drink one or two glasses of wine per day,
- Take the Ikarians in Greece who regularly pair their homemade wine with community get-togethers.

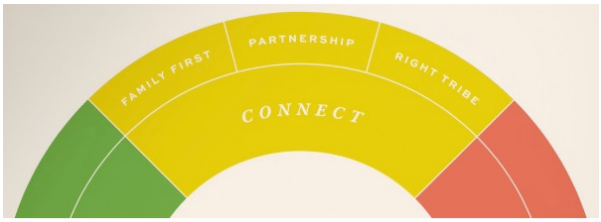
Moderation:

- stop eating when their stomachs are 80% full,
- practice several mindfulness habits at the dinner table, including eating slowly to allow the body to respond to cues and focusing on the food to savor flavors.

11

ALPSTEINCLINIC

Source: https://www.netflix.com/tudum/articles/live-to-100-secrets-of-the-blue-zones-documentary



Connect with others as often as possible

Regardless of age, everyone in the blue zones forms genuine connections with members of their community. It's the most critical commonality between all the blue zones, and likely the most impactful secret to longevity.

Longevity – the main components …

Family first:

- Keeping aging family members close by or within the family home ensures they're still connected across generations,
- has a real impact on how long they live.

Partnership:

- invest in their romantic unions and forge strong and loving partnerships, including marriages.

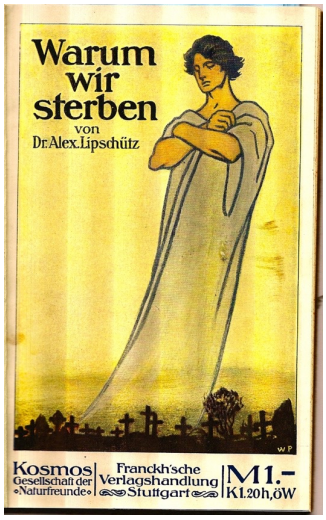
Right tribe:

- Having an immediate social circle to depend upon and invest in is crucial to longevity. I
- In Okinawa, some elderly form *moais*, or groups of neighborhood friends, that meet regularly and support each other in times of need.

12

ALPSTEINCLINIC

A special Gift …



Dr. Alexander Lipschütz
Zurich
Published 1914

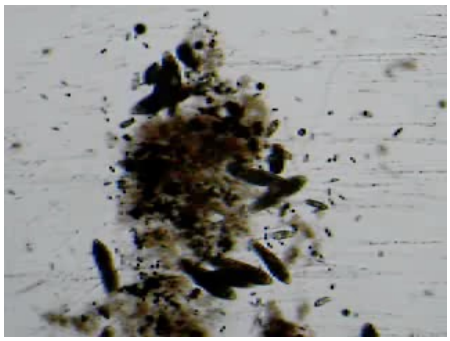
The book:

“Why we die”

13

ALPSTEINCLINIC

The PARAMECIUM („Slipper Animalcule“) Story



Paramecium and Bacteria

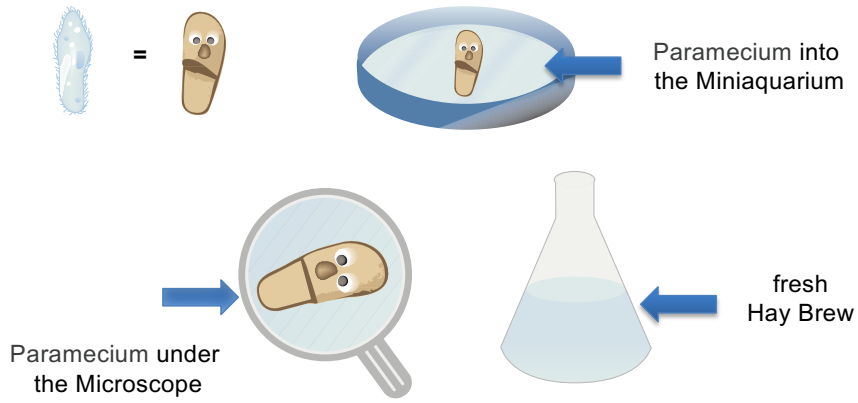
Cell Division of
Paramecium

14

ALPSTEINCLINIC

The PARAMECIUM („Slipper Animalcule") Story

The Findings of the american Biologist WOODRUFF(1)



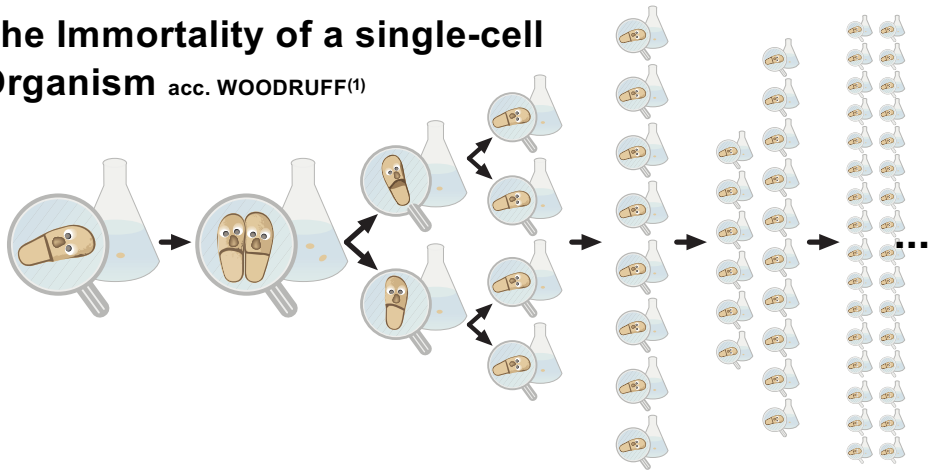
(1) Cited in A. Lipschütz, 1914

15

ALPSTEINCLINIC

The PARAMECIUM („Slipper Animalcule") Story

The Immortality of a single-cell Organism acc. WOODRUFF(1)



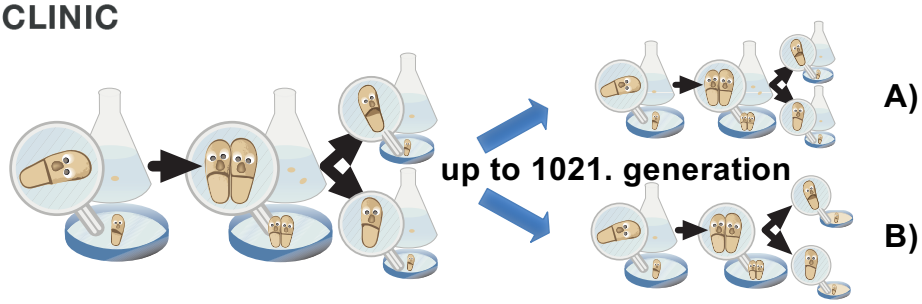
*„The reproduction of Paramecium was observed till to the **3029. generation**, without any appearance of dead cell bodies."*

(1) Cited in A. Lipschütz, 1914

16

ALPSTEINCLINIC

The nutrient solution as mortality factor I (1)



WOODRUFF divided the single cells in two terrain groups up to the 1021st generation :

A) Every daughter cell gets fresh nutrient solution every day -> normal reproduction and vitality

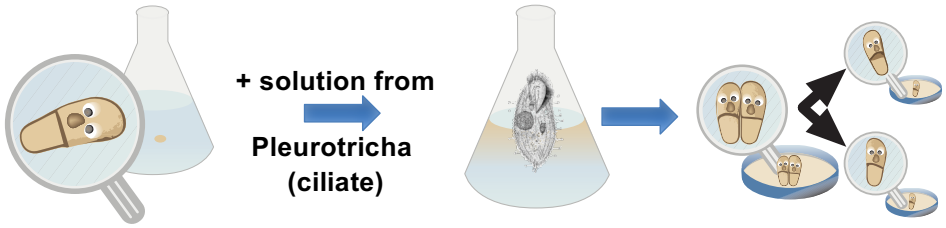
B) Daughter cells keep for some generations in the same solution. At first the speed of cell division slimmed (instead of 179 only 138 divisions in the same time period). Later more and more dead cells appeared.

(1) Cited in A. Lipschütz, 1914

17

ALPSTEINCLINIC

The nutrient solution as mortality factor II (1)



WOODRUFF gave the Parameciae into the solution of Pleurotricha, a distantly related species of single cell.

In the nutrient solution of Pleurotricha thrived the Parameciae totally normal. The cross-over trial showed the same result.

„Aging or depression of the Parameciae after some generations in here own solution based on the impairment and intoxication from metabolic products, which were produced by the animals self.“

(1) Cited in A. Lipschütz, 1914

18

ALPSTEINCLINIC

The oldest Animals of the World

Place 10 till 4: CHIMPANSEE (till 60 y.), ELEPHANT (till 80 y.), RAVEN (till 90 y.), LOBSTER (till 100 y.), RIVER PEARL MUSSEL (till 110 a.), **HUMEN (till 122 y.)**, STURGEON (till 155 y.)

Place 3: GREENLAND WHALE
Living in northern oceans, browses plankton and small crabs and can reach 175-200 years life expectancy.

Place 2: GALAPAGOS TURTLE
Become till 250 years old. Eats vegan diet from green grasses, herbs, twiners, berries, bushes, lichens and cactuses.

Place 1: GIGANTIC SPONGE
Scolymastra joubini can reach 10.000 years living time, is living in some thousends meters deepness in northern oceans

 Source: facbiere.wordpress.com

19

ALPSTEINCLINIC

Regeneration Times

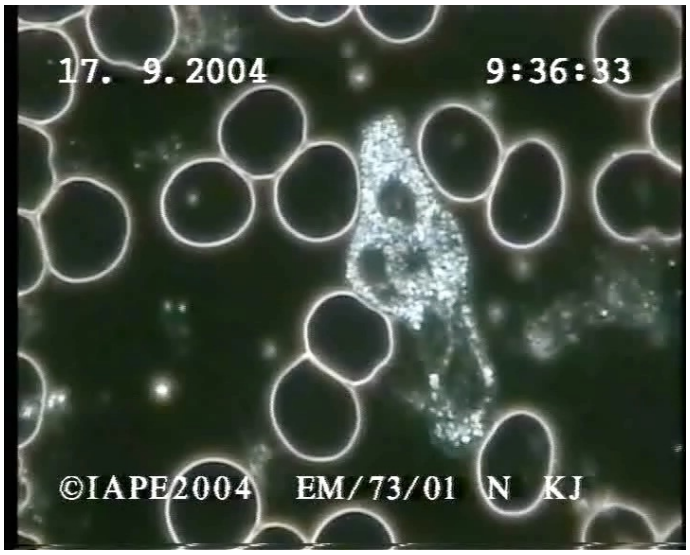
Cell / Tissue	Life Time
red blood cells	3 month
white blood cells (leucocytes)	5 days
skin	3 weeks
mucosal layer stomach	1 week

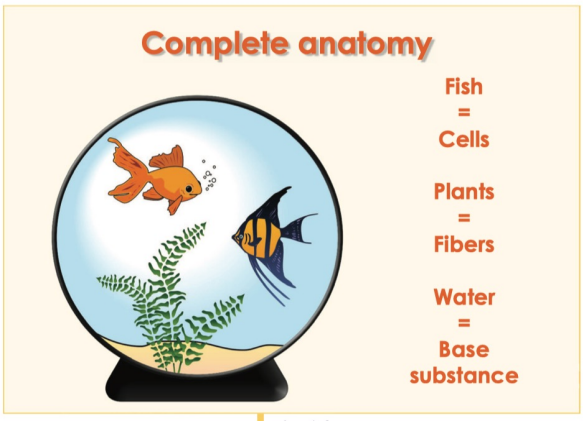
Cell / Tissue	Life Time
mucosal layer intestine	2 weeks
bone	8-10 years
muscle cells	15 years
brain, heart muscle, lens	Life-long

20

ALPSTEINCLINIC

Understanding the *Wonder of Creation*





Simplified concept description:

Realizing of best microenvironmental conditions for the cells …

From: Reuter, Oettmeier and Vizkelety: Say YES to LIFE

ALPSTEINCLINIC

Understanding the *Wonder of Creation*

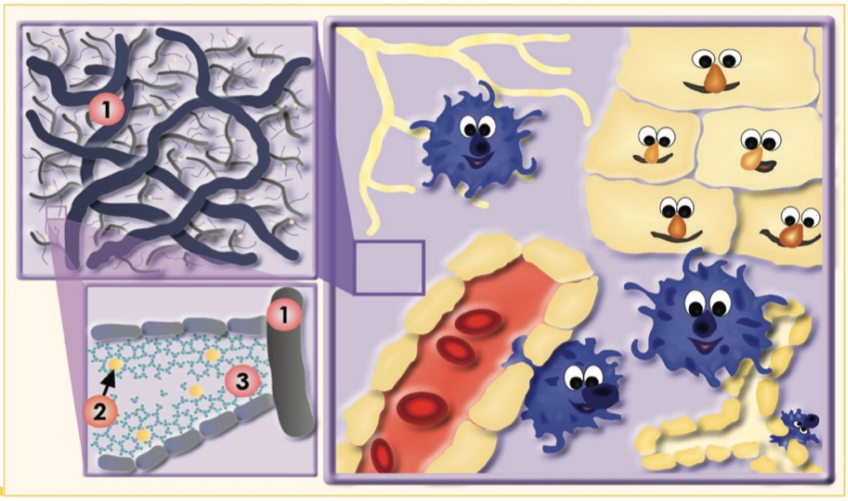
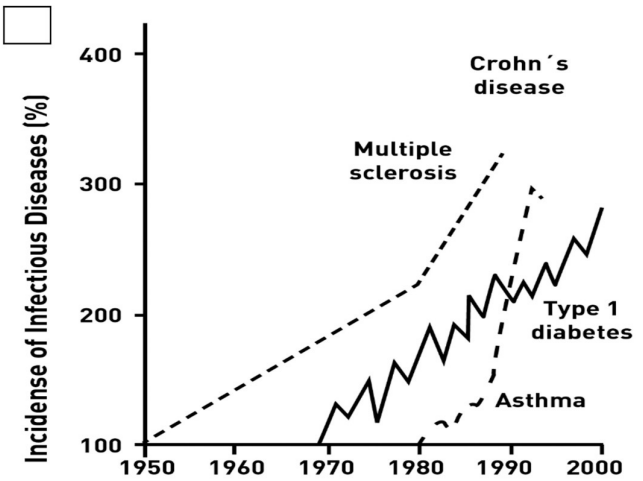


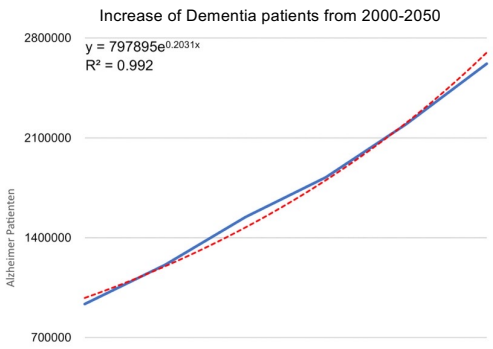
Fig. 1.5.
Fine structure of the cell environment
1 - Proteoglycans
2 - Embedded toxins
3 - Water molecules

From: Reuter, Oettmeier and Vizkelety: Say YES to LIFE

ALPSTEINCLINIC

350.000 novel foreign matter in the environment since 1950





23

ALPSTEINCLINIC

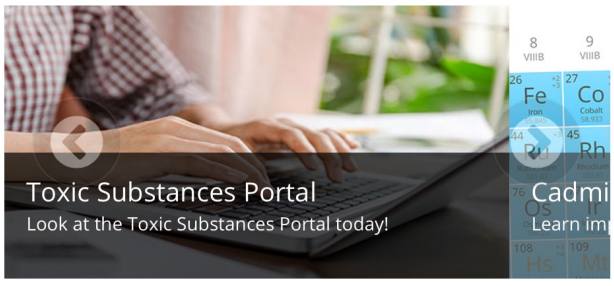
Diseases and Toxins

ATSDR Agency for Toxic Substances and Disease Registry

A-Z In

Search

Agency for Toxic Substances and Disease Registry



The **Agency for Toxic Substances and Disease Registry (ATSDR)**, based in Atlanta, Georgia, is a federal public health agency of the **U.S. Department of Health and Human Services**. ATSDR protects communities from harmful health effects related to exposure to natural and man-made hazardous substances. We do this by responding to environmental health emergencies; investigating emerging environmental health threats; conducting research on the health impacts of hazardous waste sites; and building capabilities of and providing actionable guidance to state and local health partners.

24

ALPSTEINCLINIC

Most diseases are based on toxic loads!

ATSDR Agency for Toxic Substances & Disease Registry

SEARCH

A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Toxic Substances Portal

- Toxic Substances Portal
- Substances List
- Substances Resources
- Substances Map
- **Health Effects of Exposure to Substances and Carcinogens**
- Chemical Classifications
- Community Members
- Emergency Responders
- Medical Education and Training
- Toxicological and Health Professionals

Toxic Substances Portal

Health Effects of Exposure to Substances and Carcinogens

An organ system is a structure that is found inside a human or animal. It is made of cells or tissues that perform a specific function. When exposed to a hazardous substance, the organ that the substance affects at the lowest dose is called the *target organ*. Development is the process in which an individual or animal matures until puberty. Click on a target organ system below to see an overview of the system and a list of substances that can harm it.

Text size: S M L XL

Print page

Bookmark and share

Contact Us:

Agency for Toxic Substances and Disease Registry
4770 Buford Hwy NE
Atlanta, GA 30341

800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348

New Hours of Operation
8am-8pm ET/Monday-Friday
Closed Holidays
Contact CDC-INFO

Cancer Classification

- NTP: Known to be a Human Carcinogen
- NTP: Reasonably Anticipated to be a Human Carcinogen

Effects of Toxic Substances on Organ Systems and their Development

- Cardiovascular (Heart and Blood Vessels)
- Dermal (Skin)
- Developmental (effects while organs are developing)
- Endocrine (Glands and Hormones)
- Gastrointestinal (Stomach and Intestines, part of the digestive system)
- Hematological (Blood Forming)
- Hepatic (Liver)
- Immunological (Immune System)
- Musculoskeletal (Muscles and Skeleton)
- Neurological (Nervous System)
- Ocular (Eyes)
- Renal (Urinary System or Kidneys)
- Reproductive (Producing Children)
- Respiratory (From the Nose to the Lungs)

25

ALPSTEINCLINIC

ATSDR Agency for Toxic Substances & Disease Registry

A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Toxic Substances Portal

- Toxic Substance Portal
- Substances List
- Substances Map
- Substances Search
- Health Effects of Exposure to Substances and Carcinogens
- **Nervous System**
- Chemical Classifications
- Community Members
- Emergency Responders
- Medical Education and Training
- Toxicological and Health Professionals

Toxic Substance Portal > Health Effects of Exposure to Substances and Carcinogens

Neurological (Nervous System)

The nervous system receives and sends signals throughout the body to control bodily functions. The nervous system consists of the central nervous system (brain and spinal cord) and peripheral nervous system (nerve fibers that attach to and lie outside the brain and spinal cord). The nervous system has two components, motor (efferent) and sensory (afferent), that carry information from and to, respectively, the central nervous system. The brain is the organ of thought, emotion, and processing of the various senses and communicates with and controls various other systems and functions. The nervous system also provides special senses such as sight, hearing, taste, feel, and smell. It uses the eyes, ears, tongue, skin, and nose to gather information about the body's environment.

Click on a substance to go to the health effects chapter in the toxicological profile. Then, search on any target organ system to find the health effects information on that system.

Substances Listing

- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethene
- 1,2-Dichloropropane
- 1,3-Butadiene
- 2,4-Dichlorophenoxyacetic Acid (2,4-D)
- 2-Hexanone
- Acetone
- Acrylamide
- Acrylonitrile
- Aldrin/Dieldrin
- Aluminum
- Americium
- Arsenic
- Benzene
- Benzidine
- Bis(chloromethyl) Ether
- Bromoform & Dibromochloromethane
- Bromomethane
- Cadmium
- Carbon Disulfide
- Carbon Monoxide
- Carbon Tetrachloride
- Chlordane
- Chlordecone
- Chlorfenvinphos
- Chlorine Dioxide & Chlorite
- Chlorobenzene
- Chloroform
- Chloromethane
- Chlorpyrifos
- Cresols
- Cyanide
- DDT, DDE, DDD
- DEET (N,N-diethyl-meta-toluamide)
- Diazinon
- Dichlorvos
- Dinitrocresols
- Dinitrotoluenes
- Disulfoton
- Endosulfan
- Endrin (Endrin aldehyde)
- Ethion
- Ethylbenzene
- Ethylene Oxide
- Fuel Oils / Kerosene
- Gasoline, Automotive
- Heptachlor/Heptachlor Epoxide
- Hexachlorocyclohexane (HCH)
- Hexachloroethane
- HMX (Octogen)
- Hydraulic Fluids
- Hydrogen Sulfide Carbonyl Sulfide
- Ionizing Radiation
- Jet Fuels JP-4 and JP-7
- JP-5, JP-8, and Jet A
- Lead
- Malathion
- Manganese
- Mercury
- Mercury, Metallic
- Methoxychlor
- Methyl Mercaptan
- Methyl Parathion
- Methyl tert-Butyl Ether (MTBE)
- Methylene Chloride
- n-Hexane
- Naphthalene, 1-Methylnapthalene,
- Otto Fuel II and its Components
- Polychlorinated Biphenyls (PCBs)
- Pyrethrins and Pyrethroids
- Pyridine
- RDX (Cyclonite)
- Stoddard Solvent
- Styrene
- Tetrachloroethylene (PERC)
- Tetryl
- Thallium
- Tin and Compounds
- Toluene
- Trichloroethylene (TCE)
- Used Mineral-based Crankcase Oil
- Xylenes

26

27

ALPSTEINCLINIC

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

List of most hazardous substances for humans

SPL Resource Page
CEP Site Count Report

Additional Resources
Toxicological Profiles
Minimal Risk Levels List
Toxic Substances Portal

Key Resources
Case Studies in Environmental Medicine (CSEM)
Interaction Profiles
Managing Hazardous Materials Incidents
Medical Management Guidelines
Minimal Risk Levels
Toxicology Curriculum for Communities Trainer's Manual
Toxicological Profiles
ToxFAQs™
ToxFAQs™ en Español
ToxGuides™
Division of Toxicology and Human Health Sciences

ATSDR's Substance Priority List

What is the Substance Priority List (SPL)?

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 104 (i), as amended by the Superfund Amendments and Reauthorization Act (SARA), requires ATSDR and the EPA to prepare a list, in order of priority, of substances that are most commonly found at facilities on the National Priorities List (NPL) and which are determined to pose the most significant potential threat to human health due to their known or suspected toxicity and potential for human exposure at these NPL sites. CERCLA also requires this list to be revised periodically to reflect additional information on hazardous substances. In CERCLA, it is called the priority list of hazardous substances that will be candidates for toxicological profiles.

2019 Substance Priority List

Click here to view the ATSDR 2019 Substance Priority List

This substance priority list is revised and published on a 2-year basis, with a yearly informal review and revision. (No list was published in 2009 while ATSDR transitioned to a new agency science database.) Each substance on the list is a candidate to become the subject of a toxicological profile prepared by ATSDR. The listing algorithm prioritizes substances based on frequency of occurrence at NPL sites, toxicity, and potential for human exposure to the substances found at NPL sites.

It should be noted that this priority list is not a list of "most toxic" substances, but rather a prioritization of substances based on a combination of their frequency, toxicity, and potential for human exposure at NPL sites.

Thus, it is possible for substances with low toxicity but high NPL frequency of occurrence and exposure to be on this priority list. The objective of this priority list is to rank substances across all NPL hazardous waste sites to provide guidance in selecting which substances will be the subject of toxicological profiles prepared by ATSDR.

Where can I find more information on the Substance Priority List?

Substantial additional information can be found on the SPL Resource page, including:

- Past Substance Priority Lists
- A Support Document describing the algorithm in detail
- A comprehensive SPL spreadsheet with data for all current and past lists, including candidate substances that did not make the top of the list

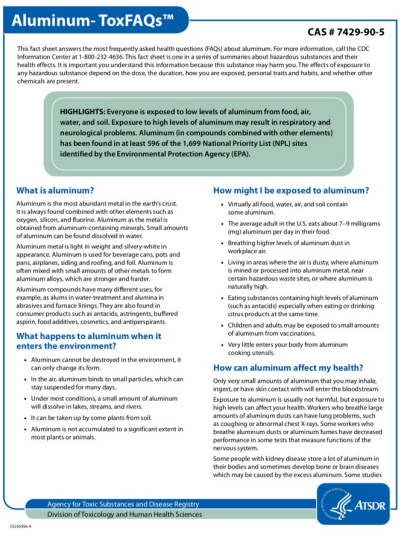
The ATSDR 2022 Substance Priority List Hide/Show Table

2022 Rank	Substance Name	Total Points	CAS RN
1	ARSENIC	1675	7440-38-2
2	LEAD	1531	7439-92-1
3	MERCURY	1455	7439-97-6
4	VINYL CHLORIDE	1355	75-01-4
5	POLYCHLORINATED BIPHENYLS	1342	1336-36-3
6	BENZENE	1328	71-43-2
7	CADMIUM	1317	7440-43-9
8	BENZO(A)PYRENE	1306	50-32-8
9	POLYCYCLIC AROMATIC HYDROCARBONS	1277	130498-29-2
10	BENZO(B)FLUORANTHENE	1255	205-99-2

27

ALPSTEINCLINIC

Fact Sheets on ATSDR



Aluminum- ToxFAQs™ CAS # 7429-90-5

This fact sheet answers the most frequently asked health questions (FAQs) about aluminum. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Everyone is exposed to low levels of aluminum from food, air, water, and soil. Exposure to high levels of aluminum may result in respiratory and neurological problems. Aluminum (in compounds combined with other elements) has been found in at least 596 of the 1,699 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is aluminum?

Aluminum is the most abundant metal in the earth's crust. It is always found combined with other elements such as oxygen, silicon, and fluorine. Aluminum as the metal is obtained from aluminum-containing minerals. Small amounts of aluminum can be found dissolved in water.

Aluminum metal is light in weight and silvery-white in appearance. Aluminum is used for beverage cans, pots and pans, airplanes, siding and roofing, and foil. Aluminum is often mixed with small amounts of other metals to form aluminum alloys, which are stronger and harder.

Aluminum compounds have many different uses, for example, as alums in water-treatment and alumina in abrasives and furnace linings. They are also found in consumer products such as antacids, astringents, buffered aspirin, food additives, cosmetics, and antiperspirants.

What happens to aluminum when it enters the environment?

- Aluminum cannot be destroyed in the environment, it can only change its form.
- In the air, aluminum binds to small particles, which can stay suspended for many days.
- Under most conditions, a small amount of aluminum will dissolve in lakes, streams, and rivers.
- It can be taken up by some plants from soil.
- Aluminum is not accumulated to a significant extent in most plants or animals.

How might I be exposed to aluminum?

- Virtually all food, water, air, and soil contain some aluminum.
- The average adult in the U.S. eats about 7–9 milligrams (mg) aluminum per day in their food.
- Breathing higher levels of aluminum dust in workplace air.
- Living in areas where the air is dusty, where aluminum is mined or processed into aluminum metal, near certain hazardous waste sites, or where aluminum is naturally high.
- Eating substances containing high levels of aluminum (such as antacids) especially when eating or drinking citrus products at the same time.
- Children and adults may be exposed to small amounts of aluminum from vaccinations.
- Very little enters your body from aluminum cooking utensils.

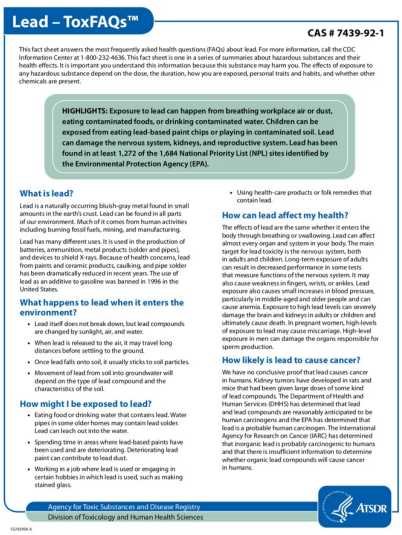
How can aluminum affect my health?

Only very small amounts of aluminum that you may inhale, ingest, or have skin contact with will enter the bloodstream.

Exposure to aluminum is usually not harmful, but exposure to high levels can affect your health. Workers who breathe large amounts of aluminum dusts can have lung problems, such as coughing or abnormal chest X-rays. Some workers who breathe aluminum dusts or aluminum fumes have decreased performance in some tests that measure functions of the nervous system.

Some people with kidney disease store a lot of aluminum in their bodies and sometimes develop bone or brain diseases which may be caused by the excess aluminum. Some studies

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Human Health Sciences



Lead – ToxFAQs™ CAS # 7439-92-1

This fact sheet answers the most frequently asked health questions (FAQs) about lead. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead has been found in at least 1,272 of the 1,684 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

What happens to lead when it enters the environment?

- Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.
- When lead is released to the air, it may travel long distances before settling to the ground.
- Once lead falls onto soil, it usually sticks to soil particles.
- Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

How might I be exposed to lead?

- Eating food or drinking water that contains lead. Water pipes in some older homes may contain lead solder. Lead can leach out into the water.
- Spending time in areas where lead-based paints have been used and are deteriorating. Deteriorating lead paint can contribute to lead dust.
- Working in a job where lead is used or engaging in certain hobbies in which lead is used, such as making stained glass.
- Using health-care products or folk remedies that contain lead.

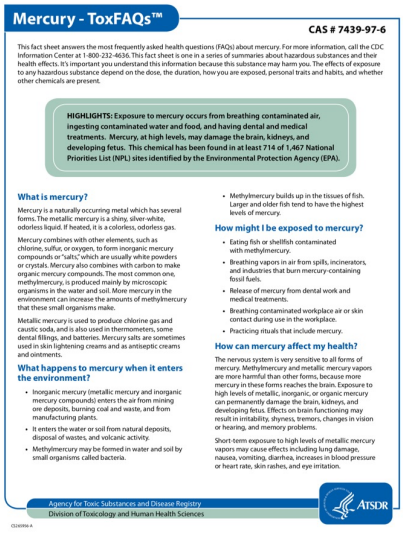
How can lead affect my health?

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

How likely is lead to cause cancer?

We have no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some kind of lead compounds. The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and the EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Human Health Sciences



Mercury - ToxFAQs™ CAS # 7439-97-6

This fact sheet answers the most frequently asked health questions (FAQs) about mercury. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to mercury occurs from breathing contaminated air, ingesting contaminated water and food, and having dental and medical treatments. Mercury, at high levels, may damage the brain, kidneys, and developing fetus. This chemical has been found in at least 714 of 1,467 National Priorities List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is mercury?

Mercury is a naturally occurring metal which has several forms. The metallic mercury is a shiny, silver-white, odorless liquid. If heated, it is a colorless, odorless gas.

Mercury combines with other elements, such as chlorine, sulfur, or oxygen, to form inorganic mercury compounds or "salts," which are usually white powders or crystals. Mercury also combines with carbon to make organic mercury compounds. The most common one, methylmercury, is produced mainly by microscopic organisms in the water and soil. More mercury in the environment can increase the amounts of methylmercury that these small organisms make.

Metallic mercury is used to produce chlorine gas and caustic soda, and is also used in thermometers, some dental fillings, and batteries. Mercury salts are sometimes used in skin lightening creams and as antiseptic creams and ointments.

What happens to mercury when it enters the environment?

- Inorganic mercury (metallic mercury and inorganic mercury compounds) enters the air from mining ore deposits, burning coal and waste, and from manufacturing plants.
- It enters the water or soil from natural deposits, disposal of wastes, and volcanic activity.
- Methylmercury may be formed in water and soil by small organisms called bacteria.
- Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury.

How might I be exposed to mercury?

- Eating fish or shellfish contaminated with methylmercury.
- Breathing vapors in air from spills, incinerators, and industries that burn mercury-containing fossil fuels.
- Release of mercury from dental work and medical treatments.
- Breathing contaminated workplace air or skin contact during use in the workplace.
- Practicing rituals that include mercury.

How can mercury affect my health?

The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems.

Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation.

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Human Health Sciences

 www.alpstein-clinic.ch

28

ALPSTEINCLINIC

Important for chronic diseases and cancer:

- Oncogenic substances (carcinogens)
- Toxic metals
- Endocrine disrupters
- Organ toxins
- “Emotional” toxins

29

ALPSTEINCLINIC

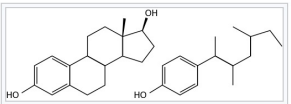
Carcinogenic Substances

30

ALPSTEINCLINIC

Endocrine Disrupters

Endocrine disruptors, sometimes also referred to as **hormonally active agents**,[1] **endocrine disrupting chemicals**,[2] or **endocrine disrupting compounds**[3] are chemicals that can interfere with endocrine (or hormonal) systems. These disruptions can cause cancerous tumors, birth defects, and other developmental disorders.[4] Found in many household and industrial products, endocrine disruptors "interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body that are responsible for development, behavior, fertility, and maintenance of homeostasis (normal cell metabolism)."[5]

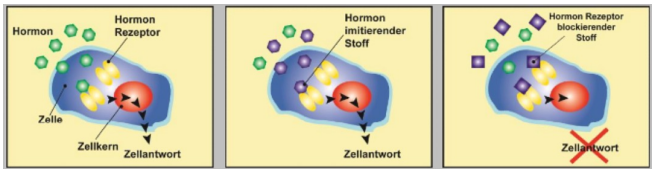


A comparison of the structures of the natural estrogen hormone estradiol (left) and one of the nonyl-phenols (right), a xenoestrogen endocrine disruptor

Any system in the body controlled by hormones can be derailed by hormone disruptors. Specifically, endocrine disruptors may be associated with the development of learning disabilities, severe attention deficit disorder, cognitive and brain development problems.[6][7][8][9]

There has been controversy over endocrine disruptors, with some groups calling for swift action by regulators to remove them from the market, and regulators and other scientists calling for further study.[10] Some endocrine disruptors have been identified and removed from the market (for example, a drug called diethylstilbestrol), but it is uncertain whether some endocrine disruptors on the market actually harm humans and wildlife at the doses to which wildlife and humans are exposed. Additionally, a key scientific paper, published in 1996 in the journal *Science*, which helped launch the movement of those opposed to endocrine disruptors, was retracted and its author found to have committed scientific misconduct.[11]

Studies in cells and laboratory animals have shown that EDCs can cause adverse biological effects in animals, and low-level exposures may also cause similar effects in human beings.[12] EDCs in the environment may also be related to reproductive and infertility problems in wildlife and bans and restrictions on their use has been associated with a reduction in health problems and the recovery of some wildlife populations.



Source: wikipedia

Ca. 800 !

31

ALPSTEINCLINIC

Tools for Diagnostics of Environmental loads

- **Hair analysis**
- **Bio-feed-back methods**
- **SO-check – Oligoscan**
- **Blood measurement**
- **DMPS/EDTA mobilization test**
- **INUS-laboratories (whole blood examination)**

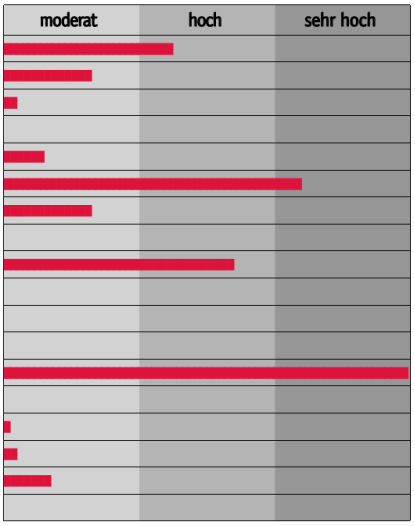
32

ALPSTEINCLINIC

Toxin Analysis

Hair analysis

Toxische Elemente	Referenzbereich	Messwert	Vorwerte
Aluminium	0 - 12	15.1	2.1
Antimon	0 - 0.2	0.13	0.06
Arsen	0 - 0.2	0.02	0.05
Beryllium	0 - 0.1	< 0.002	0.002
Bismuth	0 - 0.5	0.15	0.44
Blei	0 - 3.3	7.25	0.38
Cadmium	0 - 0.12	0.08	0.01
Gold	0 - 0.3	< 0.02	0.03
Nickel	0 - 0.8	1.36	0.14
Palladium	0 - 0.1	< 0.01	0.04
Platin	0 - 0.1	< 0.01	0.05
Quecksilber	0 - 1.0	< 0.06	2.06
Silber	0 - 1.2	27.26	0.01
Thallium	0 - 0.1	< 0.01	0.08
Titan	0 - 8.0	0.38	3.33
Uran	0 - 0.2	0.02	0.13
Zinn	0 - 1.2	0.43	0.13
Zirkonium	0 - 0.5	0.01	0.12



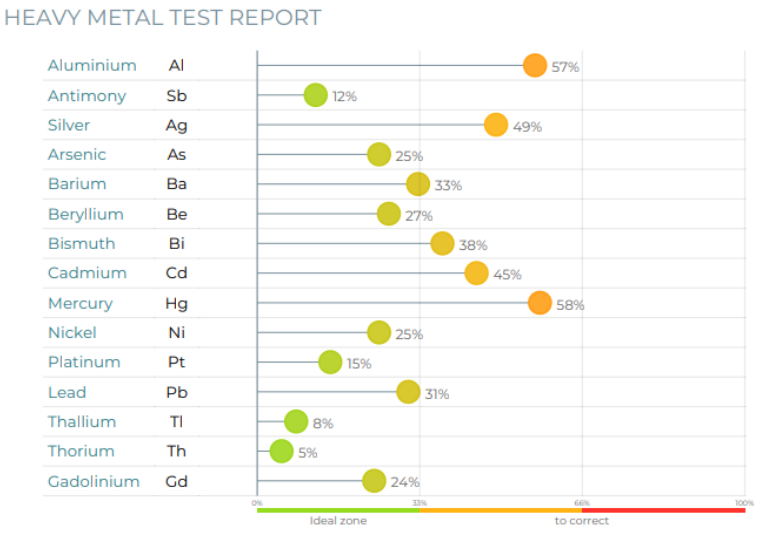
Laboratory Ortho Zurich

33

ALPSTEINCLINIC

Toxin Analysis

Oligoscan / SO-check

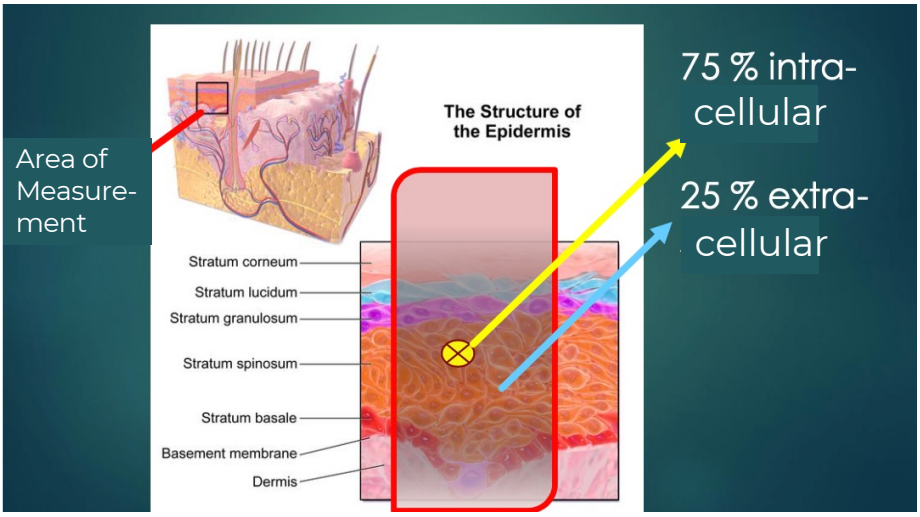


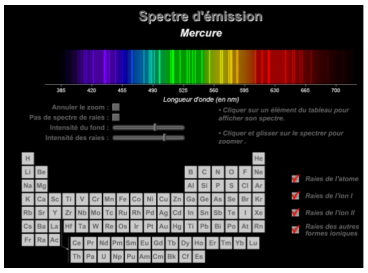
34

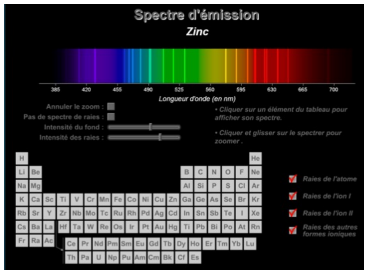
ALPSTEINCLINIC

Toxin Analysis

Oligoscan / SO-check







35

ALPSTEINCLINIC

Toxin Analysis

Chelate (DMPS and EDTA) Mobilization Test (urine)

Analyt	Messwert aktuell		Chelatspezifische Toxizitätsschwellen *
Kreatinin [g/l]	0,44	(0,40 - 2,78)	
Essential trace elements (µg/g Creatinine)			
Bor	1607		
Chrom	1,59		< 3
Eisen	498		< 700
Kobalt	1,36		
Kupfer	559		< 1500
Lithium	113509		< 145
Mangan	20,0		< 110
Molybdän	28,6		
Selen	21,8		
Vanadium	1,36		
Zink [mg/g Krea]	32,05		< 32

Demonstrates, if the test is working

Toxic metals (µg/g Creatinine)			
Aluminium	99,8		< 450
Antimon	0,45		< 0,3
Arsen	18,9		< 100
Barium	3,86		
Beryllium	< NWG		
Bismut	1,82		< 0,4
Blei	38,0		< 14
Cadmium	1,36		< 1,5
Cäsium	11,4		
Gadolinium	1,36		< 0,3
Gold	< NWG		
Nickel	15,5		< 12
Palladium	< NWG		< 0,0001
Platin	< NWG		< 0,0001
Quecksilber	36,1		< 8
Silber	< NWG		
Strontium	300		
Thallium	0,23		
Titan	25,9		
Uran	0,23		
Zinn	4,77		< 5
Zirkonium	< NWG		

*) Toxizitätsschwellen für Ca-EDTA + DMPS, nach dem Protokoll der Ärztegesellschaft für Klinische Metalltoxikologie.

Toxicity treshhold according the International Society for Metal Toxicity

36

ALPSTEINCLINIC

Toxin Analysis

Whole Blood analysis (example INUS-laboratories CH)

Heavy metals

Parameter	Reference	Measurement	Unit	Comment
Aluminium	20.5*	109.2	µg/l	Very high
Antimony	0.20	8.60	µg/l	Very high
Arsenic	1.00	2.45	µg/l	Very high
Barium	2.9	194.7	µg/l	Very high
Bismuth	0.2	0	µg/l	N.D.
Blei	30.0*	15.8	µg/l	Moderate
Cadmium	0.05*	0	µg/l	N.D.
Caesium	1.50 - 6.70*	6.07	µg/l	Moderate
Chromium	0.90	0	µg/l	N.D.
Cobalt	0.05	0	µg/l	N.D.
Copper	654 - 1320	1059	µg/l	Moderate
Gadolinium	0.05*	0	µg/l	N.D.
Gallium	0.05	0	µg/l	N.D.
Gold	0.05	0.17	µg/l	Very high
Indium	0.05	0.10	µg/l	Very high
Iridium	0.05	0.04	µg/l	Moderate
Manganese	5.0 - 13.5	11.5	µg/l	Moderate
Mercury	0.9	5.0	µg/l	Very high
Molybdenum	0.2 - 1.3	12.2	µg/l	Very high
Nickel	3.3*	0	µg/l	N.D.
Palladium	0.05	4.44	µg/l	Very high
Platinum	0.05	0.45	µg/l	Very high
Rubidium	900 - 4145*	6771	µg/l	High
Ruthenium	0.05	0.19	µg/l	Very high
Silver	0.40	0	µg/l	N.D.
Strontium	9 - 41*	159	µg/l	Very high
Tantalum	0.05	0.02	µg/l	Moderate
Tellurium	0.05	0	µg/l	N.D.
Thallium	0.05	0	µg/l	N.D.
Tin	2.0	1.8	µg/l	Moderate
Titanium	3.0	9.0	µg/l	Very high
Uranium	0.05	0	µg/l	N.D.
Vanadium	0.80*	0	µg/l	N.D.
Zinc	4080 - 7870	1524	µg/l	Deficiency
Zirconium	0.20	0	µg/l	N.D.
Sum		**358.03**	**µg/l**	

This is an element/environment analysis and does not represent a medical finding.
The relevance of the results in the medical sense and in relation to a therapy requires the assessment of a treating physician.

 www.alpstein-clinic.ch

37

ALPSTEINCLINIC

Toxin Analysis

Whole Blood analysis (example INUS-laboratories CH)

Solvents and halogenated HCs

Parameter	Reference	Measurement	Unit	Comment
1-Butanol	250.0	0	µg/l	N.D.
1-Propanol	100.0	0	µg/l	N.D.
2-Butanol	250.0	48.5	µg/l	Traces
2-Propanol	100.0	0	µg/l	N.D.
Acetone	10.0	1.1	mg/l	Moderate
Benzene	200.0	0	ng/l	N.D.
Dichloro ethene	500.0	0	ng/l	N.D.
Dichloro methane	500.0	0	ng/l	N.D.
Ethanol	100.0	0	mg/l	N.D.
Ethyl benzene	500.0	0	ng/l	N.D.
i-Butanol	250.0	0	µg/l	N.D.
Methyl ethyl ketone	100.0	29.3	µg/l	Traces
Methyl isobutyl ketone	100.0	31.5	µg/l	Traces
Tetrachloro methane	500.0	0	ng/l	N.D.
Toluene	300.0	0	ng/l	N.D.
Trichloro ethane	500.0	0	ng/l	N.D.
Trichloro ethene	500.0	0	ng/l	N.D.
Trichloro methane	500.0	0	ng/l	N.D.
Trimethyl benzene	500.0	109.0	ng/l	Moderate
Xylene	300.0	0	ng/l	N.D.
Acetone + Ethanol		**1.1**	**mg/l**	
Sum solvents		**109.3**	**µg/l**	
Sum halogenated HC		**109**	**ng/l**	
Sum BTEX			**ng/l**	

N.D. = not detectable
Deficiency = below the lower reference value
Traces = Below the limit of quantification
Moderate = 0 to 1x reference value
Tolerable = 1x to 1.1x reference value
High = 1.1x to 2x reference value
Very high = >2.0x reference value

 www.alpstein-clinic.ch

38

ALPSTEINCLINIC

Toxin Analysis

Whole Blood analysis (example INUS-laboratories CH)

Pesticides, insecticides, PCBs

Parameter	Reference	Measurement	Unit	Comment	Compared to the reference value	
Aldrin	50.00	0	ng/l	N.D.	◆	
Chlorothalonil	200.0	0	ng/l	N.D.	◆	
Chlorpyrifos	100.0	0	ng/l	N.D.	◆	
Cyfluthrin	200.0	0	ng/l	N.D.	◆	
Cypermethrin	200.0	0	ng/l	N.D.	◆	
Deltamethrin	200.0	0	ng/l	N.D.	◆	
Dichlorfluanid	100.0	0	ng/l	N.D.	◆	
Dieldrin	20.00	0	ng/l	N.D.	◆	
Endosulfan	20.00	0	ng/l	N.D.	◆	
γ-Hexachlorocyclohexane	10.00	15.43	ng/l	High		◆
Heptachlor epoxide	20.00	10.22	ng/l	Traces	◆	
Hexachloro benzene	10.00	5.44	ng/l	Traces	◆	
PCB 101	20.00	0	ng/l	N.D.	◆	
PCB 138	10.00	5.65	ng/l	Traces	◆	
PCB 153	10.00	0	ng/l	N.D.	◆	
PCB 180	10.00	0	ng/l	N.D.	◆	
Pentachloro aniline	50.0	0	ng/l	N.D.	◆	
Permethrin	200.0	0	ng/l	N.D.	◆	
p-p-DDE	20.00	0	ng/l	N.D.	◆	
p-p-DDT	20.00	0	ng/l	N.D.	◆	
Tolylfluanid	250.0	0	ng/l	N.D.	◆	
α-Hexachlorocyclohexane	10.00	0	ng/l	N.D.	◆	
β-Hexachlorocyclohexane	10.00	0	ng/l	N.D.	◆	
Sum		**36.74**	**ng/l**			

39

ALPSTEINCLINIC

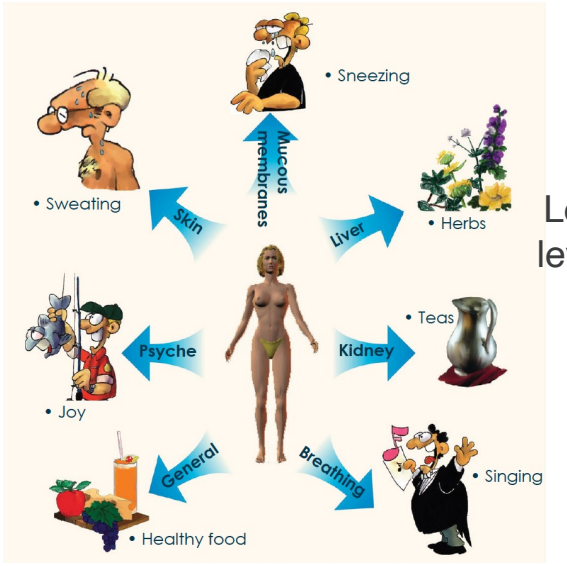
Detox instead of Intox!

- **Testing of toxic load and intestinal situation** (dark field microscopy, stool analysis, DMPS/EDTA mobilization test, Oligoscan, hair or Skin multielemental analysis, IGL environmental toxins in lymphocytes)
- **General Detox Measures**
- **Specific Removal and Detox Techniques**
  - Liver cleansing, fasting, diet, colonics
  - Detox using biological remedies (plants, homotoxicologics, homeoopathic remedies, Spagyric, anthroposophic and isopathic remedies)
  - Whole body hyperthermia, Sauna, IR-cabine
  - Detox infusions
  - INUSpheresis®
- **„psycho-mental detox“** and **Selfcare**

40

ALPSTEINCLINIC

Purification and Release

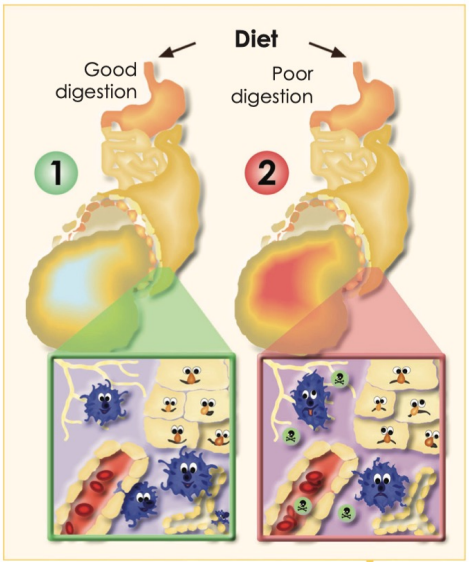


Let´s detox on all levels of biological system!

ALPSTEINCLINIC

Avoid Bad Food

Important Differences of Nutritional Value



ALPSTEINCLINIC

Detoxification orally

- **Algae** (e.g. Chlorella, 3x3-6)
- **Zeolith**
- **Antioxidants** (Vitamin C 1-2g, Zinc 15-30 mg, Vitamin E, Selenium 200-600 µg)
- **Organ supporters** (Taraxacum comp., Solidago comp., Hepar suis, Ren suis, Mucosa comp.)
- **Intestinal Health** -> "blotter effect" (isopathic up-building, probiotics, L+lactic acid, Activomin®, healing earth (Trinkmoor®), fermented drinks, healing diet)
- **Chelation** (Dimaval® caps., Pleo-Chelate® drops)
- In-saturated **fatty acids** and alpha-lipoic acid (600 mg)
- **Lava Stone Powder** (Zeolith 2-3x2 caps.)
- **Spagyrics** (e.g. Pekanas trias from Renelix, Toxex and Apo-Hepat)
- Nosode drops
- **Specific nervous system detox** with Coriandrum and Allium ursinum

43

44

ALPSTEINCLINIC

Additional Proven Detoxification Measures

- **External Applications:**
  - Baths, sauna, wraps, Kneipp, oil and honey massages
- **Colon cleansing**:
  - Klyso, medical intestinal lavage (CHT), coffee and oil enemas
- **Diet**:
  - Fasting, deriving diets
- **Infusions**:
  - Special Infusions, Procaine Base, ProcCluster®, DMPS, EDTA, DTPA
- **INUSpheresis®**

Colon Hydromat comfort Fa. Hermann AB

44

ALPSTEINCLINIC

The Need to co-operate with holistic Dentistry

54 year old patient: *chronic low back pain, eczema, inflammatory bowel syndrome (IBS)*

 www.alpstein-clinic.ch

45

ALPSTEINCLINIC

Protective measures for metal removal & detoxification

! Interdisciplinary work between Doctor and Dentist !


Rubberdam & clean up suctioner

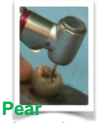

Oxygen


Na -Selenite

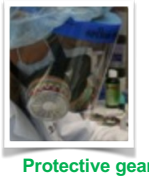

Solidago


Na - Thiosulfate


Cilantro

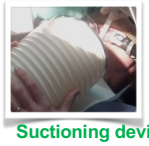

Pear shaped rough diamond, water, low rpm (15-20)

Dental Metals


Protective gear


Holistic Detox and/or Build Up Infusions with Vitamins, Minerals and antioxidants, chelating agents for any dental intervention


Chlorella


Suctioning device


„Metall Free" - Ceramics


DMPS - Chelation Therapy

From: Reuter, Oettmeier and Vizkelety: Say YES to LIFE

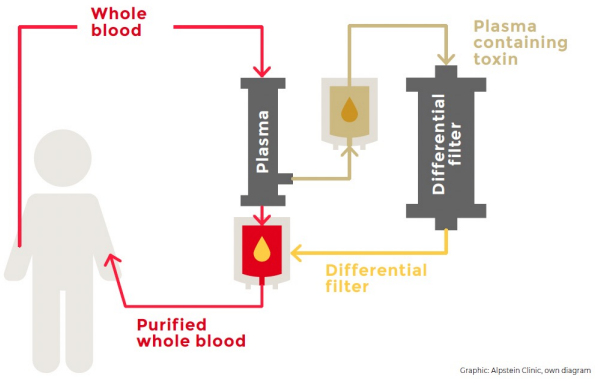
 www.alpstein-clinic.ch

46

ALPSTEINCLINIC

Functional Scheme of INUSpheresis®

How INUSpherese® works at the Alpstein Clinic



© R. Oettmeier, Dr.med. www.alpstein-clinic.ch

47

48

ALPSTEINCLINIC

Eluat-Analysis

- Heavy metals
- Pesticides, Insecticides
- Herbizides, Plasticizers
- Solvents
- Circulating immune complexes
- Microbiological loads
- and much more ...

49

ALPSTEINCLINIC

INUSpheresis®

Result of Eluate analysis

66 year-old men,

Mantle cell non-Hodgkin lymphoma

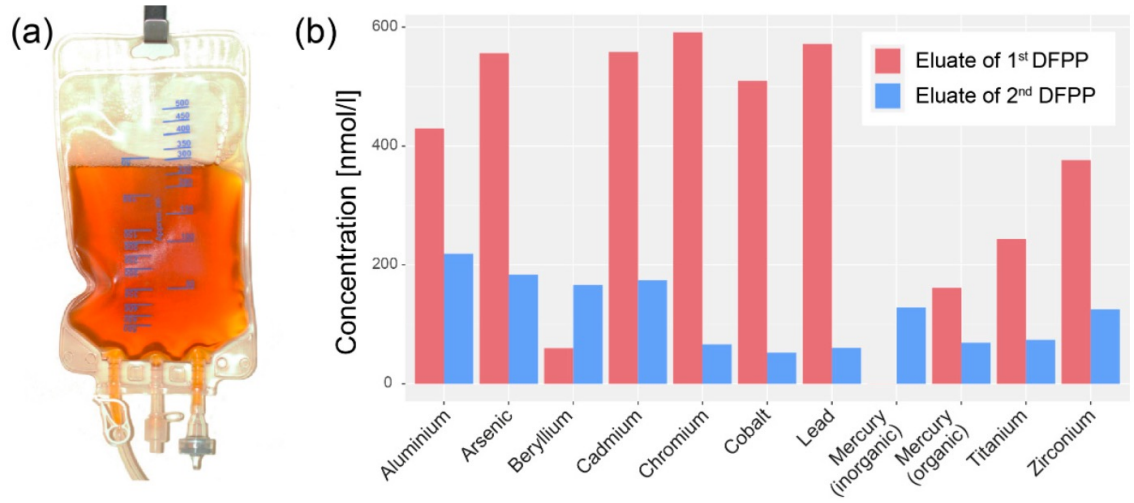
After 2x INUS: decrease of abdominal lymph nodes in the abdomen CT

iEC - intracellular Electrical Capacity - in eluate		
1 Aflatoxin-B(1)	tolerable	5,4 nmol/l
2 Aluminium	very high	537,6 nmol/l
3 Antimony	very high	498,7 nmol/l
4 Benzoquinone	high	367,9 nmol/l
5 Cadmium	high	394,5 nmol/l
6 Cetyltrimethylammoniumbromid(CTABr)	borderline	216,5 nmol/l
7 Chlorotoluene	high	328,7 nmol/l
8 Chrom-VI	high	357,2 nmol/l
9 Diesel-exhaust-gases	high	405,9 nmol/l
10 Eiphenole(BPA)	borderline	290,7 nmol/l
11 Formaldehyde	tolerable	7,6 nmol/l
12 Fumigadine/Fumonisin	borderline	298,6 nmol/l
13 Fungisterole-A	borderline	236,4 nmol/l
14 Glyphosate/AMPA	borderline	225,6 nmol/l
15 Lead	borderline	206,6 nmol/l
16 Lindan&Isomere, y-Hexachlorcyclohexane	borderline	196,1 nmol/l
17 Mercury-inorganic	high	332,2 nmol/l
18 Mercury-organic	borderline	207,9 nmol/l
19 Nickel	high	359,9 nmol/l
20 Nitrosamine	high	410,9 nmol/l
21 Organophosphate	tolerable	147,2 nmol/l
22 Phthalate	high	333,1 nmol/l
23 Polybrominated-Biphenyl(PBB)	borderline	172,3 nmol/l
24 Triclosane	tolerable	106,5 nmol/l

50

ALPSTEINCLINIC

Metals in the Eluate: Analysed by SEM and FE-SEM/EDX



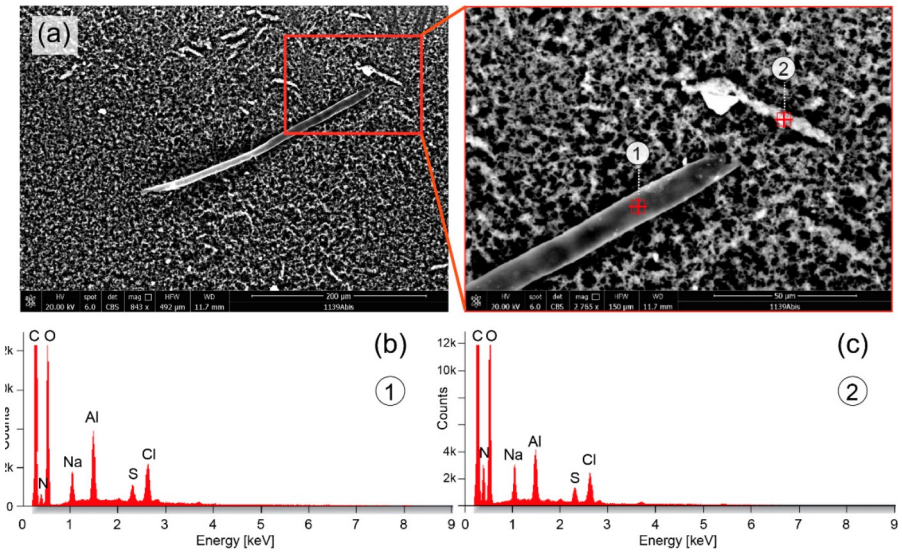
F. Scholkmann et al: Particles in the Eluate from double filtration plasmapheresis. Compounds, 2022, 2, 367-377

 www.alpstein-clinic.ch

51

ALPSTEINCLINIC

Particles in the Eluate: Analysed by SEM and FE-SEM/EDX



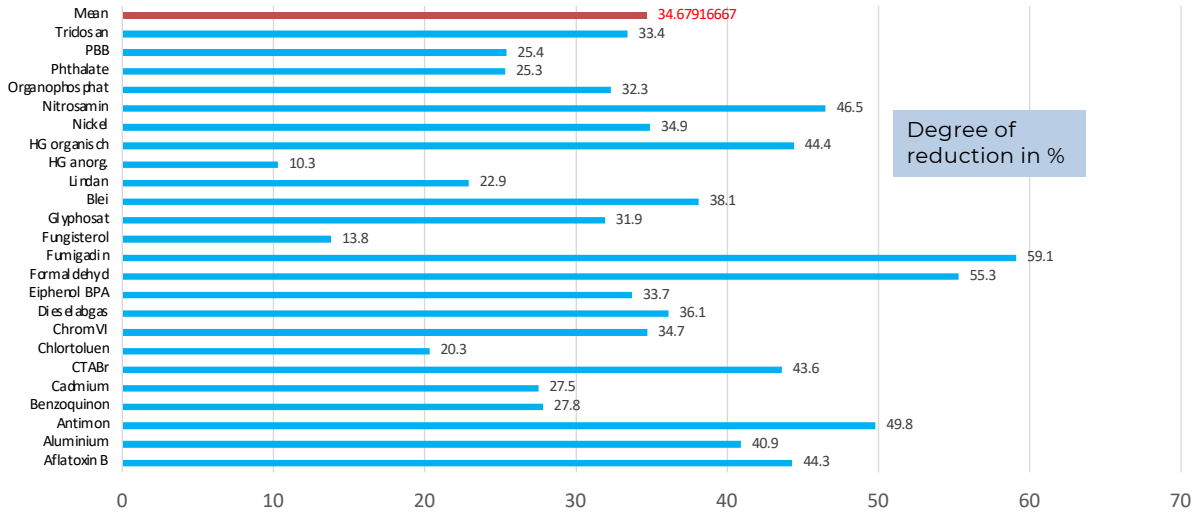
F. Scholkmann et al: Particles in the Eluate from double filtration plasmapheresis. Compounds, 2022, 2, 367-377

 www.alpstein-clinic.ch

52

ALPSTEINCLINIC

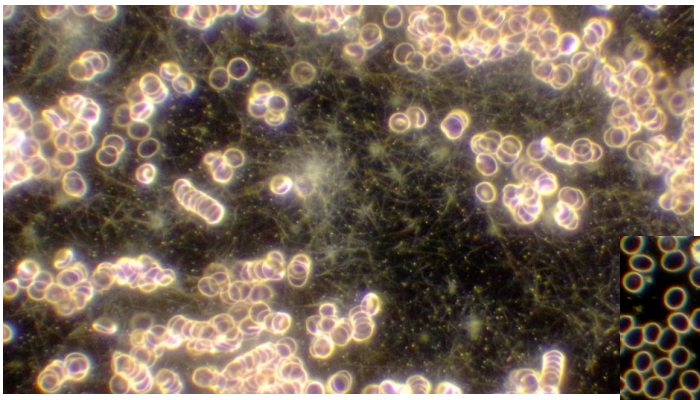
Overview of the efficiency of pollutant reduction after 2 INUSphereses (result of 44 patients)



53

ALPSTEINCLINIC

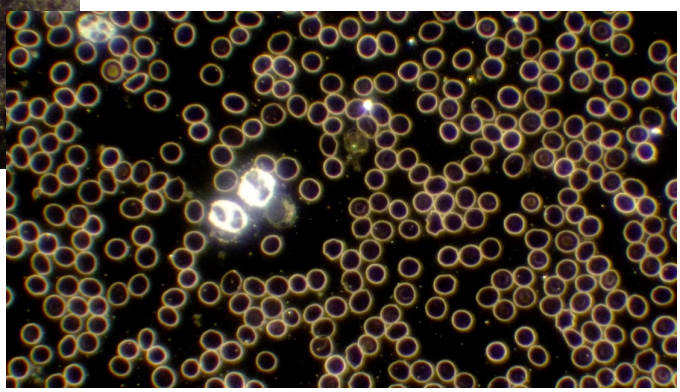
Comparison Dark field Microscopy



Before INUSpherese

woman. 67 years, breast cancer with metastasis

After INUSpherese



54

ALPSTEINCLINIC

But please never forget:

There are existing a lot of other toxins beside chemicals!

 www.alpstein-clinic.ch

55