

## Magnetic Therapies of Different Human Diseases: A Review

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### ABSTRACT

In my paper I give a review on magnetic therapies of different human diseases. All the considered diseases are related to inflammations, and these inflammations can be cured by magnetic therapies. I explain the physical processes underlying these therapies.

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### Sepsis

Basic information on sepsis is given in a paper of the Mayo Clinic. Sepsis is a serious condition in which the body responds improperly to an infection. The infection-fighting processes turn on the body, causing the organs to work poorly. Sepsis may progress to septic shock. This is a dramatic drop of the blood pressure that can damage the lungs, kidneys, liver and other organs. When the damage is severe, it can lead to death. Early treatment of sepsis improves changes for survival.

### Symptoms

Symptoms of sepsis may include change in mental status, fast shallow breathing, sweating for no clear reason, feeling lightheaded, shivering, symptoms specific to the type of infection (such as painful urinating from a urinary tract infection, or worsening of cough from pneumonia). Symptoms of sepsis are not specific. They can vary from person to person, and sepsis symptoms may appear differently in children than in adults.

### Symptoms of septic shock

Sepsis may progress to septic shock. Septic shock is a severe drop in blood pressure. Progression to septic shock raises the risk of death. Symptoms of septic shock include not being able to stand up, strong sleepiness or hard time staying awake, major changes in mental status (such as extreme confusion).

### When to see a doctor

Any infection could lead to sepsis. Go to a health care provider if you have symptoms of sepsis or an infection or wound that isn't getting better. Symptoms such as confusion or fast breathing need emergency care.

### Causes

Any type of infection can lead to sepsis. This includes bacterial, viral or fungal infections. Those that more commonly cause sepsis include infections of lungs (such as pneumonia), kidney, bladder and other parts of the urinary system, digestive system, bloodstream, catheter sites, wounds or burns.

As with many other diseases, Covid19 (SARS\_Covid\_2) inflammations are a key factor of this disease. When the inflammation is overwhelming, it may lead to unfavorable outcomes or even to death. Prolonged inflammations can cause permanent damage of the lungs and kidneys and can affect the brain. Long-covid and post covid diseases are also related to inflammations.

An influenza is caused by the influenza virus. It is characterized by a rapidly beginning strong cold with high fever. The illness also can infect the lungs, the heart and the brain. Mortality from influenza continues as a global public health issue, with the host inflammatory responses, contributing to fatalities related to the primary infection.

Measles is a highly contagious serious disease, caused by a virus. Before the introduction of measles vaccines in 1983, major epidemics occurred approximately every 2-3 years, and measles occurred an estimated 2.6 million deaths each year. The inflammatory response induced by measles has been of a substantial effect.

The meningococcal disease is a bacterial infection that causes two very serious illnesses: meningitis (infection of the membranes that are around the brain) and blood poisoning. It is associated with inflammations.

Middle-east respiratory disease is a viral respiratory illness that is new for humans. It was first reported in Saudi Arabia in 2012 and has since spread also to several other countries, including the United States. Most infected people develop a severe respiratory illness, including fever, cough and shortness of breath. Many of infected people have died. There is a dysregulated introduction of inflammatory mediators, which can have a damaging effect on the tissues.

Hepatitis is a medical termination for an ailment of the liver. The infection can be caused by viruses, the Hepatitis A, B, C, D, and E. It can be also caused by bacteria, parasites or toxins (alcohol).

Hepatitis means inflammation of the liver. The liver is a vital organ that processes nutrients, filters the blood, and fights infections. When the liver is infected or damaged, its function can be affected. Heavy alcohol use, toxins, some medicals and certain medical conditions can also cause hepatitis.

Pertussis (whooping cough) can begin like a common cold, but unlike a cold this cough can last for weeks or months. There is an airways Inflammatory response. Rabies (in German: Tollwut) is a viral encephalitis in humans and other mammals. It is transferred when an infected animal bites or scratches a person or other mammals. Salvia from an infected animal also can transfer rabies if the salvia comes into contact with the eyes, mouth or nose. Symptoms include fever, nausea, vomiting, violent moments, uncontrolled excitement, fear of water and inability to move parts of the body, confusion and loss of consciousness. Rabies is associated with inflammations of the brain and meninges.

Norovirus spreads very quickly, when many people come together in a narrow space. A stomach-bowel inflammation gastroenteritis is caused by the norovirus other symptoms are diarrhea, nausea, vomiting, stomach pains and abdominal cramps.

Shigella A bacterium of the type shigella belongs to the family of Enterobacterium. Symptoms generally start a few days after exposure, including diarrhea, fever, abdominal pain, and feeling the need to pass stools although the bowels are empty. The disease is associated with inflammatory responses which damage fiscal tissues.

The Zika virus is transferred primarily by Aedes mosquitos, which bite mostly during the day. Most people with this infection do not develop symptoms. Other people can have symptoms, including rash, fever, conjunctivitis, muscle and joint pain, malaise and headache. The symptoms last 2-7 days. Zika virus infection during pregnancy can cause infants to be born with microcephaly and other congenital malformations as well as preterm birth and miscarriage. The Zika virus infection is associated with Guillain-Barre syndrome, neuropathy and myelitis in adults and children. The virus promotes local inflammations. The role of inflammation-dependent pathways is perhaps in the center of this disease.

HIV-Aids is a acquired immune deficiency syndrome. People with aids often have lung inflammations. The infection occurs most often by sexual activity. The symptoms include destruction of the immune system. Infected people often have life-threatening opportunistic infections and tumors. HIV-Aids is an inflammatory disease, there may be chronic inflammations.

Brucellosis is a highly contagious disease caused by the ingestion of unpasteurized milk or undercooled meat from infected animals, or by close contact with their secretions. It is known that undulant fever, Malta fever and Mediterranean fever. The bacteria, causing this disease, Brucella, are small gram-negative non spore-forming red-shaped bacteria, causing chronic diseases. The symptoms are like those of many other febrile diseases, but with emphasis on muscular pain and high sweats. The duration of the disease can vary from a few days to many months or even years. The disease is associated with a systematic inflammation.

Cholera. Most of infected people will have no or mild symptoms and can be successfully treated with oral rehydration solids. Cholera is an acute diarrheal disease that can kill people within hours if left untreated. Severe cases will need rapid treatment, with intravenous fluids and antibiotics. Cholera is an extremely

virulent disease that can cause severe diarrhea. Infected people may develop acute watery diarrhea and severe dehydration. This can lead to death if left untreated. A very famous person who died from cholera is P.I. Tschaikowski. The disease is an inflammatory diarrhea.

Dengue is a highly epidemic infective disease in tropical countries. It is rapidly becoming a global burden. It is caused by any of the fever serotypes of the dengue virus, and it is transmitted within humans through female Aedes mosquitoes. Dengue disease varies from mild fever to severe conditions of dengue hemorrhagic fever and shock syndromes. It is associated with inflammations of the endothelium.

Ebola is a viral hemorrhagic fever in humans and other primates, caused by Ebola viruses. Symptoms typically start anywhere between two days and three weeks after being infected with the virus. The first symptoms are usually fever, sore throat, muscle pain, and headaches. These symptoms are usually followed by vomiting, diarrhea, rash and decreased liver and kidney functions. At that point, some persons begin to bleed both internally and externally. The disease kills between 25% and 90% of those infected, about 50 % on the average. Death is often due to a shock from fluid loss, and it typically occurs six to sixteen days after the first symptoms appeared. The virus spreads through direct contact with body fluids, such as blood from infected humans or other animals, and through the contact of people with items which have recently been contaminated with infected body fluids. Defective inflammatory responses after Ebola infection were associated with fatal outcomes.

Shingles (in German: Gürtelrose) is a viral infection that causes a painful rash. Shingles can appear anywhere in the body. It typically looks like a single stripe of blisters that wraps around the left side or the right side of the upper body. Shingles are caused by the varicella-zoster virus- the same virus that causes chickenpox. After one has had chickenpox, the virus stays in the body for the rest of the life. The virus may reactivate in shingles. Shingles is not life-threatening. But it can be very painful. Vaccines can reduce the risk to get shingles. The shingles can last many days, months or even years. Early treatment may shorten the duration of shingles and reduce the risks for complications. The most common complication is post-therapeutic neuralgia. The symptoms include fever, headache, pain, burning, sensitivity to touch, red rash begins a few days after the pain, fluid-filled blisters that break open and crust. If shingle blisters are not properly treated, bacterial skin infections may develop. The shingle rash is associated with an inflammation of the nerves below the skin.

Ehrlichiosis is the general meaning used to describe diseases caused by a bacterium. The bacteria are spread to people primarily through a bite of infected ticks. People with ehrlichiosis will often have fever, chills, headache, muscle aches, and sometimes an upset of the stomach. The symptoms begin within 1-2 weeks after the bite of an infected tick, including fever, chills, severe headache, muscle aches. Ehrlichiosis is associated with severe inflammations.

Syphilis is a sexually transferred illness, caused by the bacterium Treponema pallidum. The transfer occurs by direct contact with an infected person, usually by sexual activity. Affected are mainly the genital regime and the anal regime, in rare cases also the oral cavity. There are several stadiums of syphilis. The first symptoms of the primary syphilis appears on the average after a period of three weeks. At the beginning there appears a dark-red spot, which becomes a red swelling with hardened edges. It gives a colorless

liquid, which contains particularly many pathogens and which is extremely contagious. The swelling is generated by a vaginal sex at the penis, or at the vagina. After oral sex it appears also in the mouth, and after anal sex in the rectum. One or two weeks later the neighboring lymph nodes show swellings. The secondary stadium begins eight to nine weeks after infection and gives influenza-like symptoms like fever, tiredness, or pain in the head and the limbs. The lymph nodes are swollen in the whole body. The illness now has come to a generalized stadium. After ten weeks most patients have a skin rash. At the beginning these are weakly-read spots, which change to copper-colored nods. When they break up, The appearing liquid is highly infective. In rare cases there are enathoms in the mouth and the genital regime. Inflammations of the eyes can also appear. Some patients loose their hairs, All skin problems heal out after about four weeks. If non-treated, they reappear in different distances of time. In about 30% of non-treated syphilis there is a spontaneous recovery within a period of a year. For non-treated syphilis and not spontaneously healing syphilis the illness may come to a stillstand in the following latent time, but the pathogens are still in the body. Therefore it may happen that after months or years a late syphilis develops from the latent syphilis. Three to five years later the syphilis has spread to the whole body (tertiary stadium), including internal organs like blood circulation system, the breathing tract, the throat, stomach, lever bones and muscles. Nods are formed which are gummy-like hardened. They appear mainly at the skin, mucous membranes and bones. On the skin sometimes big swellings appear, at the throat there is a perforation of the middle and outer wall sheets. About 30 years after infection these nods may form an aorta aneurysma. When the aneurysma fractures, then the patient bleeds to death. Sometimes also the central nervous system may be affected.

There is also a forth stadium (quartery). A quarter of untreated patients get a chronic brain inflammation, which leads to dementia. The progressive paralysis of the neural nerves gives a progressive loss of intellectual habits, and a problem to speak. At the end the patients have a paralysis. There may be also a contribution of the visual nerve, with bad visions and even bleeding. Furthermore, there are problems with the blood circulation, and problems of bones and joints. In the fourth or fifth month of pregnancy a fetus may get syphilis. As a results there may be a dead birth, miscarriage or premature birth. In the case of neurosyphilis there is a diffusive inflammation of the meninge. Meningovascular syphilis is an inflammation of the vasculature supplying the central nervous system.

The bacterium Neisseria meningitis causes the illness meningitis, which is an inflammation of the brain skin. The symptoms include suddenly appearing headache, fever, chills, vertigo, and worst illness feeling, vomiting, stiffness of the neck. In septic cases there are bleedings in the skin, lowering of the blood pressure and organ failure. There is a inflammation of the protective membranes covering the brain and the spinal cord.

Salmonellosis is 1 of 4 key cases which cause diarrhea diseases. Most cases of salmonellosis are mild, however, sometimes it ma be life-threatening. The disease is caused by the bacterium Salmonella. It is usually characterized by an acute onset of fever, abdominal pain, diarrhea, nausea and sometime vomiting. The onset of the disease symptoms occurs 6-72 hours after infection with salmonella, and the illness last 2-7 days. Symptoms are relatively mild and patients will make recovery without specific treatment in most cases. However, in some cases, particularly in children and elderly patients, the associated dehydration can be severe and life-threatening. There is an inflammatory response

in the gut, chronic gastrointestinal inflammatory bowel diseases and cancer.

Borreliosis is an illness, which is transferred by bacteria through the bite off an infected tick. The symptoms include rash, influenza-like problems, pains of muscles and joints, fever, lymph node swellings, tiredness. There are excessive inflammations during the disease, failure to downregulate inflammatory responses. The inflammatory disease can affect the skin, the peripheral and the central nervous system, the musculoskeletal and cardiovascular system and rarely the eyes, they lead to chronic auto-inflammations.

Mumps is a classical illness of children, leading to typical thick mumps cheeks. It is a contagious virus (mumps virus). Symptoms include headache, muscle aches, fatigue, loss of appetite, fever. For older people there are complications like inflammations of the brain skin or of the testicles. Altogether, mumps is characterized by inflammations and swellings of the parotide.

Poliomyelitis (German: Kinderlähmung) is a g'highly contagious infection, which appears in children below five years. The virus is transferred by direct contact with mainly contaminated water. The virus affects the central nervous system and causes paralysis and sometimes death. The symptoms include fever, headache, vomiting, stiffness of the neck and pain in the limbs, sometimes irreversible paralysis (usually in the legs). Among those with paralysis, 5-10% die when their breathing muscles become immobilized. A very famous person who suffered in childness from Poliomyelitis but who recovered completely and became one of the world best athlete sprinters was Wilma Rudolph. When the virus spreads to the nervous system, it can cause also major illness, such as encephalitis (inflammation of the brain), meningitis (inflammation of the membranes that surround the brain and spinal cord and, as mentioned above, paralysis.

Malaria is an acute febrile illness caused by Plasmodium parasites, which are spread to the people through bites of infected female Anopheles mosquitos. It is a life-threatening disease primarily found in tropical countries. Without prompt diagnosis and effective treatment, a case of uncomplicated malaria can progress to a severe form of the disease, which is often fatal without treatment. The first symptoms of malaria usually begin within 10-15 days after the bite from an infected mosquito. Fever, headache, and chills are typically experienced. If it is not treated within 24 hours, it can lead to death. Malaria is a highly inflammatory disease.

Zika virus infection arises about 10 days after a bite of an infected mosquito. It results in mild fever, headache, chills, conjunctivitis (red eyes), joint and muscle aches and an itchy rash. Other non-specific symptoms may include headache, fatigue, malaise, abdominal pain and vomiting. Numbness, tingling, may occur, as well as autonomic symptoms, such as dry mouth, dry skin, dry eyes and bladder incontinence. Zika virus infection usually recovers within a week. Possible complications are Guillain-Barre syndrome is a rare, rapid onset form of paralysis. It is an autoimmune syndrome and is often triggered by an infection a few days or weeks earlier. The first case Zika virus infection complicated by the Guillain-Barre syndrome was reported in March 2014 in Brazil. Death is rare. The Zika virus replicates and persist for several years in the placenta and in the brain tissue of a fetus. This results in an increase of fetal loss, growth retardation, and in birth problems. of babies born by mothers infected by the Zika virus during pregnancy. Birth defects including fatal microcephaly (small heads) intracranial calcifications (calcium deposits in the brain) and brain damage. Zika virus infections

promote local inflammations, cell adhesion; molecular upregulation and leukocyte recruitments of the blood-brain barrier.

Vaginal dryness is greatest when the tissues of the vagina are not well laboring and not healthy. It is caused by a decrease of the estrogen level. Estrogens keep the tissues of the vagina lubricated and healthy. Normally, the lining of the vagina makes a clear, lubricating fluid. This fluid makes sexual introduction more comfortable. It also helps to decrease vaginal dryness. If estrogen levels drop off, the tissues of the vagina shrink and become thinner. It causes dryness and inflammations. Estrogen levels mainly drop after the menopause.

Thyroid Fever. As of 2019, and estimated 9 million people get sick from, typhoid, and 110000 people die from it every year. The symptoms include prolonged fever, fatigue, headache, nausea, abdominal pain and constipation or diarrhea. Some patients may have a rash. Severe cases may lead to serious complications or even death. Typhoid fever can be treated with antibiotics. It is a life-threatening infection caused by the bacterium *Salmonella Typhi*. It is usually spread by contaminated water or food. Once *Salmonella Typhi* bacteria are ingested, they multiply and spread into the blood stream. The illness causes intestinal inflammations (gastroenteritis).

Typhus or typhus abdomen is a systematic infectious disease, caused by the bacterium *Salmonella enterica* ssp. The symptoms include high fever. Without treatment the disease may become dangerous and may lead to death. It is transmitted fecal-oral, e.g., by contaminated materials and dirty water. It is a particular pathogen. In the incubation time of six to thirty days the pathogen enters intestine-wall cells and they migrate via the lymphatic system and the reticulo-histiocytic system into the blood flow. Then the illness starts, mainly with high fever. The illness is associated with inflammations of the pharynx and conjunctiva and can lead to a coma.

Tetanus (in German: Wundstarrkrampf) is caused by bacteria. The spores of the bacterium are extremely resistant and they appear worldwide mainly in feces of horses and other animals. Characteristic for tetanus are strong cramps. The infection appears through the ingestion of spores in wounds. Only in anaerobic conditions the spores can grow, and the bacterium comes to large numbers and gives toxins. The infection damages the nerves of the central nervous system which control the muscles, and this gives muscle cramps. The tetanus bacterium generates tetanospasmin and tetanolysin, they form toxins which cause local inflammations by acting on gangliosides.

West-Nile virus. It is subdivided into subtypes 1 and 2, genus flavivirus. By birds the virus comes from tropical regions of the middle and far East. The virus is transmitted mainly by stiches of a mosquito among wild birds. The mosquitoes which are infected by birds may transfer the virus also to people and other mammals (e.g., horses). The symptoms are mainly clinically modest. About 20% of infected people get a fever, an influenza-similar illness which lasts for 3 to 6 days. The incubation time is about 2-14 days. At the beginning of the illness there is an abrupt fever, chills, pain of the head and the back, tiredness and lymph-node swellings. For 50% of patients there is a pale maculopapular exanthem. Only about each 100 infected persons get a severe illness of neuroinvasive form. For a part of the patients there is a benign meningitis. In rare cases there is an encephalitis. Possible symptoms are mental changes, muscle weakness, paralysis, ataxia, extrapyramidal symptoms, optic neuritis, and modifications

of other nerves, polyradiculitis and epileptic problems. In rare cases inflammations of the head or of the liver are observed. The encephalitis is an inflammation of the brain. Meningitis (inflammation of the linings of the brain and the spinal cord) may also appear.

Yellow Fever is a viral disease of typically short duration. Most symptoms include fever, chills, loss of appetite, nausea, muscle pains (particularly in the back), headaches, abdominal pain appears, and liver damage begins (causing a yellow skin). If this occurs, the risk of bleeding and kidney problems is increased. The disease is caused by the yellow fever virus, and it is spread by the bite of an infected mosquito. It infects humans, other primates, and several types of mosquitos. In cities, it is spread primarily by *Aedes aegypti*, a type of mosquito found throughout the tropics and the subtropics. The virus is an RNA virus of the genus *Flavivirus*. Yellow fever begins after an incubation time of three to six days. Most cases cause only a mild infection with fever, headache, chills, back pain, fatigue, loss of appetite muscle pain, nausea and vomiting. In these cases the infection lasts only three to six days. But in 15% of cases, people enter a second, toxic phase of the disease characterized by recurring fever, this time accompanied by jaundice due to liver damage, as well as abdominal pain. Bleeding in the mouth, nose, the eyes and the gastrointestinal tract cause vomit containing blood. There can be also kidney failures, hiccups, or delirium. Among those who develop jaundice the death rate is 20 to 50%. Severe cases have a mortality rate greater than 50%. Yellow fever can lead to death for 20% to 50% of those who develop a severe disease. Jaundice, fatigue, heart rhythm problems, seizures and internal bleeding may also appear as complications of the yellow fever. The yellow fever triggers an intense cytokine-mediated inflammatory response in the liver parenchyma, inflammations can also lead to death.

Atrophy is a disease of body tissues which may have different cause. For instance, the decrease of muscles is a physiological process of increasing age. Also strong punches to body tissue also can generate atrophy. Atrophy is associated with inflammations.

When the walls of an artery bulge out, this is defined as aneurysm. When the aneurysm ruptures, then there is a great risk that the patient is bleeding to death. An aneurysm is associated with inflammations on aneurysm pathogens.

Periodontal diseases are mainly the result of an infection and inflammation of the gums and bones that surround and support the teeth. In its early stage, called gingivitis, the gum becomes swollen and they may bleed. In later severe cases, called periodontitis, the gums can pull away from the teeth, bone can be lost, and the teeth may loose and even fall out.

Extensive sports problems. When people make very extensive sports, then injuries may happen. Such injuries are associated with inflammations. Common symptoms of norovirus infection include vomiting, diarrhea and stomach cramping. Less common symptoms include low-grade fever or chills, headache and muscle aches. Symptoms usually appear 1 or 2 days after ingesting the virus, but may appear also as early as 12 hours after exposure. Norovirus infection causes gastroenteritis (inflammations of the stomach and intestines).

The carpal tunnel syndrome is caused by pressure on the median nerve. The carpal tunnel is a narrow passageway surrounded by bones and ligaments of the palm side of the hand. When the median nerve is compressed, symptoms can include numbness,

tingling and weakness in the hand and in the arm. The tendon and its sheath show inflammations and swellings.

Frozen fingers occur when the fingers are exposed for a long time by a very strong cold. In some hospital frozen fingers are amputated very soon. I also had frozen fingers, and fortunately the corresponding doctor had another strategy. He thought that the problems can improve when one waits and treats frozen fingers for a long time. And this was successful, at the end only the last part of the small finger of my left hand had to be amputated. Frozen fingers are often associated with inflammations of the tendon..

### Magnetic Therapies of Diseases

I now describe the magnetic therapies of diseases, and I explain the physical processes underlying these therapies. All diseases described in section I are associated with inflammations. Inflammations can be cured by the oxygen particles in the human blood. When a time-oscillating electromagnetic field is applied, then an electromagnetic wave is generated in the tissue. An electromagnetic wave is described by

$$\mathbf{E} = \mathbf{E}_0 \cos(\omega t - \mathbf{k} \cdot \mathbf{r}), \quad (1)$$

$$\mathbf{B} = \mathbf{B}_0 \cos(\omega t - \mathbf{k} \cdot \mathbf{r}). \quad (2)$$

Here  $\mathbf{E}$  is the electric part of the electromagnetic wave, and  $\mathbf{B}$  is its magnetic part with the magnetic induction

$$\mathbf{B} = \mathbf{H} + 4\pi \mathbf{M}, \quad (3)$$

with the magnetic field  $\mathbf{H}$  and the magnetization  $\mathbf{M}$ . The quantity  $\omega$  in these equations is the angular frequency of the electromagnetic wave, and the vector  $\mathbf{k}$  is its wave vector.

An electromagnetic wave carries energy, and part of this energy is absorbed in the tissue, generating a certain amount of warming up the tissue. When the blood vessels are warmed up, then their diameters increase and the blood flow increases. As a result the oxygen particles in the blood which are required to cure inflammations come more rapidly and more frequently to the sites of inflammations, and this helps to remove the inflammations which are associated with the diseases.

Furthermore, in the blood are particles with charge  $q$ , mainly  $\text{Ca}^{2+}$  ions and other ions with positive or negative charge, respectively. The electromagnetic field exerts Lorentz forces  $\mathbf{F}$  on the ions,

$$\mathbf{F} = q(\mathbf{E} + \mathbf{v} \times \mathbf{B}) \quad (4)$$

Here  $\mathbf{v}$  is the velocity of the ions in the blood, and the symbol  $\times$  in the second part of equation 4 denotes the vector product. When the electromagnetic wave is applied in a direction perpendicular to the direction of the blood flow, then the Lorentz forces accelerate the ions in a direction perpendicular to the blood flow and give them more energy. The ions hit the walls of the blood vessels, and in each hit they transfer at least part of their energy to the blood vessels, generating a certain amount of warming up the blood vessels. When the blood vessels are warmed up, then their diameters increase and the blood flow increases. As a result the oxygen particles in the blood which are required to cure inflammations come more rapidly and more frequently to the sites of inflammations, and this helps to remove the inflammations which are associated with the diseases.

I want to note that Lorentz forces do not appear only when applying a time-oscillating electromagnetic field, but also when applying a static electric and/or a static magnetic field. This means that the magnetic therapies of diseases can not be performed only by the use of time-oscillating electromagnetic fields, but also by the use of

static electromagnetic fields, which is often simpler.

### Conclusion

In my paper I gave a list of human diseases. All these diseases are associated with inflammations. Then I described magnetic therapies of the diseases and I explained the physical processes underlying these therapies. By the magnetic therapies the blood flow increases, and the oxygen particles in the blood which are required to cure inflammations come more rapidly and more frequently to the sites of inflammations, and this helps to remove the inflammations which are associated with the diseases.

These are very interesting examples for magnetic therapies of human diseases. Another very interesting example is the pulsed electromagnetic field treatment of cancer [1].

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