

## Covid-19 Infection Improvement through the Movement-Based Learning Therapy ‘Coordination Dynamics Therapy’

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### ABSTRACT

In most countries covid-19 infected patients die and the administration is just trying to solve the problem through isolating the infected patients. Such a strategy is mostly coming too late. To isolate old person at home is no solution, because they get stress and die of heart attacks, stroke, high blood pressure or other diseases. It is not sufficient to count infected and dead patients. Qualified conservative treatment should be tried till vaccines are developed. An available non-invasive treatment is the Coordination Dynamics Therapy (CDT). The general hygiene should be improved. A better climatization of rooms can be achieved with the ‘Hypokausten technique’ to keep the lung in a healthy condition to fight naturally against infections. Instead of using moving air for heating rooms, radiation should be used in similarity to the sun. In this way the inspired air is not dry and has the low pH of 5 so that the lung epithelia can better inhibit grows of viruses and bacteria. Handles of doors have to be made of brass to be bacteriostatic. Infected patients have to be made to move on special CDT devices, which is possible even when ventilated, to enhance the blood oxygen saturation. Additional bacterial or other virus infection have to be reduced in hospitals. Possibly 30% of the Covid-19 infected patients die on the additional untreated infections.

**Keywords:** Covid-19 infection, Treatment, Coordination dynamics therapy, Hygiene

### INTRODUCTION

Mainstream-medicine made a fundamental mistake. Besides operations and drug therapy, the movement-based learning therapy, which can improve health in all ages, has been ignored by universities and hospitals. Since for the covid-19 infection there is no vaccine available so far, infected patients may die, especially older ones with other diseases. But coordination dynamics therapy (CDT) can help at least some of the infected patients to survive through improving the cardio-vascular performance, the immune system and other regulations to live longer with a better quality of life. Instead of politicians and normal people getting panic-stricken they should improve the protection systems of the body, especially the immune system and look for their hygiene and avoid droplet and airborne infections. Covid-19 infection is a medical problem which can be solved within two years. The destruction of the environment is a real problem which cannot be solved in a few decades.

In older times, when there was no medication for lung infections and tuberculosis, patients were treated partly successfully in health resorts in the mountains. The cold fresh air was helping them. If those patients would have exercised on a special CDT device, not available at that time, the health improvement would have been even

larger. The clean and cold air with plenty of oxygen was beneficial for counteracting the disease. On the other hand, permanent coma patients, lying in bed without administered movements, often die after a few years because of too little lung ventilation. The pulmonary alveoli have to be kept open. **Figure 1** shows a brain-cancer patient (anaplastic oligodendroglioma WHO III) with a virus infection during CDT on a balcony in Switzerland. This is an example of a conservative treatment arrangement if no vaccine is available. It has been shown that CDT can improve or repair CNS functioning after stroke [1], traumatic brain injury [2,3], spinal cord injury [4-7], cerebellar injury [8], cerebral palsy [9], hypoxic brain injury [10], in Parkinson’s disease [11,12], spina bifida (myelomeningocele) [13] and scoliosis [14].

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**Figure 1.** Exercising on a special CDT device of a 72-year-old patient after the removal of an anaplastic oligodendroglioma WHO grade III and radiation therapy. He exercised to repair the brain due to injury, caused by the operation, to inhibit cancer growth and to improve hypertension simultaneously to live longer with a better quality of life. Such exercising at home on the balcony in fresh air in the mountains would be a healthy therapy for mild covid-19 infections. In older times, before antibiotic and antibodies were developed, infected patients were treated similarly. High up in the mountains and wearing warm clothes was the treatment. If a special CDT device is not available, a fitness bicycle can be used, only the efficiency of treatment would be lower.

Speech had been induced and improved in a patient with severe cerebral palsy [15] and a permanent coma patient [16]. Urinary bladder functions were repaired in patients with spinal cord injury [7,15]. In patients with cancer, especially breast cancer, cancer growth could be inhibited via CDT [17]. A partial repair of the brain could be achieved in a permanent coma patient who lost approximately 50% of the brain. He recovered from coma through 4 to 5 years of CDT with 20 hours therapy per week and relearned to speak following 6 years of CDT [16]. A transient regeneration of the spinal cord could be achieved in a 9.5 years old girl through CDT [18]. Cardiovascular performance could be repaired in a coma patient (page 460 of [19]). Details of human neurophysiology and movement-based learning theory, to repair the neural networks of the human CNS, have been published in three books [15,19,20]. A review of CDT has been published recently [21].

CDT can improve the health in ageing to live longer with a better quality of life [22], including the treatment of lung infections.

## METHODS

Coordination dynamics therapy (CDT) is a movement-based learning therapy, which improves health through improving the nervous system functioning. Since the nervous system is involved in nearly all body functions, the general health is improved. The performed movements are creeping, crawling, walking, running, jumping, old-learned and other movements and the exercising on special CDT devices in the sitting (**Figure 1**) and lying position (**Figure 2**).

((This special CDT device for measuring and therapy (int.pat.) is produced by the firm: Giger Engineering, Martin Giger dipl.Ing.ETH/SIA, Herrenweg 1, 4500 Solothurn, Switzerland, [www.g-medicals.ch](http://www.g-medicals.ch)) to legend **Figure 2**.)

Through exercising on a special CDT device, the phase and frequency coordination of neuron firing is improved to optimize neural network organization of CNS functioning. The jumping on springboard trains premotor spinal oscillators [21,22]. For patients with covid-19 infection, who mainly would exercise on the special CDT

device, the sitting training position is sufficient when the more severe cases of lung diseases, including bacterial and virus infections, the recumbent position is safe

being at home on the balcony (**Figure 1**). In hospitals for (**Figure 2**). Coordinated movements can be administered even if the patient is already in coma.



**Figure 2.** The 13-year-old patient Nefeli with an incomplete spinal cord injury is exercising in the recumbent position coordinated arm, leg and trunk movements to improve the coordinated firing neurons and sub-neural networks to repair her spinal cord injury. Such an exercising position is also possible, if a patient is respirated.

## RESULTS

### Blood-oxygen-saturation increase through exercising on a special CDT device

A patient with a severe lung fibrosis was introduced to the author for CDT. The former smoker had developed a severe lung fibrosis and different treatments had been tried with no success. When the author saw the patient the first time, he could nearly only sit on a chair or lie in bed and had with oxygen supply a blood-oxygen-saturation of 92%. When moving a bit around, the oxygen saturation went further down. Following a few days of exercising easily on the special CDT device, his oxygen saturation increased to 96%. He became able to move a bit at home and became able to visit the WC by himself without too much reduction of the oxygen saturation.

Obviously, the exercising on the special CDT device had improved the oxygen transport from the alveoli to the blood vessel capillaries. The mechanism is possibly that the exercising improved the regulatory functions of the oxygen from the lung to the blood vessels.

The important conclusion is that patients should not lie in bed like dead but have to move. The ventilation of the lung has to be improved. The alveoli should not adhere, not to give bacteria and viruses a better chance for multiplication.

In critical cases of covid-19 infection, when the patient is in coma, the patients have to be ventilated with oxygen and have to make moving on the special CDT device. **Figure 3** shows the supported exercising of a coma patient on a special CDT device. This patient Manolis was 4 to 5 years in the permanent coma and re-learned to speak through 6 years of CDT [16]. All the exercises of **Figure 3** were supported movements during the first 4 years of CDT because the patient was in coma. **Figure 3A** shows how the patient was fixed to the special CDT device and how he was moved passively. Also, sky-walking was possible to counteract an orthostasis syndrome.

### 50% of the covid-19-infected patients may die in hospitals because of additional bacterial or viral infections

The infection rate in a hospital in Switzerland is 25%; that means that every fourth patient suffers a bacterial or virus infection in the hospital. In connection with cancer operations, the author suffered a bacterial infection at his second stay in a university hospital; this is an infection rate of 50%. In the for the time being overloaded hospital in Italy for example, we can expect that every second or third Covid-19 infected patient suffers additional a bacterial or other virus infection. Because of the overloaded hospital staff, it is unlikely that the additional infections are recognized and treated. Since the immune

system of the covid-19 infected patients is overloaded and the patients are weak, it is likely that 50% of the covid-19 patients die on the not treated additional infections. The

covid-19 patients may even get additional covid-19 infections from other infected patients if no isolated places for treatment are available.



**Figure 3.** Movements performed with a 23-year-old male patient in the vigilant coma. All movements are passively performed with the patient because the patient was in the coma and could not move by himself. A, B) Exercising on the special CDT device in the lying position (both hands and legs are fixed) and sitting position. In B, the author is exercising the patient for demonstration. C, D, E) Exercising on the sky-walker. Note, the trunk and head control improved from ‘C’ to ‘E’; in ‘E’ no support of the head was needed any more after 5 months of CDT.

#### The society is careless with respect to hygiene and kill thousands of people in this way

The author got his wound infected in the hospital probably from the coat of a young physician. It is known that on doctor’s overall, bacteria grow better on the synthetic coats than on cotton coats. Probably the overalls of the stuff of hospitals will be made of synthetics, on which bacteria and viruses survive longer and grow more easily.

The author got infected in the University hospital in Zürich (Switzerland) with the consequence of a sepsis. This hospital had, as many other hospitals, an air-conditioning system. Such climate control systems are an moving air transports possibly viruses and bacteria for infecting you. The Hypokausten-Technick dates back to

ideal breeding ground for bacteria and viruses. The air movement/circulation will transport the bacteria and viruses to the patient (airborne infection). When the author stood in the hospital of Luzern (Switzerland), which has no air-conditioning system, in which one has to open the window to get fresh air, he did not get an infection.

#### ‘Wrongly heated is half dead’ or the misuse of breathing air for heating

Some museums and private persons use the ‘Hypokausten-Technick’ for heating with the argument that ‘Wrongly heated is half dead’. The ‘Misuse of breathing air for heating’ has to be avoided, because the 300 after Christ, when Celts and Germanic peoples were heating the rooms for freezing the Romans. Much later,

the ‘Nichtstaatlichen Museen von Bayern’ in Bavaria ordered building physicists to climate their museums in a way that their figures of Jesus Christ, made of wood, would not tear and bend through the circulating air. Skirting board heating was tried in USA to desiccate the walls and to isolate the walls for not losing heat and warm the rooms through heat radiation to avoid circulation. In spite of the advantage of heating through radiation from warmed walls, the personal union of the board of management of insulating industry and standards committee stopped the Hypokausten-Technick to be included into the building standards (DIN) (corruption). In connection with general isolation technique (for example stone wool), radiators are used to warm up the breathing air through the moving air. The warmer the air, the lower the relative moisture (frankly speaking, the dryer the air). The measured temperature difference between the moving air for heating and heating through radiation is at least 6°C. Further, the moving of the air changes the ionization of the air (electric changes with air

movement, think of thunder). The pH-value increases from 5 in the direction of 6 (less acid). Therefore, the breathed air from the circulation, caused by radiators, enters dryer and with a higher pH of the lung. The epithelia of the lung vesical and bronchi get more dryer, more rigid (and partly brake) and less acid. The immune system has less access to the viruses and bacteria and the epithelia cannot kill the microbes so good anymore because of being less acid (in similarity to the stomach). Further, the ciliated epithelia cannot transport so well any more viruses and bacteria out of the lung because they are not soft anymore. In smokers the ciliated epithelia are destroyed through smoking and the toxins cannot transported any more out of the lung. One consequence is to develop cancer.

In museums with a ‘Hypokausten-Technick’ one can enjoy not ruined figures of Jesus Christ and nice paintings of famous painters (**Figure 4**) without being afraid of an airborne infection.



**Figure 4.** Van Gogh. Some museums have a proper climatization system according to the ‘Hypokausten’ technique to protect ancient wooden figures of Jesus Christ and paintings. Also, the visitors are partly protected against air-born infections but not droplet infections. Keep distance.

#### Infected persons have to be isolated

When more than one year ago, the author trained with the patient Nefeli like Sophie with Nefeli in **Figure 5** and got a lung infection, because Nefeli’s mother left the infected 5-year-old brother Alexandros in the exercise room, being ventilated with drugs. Alexandros caught the infection in the Kinder garden, because parents often bring their ill child to the Kinder garden to have time for working. The 13-year-old Nefeli was infected only little by the brother. But the author, breathing deeply during the exercises, got

a real lung infection and it lasted one till two weeks. His immune system worked well in connection with the by himself performed CDT and, but a terrible lot of mucus was transported out of the lung via the ciliated epithelia and coughing for a few days. Lucky that the author is non-smoker and his ciliated epithelia was working well. This clearly demonstrates that infected persons should be isolated to not infect other ones. And, thoughtfulness is not inborn (in German: Rücksichtnahme ist nicht angeboren). The author was aware of a possible infection, but he wanted to treat the patient.

### **Door handles have to be made of brass for optimal hygiene**

When the author studied medicine some 30 years ago, he learned in the hygiene practical that the handles of doors have to be made of metal, best of brass (in German 'Messing'), because the metals are bacteriostatic. Bacteria and probably also the viruses cannot grow or survive on them. Afterwards the author went to the WC in the university hospital. The handles were made of plastic. On plastic bacteria grow nicely. This university hospital had ignored the principle hygiene. From WC handles one can catch dangerous microbes. The reader may look now whether the handles of doors in supermarkets, hospitals, busses or trains have the yellow like gold looking brass handles. If not, then the society is careless with respect to hygiene. During the present covid-19 crisis plenty of Virologists give advice in TV about the situation and the prognosis. I have not seen any specialist in hygiene speaking in TV. In TV and newspapers, they tell you every day to wash the hands, politicians offer an unbelievable amount of money, which will induce a world economy crisis, but nobody offered money to change the handles of doors so that covid-19 cannot infect the persons who touch them.

In Germany, a professorship is often given by the membership of a political party and the same holds for the possibility to speak in TV. Those persons yell most who have most little specific knowledge.

### **Filtration of blood antibodies from patients who recovered from the covid-19 infection**

It should be tried to filter antibodies from the blood of patients who recovered from the covid-19 infection and have built antibodies. Such antibodies could then be injected into infected patients. It has to be analyzed whether such treatment is feasible. The infrastructure for such a treatment is existing.

### **Coordination dynamics therapy (CDT) to treat covid-19 infections**

CDT was originally developed to repair the nervous system through mainly a functional reorganization. But when it turned out that CDT can also inhibit cancer growth through stimulating the immune system and through probably building NK cells (natural killer cells) to directly attack cancer cells [17, 22, 23, 24], it became possible to treat malign brain cancer through repairing the neural networks of the brain following the cancer removal operation and inhibit further cancer growth at the same time. It could therefore well be that an efficient movement-based learning therapy can also inhibit viral and bacterial infections and improve at the same time the health of the patient. Long ago there was a discussion about a connection between a pseudomonas bacterial

infection and the regeneration of the human spinal cord. The bacterial pyrogens Piromen and Pyrogenal were derived. But it was found out later on that the drug Piromen seemed not to induce a regeneration of the human spinal cord. For sure, CDT stimulates the genetics/epigenetics for repair and the oxygen saturation can be increased through CDT (see above), which is helpful in lung infections.

Anyhow, even in a newspaper it was written that one should look for the principles 'Behavior, Relaxation, Exercise and Nutrition. And Stress has to be avoided.' CDT just optimizes the principle Exercise.

### **Untrained immune system**

Practical and also medical knowledge is that one should not always take antibiotics and vaccines in the case of small infection. The immune system has to be trained and has to build remembrance cells so that a patient is protected a bit by his own immune system in the hospital. Older and younger patients may get infected with antibiotic resistant bacteria. The hospital staff is working then to find a suitable antibiotic. But this process needs days. In these days the own immune system has to protect the patient till a suitable antibiotic is found and available. If the patient has a trained immune system, he will survive and if he has no trained immune system, he will die. Similar holds for virus infections. Infected patient with covid-19 and a trained immune system have a better chance to survive.

### **DISCUSSION**

It has been shown that a movement-based learning therapy is available, which is called 'Coordination-Dynamics-Therapy', to make infected covid-19 patients to survive longer till a vaccination is available. This CDT treatment has proven to work in many diseases (see Introduction) and has some similarity to lung infection treatments before medication became available. Patients were kept in a climatic spa. If these lung-infected patients would have additionally exercised on a special CDT device like in Figure 1, their success would have been larger.

It is unimaginable that the whole world society is letting covid-19 infected patients die without trying out some old conservative treatments and just wait till a vaccination is available may be in a years' time. Unbelievable money is and will be spent and an economic crisis will be induced, but no money is spent to improve the hygiene.

The main problem behind is that qualified basic medical research is not organized and not supported. The mainstream-medicine is not working and is killing in this way patients indirectly. When in the North of Italy, a young physician wanted to use CDT in a hospital 15 years

ago and even wanted to buy the devices by himself, he

was punished by the administration.



**Figure 5.** The cerebral palsy girl Sophie is supporting the training of the spinal cord injury patient Nefeli. Such treatment arrangement could be used in clinics to treat Covid-19 patients. A medical student with infection protection can turn on the special CDT device and look that everything is going professional. A venous catheter is not hindering and there is plenty of space for a respirator or oxygen supply. Such hospital places could be easily built in a few days.

Professors in medicine seem not be that clever as the disabled children of **Figure 5**. Sophie with an atrophied cerebellum is administering CDT to the spinal injury patient Nefeli. Such a treatment situation can be easily generated in a hospital with covid-19 patients, only the therapist's need protection against infection. A respirator can be easily used. A central or peripheral venous catheter is not stopping the movement therapy. When the author was in the hospital he was exercising with a venous catheter and oxygen supply. Even many tubes will not stop movement therapy. Paid medical student could easily perform that job professionally.

The world society is just counting the covid-19 infections and died patients in different countries instead of looking for intermediate therapies till vaccines are available.

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