

## **TREATMENT FOR CORONAVIRUS INFECTION (SARS-CoV-2)**

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Initiation of treatment is recommended IMMEDIATELY after the onset of the first symptoms and diagnosis. From the first day!

In cases of people with a positive test, who have no symptoms at all, it is recommended to take vitamins for 10 days:

- Vitamin C 1000 mg X 2,
- Vitamin D3 5000 IU X 1, and
- Zinc 50 mg X 2.

The above vitamins should be taken at lunch time with food.

In case of a change in the clinical picture and the development of any symptoms (fever, cough, etc.) it is recommended that IMMEDIATE administration of the following treatment is given. In people with a positive test and the development of symptoms from the beginning or in people with serious underlying diseases, it is recommended to start the following treatment IMMEDIATELY:

Therapeutic regimen for patients with coronavirus symptoms  
Under the supervision of a treating physician

### Morning

1. Hydroxychloroquine - Plaquenil 200 mg at 8 p.m. (for 10 days).  
In case of diarrhea (usually after a few days of taking the drug) 2 loperamide tablets are recommended and treatment be continued. Treatment is stopped only in the presence of persistent and/or resistant diarrhea. Clinical experience so far suggests that no case of persistent diarrhea has occurred.

2. Zinc 50 mg for 10 days

### Lunch (with food)

1. Vitamin C 1000 mg (soluble in drink or pill) for at least 10 days. Vitamin C can be taken continuously for a long time and/or continuously for years, as it does not cause hypervitaminosis because it is water soluble.

2. Vitamin D3 5000 IU (at least for 10 days).  
On the first day of treatment it is recommended to take 20 - 25 thousand units of vitamin D3. Then the patient should take a daily dose of 4-5 thousand units. Vitamin D3 is fat soluble and can cause hypervitaminosis. It can be taken without restriction for at least 2-3 weeks and for a longer period of time at a lower dosage on the advice of a doctor.

3. Zinc 50 mg for 10 days

4. Dexamethasone 6 - 8 mg (for 5-7 days).  
Recommendation: Dexamethasone is recommended to be administered in two doses in the morning and at lunch time. We suggest to give 3 mg in the morning and 3 mg at noon. In case of persistent respiratory symptoms, dexamethasone is continued for a longer period (at least for 10 days). In

addition, co-administration of colchicine with dexamethasone may be given. The recommended dose of colchicine is 0.5 mg twice daily (morning and afternoon).

5. Preventive / therapeutic antibiotic treatment. First choice of antibiotic is:

- a. Azithromycin (Zitromax 500 mg X 1) is the first choice for 5-6 days.
- b. Second choice Clarithromycin (Claricid 250 or 500 mg x 2) for 5 days.
- c. Third choice is Doxycycline (Doxycycline 100 mg X 2) for 7 days
- d. Fourth option Moxifloxacin (Avelox 400 mg X 1) for 7 days

Depending on the progression of the disease, the administration of antibiotics is prolonged and in some cases a combination of antibiotics is administered. In the event of a severe underlying heart problem, it is recommended that doxycycline be used instead of azithromycin to reduce the risk of QT prolongation on the ECG, which may lead to arrhythmia in combination with hydroxychloroquine.

Hydroxychloroquine is a safe drug that has been used for many decades to prevent both malaria and autoimmune diseases. It generally does not cause any side effects especially in case of its administration for a short period of time. Side effects of hydroxychloroquine related to the cardiovascular system and recently discussed in the international literature appear after long-term use and are due to the increased dose of hydroxychloroquine (400mg twice daily) or even higher doses (a dose of 2000 mg has been published in a study that was given over a period of 12 hours !!!).

Based on the clinical experience so far from the administration of the low dose (200 mg twice a day) no increased risk of cardiovascular side effects has been reported, while there is a very good treatment effectiveness for the coronavirus.

In case of fever on the 7th - 9th day and suspicion of bacterial superinfection or atypical pneumonia, the antibiotic - moxifloxacin is administered and the co-administration of hydroxychloroquine is stopped. It is important to give hydroxychloroquine immediately at the beginning of symptoms in combination with zinc to fight the coronavirus at the beginning of the infection.

#### Afternoon

- 1) Vitamin C 1000 mg

#### Night

- 1) Hydroxychloroquine - Plaquenil 200 mg at 8 pm (for 10 days)
- 2) Zinc 50 mg (for 10 days)

#### SUPPLEMENTARY INSTRUCTIONS

**REST:** Rest in bed but not stay in bed all day. Patients should walk as much as possible to reduce the risk of thrombosis due to immobilization in bed.

**HYDRATION:** Patients should receive adequate oral fluids - at least 1.5 - 2 liters of water per day. In addition to receiving other liquids (tea, juice, etc.). If you are taking in oxygen at home, the amount of fluids should be increased even more.

**GASTROPROTECTION:** If there is sensitivity in the stomach, gastroprotection can be administered with proton pump inhibitors (hydrochloric acid secretion inhibitors) such as e.g. pantoprazole, esomeprazole (controloc 40 mg in the morning on an empty stomach).

**Anticoagulants:** Anticoagulant prophylactic treatment can be given with gastro-resistant aspirin (81 or 100 mg) or with low molecular weight heparin (clexane 4000 - 6000 I.U.) for 5-7 days with a doctor's advice. Anticoagulant treatment may be used for a longer period.

**Recommendation:** In patients with risk factors such as obesity, diabetes, heart disease, severe respiratory problems, Clexane 4000 - 6000 I.U. is recommended. from the first day up to 15 to 20 days. Thrombosis has been reported even after several days following treatment. The administration should always be done on the advice of the treating physician.

**Instructions:** Heparin is administered by injection with a pre-filled syringe. The injection is given subcutaneously (under the skin) in the area of the navel (right and left of the navel). Alcohol is used as an antiseptic for the area of skin to be injected and then the syringe is prepared. Aim the syringe upwards with the needle pointing towards the ceiling of the room so that if there is air in the syringe it rises upwards. Push the plunger to remove air from the syringe. Then, lift the skin of the peripheral region with your two fingers (thumb and forefinger) and administer the contents of the syringe under the skin - subcutaneously.

**INHALATORY:** In patients with a history of asthmatic bronchitis and/or asthma, it is useful to evaluate the administration of inhaled bronchodilators with or without a combination with inhaled cortisone.

**ANTI-FEVER:** In case of high fever above 38.5° C one to two paracetamol 500 mg tablets can be taken every 6 hours. It is preferable to administer dissolving (effervescent) paracetamol tablets for gastroprotection. Fever up to 38° C is best fought with cold compresses on the forehead, cheeks, neck and neck (neck) to reduce paracetamol intake only when necessary.

**THERMOMETER AND OXYMETER:** Relatively frequent (every 8 hours) temperature monitoring with a reliable thermometer and frequent (every 8 hours) monitoring of blood oxygen with a reliable oximeter is recommended. The oximeter should be used on several fingers of both hands (index finger, middle finger, etc.). Leave the finger on the oximeter for about 20 - 30 seconds after the first indication to stabilize the measurement. We are interested in the highest indication recorded on any of the fingers tested.

**OXYGEN ADMINISTRATION:** In people with underlying diseases, it is recommended to supply an oxygen device at home (condenser) and to administer oxygen at 2 - 2.5 liters based on oximeter measurements. It is recommended to administer oxygen for several hours a day and at least one hour before bedtime.

**Recommendation:** In cases of fever, cough and oximeter measurements around 93 - 95% (especially in case we have a radiograph of suspected pneumonitis) it is recommended to provide oxygen (condenser) at 2.5 liters throughout the day (almost), as well as take oxygen at night during sleep - continuously if possible.

Ideally oxygen should be maintained at levels above 95% - 96%. Oxygen can be taken for 1 hour and / or longer before bedtime so that oxygen is above 95% if possible. Oxygen can also be taken during sleep. Oxygen should also be given during the day (for several hours a day) when low oxygen levels are observed. Oxygen uptake is especially important when oximeter readings are unsatisfactory. The goal is to maintain oxygen levels above 96% (SpO<sub>2</sub> > 96%) throughout treatment.

**NUTRITION - SUGAR REGULATION:** The diet should be taken according to dietary habits. Fruits, salads, soups and nutritious meals are recommended - satisfactory nutrition. In diabetics, the administration of medication and/or insulin should be well managed in order to maintain blood sugar at satisfactory levels. It is better to keep blood sugar slightly elevated up to 180 - 200 mg/dl than to risk a serious episode of hypoglycemia, especially with insulin for insulin-dependent diabetics. Deregulating blood sugar for a few days during treatment is not particularly worrying.

Treatment usually leads to a remission of the fever after 2-3 days and a remission of the remaining respiratory symptoms in 4-5 days, when administered immediately with the first symptoms.

In any case, the treatment should be taken for the entire duration as described above (for 10 days). If symptoms persist, treatment should be continued and individualized. In some cases it is necessary to take the treatment for up to 14 days and/or more. The advice of a doctor is essential.

In case of prolonged symptoms, it is good to do the following blood tests for follow-up ordered by the treating physician.

In case of persistent respiratory symptoms, it is useful to perform an X-ray and/or computed tomography and the administration of additional antibiotic treatment or a combination of antibiotics for possible respiratory infection, always with the advice of a doctor.

Suggested exams:

Complete Blood Count + Type  
ESR  
Blood sugar  
CRP quantitative  
Urea

Creatinine  
Liver enzymes  
Ferritin  
CPK  
D-Dimer

Chest X-ray  
Thoracic computed tomography