

[swprs.org](https://swprs.org)

# On the treatment of Covid-19

10-12 minutes

---

**Published:** July 2, 2020; **Updated:** September 4, 2020

**Languages:** [DE](#), [EN](#); **Share on:** [Twitter](#) / [Facebook](#)

Immunological and serological studies [show that](#) most people develop no symptoms or only mild symptoms when infected with the new coronavirus, while some people may experience a more pronounced or critical course of the disease.

Based on the available scientific evidence and current clinical experience, the SPR Collaboration recommends that physicians and authorities consider the following Covid-19 treatment protocol for the **early treatment** of people at high risk or high exposure (see references below).

**Note:** Patients are asked to consult a doctor.

## Treatment protocol

### Prophylaxis

1. Zinc (50mg to 100mg per day)
2. Quercetin (500mg to 1000mg per day)
3. Bromhexine (25mg to 50mg per day)
4. Vitamins C (1000mg) and D (2000 u/d)

### Early treatment

1. Zinc (75mg to 150mg per day)
2. Quercetin (500mg to 1500mg per day)
3. Bromhexine (50mg to 75mg per day)
4. Vitamins C (1000mg) and D (4000 u/d)

### **Ancillary (prescription only)**

1. Hydroxychloroquine (400mg per day)
2. High-dose vitamin D (1x 100,000 IU)
3. Azithromycin (up to 500mg per day)
4. Heparin (usual dosage)

**Note:** Contraindications for HCQ (e.g. favism or heart disease) must be observed.

**Addendum:** Other prescription drugs with first reported successes in the early medical treatment of Covid-19 are **ivermectin** ([read more](#)) and **favipiravir** ([read more](#)).

### **Treatment successes**

**Zinc/HCQ/AZ:** US physicians reported an [84% decrease](#) in hospitalization rates, a [50% decrease](#) in mortality rates among already hospitalized patients (if treated early), and an improvement in the condition of patients [within 8 to 12 hours](#). Italian doctors reported a decrease in deaths [of 66%](#).

US physicians also reported a [45% reduction](#) in mortality of hospitalized patients by adding zinc to HCQ/AZ. Another US study reported a [rapid resolution](#) of Covid symptoms, such as shortness of breath, based on early outpatient treatment with high-dose zinc.

**Bromhexine:** Iranian doctors reported in a [study with 78](#)

[patients](#) a decrease in intensive care treatments of 82%, a decrease in intubations of 89%, and a decrease in deaths of 100%. Chinese doctors reported a [50% reduction](#) in intubations. Bromhexine is a mucolytic cough medication.

**Vitamin D:** In a Spanish randomized controlled trial (RCT), high-dose vitamin D (100,000 IU) reduced the risk of requiring intensive care [by 96%](#). A large Israeli study found a [strong link](#) between vitamin D deficiency and covid-19 severity.

For more results, see the scientific references below.

## Mechanisms of action

**Zinc** [inhibits](#) RNA polymerase activity of coronaviruses and thus blocks virus replication. **Hydroxychloroquine** and **quercetin** [support](#) the cellular [absorption](#) of zinc and have additional anti-viral [properties](#). **Bromhexine** [inhibits](#) the expression of the cellular TMPRSS2 protease and thus the entry of the virus into the cell. **Azithromycin** prevents bacterial superinfections. **Heparin** prevents infection-related thromboses and embolisms in patients at risk. (See scientific references below).

**See also:** [Illustration of the mechanisms of action](#) of HCQ, quercetin and bromhexine

## Additional notes

The **early treatment** of patients as soon as the first typical symptoms appear and even without a PCR test is essential to prevent progression of the disease. Zinc, HCQ, quercetin and bromhexin may also be used [prophylactically](#) for people at high risk or high exposure (e.g. for health care workers).

In contrast, isolating infected high-risk patients at home and

without early treatment until they develop serious respiratory problems, as often happened during lockdowns, may be detrimental.

The alleged or actual negative results with hydroxychloroquine in some studies were based on [delayed use](#) (intensive care patients), [excessive doses](#) (up to 2400mg per day), [manipulated data sets](#) (the Surgisphere scandal), or ignored [contraindications](#) (e.g., favism or heart disease).

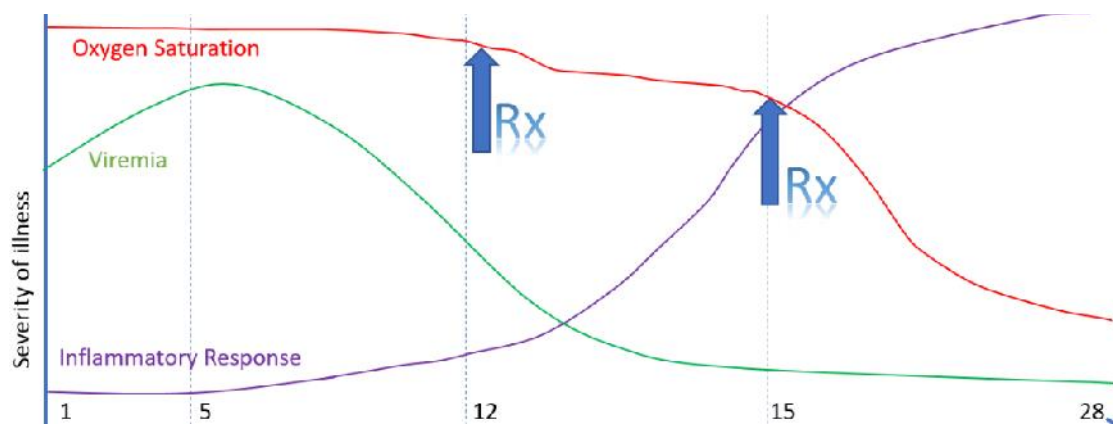
Early treatment based on the above protocol is intended to **avoid** hospitalization. If hospitalization nevertheless becomes necessary, experienced ICU doctors [recommend](#) avoiding invasive ventilation (intubation) whenever possible and using oxygen therapy (HFNC) instead.

It is conceivable that the above treatment protocol, which is simple, safe and inexpensive, could render more complex medications, vaccinations, and other measures [largely obsolete](#).

## Background

The efficacy of HCQ against SARS coronaviruses was [established](#) in 2005 in the wake of the SARS-1 epidemic. The efficacy of zinc in blocking RNA replication of coronaviruses [was discovered](#) in 2010 by world-leading SARS virologist Ralph Baric. The efficacy of HCQ in supporting the cellular uptake of zinc [was discovered](#) in 2014 as part of cancer research. The efficacy of the flavonoid quercetin in supporting the cellular uptake of zinc was [also discovered](#) in 2014. The efficacy of bromhexine in blocking cell entry of coronaviruses [was established](#) in 2017.





Stages of covid disease ([EVMS](#))

## References

### General

- [EVMS Critical Care Covid-19 Management Protocol](#) (Paul Marik, MD, June 2020)

### Zinc

1. **Study:** Effect of Zinc Salts on Respiratory Syncytial Virus Replication ([Suara & Crowe, AAC](#), 2004)
2. **Study:** Zinc Inhibits Coronavirus and Arterivirus RNA Polymerase Activity *In Vitro* and Zinc Ionophores Block the Replication of These Viruses in Cell Culture ([Velthuis et al, PLOS Path](#), 2010)
3. **Study:** Zinc for the common cold ([Cochrane Systematic Review](#), 2013)
4. **Study:** Hydroxychloroquine and azithromycin plus zinc vs hydroxychloroquine and azithromycin alone: outcomes in hospitalized COVID-19 patients ([Carlucci et al., MedRxiv](#), May 2020)
5. **Study:** Treatment of SARS-CoV-2 with high dose oral zinc salts: A report on four patients ([Eric Finzi, International Journal of Infectious Diseases](#), June 2020)

6. **Review:** Does zinc supplementation enhance the clinical efficacy of chloroquine/ hydroxychloroquine to win today's battle against COVID-19? ([Derwand & Scholz, MH](#), 2020)
7. **Review:** Zinc supplementation to improve treatment outcomes among children diagnosed with respiratory infections ([WHO, Technical Report](#), 2011)
8. **Article:** Can Zinc Lozenges Help with Coronavirus Infections? ([McGill University](#), March 2020)

### **Quercetin**

1. **Study:** Small molecules blocking the entry of severe acute respiratory syndrome coronavirus into host cells ([Ling Yi et al.](#), Journal of Virology, 2004)
2. **Study:** Zinc Ionophore Activity of Quercetin and Epigallocatechin-gallate: From Hepa 1-6 Cells to a Liposome Model ([Dabbagh et al.](#), [JAFC](#), 2014)
3. **Study:** Quercetin as an Antiviral Agent Inhibits Influenza A Virus Entry ([Wu et al.](#), [Viruses](#), 2016)
4. **Study:** Quercetin and Vitamin C: An Experimental, Synergistic Therapy for the Prevention and Treatment of SARS-CoV-2 Related Disease ([Biancatelli et al.](#), [Front. in Immun.](#), June 2020)
5. **Report:** EVMS Critical Care Covid-19 Management Protocol ([Paul Marik, MD](#), June 2020)

### **Bromhexine**

1. **Study:** TMPRSS2: A potential target for treatment of influenza virus and coronavirus infections ([Wen Shen et al.](#), Biochimie Journal, 2017)
2. **Letter:** Repurposing the mucolytic cough suppressant and TMPRSS2 protease inhibitor bromhexine for the prevention and

management of SARS-CoV-2 infection ([Maggio and Corsini](#), Pharmacological Research, April 2020)

3. **Study:** Potential new treatment strategies for COVID-19: is there a role for bromhexine as add-on therapy? ([Depfenhart et al.](#), Internal and Emergency Medicine, May 2020)
4. **Study:** Bromhexine Hydrochloride: Potential Approach to Prevent or Treat Early Stage COVID-19 ([Stepanov and Lierz](#), Journal of Infectious Diseases and Epidemiology, June 2020)
5. **Study:** TMPRSS2 inhibitors, Bromhexine, Aprotinin, Camostat and Nafamostat as potential treatments for COVID-19 ([Arsalan Azimi](#), Drug Target Review, June 2020)
6. **Trial:** Effect of bromhexine on clinical outcomes and mortality in COVID-19 patients: A randomized clinical trial ([Ansarin et al.](#), BiolImpacts, July 2020): “There was a significant reduction in ICU admissions (2 out of 39 vs. 11 out of 39), intubation (1 out of 39 vs. 9 out of 39) and death (0 vs. 5) in the bromhexine treated group compared to the standard group.”

## Hydroxychloroquine

1. **Studies:** Overview of more than 50 international HCQ studies ([C19Study.com](#))
2. **Study:** Chloroquine is a potent inhibitor of SARS coronavirus infection and spread ([Vincent et al.](#), [Virology Journal](#), 2005)
3. **Study:** Chloroquine Is a Zinc Ionophore ([Xue et al.](#), [PLOS One](#), 2014)
4. **Study:** Physicians work out treatment guidelines for coronavirus ([Korean Biomedical Review](#), February 2020)
5. **Study:** Expert consensus on chloroquine phosphate for the treatment of novel coronavirus pneumonia ([Guangdong Health Commission](#), February 2020)

6. **Study:** Clinical Efficacy of Chloroquine derivatives in COVID-19 Infection: Comparative meta-analysis between the Big data and the real world ([Million et al, NMNI](#), June 2020)
7. **Study:** Treatment with Hydroxychloroquine, Azithromycin, and Combination in Patients Hospitalized with COVID-19 ([Arshad et al, Int. Journal of Infect. Diseases](#), July 2020)
8. **Study:** COVID-19 Outpatients – Early Risk-Stratified Treatment with Zinc Plus Low Dose Hydroxychloroquine and Azithromycin ([Scholz et al., Preprints](#), July 2020)
9. **Study:** Effectiveness of HCQ in COVID-19 disease ([Monforte et al.](#), IJID, July 2020)
10. **Protocol:** Advisory on the use of HCQ as prophylaxis for SARS-CoV-2 infection ([Indian Council of Medical Research](#), March 2020)
11. **Review:** White Paper on Hydroxychloroquine ([Dr. Simone Gold](#), AFD, July 2020)
12. **Article:** The Key to Defeating COVID-19 Already Exists. We Need to Start Using It. ([Professor Harvey A. Risch](#), Newsweek, July 2020)

## Heparin

1. **Commentary:** The versatile heparin in COVID-19 ([Thachil, JTH](#), April 2020)
2. **Study:** Anticoagulant Treatment Is Associated With Decreased Mortality in Severe Coronavirus Disease 2019 Patients With Coagulopathy ([Tang et al, JTH](#), May 2020)
3. **Study:** Autopsy Findings and Venous Thromboembolism in Patients With COVID-19 ([Wichmann et al., Annals of Internal Medicine](#), May 2020)



4. **Article:** Anticoagulation Guidance Emerging for Severe COVID-19 ([Medpage Today](#))
5. **Article:** Aspirin may prevent blood clots in COVID-19, study shows ([Knowridge Science](#))

### See also

- [Facts about Covid-19](#)
  - [On the effectiveness of face masks](#)
  - [Studies on the lethality of Covid-19](#)
- 

Share on: [Twitter](#) / [Facebook](#)