

COVID-19 and Ivermectin

What is the issue?

- Ivermectin has been shown in some laboratory in-vitro studies to inhibit adherence and transport of the SARS Co-V 2 virus into host cells. Some studies have also suggested an anti-inflammatory property to Ivermectin. However, no clinical trials have reported a benefit for ivermectin in patients with COVID-19 infection. (Summary of studies with Ivermectin to date: <https://www.covid19treatmentguidelines.nih.gov/tables/table-2c/>)

What have physicians been asked to do by patients?

- Physicians are being asked to prescribe Ivermectin as a way to prevent COVID-19 infection and as a substitute for vaccination.
- There is **no good quality evidence** that Ivermectin prevents COVID-19 infection, nor any evidence that it improves COVID-19 outcomes (hospitalization, death). Pharmacokinetic and pharmacodynamic studies suggest that administration of doses up to 50-100 times higher than those approved for use in humans would be needed to achieve plasma concentrations needed for antiviral efficacy.
- Ivermectin for human use is approved by Health Canada for the systemic treatment of some parasitic infections (intestinal strongyloidiasis and onchocerciasis) and topical treatment of lice and rosacea. In veterinary medicine, it is used for prevention of heart worm infection and treatment of animal parasitic infections (eg. horses). Health Canada discourages the use of veterinary grade medications in humans as the concentrations are significantly higher and may contain inactive ingredients that are suitable for animal consumption but not for people.

What should physicians say to these patients?

- Excellent reference from the FDA: <https://www.fda.gov/consumers/consumer-updates/why-you-should-not-use-ivermectin-treat-or-prevent-covid-19>
- Studies done to date are of low quality, so findings have considerable uncertainty around the effect size due to the shortcomings in study design and execution. Further research is necessary to confirm the effectiveness of Ivermectin as COVID-19 prophylaxis.
- **The best prevention remains vaccine, which has proven efficacy in preventing COVID-19 disease.**

What are the side-effects to taking Ivermectin?

- Excellent reference from the FDA: <https://www.fda.gov/animal-veterinary/product-safety-information/fag-covid-19-and-ivermectin-intended-animals>
- Ivermectin has not been approved for the prevention and treatment of COVID-19. People should only take medication prescribed by a physician and acquired from a pharmacy.

- According to the FDA, Ivermectin side-effects include “skin rash, nausea, vomiting, diarrhea, stomach pain, facial or limb swelling, neurologic adverse events (dizziness, seizures, confusion), sudden drop in blood pressure, severe skin rash potentially requiring hospitalization and liver injury (hepatitis). Laboratory test abnormalities include decrease in white cell count and elevated liver tests.”

How has this idea – that Ivermectin is effective against COVID-19 – been circulated? How can physicians educate themselves and their patients on this topic further?

- As the search for COVID-19 therapies continue, Ivermectin was known to have some viral inhibitory qualities against some RNA viruses (eg. Zika, West Nile). While studies exist, many of these are in vitro studies, and clinical efficacy for COVID illness has not yet been demonstrated in a randomized control study. Ivermectin is not used as a therapy for these other viral illnesses and research is ongoing.
- Public education by physicians will discourage inappropriate use of veterinary Ivermectin, and hopefully encourage vaccine uptake.

What does the science say about Ivermectin? What do the WHO, national or provincial health authorities recommend (see below link to WHO)?

<https://www.who.int/news-room/feature-stories/detail/who-advises-that-ivermectin-only-be-used-to-treat-covid-19-within-clinical-trials>

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-sag-ivermectin-in-treatment-and-prevention-rapid-review.pdf>