To my valued patients

Death toll numbers lower than expected

Trying to find the good news out there? It's out there and it is good. The death toll from the novel coronavirus appears to be much lower than models projected. Initial estimates put US deaths at 100,000 to 240,000 in late March. Now the range is moving down to 50,000 to 136,000 and hopefully the expected death rate will continue to fall. This in no way helps those people who have tragically been stricken down, nor their families, but it gives solace to those who are waiting and who have loved ones at risk.

What are the chances I could die?

One of the most often asked question is "what is the chance I will die if I am infected?" And the answer is not straightforward. There are three different numbers you may hear about. There is a case fatality rate, a crude mortality rate and an infection fatality rate. The most important lesson to glean is that the case fatality rate does not answer the question of how likely one is to die if one gets infected. I will try to be brief; if you want more information go to https://ourworldindata.org/coronavirus#what-do-we-know-about-the-risk-of-dying-from-covid-19.

The case fatality rate (CFR) is straightforward. You take the number of people who died and divide it by the number who have confirmed disease. If 10 people die and 100 people have been diagnosed, the CFR is 10%. Please remember this number is the ratio of death to confirmed cases, not total cases.

The crude death rate (CDR) measures the probability that an individual in the population will die from the disease. It is calculated by dividing the number of deaths in the disease by the total population. If there are 10 deaths and population is 10,000, the CDR is 0.1%. This uses the total population as a denominator and still does not answer our original question.

To finally answer our question, you need something called the infection fatality rate (IFR). The IFR is the number of deaths from a disease divided by the total number of cases. If 10 people die and 1,000 actually had it, then the death rate is 1%.

But we currently don't know the number of COVID-19 cases. We have people walking around who were sick and got better before testing was more widely available, we have individuals who did not know they were sick with the coronavirus and attributed it to something else and we have additional people who had no symptoms. Therefore, the IFR cannot be calculated exactly, just estimated through statistical analysis because there are many cases out there that are never tested.

So, when you see a statistic, be sure to know the meaning of the statistic provided. The lay press can mix these up, but you won't.

**<u>Wow, this would be good if true</u>**

Scientific American says that there is a new drug with an experimental name of EIDD-2801 that interferes with a key mechanism that allows SARS-CoV-2 virus to reproduce in high numbers and cause infections. The pill has been used in animal studies, but human studies need to be done to see if the effect is similar in people. Oral medication is a real advantage in that it is easier to give to large numbers of people.


The study was done by a team at Emory University, the University of North Carolina and Vanderbilt. Ridgeback Biotherapeutics has just been given permission from the FDA to begin a 10-patient trial soon. It is interesting to note, that because of its mechanism of action in pre-clinical studies, EIDD-2081 has shown activity against influenza, as well as respiratory syncytial virus and even virus for chikungunya, Venezuelan equine encephalitis and Eastern equine encephalitis. It may be beneficial as prophylaxis so healthcare workers can take it to prevent infection.

Antibody Testing

I personally would prefer an antibody test that can check for IgM and IgG antibody. If you recall immunoglobulin M (IgM) is the initial attacker that helps you fight the initial infection and then goes away and immunoglobulin G (IgG) is the surveillance antibody to make sure you don't get it again and lasts years and years. The green line below shows a decrease in IgG, but it stays in the body a long time.
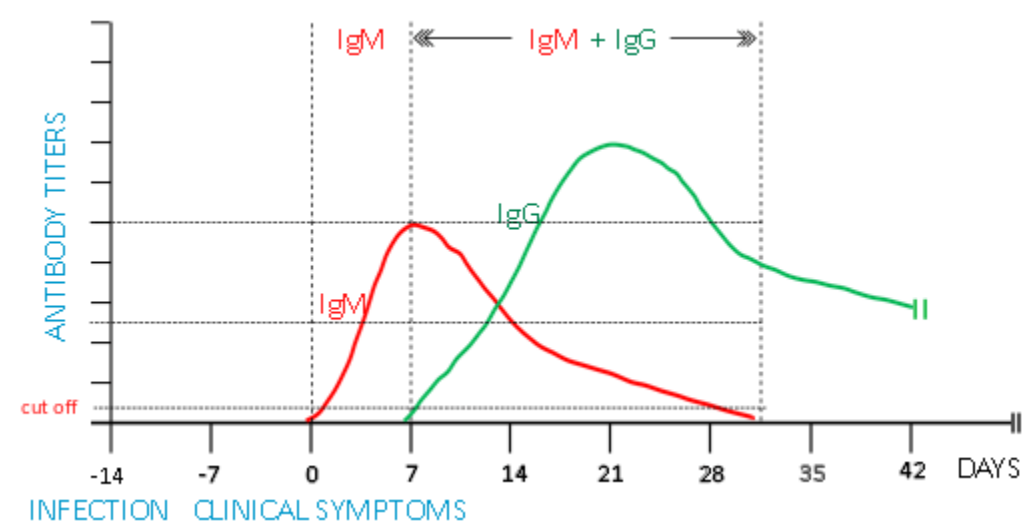
The two antibodies even have a different structure. See below
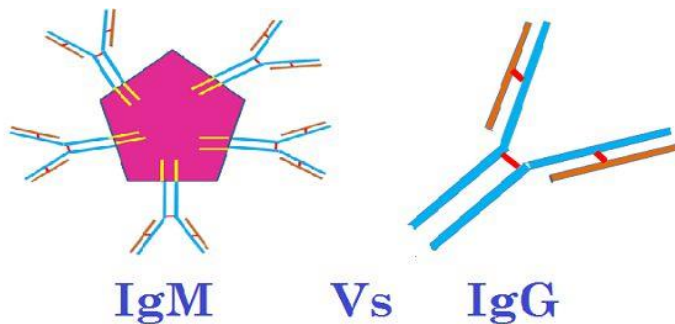
The FDA approved the first antibody test just two days ago. There are dozens of companies developing antibody tests. The Mount Sinai School of Medicine started a website where scientists can order the chemicals and other ingredients and protocols needed to get tests up and running. Remember this is a blood test. Some of the tests use a simple prick of the finger, like a diabetic checking their sugar. I ask you to be a little wary. Home testing kits will probably become available. Make sure you are dealing with a reputable source. It was reported in Newsweek today the British Government will seek refunds for millions of coronavirus test kits purchased from China, after a study of the products found them unreliable. So, please be careful.

I am told that we should expect approved antibody testing to be available within the next two weeks.

Art and Medicine

Towards the end of his life, it seems that Van Gogh may have been treated with digitalis for the epileptic seizures he experienced. Digitalis, extracted from foxglove plants, is a powerful medicine still in use today as a treatment for certain heart conditions, but not epilepsy. One of the compounds, digoxin, is listed by the World Health Organization as an essential medicine because of its huge benefit in the treatment of abnormal heart rhythms such as atrial fibrillation. Digoxin is a very potent drug, the therapeutic dose is miniscule, and it is very close to the level that can also produce digitalis intoxication.

The most common problems associated with digoxin are nausea and loss of appetite, but its other effects are more intriguing.

Particularly high concentrations of digoxin's target enzyme are found in the cone cells in the retina of the eye. These are the cells that give us our color perception. It is very rare, but some people taking digoxin and related drugs can experience haziness to their vision, or a yellow tinge to everything they see, known as xanthopsia. Occasionally, points of light may appear to have colored halos around them. Rarer still are effects on pupil size, such as dilation, constriction or even unequal-sized pupils.

The effects of digitalis intoxication have been suggested as the cause of Van Gogh's "yellow period" and the spectacular sky he painted in The Starry Night. More circumstantial evidence comes from the two portraits Van Gogh produced of his doctor, Paul Gachet, showing him holding a foxglove flower. One of Van Gogh's self-portraits also shows uneven pupils.

Thanks

As usual if you care to provide positive feedback on social media, here is where you go.

On Google, look me up in google, on the right of the screen you should see a picture of me, our address and other information including hours and other reviews, if you look just above the reviews and to the right you can click on the button 'write a review'

On Yelp, here is the link: https://www.yelp.com/biz/reed-s-wilson-md-facc-facp-beverly-hills

On Healthgrades, here is the link: https://www.healthgrades.com/physician/dr-reed-wilson-x4dr9

On Vitals, here is the link: https://www.vitals.com/doctors/Dr_Reed_Wilson.html

On WebMD, here is the link: https://doctor.webmd.com/doctor/reed-wilson-476dd77b-fb40-4662-b479-e18b4c23af10-overview