CORONAVIRUS (COVID-19): ANTIBODY TESTING

There has been a lot of talk in the news lately about a CoronaVirus Antibody Test.

It sounds simple: a blood test should be able to tell you whether those symptoms you had recently were caused by COVID-19, and if so, you should be immune, right?

Unfortunately, it's not that simple.

COVID-19 is one of many members of the CoronaVirus family - others include many strains of the "common cold." Pretty much everyone has been exposed to a common cold in their life, and it's very tricky to make a test accurate enough to detect the exact antibodies specific to COVID-19. Plus, we still don't really know whether everyone with antibodies is truly immune, or how long that immunity lasts - in some parts of the world, a few people seem to be getting re-infected.

The COVID-19 antibody tests - a few versions have now been approved by the FDA, and many more are being imported through unofficial channels - were designed to look at overall trends in a population, in order to make public health decisions about shutting down and allocating resources. They are useful to estimate what proportion of a community may already have the virus, but not so reliable yet for individual personal decisions.

Example, by the numbers: The COVID-19 antibody tests are around 90% sensitive and 90% specific. That sounds pretty good, right? But consider: when whole communities have been tested (Korea, NYC, SF Bay Area & LA) the prevalence has been between 2-5% of people testing positive for the virus - and these are areas that have been very heavily impacted. Here in Colorado, our prevalence is likely even lower. With this low pre-test probability, it turns out the statistic called Positive Predictive Value is around 32% - not that great. What this means is, **if a person has a test that seems to show COVID-19 antibodies, there is about a 32% (one in three) chance that they really have antibodies against COVID-19** (and a 68% chance that they don't). *Plus, we still aren't totally sure whether antibodies equal real immunity or not* . . .

So this is why Dr Leto says the antibody test is useful for public health decisions, but just isn't reliable enough yet to use for personal choices about exposure behaviors. *The safest thing to do is to assume we are still vulnerable.*