There are several important problems with antibody testing that every physician must know before testing. It is an old adage that you should never order a test unless you know what you will do with the results. Here is the latest on antibody testing:

1) We simply do not know WHAT LEVEL of antibodies will provide protection from re-infection.
2) We also do not know HOW LONG protection will last.
3) There are reports that some of these tests that received Emergency Use Authorization (which is NOT the same as FDA approval) will show cross reactivity (or positive results) from other benign coronaviruses that cause mild upper respiratory illnesses.
4) We do not know baseline numbers or prevalence of the condition. Knowing this is an ESSENTIAL aspect of interpreting a test result.

EVEN IF THE TESTS ARE "ACCURATE" IN MEASUREMENT AND EVEN IF THEY CAN PREDICT WHO IS IMMUNE – THERE ARE STILL PROBLEMS.

Let's say we have tests with 98% sensitivity and 98% specificity. Here is how the epidemiology (or math) works out.

1) If we do antibody test on random people – let's say 10% of them REALLY had exposure and REALLY have antibodies. The false positive rate will be about 16%. We would risk telling 16% of the people that they have the appropriate antibodies when they actually do NOT. They may think they are immune when they could actually contract and spread the disease.
2) Instead, if we do antibody test only on those that had been tested as proven COVID – let's say 99% of these folks REALLY have the antibodies. The false positive rate will be nearly zero, BUT the false NEGATIVE rate will be 33%. We risk telling 1/3 of these post-infected people who REALLY DO have the antibodies that they do not have them. They cannot return to work, they live in unnecessary fear, etc.

Bottom line – it is very tricky. We risk causing very real harm to our patients and the population if we simply order the test and then tell patients they are or are not immune. We need to proceed thoughtfully and communicate clearly.