

Sensitivity and Specificity

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Definitions

Sensitivity

- Proportion of true positive (diseased) with a positive test result

$$\text{Sensitivity} = \frac{\text{Number of True Positives}}{\text{Number of True Positives} + \text{Number of False Negatives}}$$

Specificity

- Proportion of true negative (non-diseased) with a negative test result

$$\text{Specificity} = \frac{\text{Number of True Negatives}}{\text{Number of True Negatives} + \text{Number of False Positives}}$$

Real-World Application

Sensitivity

- Let's say test A has a sensitivity of 0.8 or 80%
 - Test A correctly identifies 80% of the people who have the disease
 - But it misses 20%.
 - This 20% have the disease but the test did not detect it
 - Also known as “False negative”

Specificity

- Let's say test A has a specificity of 0.8 or 80%
 - Test A correctly identifies 80% of the people who do NOT the disease
 - But it misidentifies 20%.
 - This 20% do NOT have the disease but the test said they did
 - Also known as “False positive”

**Do we have a test that is
100% Sensitive and 100%
Specific?**

Points to Ponder

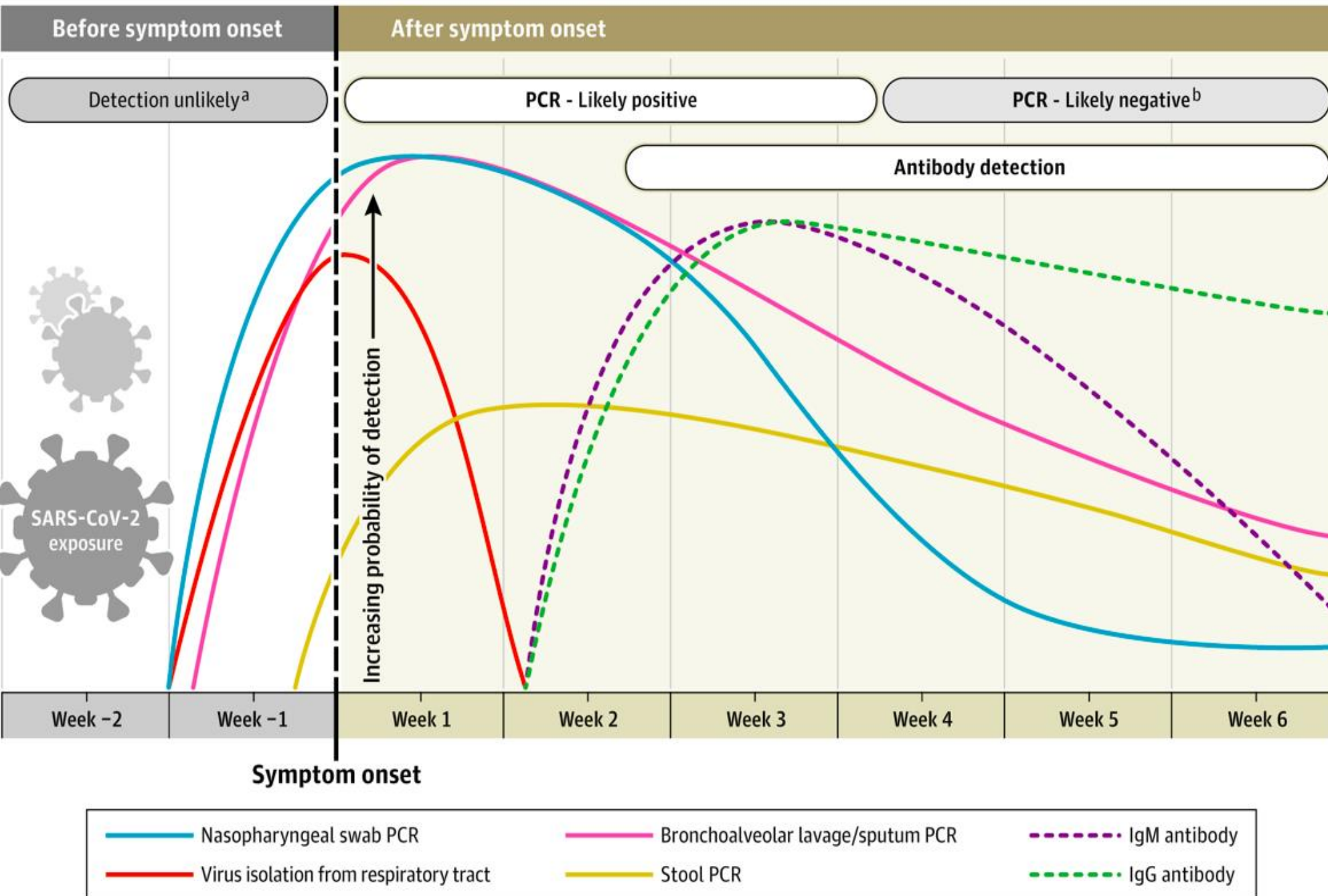
- Usually a test with high sensitivity is an initial SCREENING test
 - Test A correctly identifies 95% of the people who have the disease
 - But it misses 5%.
 - This 5% have the disease but the test did not detect it

Where can I learn more about the sensitivity and specificity of COVID testing?

- <https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations>

Darlene added to slides from here down.....

Tests, including serology tests, being offered prior to or without an EUA under a policy outlined in the [Policy for Coronavirus Disease-2019 Tests, have not been reviewed or authorized by the FDA. As stated in the Policy for Coronavirus Disease-2019 Tests, all such tests should be validated by the developer prior to being offered for clinical use.](#)



https://cdn.jamanetwork.com/ama/content_public/journal/jama/0/jvp200101f1.png?Expires=2147483647&Signature=agyscQdF~k9JJBKANKphVVIldhgAXbrjT6qFs2COUgnLNiqMxozTajAXFIXbOl~iv3bbPN7WYduoG10wIXNnU-MAPGIEVWQ8VDgg8QtKrVrOrAy31GGMxEb8si1G7rNumKNDHPUhzkHJSGnTY4jNLriuhSmUkPfAhOb0pBNMo6EbeC1UKtXrOgJd~G9LTfVhfHReAgGd4Ic4pC0r4w7C5O6zazFd2N8NWyYEP Lt~6Ja0DAQ2FtbrSyOYq509ZIAEES3rOUzSRikQZnt8QZ5GJ-iai9F4SuurLA6XJJy8s~l8Nlwy-BAwfjvOJm9wwyEXVubfJjGgfFXX06wm1OqazGg__&Key-Pair-Id=APKAIE5G5CRDK6RD3PGA

Know how to collect correctly

Collect the swabs CORRECTLY. Watch the video so you are sure
How to collect the Nasopharyngeal swabs correctly

NEJM Procedure: Collection of Nasopharyngeal Specimens with the Swab Technique

<https://www.youtube.com/watch?v=DVJNWefmHjE&feature=youtu.be&fbclid=IwAR2eBxtSMUvMRAbn-tq2L2R1OluqcNbEf92ut8nvUQQfFndGT--b3kk0p5U>

PCR test

Laboratory Corporation of America (LabCorp) COVID-19 RT-PCR Test for the qualitative detection of nucleic acid from SARS-CoV-2 in upper and lower respiratory specimens



Antibody tests for \$\$\$ in your community

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We're ready for you 🚗 drive-through #covid19testing Mon-Fri 10am-6pm. Visit inspirepalmbeach.com/COVID19 for info *private test ~ oral swab ~ results in 24-48 hours via text ~ private lab ~ \$150 - CALL 561-377-8772



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IgG / IgM Testing

for COVID-19 Antibodies

- Offices in Wellington and Atlantis, FL
- New and Established
- Patients welcome *see post
- \$25 for testing *additional telemedicine appt may be necessary
- Can be done in the safety of your vehicle
- Results in approx 15 minutes

To schedule your IgG/IgM testing and telehealth appointment call (561) 967-4118 or visit us at

www.pcsifl.com/telemedicine



 PCSI



Treasure Coast Urgent Care

April 26 at 9:23 PM · 🌐



ATTENTION LOCAL BUSINESSES:

We want our local businesses to re-open safely. Give your returning customers a greater peace of mind by having your staff tested for the Coronavirus Antibody. Treasure Coast Urgent Care now offers Coronavirus Antibody Testing with unparalleled accuracy using Abbott Laboratories highest quality, hospital grade lab-based blood test.

On-site testing is available with 50 or more participants with one or more combined businesses.

For more details or to schedule your business(s).

CALL: (772) 419-0560



TREASURE COAST
Urgent Care
coronavirus
Antibody Testing

Treasure Coast Urgent Care Darlene Dempsey we are drawing blood and sending it to Quest. Quest is using the Abbott platform which they say is 100% sensitive and 99.5% specific. Here is a paragraph comparing what is out there

the best bets for sensitivity, based on numbers reported by the manufacturers, were Abbott's SARS-CoV-2 IgG Test and Epitepe's EDI Novel Coronavirus COVID-19 IgG ELISA Kit. For specificity, the latter test and another Epitepe product, the EDI Novel Coronavirus Covid-19 IgM ELISA Kit, did best, along with Creative Diagnostics' SARS-CoV-2 Antibody ELISA and Ortho-Clinical's Vitros Immunodiagnostic Product Anti-SARS-CoV-2 Total Reagent Pack. Only Epitepe's EDI Novel Coronavirus COVID-19 IgG ELISA Kit had perfect scores on both measures, although Abbott's kit came close, with a sensitivity of 100 percent and a specificity of 99.5 percent.