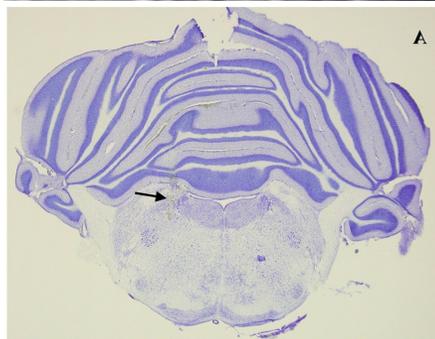
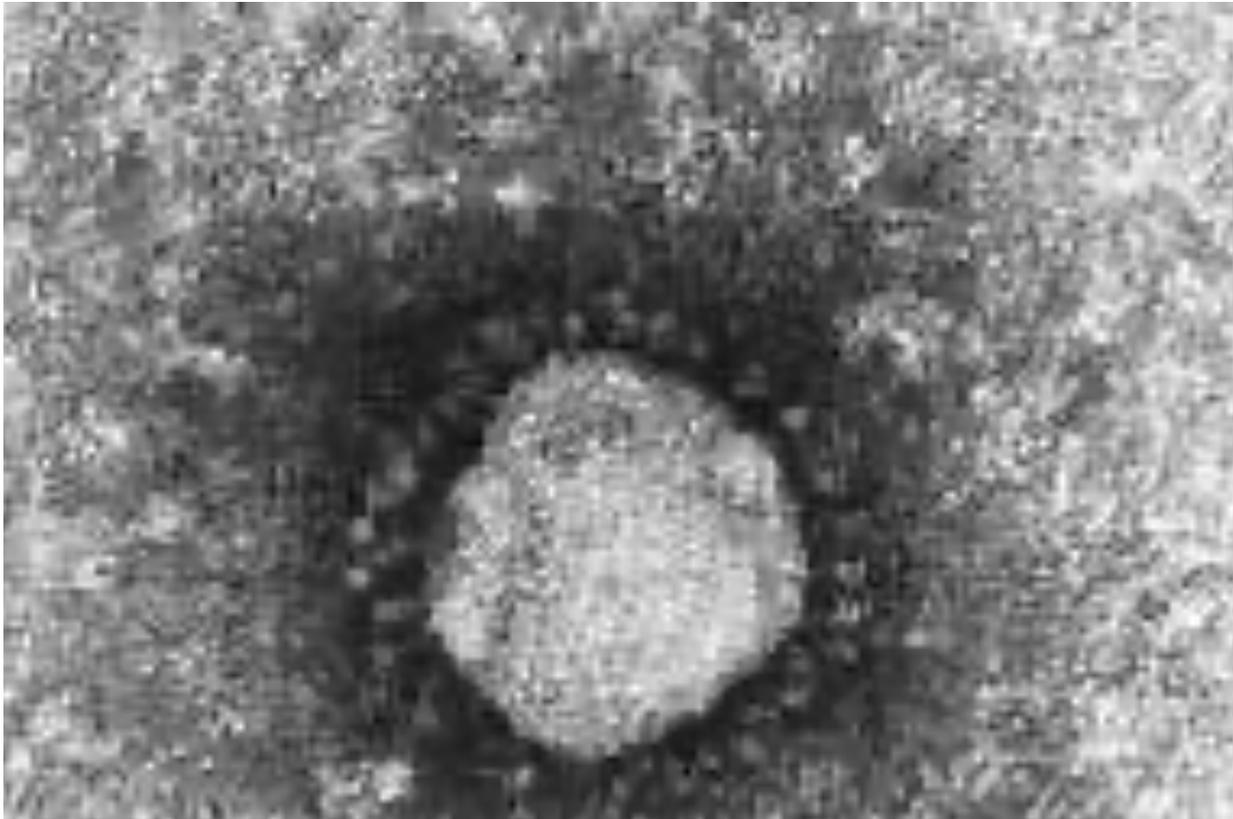


Integrated Health Engineers

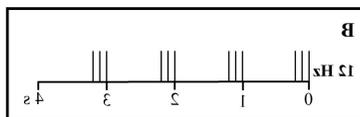
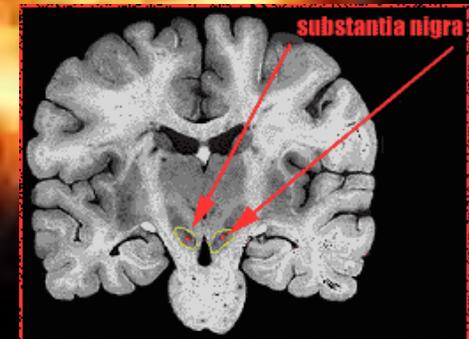
Wisdom from the past, Expertise for the future

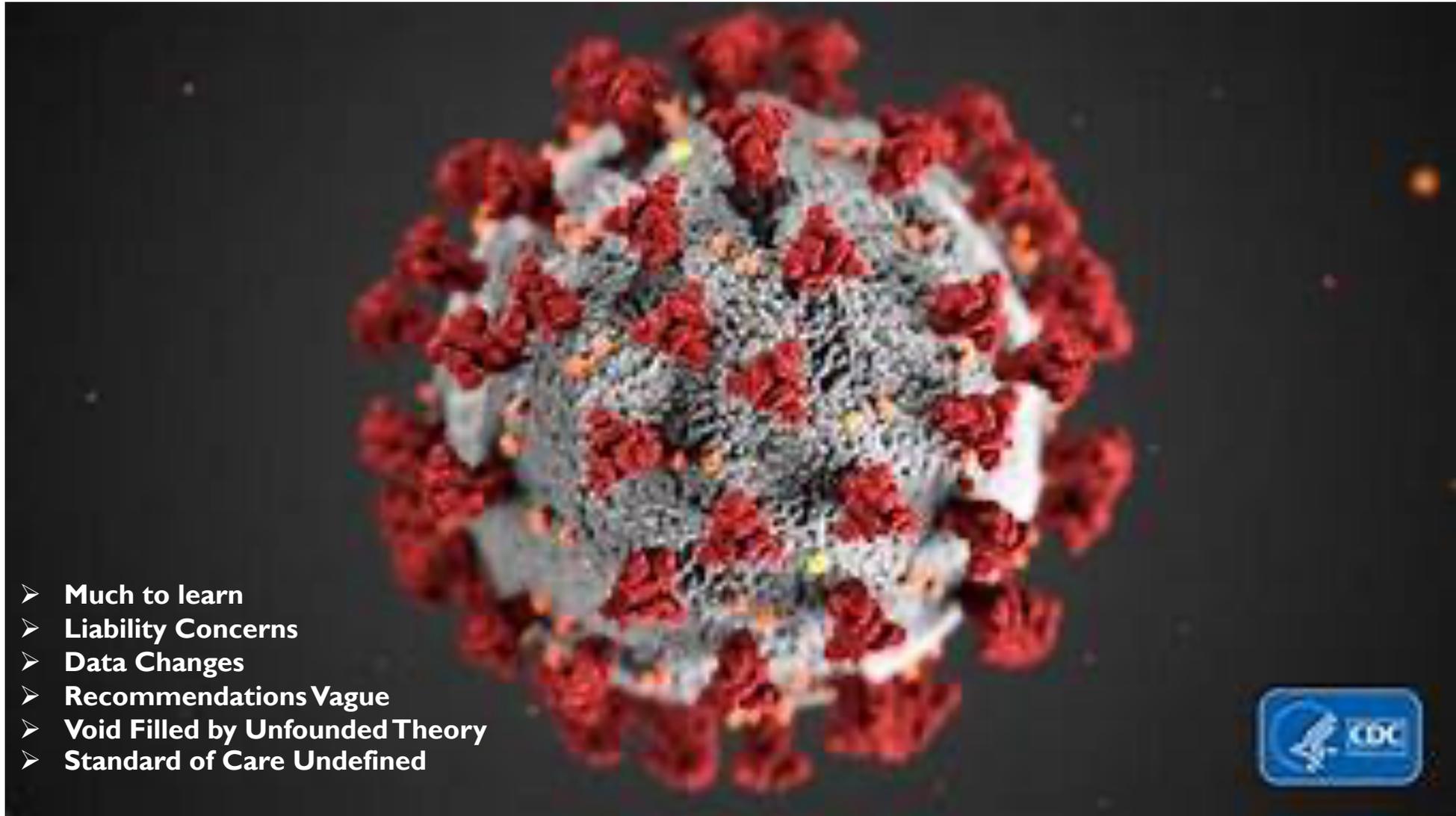
MAKING MEDICALLY INFORMED BUSINESS
DECISIONS DURING THE COVID-19
PANDEMIC

integratedhealthengineers.com



COVID-19
CORONA VIRUS DISEASE 2019





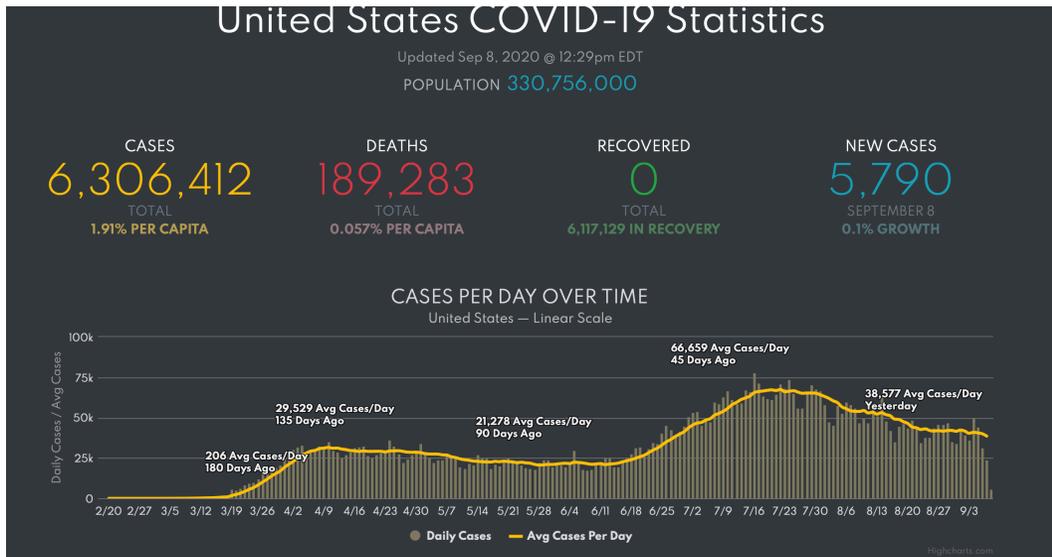
- **Much to learn**
- **Liability Concerns**
- **Data Changes**
- **Recommendations Vague**
- **Void Filled by Unfounded Theory**
- **Standard of Care Undefined**



COVID-19: A Novel Coronavirus or We Don't Know What We Don't Know.



WHAT WE'VE LEARNED SO FAR...



COVID-19, LIKE THE SEASONAL FLU IS NOW PART OF OUR BIOSPHERE.

CONTAINMENT CAN NO LONGER BE OUR GOAL (THE VIRUS OR LIABILITY)

OUR GOAL MUST BE TO PROTECT OURSELVES, OUR EMPLOYEES AND OUR CUSTOMERS AS WE REOPEN OR REMAIN OPEN.

THE BASICS FOR RETURNING
TO "NORMAL" OPERATIONS

Do they REALLY work?

- **Gloves**
- **Face Masks**
- **Handwashing**
- **Temperature Checks**

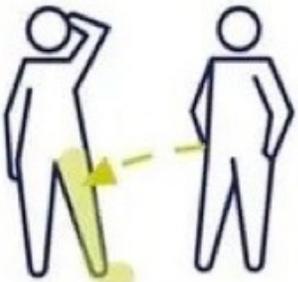


Gloves are great if you use them properly.
Gloves will get you infected if you don't.
Proper handling?

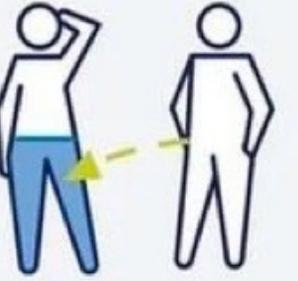


1000 Words on Masks:

THE URINE TEST



IF WE ALL RUN AROUND NAKED AND SOMEONE PEEES ON YOU, YOU GET WET RIGHT AWAY



IF YOU ARE WEARING PANTS, SOME PEE WILL GET THROUGH - BUT NOT AS MUCH, SO YOU ARE BETTER PROTECTED



IF THE GUY WHO PEEES ALSO IS WEARING PANTS, THE PEE STAYS WITH HIM AND YOU DO NOT GET WET.

WHY YOU SHOULD WEAR FACEMASKS

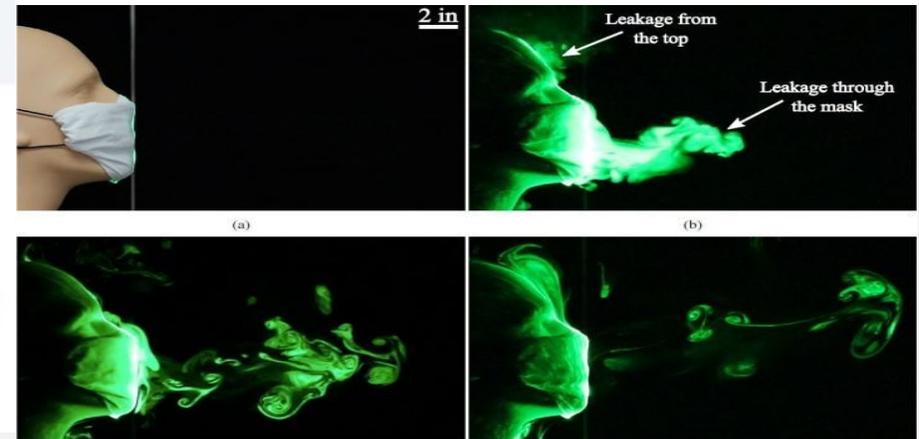
LET ME TRY AND MAKE IS SIMPLE FOR YOU...

Truth or Fiction?

Seeking truth and exposing fiction since 1999

CDC on Homemade Cloth Face Coverings

[CDC recommends](#) wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies), especially in areas of significant community-based transmission.



The smaller the pore size and the better the fit the more effective the mask. Face shields augment but do not replace.



Temperature Screening?

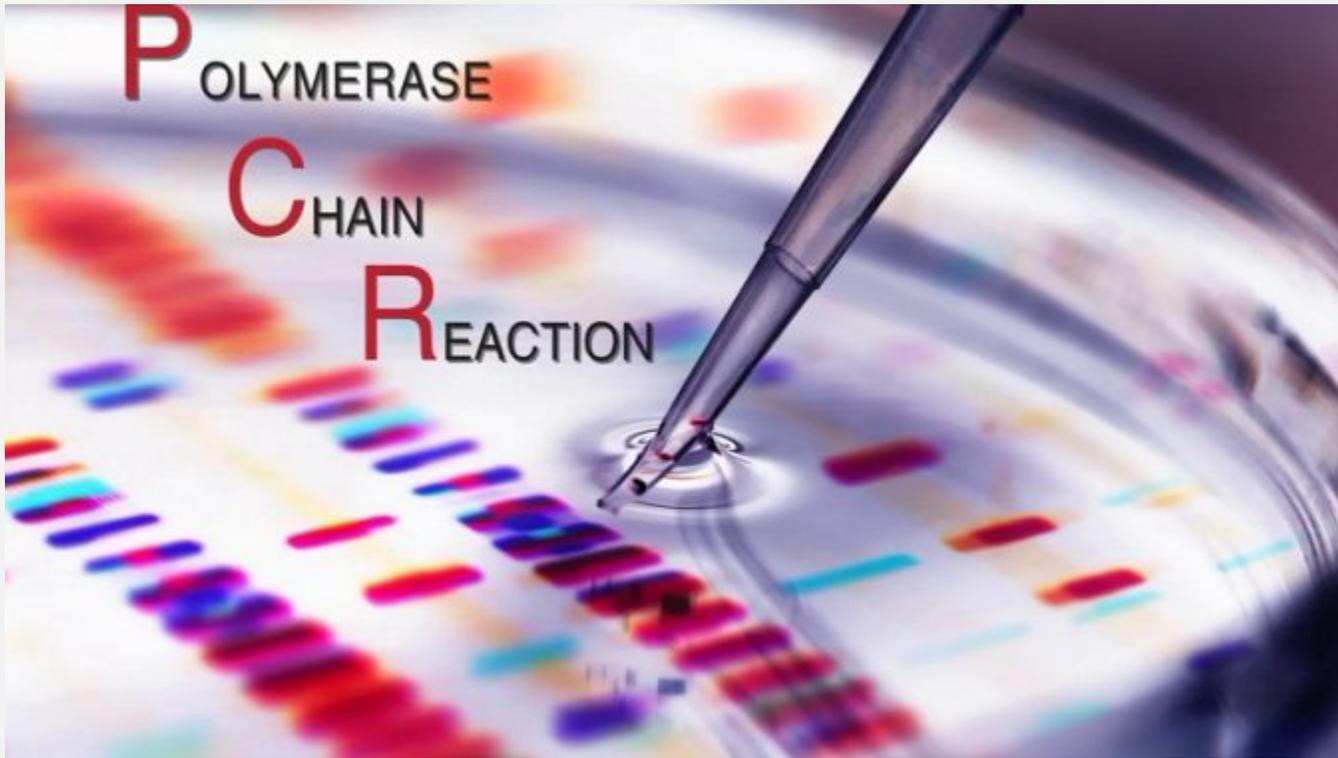


Outside of the healthcare environment, generally not worth the effort. Asymptomatic spreaders generally exhibit no fever. Those who know that they are ill and elect to go out anyway likely suppress.

LET'S TALK TESTING



Caveat: False Positive / Negative



- Ultra Sensitive (technique dependent)
- Most Specific
- 2-3 Days Processing – 7+ Results??
- Expensive
- Reagent Shortages
- **Caveats**
- Caveats are why recommendations are so vague. A million cases all at once without pre-existing lab infrastructure.

Diagnostic or PCR Test

What it does: Doctors use this test to diagnose people who are currently sick with COVID-19. This is the one we've been hearing so much about.

How it works: This test uses a sample of mucus typically taken from a person's nose or throat. The test may also work on saliva — that's under investigation. It looks for the genetic material of the coronavirus. The test uses a technology called PCR (polymerase chain reaction), which greatly amplifies the viral genetic material if it is present. That material is detectable when a person is actively infected.



- Specific AB Conferring Immunity Unknown
- 120+ “Quick to Market” Tests Available.
- Fast
- Cheap

What is an Antibody? Self vs. Non-Self (Autoimmune)

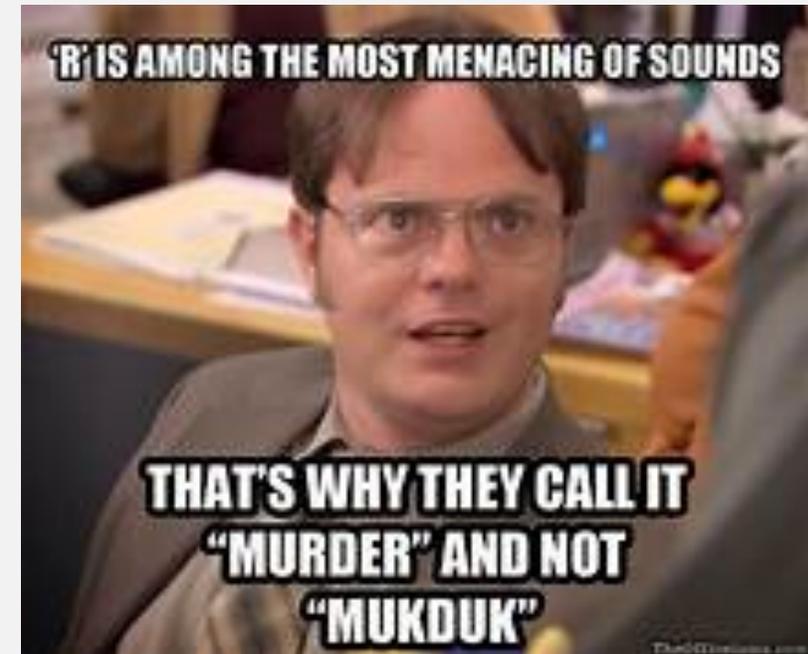
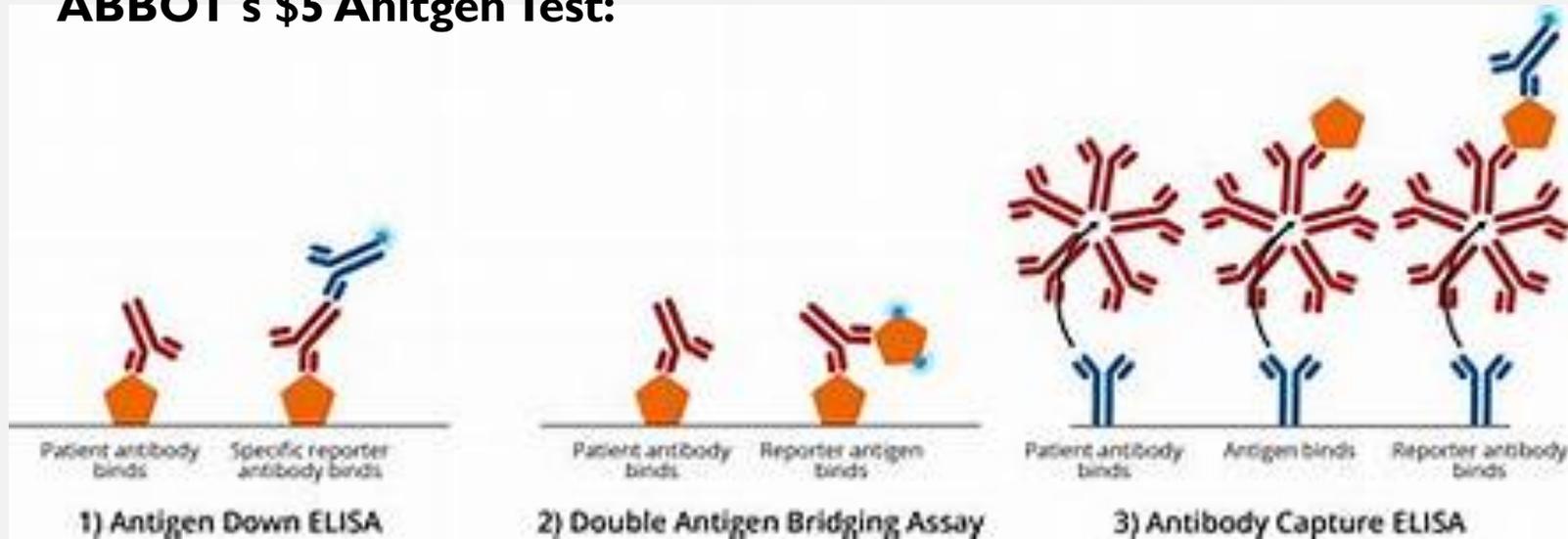


What it does: Antibody tests identify people who have previously been infected with the coronavirus. They do not show whether a person is currently infected. This is primarily a good way to track the spread of the coronavirus through a population.

How it works: This is a blood test. It looks for antibodies to the coronavirus. Your body produces antibodies in response to an infectious agent such as a virus. These antibodies generally arise after four days to more than a week after infection, so they are not used to diagnose current disease.

Direct Detection of Troublemaker

ABBOT's \$5 Anitgen Test:



Antigen Test

What it does: This test identifies people who are currently infected with the coronavirus. It may be used as a quick test to detect active infections. Initially it will not be used to diagnose disease, but it may be used to screen people to identify those who need a more definitive test.

How it works: Antigen tests can identify virus in nose and throat secretions. It does this by looking for proteins from the virus (as opposed to the diagnostic test, which looks for genetic material). This is the same technology used in your doctor's office for rapid strep testing.

SEEMS to have the required *sensitivity* and *specificity* to act as a true POC screen.



MANY competitors with unproven/unknown sensitivity and specificity. **BEWARE** knock offs.

AIR FILTRATION



AIR FILTRATION? YES!

Maximum Efficiency Reporting Value: Captures particles to 1 micron.

COVID-19 VACCINE: HOW SOON?



Time until vaccine available and the population is vaccinated? Best guess: 18 to 24 months.



Can't send everyone home can't afford for your entire workforce to get ill..... firm specific solutions.

RESILIENCY PLANNING

IT'S ALL ABOUT
“BEST PRACTICES”

- **An ‘Affirmative Defense’ & Risk Mitigation**
- **Review of All Relevant Policies & Procedures**
- **Specific Actions**

5 STEPS TOWARDS
RESILIENCY

1. **Evaluate**
2. **Facilitate**
3. **Train**
4. **Reassess**
5. **Adjust**

Site Evaluation

Have a detailed conversation with leadership about near-term and long-term goals.

Explore your facility with a fresh pair of eyes or as if you've never seen it before.

In-house Team?

Outside Organization?

Use all available evaluation tools



Implement & Facilitate

Create a Risk Matrix based on the Site Evaluation and discussions within the organization.

Create an Implementation Team to facilitate any policies & procedures needed to work within a best practices model.

Policies:

Data Collection?

Sanitation?

Manpower and Force Multipliers?

Testing?

Quarantine?

Contact Tracing?



Hippo™ HVC platform



**A “Force Multiplier” in
Technical Tasks and
Remote Medicine**

**POWERED BY
REALWEAR HMT**

Staff Training

Develop a training strategy for your employees and stakeholders so that they can understand the organizational goals and the “why” and “how” of getting there.

Utilize a platform that has objective goals and clear, measurable outcomes to minimize ambiguities.

Online? (Synchronous v. Asynchronous)

In-person?

Certifications, when possible?



Reassess

Periodic re-evaluation of goals, cost of mitigation v. measurable outcomes

Take a critical look at the overall effectiveness of your strategy.



Adjust

Don't be afraid to adjust (periodically or often) your policies and procedures based on those measurable outcomes.



Welcome to the...

**N
E W
N O R M A L**

A photograph of seven light-colored wooden blocks arranged on a wooden surface. The blocks are stacked to spell out 'NEW NORMAL'. The first block is 'N'. The second and third blocks are stacked vertically to form 'EW'. The fourth, fifth, sixth, and seventh blocks are 'N', 'O', 'R', 'M', 'A', and 'L' respectively, arranged in a single row.