

The Medical News Report

Mid-July Update, 2020

#102-A

COVID-19

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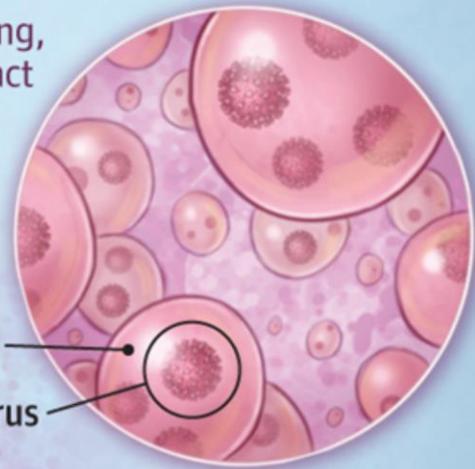
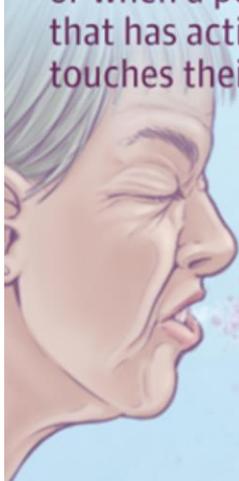
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Coronavirus transmission

SARS-CoV-2 is the novel coronavirus that causes COVID-19.

The virus spreads by droplets expelled by coughing, sneezing, or talking during close face-to-face contact or when a person touches a surface or object that has active virus particles on it and then touches their mouth, nose, or eyes.



People who are infected can pass the virus to others before developing symptoms.

JAMA Network

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IMPORTANT REMINDER!!!! PLEASE READ!!!

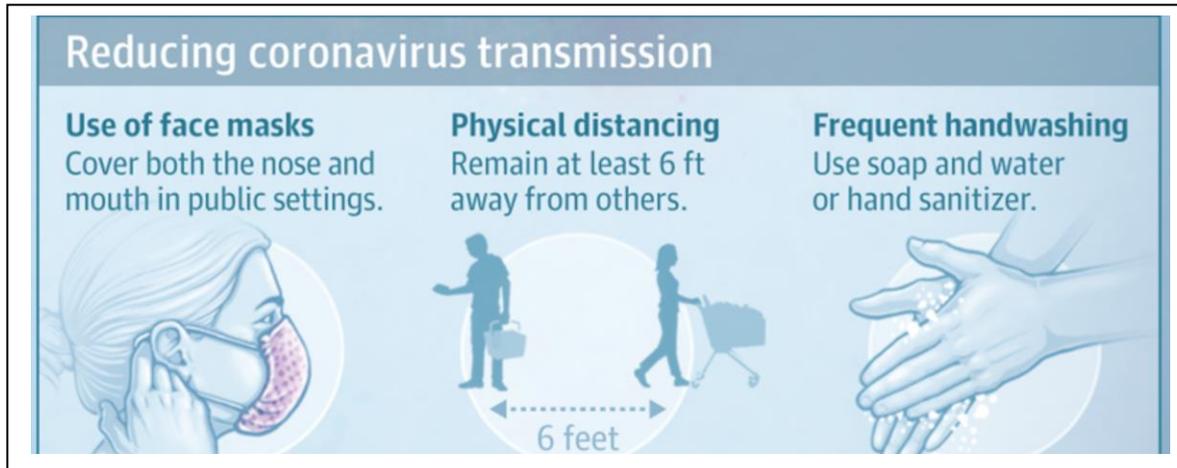
I remind you that any medical information provided in these reports is just that...information only!! Not medical advice!! I am not your doctor, and decisions about your health require consultation with your trusted personal physicians and consultants.

The information I provide you is to empower you with knowledge, and I have repeatedly asked you to be the team leader for your OWN healthcare concerns. You should never act on anything you read in these reports. I have encouraged you to seek the advice of your physicians regarding health issues. Feel free to share this information with family and friends, but remind them about this being informational only. You must be proactive in our current medical environment.

With this pandemic, millions of Americans have had their medical disorders delayed in diagnosis and treatment. They must follow up. Cancer screenings need to be rescheduled. Vaccinations must be caught up. We can not

ignore our routine healthcare, as it is those underlying diseases that increase our risk for infection and severity. Don't ignore your mental and physical needs.

Thank you, Dr. Sam



JAMA Network

1. Introduction

As the number of cases rise, thanks primarily to younger people not following the rules, we are still seeing drops in deaths due to better and more effective treatments. Indications for hospitalizations may become much more liberal since the hospitals were empty over the past few months, and need to recover financially.

As of July 7, according to the CDC, there have been 37+million tests performed and 3.4 million have been positive. To date, COVID-19 has infected 3.2 million people living in the U.S., with 134,000 deaths

As of July 12, COVID-19 has infected 3.2 million people living in the U.S., with 134,000 deaths.

The positive case rate in April was 30,000/day and death rate was 2500 deaths/day during the height of the pandemic. Now, because of increased testing (626,000 per day), there are 44,000 positive cases/day, but the death rate is now 600/day. According to Dr. Anthony Fauci, Director of the National Institutes of Allergy and Infectious Diseases, there are three reasons:

1) People now testing positive are much younger (initially 70+ and now 49) and are not as likely to get severely ill, thus preventing a death in this age group. Florida's average age testing positive is 33 years of age and in the Sarasota newspaper (July 12), the age is now 21. Many younger people have underlying diseases that raise their risk and ignore them. They also are the reason older people are getting infected. The home continues to be the most likely place of transmission.

2) Nursing homes are much more protective of their residents. People at higher risk are taking much better precautions than younger people.

3) Doctors have found better ways to treat the infection, thus saving more seriously ill patients.

Every patient who dies of any disease currently and has a positive test is counted as a COVID-19 death.

Even in the face of continuing disease, the country is reopening (even with some re-closings of bars, etc.) and must to survive. It is also shameful that protests (and destructive behavior) are stealing the spotlight causing even more mental stress for our country. And now getting back to school has become a political football. Our country must get on the same page.

A word of caution....hand sanitizers containing the alcohol, methanol, are dangerous and have been manufactured in Mexico. Look at the label. Ethanol is the only safe alcohol for hand sanitizing.

2. Underlying medical diseases; CDC adds diseases

Our country is full of people with underlying diseases that put them at higher risk of developing a more severe case of COVID-19. It is estimated that 45% of the country is at risk for serious disease (that is the percent who have risk factors for serious disease and viruses). How do we get back to normal if we must protect almost half of the population by keeping them away from others? The health of our country is a disaster.

It will be interesting to see how much weight was gained during this pandemic. This pandemic and who suffers the most should be a wakeup call that

Americans have got to take their health seriously!!
Will they???

5% of patients experience severe symptoms and 20% of those hospitalized are severe enough to require ICU assistance. Up to 90% of those hospitalized have underlying medical disorders. Keep in mind that most of the deaths (0.2-0.4% of all cases) are not caused by the virus alone, as most have underlying disease complicating the infection.

The CDC just added diseases to the list of high risk individuals that are at higher risk: chronic kidney disease, sickle cell disease, moderate to severe asthma, neurologic disability (cognitive, physical, stroke), and pregnancy. That includes children with any chronic condition. Smokers and vapers are at risk. Essentially anyone with an underlying disease is at higher risk.

Already on the list is type 2 diabetes, all forms of heart disease, hypertension, immune-compromised individuals, those over 65, and those obese were already on the list. The risk climbs with a person who has several risk factors.

For more information, go to the CDC/coronavirus website. NEJM Journal Watch, June 25, 2020

3. Better understanding about the virus

One of the most devastating effects from stimulation of our immune system by the virus is its effect on blood clotting. Newer reports have found that one of the ways excessive clotting occurs not only by increasing concentrations of blood clotting factors, but by increasing the clumping of blood platelets.

It is now known that COVID-19 initiates infection by stimulating our own immune system.

When infection occurs, platelets and white blood cells are mobilized to the site of infection and assist in the clotting mechanism trying to wall off the damage.

The **primary mechanism of damage of the RNA virus** is to cause:

- 1)** a severe inflammatory response in the human body, causing secretion of pro-inflammatory substances (cytokines, interleukins, etc.).
- 2)** stimulate excessive clotting,
- 3)** deoxygenate organs, thus overwhelming them causing failure (heart, lung, liver, kidney, etc). This occurs in the lungs, where the alveoli lining is blocked, where oxygen replaces carbon dioxide for oxygen. Up to 60% of patients admitted have radiographic proof of pneumonia. 75% of patients admitted require supplemental oxygen.

This damage occurs due to the capability of an abnormal gene expression altered by the RNA in the virus as it invades human cells.

JAMA Network, June 30, 2020

4. More treatments found successful; Recovery will improve!

Remdesivir, convalescent plasma, corticosteroids, and many more medications have been used, including interleukin-6 inhibitors (and others), a monoclonal antibody have been used with some success with the more severe cases with some encouraging results. These medications are of no benefit in less severe cases. However, Remdesivir is being studied as a preventative in some clinical trials.

Anticoagulants are recommended in all hospitalized patients to prevent abnormal clotting (emboli and lung damage).

There have been reported failures using **hydroxychloroquine** in sicker patients, because the drug was used late in the disease and people with heart disease were not excluded. Now there are studies citing significant benefit in patients without heart disease since there is some potential for cardiac side effects.

Also an article that condemned the value of this drug published by the European medical journal

Lancet, had to retract their findings due to flawed methods of evaluation. It seems a cheap drug that appears to be successful just can't get a break when Remdesivir cost several thousand dollars a treatment. Fraud is everywhere, even in medicine.

A Henry Ford Hospital in Detroit studied 2600 people and found that the mortality was cut in half in those who were given the drug.

Having assumed this disease was ARDS led the doctors down a very aggressive path, but with failures comes change, and now ventilators are reserved for treatment failures and those that come in the hospital with significant pneumonia and respiratory distress.

Eli Lilly and Regeneron Pharmaceuticals are in the lead for development of **neutralizing antibodies to treat the disease. The antibodies can kill the virus, and the other source have been donors who have been infected and recovered and have antibodies.**

Even though the immunoglobulins (IgG and IgM) are elevated in response to the viral infection for a few months, it is the neutralizing antibodies that will kill the virus. This information came from Dr. Scott Gottlieb, former FDA Commissioner.

5. Diabetes and COVID-19

Diabetics are 3X more likely to contract COVID-19. 25% of people who have been admitted to the

hospital with severe symptoms had diabetes, many of whom did not know they were diabetic.

Blood sugar elevation is the hallmark of diabetes, which raises the risk of vascular disease. Experts really consider this endocrine disorder a inflammatory, neurovascular disease, because the body's nerves and blood vessels are greatly affected by the metabolic consequences of managing an elevated blood sugar.

Diabetics are more prone to infections, and these infections (bacterial or viral) stress the body with a resulting rapid elevation of glucose, which creates a cascade of events that damage the tissues (ketoacidosis).

Immunologic stress as a result of the virus also causes the adrenal glands to produce corticosteroids. Unfortunately, elevation of the corticols reflexly elevates the blood sugar which causes the diabetes to be a major management issue necessitating IV insulin to combat glucose elevation while in the hospital, even if the person normally controls blood sugar with diet and oral hypoglycemic medication.

Strokes, heart attack, and pulmonary embolism are of concern in COVID-19 infections especially in diabetics. Kidney failure risk is elevated especially in insulin dependent diabetics.

Since 31% of diabetics are obese or over weight, another frequent known factor in these patients.

20% of diabetics hospitalized with COVID-19 will be diagnosed with emboli and resultant organ damage. Recovery can be prolonged as well.

6. How the virus affects the organs

The CNS (central nervous system) is invaded in several ways with the virus as does the other coronaviruses (SARS, MERS), but it is still unknown whether there is direct invasion of the CNS or indirect.

3 modes of transmission of the virus into the brain have been hypothesized:

- 1) transfer along nerves including the olfactory nerve (smell),
- 2) infection via blood vessels
- 3) white blood cell migration across the blood brain barrier. This barrier is a tight cellular layer of supporting brain and supporting cells that normally protect the brain from the rest of the body.

As many as 49 out of 58 patients in one French study had neurological symptoms, including headache-30% (most common), confusion-37%, encephalopathy, neuropathy, loss of smell (anosmia) and/or taste (dysgeusia), loss of consciousness-37%, and coma. Seizures were rare.

Acute stroke was present in 5% of Wuhan patients. They were usually older and had a severe

viral illness and more underlying diseases, but are occurring in patients in their 50s.

As many as 25% of patients admitted to the hospital develop **heart failure**, but many of these patients had underlying heart and blood pressure problems which plays a significant role.

Liver and kidney failure occur in those who can't maintain adequate oxygenation primarily from severe pulmonary damage including pneumonia causing failure.

7. Risk to immune-suppressed people and incidence

A medical journal report regarding patients with autoimmune diseases have found that the treatment of these diseases does not modify their susceptibility to the virus.

Patients with multiple sclerosis that are prescribed disease-modifying medications (immune-suppressants) do not have higher risk unless they are obese, have significant neurological disability, or are older.

This is important news for patients who would be tempted to stop their immunosuppressants for fear of increasing their risk of contracting a severe viral infection.

People who have these risk factors tend to be very careful about exposure, and would be easy to assume they would practice extreme protective measures to prevent the virus from infecting them by transmission.

If these patients have other underlying diseases, however, their risk increases even more, and motivate these people even more to be extremely careful.

It would be hoped that people on immune-suppressives should never stop these medications without an in-depth discussion with their treating doctor. The consequences could be devastating regarding the primary disease. Physicians should contact their patients with immune diseases and encourage them not to stop their medications.

Immunosuppressive medications in and of themselves do not appear to increase risk. It does not prevent disease either, according to some small reports. **JAMA Neurology Network, June 26, 2020**

8. Co-infections with COVID-19—other viruses including influenza

JAMA Network reported on a study of 1206 participants in California, who presented with respiratory symptoms, were tested for COVID-19 and other respiratory viruses. 9.5% tested positive

for COVID-19, and 26% tested positive for others--rhinovirus, enterovirus, respiratory syncytial virus.

Patients with co-infections averaged 49 years of age (same as those with COVID-19 alone).

This points out how many people with respiratory symptoms do not have COVID-19, rather other viruses. 20% of those who tested positive for COVID-19 also had other viruses as well.

Initially it may be difficult to differentiate the actual cause of infection in some of these patients. That requires testing. If the throat is quite red, a strept culture must be taken as well. Mono tests may also be indicated.

A note of caution!

When respiratory symptoms arise, patients and families might automatically assume a person has COVID-19. Isolation and testing should be implemented until the diagnosis can be made. Do not go to the work while waiting for the results of a COVID-19 test. Seek professional care when lower respiratory symptoms develop (severe cough, shortness of breath, chest discomfort). JAMA Network, April 15, 2020

Flu and COVID-19

Based on increasing testing, COVID-19 death rates are close to the annual death rates of influenza. The death rate is not that far off of COVID-19, (flu-0.1% and COVID-19- 0.4% and still

dropping). Remember the death rate is based on the number of tests performed. However, COVID-19 is much more infectious than the flu.

The elderly and those with underlying medical diseases are more prone to developing serious complications from both viruses. Younger people, however, can develop severe flu in contrast to COVID-19, so it will impact the workforce even more.

It is too early to be sure the influenza vaccine will be extremely effective (this year missed considerable cases), but it is predicted that the fall will bring a flu that will be better covered by the vaccine.

It is likely it will be the end of this year or early 2021 before we have a COVID-19 vaccine for the general population.

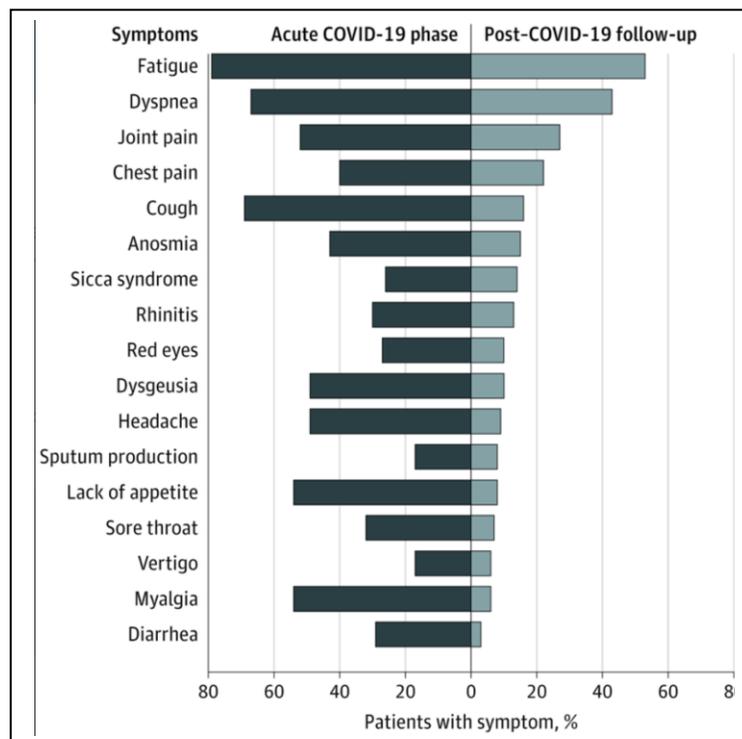
To say both vaccines must be taken if medically possible is an understatement!

9. Severity of infection linked to time of recovery; post-hospital symptoms

Recovery for mild to moderately infected patients can occur in as quick as 2-3 weeks, however, as high as 90% patients will still have certain symptoms persist, such as loss of smell and taste, headaches, fatigue, and muscle aches 2 months later (JAMA, July, 2020). Prolonged coughing may

occur in patients who have pneumonia and certainly those with underlying bronchial disorders. Smokers will pay a price as well. Shortness of breath may persist for some time depending on the amount of damage done to the lungs.

Those with underlying diseases will transition from recovery of the virus to continued management of their underlying diseases and this virus, which may be worsened temporarily or permanently. This recovery period could last many months for the sickest and most vulnerable.



Here is a chart showing the acute symptoms and post-hospital symptoms reported to contact tracers. Weakness, stiffness from immobilization, and difficulty breathing top the list.

These findings should motivate Americans to stay safe, especially the at-risk groups.

10. The greatest threat to children from COVID-19—Mental Disorders; Going back to School—low risk for infection

According to the *Journal of Pediatrics*, July, 2020, the greatest threat to children in contracting the virus is from their family members. Also they much less likely to infect their family. Child to child transmission is unlikely, once again supporting children going back to school.

Although quite rare, a small group of children can become very sick and develop what is termed a multisystem inflammatory disease including COVID-19. Most children have mild disease and recover quite quickly. This is in direct contrast to the flu, which infects children often. These youngsters usually do not require any medical treatment, however, those infected with the multisystem disease may take an extended time to recover. Thankfully it is rare.

Abuse is skyrocketing as is mental stress

There are unintended consequences from the virus as has been discussed previously. Children are being greatly affected.

One report from the UK stated that one emergency department experienced a 1493% increase in head trauma from suspected child abuse compared to the previous 3 years. That occurred in the months of March and April. The "silent pandemic" may be more severe than the virus. Many reports are forthcoming.

The threat to children are facing today are not from infection. It is from **mental stress** and strain from their lives being turned upside down. They lost their school friends, socialization from classmates, personal attention from teachers when needed, and being forced to attend school online, and what about those kids who don't have one, or live in a house with 10-15 people disrupting their lives not to mention their school time. This pertains especially to kids with special needs. What about their sports, and other school activities? They have already paid a heavy price and need to get back to school.

Weight gain from lack of exercise at school is another concern.

Research has shown that children with adverse experiences are more likely to have serious physical and mental health issues such as heart disease, depression, and substance abuse.

Children of color suffer more adverse experiences because of poverty, discrimination, and exposure to more community violence.

Parents must understand and participate in the process to stabilize the environment even in stressful times such as this pandemic. They must speak openly to their children about the virus and its affect on everyone. Children need to express their concerns, fears, and hopes to their family.

Older children are prone to depression and suicidal thoughts. Parents must watch for signs and seek assistance.

Children need structure and discipline to guide them through tough times just like adults do. Self-esteem is a critical factor that needs nurturing by their peers.

Back to School

It is clear that the children are lagging behind from virtual learning, and they need to get back to their schools. Safety measures have been developed. Parents will have a choice about sending them back. But parents need to work to support their families. It is always a balance.

According to experts, children under 10 years of age are less able to transmit the virus to other students and teachers, because they lack certain H2 cells in their lungs that are the cells COVID-19

attacks. And children rarely get sick from COVID-19, but still have to be taught hygiene, masks, and social distancing measures. J.Pediatrics, July, 2020

I am sorry politics have entered this arena, but no surprise. Due to excessive fear, there will be a significant percentage that will not allow their children to return. I hope they realize the consequences to their children.

Children, however, have underlying disease as well (asthma-10%, diabetes-8%, and obesity-5%) and this has to be considered in risk assessment.

Telehealth, counseling, and assistance from organizations will also help children (and adults), but parents are primarily responsible for getting their children back to school, and the services at the schools are being missed. Parents must encourage children to enjoy rather than fear going back to school. Medpage-Infectious disease, June 29, 2020

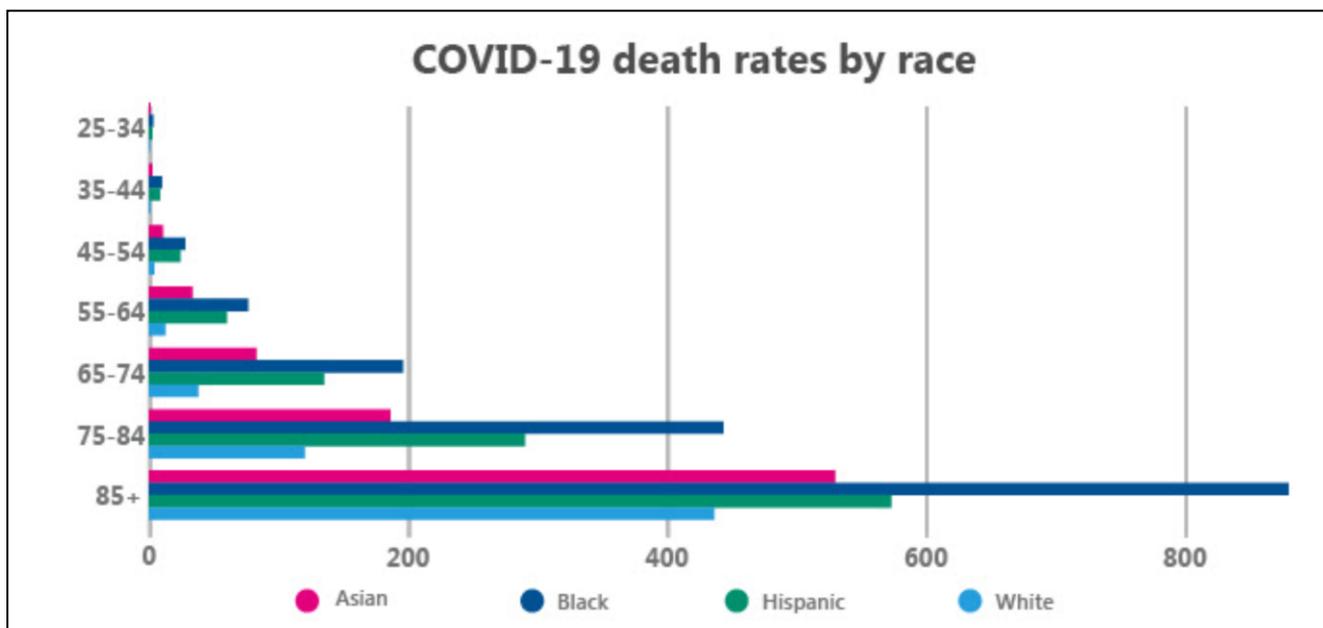
11. Disparities in COVID-19

There is considerable disparity in the races. As this chart can plainly demonstrate, deaths occur in blacks, Hispanics 5X more commonly than whites, and Asians much more frequently.

Is it because of income inequality, rates of obesity, diabetes, heart disease, hypertension etc., overcrowded homes, smoking rates, poor nutrition,

no insurance, etc.? Is care different, delay in seeking help, fear of going to the hospital, not following medical advice, etc.? All of the above! These trends would follow other healthcare disparities.

This graph is from USA Facts.com:



A report from Henry Ford Hospital in Detroit, now a predominately black city, had 70% of their admissions who were black, and had a higher than average number of serious cases due to the multiple underlying diseases complicating the viral infection. As high as 29% of those admitted with pneumonia required intensive care. Between 8-21% died from respiratory failure if diagnosed with

severe pneumonia. This is higher than average statistics.

36% of a **homeless shelter residents** (408 people av. age 51) were tested positive with the standard PCR test, and 87% were asymptomatic, even higher than the population. Sorry media! I suspect their immunity may be significantly higher due to their lifestyle. JAMA, April, 27, 2020

12. Factors in viral transmission

A new study has shown that respiratory droplet transmission can occur up to 3.3 feet, and beyond that it drops off rapidly. The study also showed a 60% drop in transmission and infection with the use of masks and eye protection in healthcare facilities. Lancet, June 1, 2020

48-62% of infection occurs from presymptomatic people, according to the latest journal publications.

A new study reported that those who had mild disease did not shed the virus after 14 days, whereas those with severe disease shed the virus for an average of 21 days. They lasted longer in older men who were treated with corticosteroids, now recommended in severe disease. It is critical that these patients continue to be quarantined for at least 21 days. These more severe cases usually are not out of the hospital for 3-4 weeks.

Without evidence to back it up, there are reports that air transmission in A/C vents might be a culprit, since the virus has been cultured in them. No one knows if that is heavy enough viral load to transmit the virus. Masks protect.

Contact tracing

When people who test positive are asked where they contracted the virus, over half questioned had no idea where they contracted the virus. Of the other half, 45% reported they contracted the virus from a family member and 34% reported it came from a co-worker. 1/3 of those who had symptomatic disease, had not completely recovered after 2 weeks.

This information suggests that more screening needs to be performed, case investigation, contact tracing, and isolation of contacts who test positive. Most businesses are complying and is a major reason for the rise in numbers of cases, mostly 18-47 years of age—average 33 in one report.

The half that do not know where they contracted the infection were most likely in group situations with minimal protection (bars, restaurants, protests, events, etc.).

Physician's First Watch, June 29, 2020

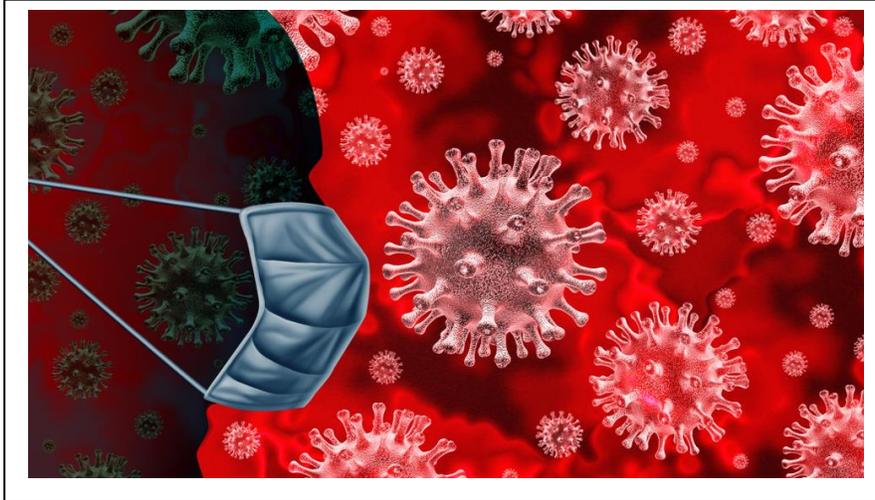
13. Will COVID-19 persist, return in the fall?

With the ease of transmissibility of COVID-19 and the possibility of mutations, experts are predicting the virus will return this fall when flu season restarts and may be around for as long 2 years until the level of immunity is sufficient to meet the viral challenge.

Hopefully the public will still be paying great attention to personal hygiene and physical separation if there is a resurgence. The younger people certainly ARE NOT.

It is critical ALL PEOPLE MUST GET THE INFLUENZA VACCINE. For anti-vaccine advocates, they must realize the risks are too high to expose someone to the flu virus and COVID-19 which likely would increase the severity of both diseases and cause more deaths. The COVID-19 vaccine should be mandatory. Only 60% have stated in one survey they would consent to the COVID-19 vaccine, and we already know only about half of the population gets vaccinated for the flu.

14. Young “adults” and the virus; “COVID Parties”



When has fear ever changed behavior in younger people? It doesn't work for drugs, smoking cigarettes, getting cancer, etc. When the CDC tells younger people 18-47, they usually don't get infected, die, or even have symptoms with a deadly virus, and then the CDC and other governmental agencies wonder why this age group doesn't follow the rules about group gatherings, wearing masks, and staying 6 feet away from each other, is it any wonder?

Of course the numbers are skyrocketing. Younger working people just went back to work in restaurants, businesses, etc. and were required to be tested....and everyone is freaking out because the numbers of positive tests are rising quickly. They may practice good protective measures at work, but not when they get with their friends.

These people don't listen and don't follow the rules, because they seem to think the

recommendations don't apply to them. Bars and now beaches had to be closed through the July 4th holiday and some are still closed.

Estimates of actual number of cases

According to the CDC, based on 12,000 antibody tests, they estimate that the actual number of positive tested Americans is 10X greater. Since, as of July 1, the number of cases is 2.5 million in the U.S., that calculates to 25 million cases. And yet, the death rates are at the level of flu (0.2-0.4%). That is because older people and those with underlying diseases are following the rules, but not the young.

There are still 44% of cases in Florida in just 3 South Fla. Counties (Dade, Broward, and Palm Beach). 1.9% of cases come from Manatee and 1.0% from Sarasota County. Why should these counties be treated the same? 42% of the deaths in this country come from Northeastern states.

"COVID Parties"

Now, it is being reported that young people are having "COVID-parties to see who can get infected the quickest. Are you kidding me????? COVID-19 is not chicken pox! Do they not know a high percentage of them will be asymptomatic, presymptomatic, and spread the virus to others,

family, and those with high risks to develop a serious illness from this virus. Do they care?? Entitlement is showing through!

There is still no proof that immunity from this virus is permanent. In fact, there is some early evidence that the antibodies stay elevated for only 3-4 months.



15. Vaccine development

8 research projects have already progressed to clinical trials which must go through 3 phases of human trials before being approved by the FDA. 90% of trials fail.

One phase 3 trial will begin this month with 20,000 in the treatment arm and 10,000 volunteers in the placebo arm. It will be blinded, in that volunteers will not know if they are receiving the vaccine or the placebo. This is according to Dr. Paul

Offit, Director of the Vaccine Education Center at Children's Hospital, The University of Pennsylvania.

The realistic hope is that the vaccine will diminish the symptoms of COVID-19 and keep people out of the hospital. Like many vaccines, they don't always prevent the disease entirely. The rates of the immunity will take some time to be discovered after the vaccinations have been completed. Safety will have to also be known.

There will be several vaccines that will be marketed eventually, since the monetary stakes are high. There will also be different types of vaccines, and it will take time to find out which ones are most effective.

How effective are vaccines?

Vaccine effectiveness varies with many factors. Age, health status, immune status, and actual effectiveness of each vaccine. Each year the flu vaccine reduces the risk of illness by 40-60%. We have no idea how effective the COVID-19 vaccine will be. However, even though people get infected with various viral diseases (after vaccination), it is very common for the illness to be much less severe, preventing hospitalization, complications, and death. That is worth getting vaccinated.

We must all perform the protective measures to do our part in preventing the spread of this virus.

We need fast acting tests to differentiate flu from COVID-19 this fall. So far those tests are only about 60% sensitive (that means 40% false negatives).

Protect yourself from the spread of COVID-19

There are general precautions you can take to prevent the spread of viral respiratory infections.

Wash your hands frequently with soap and water or alcohol-based hand sanitizer, lather for at least 20 seconds



Avoid touching your eyes, nose and mouth with unwashed hands



Avoid close, unprotected contact with anyone with respiratory symptoms

Cover your mouth and nose with a tissue or your sleeve (not your hands) when coughing or sneezing



Clean and disinfect frequently touched objects and surfaces with isopropyl alcohol

Stay healthy: eat a balanced diet, get rest, avoid stress



uab.edu/coronavirus

Thank you for reading the latest information on COVID-19 Pandemic.

The August Medical News Report subjects:

1. The Influenza/COVID-19 season is coming

- 2. Portable Medical Devices; Telemedicine**
- 3. Botox, Injectable Facial Fillers for Facial Aging**
- 4. Consumer Report on sunscreens; treating precancers of the skin with Efudex**
- 5. Chronic Cough—the workup**
- 6. Cancer risk for children borne from women who used fertility medications**
- 7. Screening guidelines for Abdominal Aortic Aneurysms**

Please be careful, stay safe, healthy and well, Dr. Sam

