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Update on the Basics from the COVID-19 Digest

COVID-19 Update November 2020

What treatments are available?

- Since March, significant advances have been made in treating COVID-19 patients. For hospitalized patients, we know how to use oxygen therapies and drugs like anticoagulants in treatment. The drug Remdesivir has been approved by the FDA after it was shown to reduce time to recovery in some hospitalized patients. The steroid dexamethasone can reduce the mortality of the sickest hospitalized patients. Monoclonal antibodies are a promising treatment for some patients, while convalescent plasma has not performed as well as initially hoped. Drugs like Kaletra and Chloroquine/Hydroxychloroquine have now been shown to be ineffective treatments.

How has the mortality rate changed?

- Overall, the mortality rate has gone down. However, it is still high for some groups including the elderly, those that require a ventilator, and individuals with underlying conditions like diabetes.

How is the disease spread?

- The virus is thought to spread primarily through close physical contact, with aerosol airborne spread capable of playing some role (though to what extent is not yet clear). It is thought that a small minority of individuals (10-20%) are responsible for

infecting most others (70-80%). Superspreader events in poorly ventilated, indoor places can drive outbreaks, with household spread also an important driver of infection. Schools do not appear to be driving significant spread, and transmission via contaminated objects (called fomites) does not appear to be happening significantly.

What are the prospects for an effective vaccine?

- Two similar vaccines from Pfizer and Moderna have reported extremely positive data and will seek emergency FDA authorization before the end of the year. Additional vaccines are close behind them. All of the vaccines, while different in exact delivery, focus their attention on the same part of the virus, which bodes well given the initial results from Pfizer and Moderna. The vaccines have some very mild side effects but no major problems have been reported.

Can people be re-infected?

- While technically possible, this is very rarely reported. Some of the people who are reinfected appear to experience a much milder disease the second time around. More study is needed to discern exactly how frequently this rare event happens and why.

Is the virus mutating?

- The virus is changing, with some variants now more common than others. It is mutating significantly less than other pathogens, and the mutations do not appear to be significantly altering the virus' behavior. Laboratory experiments seem to indicate that these mutations are unlikely to interfere with vaccine or treatment strategies.

Do people generate antibodies?

- Most people appear to generate antibodies following infection, with more symptomatic cases leading to higher levels of antibody production. Importantly, at least a fraction of these antibodies appear to be neutralizing when tested in the laboratory, meaning they are likely to prove defensive against future infection. Some patients do not generate antibodies, though we do not know why at this point. How long these antibodies last remains an open question, with estimates ranging from a few months to a few years based on preliminary data and comparisons to related viruses.

How long does protection after infection last?

- Based on preliminary data and comparisons to other viruses, protection following initial infection may last from a few months to a few years. This protection may vary some within the population, and some individuals (a very small number) have become reinfected after an initial infection.

Do children spread the virus?

- While our understanding of this remains incomplete, it does not appear that younger

children are primary sources of infection. Older children may spread the virus comparably to adults. In general, children do not get as sick as adults, and schools have not been the source of major outbreaks in communities.

Who is most at risk for infection and serious disease?

- There are several well-defined risk factors for more serious manifestations of COVID-19. These include advanced age, underlying medical conditions like heart disease or metabolic syndrome, diabetes, and other chronic illnesses. Males tend to have more severe diseases as well. Racial and ethnic minorities appear to be at increased risk for contracting the disease and may be at risk for more severe disease due to a combination of biological and socio-economic factors.

Are we doing enough testing?

- The greater New Orleans region and Tulane have been testing well in excess of the minimum suggested by the CDC for some time, with a consistently low percent positive test return. The state of Louisiana as a whole has a more variable testing record, with a higher percent positive than the New Orleans area. That said, the city and state are better positioned going into the winter than many other places in the US.

What are the long-term impacts of COVID-19?

- This is an area of intense study that will take some time to fully understand. At this point, we know that for some people recovery is a long road, with lung function impaired (though slowly improving) once the acute stage of the disease is passed. Some individuals who were hospitalized with COVID-19 can take a long time to recover fully, and there are reports of increased incidence of mental illness symptoms among those who recover.

How long are people infectious?

- If you are COVID-19 positive, you will need to isolate for 10 days and be fever-free for 24 hours before you are no longer considered contagious. After symptoms begin to resolve, risk of infection is thought to decline rapidly. While recovering patients may test positive for the virus for weeks after infection, this material is not infectious virus.

Do masks work?

- Masks including cloth masks do work, especially when combined with other measures like social distancing and depopulation of indoor spaces. Masks can stop the spread of infectious virus from asymptomatic and pre-symptomatic individuals, called source control, and likely offer some protection for the wearer as well. Masks do not increase the risk for other diseases like strep, nor do they hamper the flow of oxygen in or carbon dioxide out, contrary to misinformation being shared on social media.

[Where else can I go for information?](#)

- ***The Tulane School of Medicine COVID-19 Digest*** ([sign up to receive it here](#)) summarizes relevant research developments. They publish weekly with special review editions periodically.
 - ***STAT*** and ***NPR*** have solid science reporting on the latest developments.
 - The ***CDC*** [has up-to-date guidance](#) for COVID-19 precautions, treatments, and other subject areas.
 - The ***Tulane*** and ***New Orleans*** COVID-19 dashboards summarize testing and cases in the community.
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