

The global community is battling an unprecedented viral pandemic. This novel (new to humans) Coronavirus, COVID-19, appears to be more contagious than the flu, has a higher mortality, and affects the lungs differently than the flu. Since this is a novel virus, very little immunity exists in the population and as such, every effort has to be made to decrease transmission rates, find effective treatments, and ultimately develop an effective vaccine which will confer immunity. Currently, there are more than 40 companies and research groups developing vaccines against the COVID-19 virus.

The goal of this article is to provide guidance and support to intended parents, based on existing scientific knowledge. The current spread of this virus has been quite rapid and the infection rates have been equally impressive. Current infection rates and mechanisms of transmission, as well as measures to decrease risks of infection are found on the CDC Coronavirus website (www.cdc.org). Primary transmission is via respiratory droplets from coughing and sneezing and the transmission of the virus requires close proximity (less than 2 meters or 6 feet) between individuals (Cascella et al, 2020).

- In an attempt to adhere to CDC guidelines in regard to mitigation strategies and physical distancing, many fertility centers have suspended IVF cycles and embryo transfers, awaiting a time when new infection rates have stabilized prior to resuming treatments. Many Centers have also instituted screening measures for patients and staff, adhering to CDC prevention recommendations which include wearing masks and avoidance of close contact and assessing the status of all patient and team members including body temperature, before gaining access to clinic spaces.
- Clinics with high expertise will vigilantly safeguard patients, including egg donors and surrogates.
- Recent studies have shown that the virus could be spread via fomite transmission (surfaces such as stainless steel and plastic) and so cleaning and sanitizing protocols have to be intensified in order to minimize risks of infection.
- The entire IVF staff, including doctors, embryologists, nurses, and medical assistants can be organized into teams to ensure the highest level of quality and safety of IVF treatment.
- Currently, there is no evidence of transmission of the virus via eggs, sperm, or embryos. There are many good corollaries for this statement: there are many research studies published that have shown no evidence of transmission of many viruses, such as the Hepatitis virus, given the stringent and specific sperm and egg wash protocols in place in high expertise IVF Clinics.
- Many intended parents are encouraged to start planning their parental journey while waiting for the resumption of IVF services: Video consultations with doctors, agencies and reproductive attorneys form the basis for planning the journey to parenthood. Obtaining a sperm test depending on lab availability, and assessing Genetic Recessive mutation status via saliva test kits are prudent first steps in the

preparation for the IVF treatment. Intended parents can also begin to review egg donor databases in preparation for their egg donor selection.

Pregnancy and COVID-19 Infection

There are 2 types of risks to consider in regard to pregnancy. The first is whether the developing fetus is at risk of contracting the virus or being affected by it if the surrogate develops an infection. This is referred to as vertical transmission of the virus. The other issue is whether pregnant patients are more prone to the infection or at higher risk of developing severe symptoms.

Vertical Transmission of Virus from Mother to Fetus

Studies so far do not suggest any evidence for Vertical transmission of the virus from mother to the fetus during the third trimester of pregnancy. In a recent study, published in the the British Medical Journal Lancet [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30360-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30360-3/fulltext), pregnant patients who had presented to the hospital with severe COVID-19 infection, including respiratory distress, were studied for pregnancy outcome. All women delivered via Cesarean birth and amniotic fluid, cord blood and newborn throat and nasal swabs were analyzed for the presence of the virus. No evidence of the virus was found. The study was conducted at Wuhan University and the authors concluded that whilst the study was limited in size, there was no evidence of vertical transmission of the virus in the third trimester.

Pregnancy and Covid-19 infection

The information on pregnancy is limited, but it appears that pregnant women are no more likely than anyone else to have severe symptoms from the coronavirus. In an [analysis of 147 women](#), only 8 percent had severe disease and 1 percent were in critical condition, according to a report published on Feb. 28 by the World Health Organization. Larger studies are needed in order delineate the risks to pregnancy women in each trimester of pregnancy. Information is sparse regarding the effects of the infection in the first and second trimester of the pregnancy and studies are currently under way to assess this risk. In addition, there has been no evidence of teratogenicity (fetal damage) from the novel Coronavirus. In fact, no coronavirus has ever been associated with this complication.

The American Society for Reproductive Medicine issued its guidelines and recommendations for Fertility Treatment during the COVID-19 pandemic on March 17, 2020 and has been updating its recommendations every two weeks based on the current global situation <https://www.asrm.org/news-and-publications/covid-19/>. ASRM's position has been based on public health concerns, societal needs for physical distancing, and mitigation strategies, including minimizing Clinic visits for patients and maximizing the use of telemedicine for evaluation and communication. In addition, another area of concern has been the lack of good research data on the efficacy and risk of medications currently being evaluated for treatment of COVID-19 infections. Remdesivir is a promising medication currently being

evaluated in five large Clinical trials, and special consideration is being given to make it available to patients with severe illness as well as pregnant patients.

In addition, some experts have cited studies from the 2009 Influenza and SARS epidemics as reasons for concerns during pregnancy: in those studies, pregnant patients exhibited a higher risk of miscarriage in the first trimester, as well as higher risk of preterm delivery if a severe infection developed during the third trimester. It is important to note that any severe infection during pregnancy can cause the complications mentioned. Overall the latest data on the newborns and pregnancy are reassuring but further studies are needed in order to better understand the effects on pregnancy.

Promising vaccine research trials are in the works. Time to clinical trials has been compressed and many experts believe that an effective vaccine may be available for clinical use later this year. In the meantime, those who have tested positive for the virus and have recovered will develop antibodies (a recent study showed about 8% of those who recovered did not develop antibodies) that may confer immunity, according to Dr. Fauci at the CDC.

We will closely monitor the scientific data on COVID-19 and provide you with updates to better guide and support you in your parental journey.

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