

Impact Report

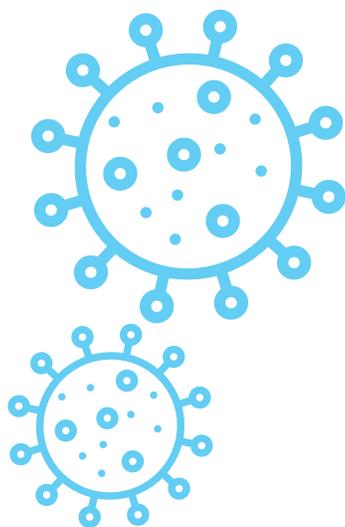
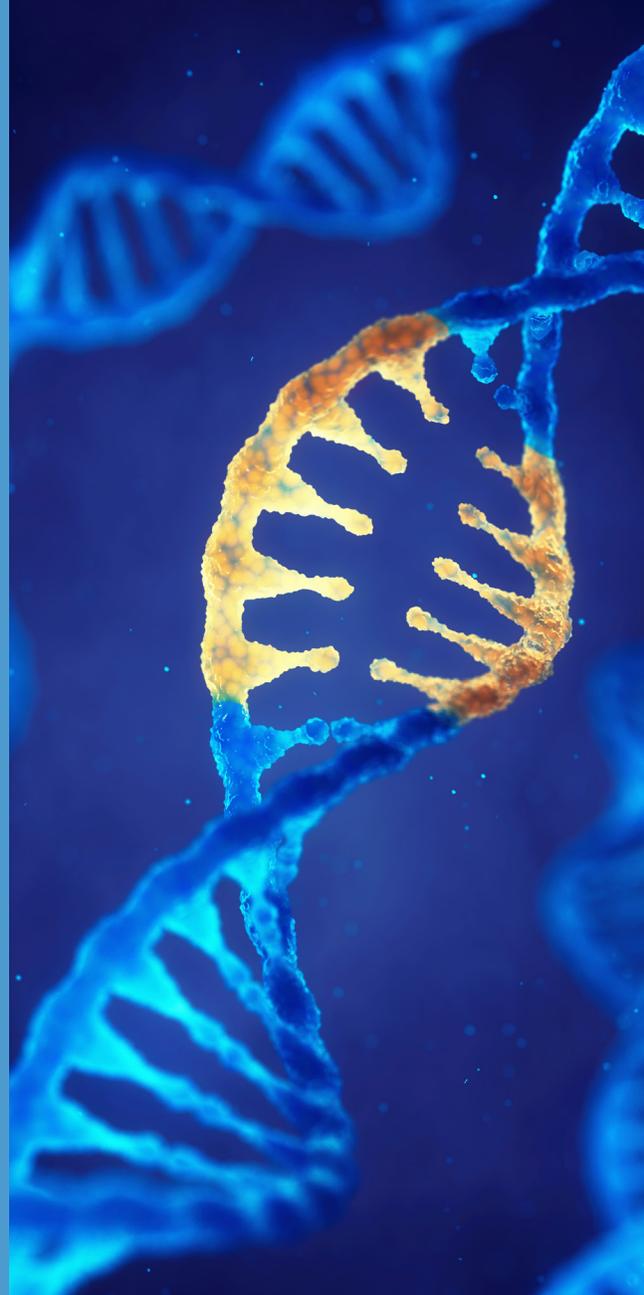
Prepared for 2019 Innovators

The generous support of Innovators is helping bring Lurie Children's closer to achieving our vision of a healthier future for every child. Your 2019 commitment is supporting research conducted by Amir Alhajjat, MD, fetal surgeon in The Chicago Institute for Fetal Health. Under the expert leadership of Aimen Shaaban, MD, The Chicago Institute is one of only a few comprehensive fetal centers in the country, leading the way in the research and care of pregnant women with fetal complications.

Dr. Alhajjat's investigations will leverage the power of cellular therapies to develop ways to treat, or even cure, complex health conditions before a child is even born. We are grateful for your generous commitment to his innovative research and the promise that it holds.



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The Impact of COVID-19 on Research at Lurie Children's

The COVID-19 pandemic is having a profound impact on all facets of Lurie Children's activities, from the way we provide healthcare to children to how we pursue our bold research mission. Yet this unprecedented time has also strengthened our resolve and spurred us to innovate. We are fortunate to have a strong and dynamic research community with the expertise to see us through the present-day challenges while fulfilling our existing mission.

Earlier in 2020, our research activities were slowed down and ultimately reduced only to those projects deemed "essential," such as ones with animal models not easily acquired, or those related to COVID-19. Many of our physicians and scientists, including Dr. Alhajjat, pivoted their research to efforts that will further our understanding COVID-19 and its effects on children and families.



The Chicago Institute's Laboratory Response to COVID-19

Dr. Shaaban and Dr. Alhajjat quickly realized that their experience with investigating the fetal and maternal immune system would be invaluable to the efforts in fighting this pandemic. They leveraged their research interests and experience to study the maternal and fetal immune response to COVID-19. In addition to understanding the effects of fetal and maternal exposure to COVID-19, this would also greatly expand our understanding of the novel virus and facilitate efforts to curb the pandemic.

The research team rapidly started collecting samples from adults, mothers and children who have recovered from COVID-19 and began studying their immune response. Although collection and testing is still underway, the results are promising. Numerous key questions are being investigated. Why do children typically have less severe infections than adults? Are infants exposed to COVID-19 as fetuses immune to COVID-19? Is there a role for the cellular response in protection from future infection with COVID-19?

The Future of Fetal Care: In Utero Stem Cell Transplants

Dr. Alhajjat's research in fetal therapy continues. The current step is understanding the fetus's immune response to failed transplants. If a stem cell transplant in utero is unsuccessful, does the fetus develop immunity to further transplants? What does that mean for treatment after birth? Could another stem cell transplant work for the infant, or will it also be rejected?

Exposure to antigens before birth is a complicated matter. In the case of a harmful virus (like COVID-19), the hope is that the developing fetal immune system develops protective memory. However, in the case of an intervention such as in utero stem cell transplantation, memory would make further interventions difficult. Dissecting this delicate balance between useful and detrimental is central to Dr. Alhajjat's and the institute's research.



With Gratitude

An investment in research not only supports the work of our investigators today, but also impacts many young lives in the future. The collective efforts of our physician-scientists, patients and families, and committed philanthropists like you are what make advances possible. We thank you for the significant role you play in generating new discoveries.

 Ann & Robert H. Lurie
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