

Nephrology Lab Collaborates to Develop COVID-19 Antibody Test

Cincinnati Children's Nephrology Clinical Lab is recognized for developing homegrown specialty tests. A reliable antibody test for the coronavirus (COVID-19) is among its most recent accomplishments.

"We've developed highly sensitive ELISA [enzyme-linked immunosorbent assay] serology tests for COVID-19 IgA, IgM and IgG," says Stefanie Benoit, MD, MPH, newly appointed director of the Nephrology Clinical Lab. "We also offer IgG antibody titers."

The test can be requisitioned for both clinical and research use nationwide.

Seizing an Opportunity

As Cincinnati braced itself for a spring 2020 COVID-19 surge that didn't happen in Ohio, the Nephrology Clinical Lab had the capacity and ingenuity to support multiple COVID-19 research studies.

"The curve was flattened here in the spring, and that allowed our community to think, to plan. We had a beautiful opportunity to build a research infrastructure," Benoit says.

In developing the antibody test, Benoit explains, "We had several research and clinical groups working together: Infectious Disease, Immunobiology, Hematology and Molecular Cardiovascular Biology. We used samples from the University of Cincinnati COVID-19 Biorepository to develop the test. A basic science lab grew the protein. All so we could ensure that high quality testing would be available locally."

She continues, "Our lab is using our clinical test development expertise and innovation for the benefit of research, our patients, and the community."

Other Nephrology Lab Developments

The Nephrology Clinical Lab recently acquired a DiaSorin XL Liaison machine that performs flash assays to measure renin and aldosterone levels for research and patient care. Clinically, these tests help evaluate hypertension and hyperaldosteronism.

Renin testing is also being used in critical care settings as a marker of angiotensin II deficiency. The renin assay, with a 24-hour turnaround, is proving useful in treating shock states, such as those resulting from severe COVID-19 infections.

The lab also is unique across the country in running the ADAMTS13 activity level test seven days a week with 24-hour turnaround to help determine whether plasmapheresis or another therapy is the best first-line treatment for thrombotic microangiopathy.

To order a test, physicians can complete a requisition form at cincinnatichildrens.org/nephrology-clinical-lab or call the Nephrology Clinical Lab at 513-636-4530.

The Nephrology Clinical Laboratory at Cincinnati Children's ran in FY20:

17,971

Clinical tests processed in the clinical lab

3,662

Tests for complement disorders

11,929

Specialty tests for research teams at Cincinnati Children's and other institutions

FY20 is July 2019 through June 2020

