

June 26: COVID-19 Clinical Update

Reduced NM COVID-19 Hotline Hours and Wearable Diagnostics

Today's COVID-19 Clinical Update details reduced NM COVID-19 Hotline hours and information about body technology designed to detect and monitor early symptoms associated with COVID-19 by John A. Rogers, PhD, Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Neurological Surgery, Northwestern University.

REDUCED COVID-19 HOTLINE HOURS

Beginning Sunday, June 28, the hours for NM COVID-19 Hotline (**312.47.COVID**) will be reduced due to lower call volume. The new hours, which align with Corporate Health, are 8 am to 5 pm Monday to Friday, and 8 am to noon on weekends.

The hotline has received more than 57,000 calls since it opened on March 6. At the height of the pandemic, it was supported by 123 patient access specialists and more than 50 nurses. Going forward, the hotline will continue to assist employees with connecting to Corporate Health for return to work or exposure reporting, as well as patients with general questions related to COVID-19.

BODY TECHNOLOGY DETECTS AND MONITORS EARLY COVID-19 SYMPTOMS


Managing the COVID-19 pandemic has been an enormous challenge, but it has also accelerated innovation in health technologies. Soft electronic systems that adhere to the skin can offer unique and powerful capabilities to measure key symptoms of COVID-19, such as fever, cough and shortness of breath. A research team led by John A. Rogers, PhD, has developed advanced wearable technologies configured to monitor COVID-19 symptoms in patients. The project [received a rapid response research grant](#) from the National Science Foundation.

A thin, flexible device with a high-bandwidth accelerometer and a precision temperature sensor is adhered to the skin overlying the suprasternal notch at the base of the neck. This area provides an excellent interface to the intrathoracic cavity for continuous high-fidelity recordings of respiratory activity, ranging from cough frequency, intensity and duration, to respiratory rate and effort, to high frequency information associated with wheezing and sneezing. These same data streams also provide details about heart rate, heart sounds and cardiac amplitudes.

The sensor also measures skin temperatures that correlate well with core body values, largely independent of ambient conditions. These systems, as well as a related platform for wireless monitoring of blood oxygen levels, are currently being tested on patients, physicians, nurses and respiratory rehabilitation specialists.

Pilot studies on about 50 subjects conducted over the past two months reveal many interesting features of COVID-19 and its progression. With a possible second surge of COVID-19 infections this fall, the results of these studies, soon to be published, have the potential to catalyze wide-scale deployment. In parallel with global efforts to develop vaccines and drugs to prevent and treat COVID-19, skin-integrated sensors can provide objective, continuous and precise data to detect COVID-19 symptoms early in the general population, to triage molecular testing, to recognize the need for an escalation of care, and to track patient outcomes.

Thank you for your extraordinary dedication and collaboration in providing exceptional care to our patients and supporting one another during this pandemic.

A handwritten signature in black ink, reading "Gary A. Noskin". The signature is fluid and cursive, with the first name "Gary" and last name "Noskin" clearly legible.

Gary A. Noskin, MD
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