

Responding to a National Challenge: The Power of Networks and Collaboratives

Lucky Jain, MD, MBA



COVID FORCE Collaborative

COVID Feasibility and Optimization of Research at Children's/Emory

MISSION: to provide strategic coordination to remove barriers and facilitate the best possible research this area.



Tapping into Atlanta Research Networks at Emory, Children's, and GA Tech

- Pediatric Technology Center
- Center for Immunology
- Vaccine and Treatment Evaluation Unit
- Atlanta Center for Microsystems Engineered Point of Care Testing (ACME POCT) Network

3D-Printed Face Shields (Newton) Pediatric Technology Center and Global Center for Medical Innovation



COVID-19 DAILY UPDATE -- Thursday, April 2, 2020

Please see below for the Daily COVID-19 update.

COVID-19 Response: Research Highlight

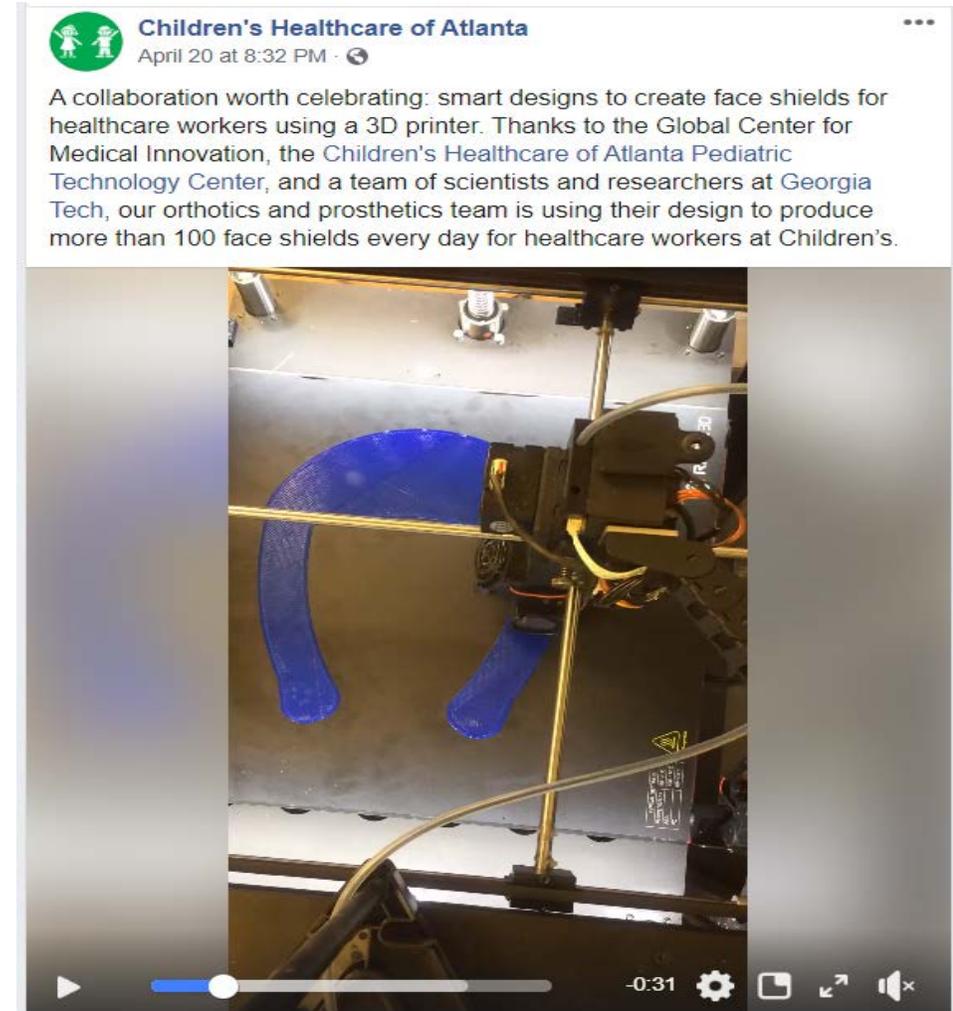
Children's and Emory Researchers Use 3D Printing to Create Face Shields

Pediatric Hematologist/Oncologist Joanna Newton, MD, [Global Center for Medical Innovation](#) (GCMi) and a team of scientists and researchers at the [Georgia Institute of Technology](#) came together to help protect healthcare workers in Georgia and across the nation by providing designs – free of charge – for any compliant manufacturing facility to use in the production and distribution of face shields to healthcare workers.

[Children's Orthotics and Prosthetics](#) department began working with this team of experts to enhance the original shield design and added a forehead pad for additional comfort.

Brian Emling, a Certified Prosthetist Orthotist for the Children's team, has committed to producing 70 masks per day and anticipated upwards of 1,000 for Children's. Dr. Emling and his team are using the lab's 3D printer to make multiple molds, but have found greater success in using the casting method enabling the lab technicians to make over 100 per day. He made his first delivery at Scottish Rite earlier this week.

View a time lapse of this [3D-printing process](#).



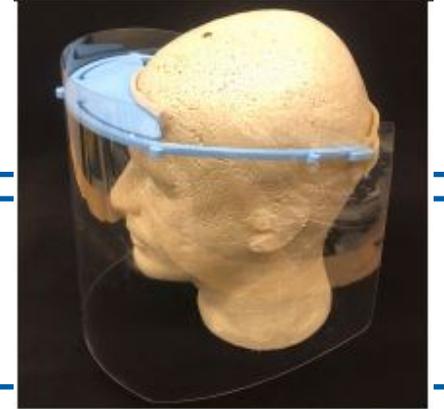
Responding to the PPE Crisis: Rigid Face Shield

Design Concept

- Finalized March 21 (3 days)

Quality/Regulatory

- FDA EUA regulatory requirements met within 1 week



Supply Chain: PET plastic held up in China

- GCMI sourced local components initially
- ExxonMobil sourced national components and is developing alternative plastics (v2)

Manufacturing: ExxonMobil stands up sites with existing contacts

- Started with GCMI, Siemens, and Delta Flight Products within 2 weeks (2K to Mt Sinai in NYC on 4/3/2020)
- Current capacity: 160K face shields per week (between 2 sites)

Sales/Donations

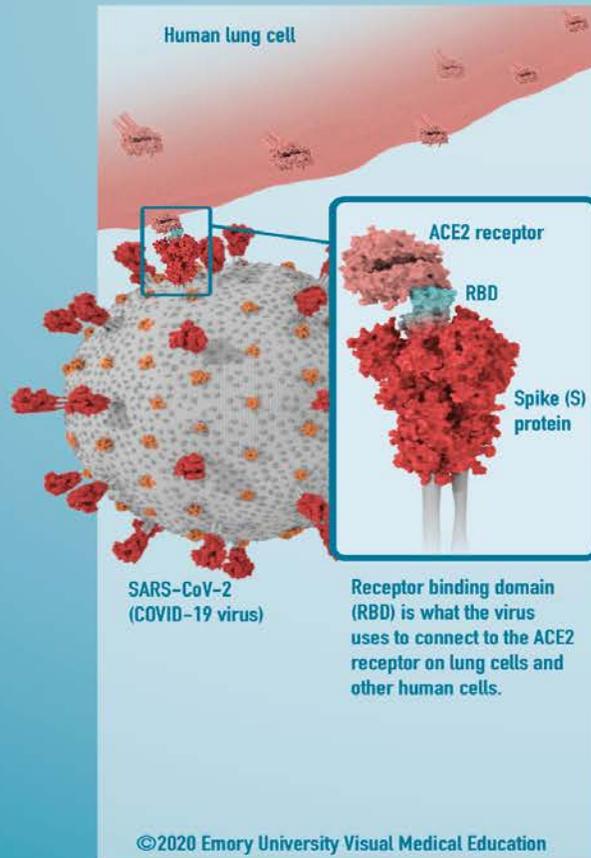
- **Price: \$2.73/shield** for kits of 200 (to drop lower at higher manufacturing volumes)
- Fema: 1.13M face shields to be delivered by end of June
- >100K shields donated to hospitals nationwide from \$2M Aflac, Inc gift by 5/22/2020



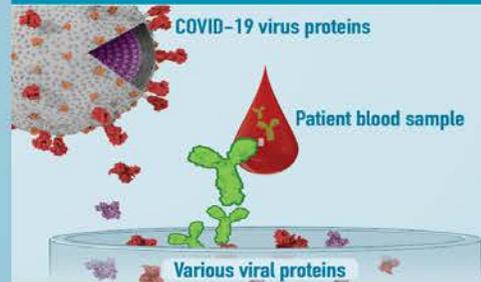
COVID-19 Antibody Blood Test (Wrammert et. al) Center for Immunology and Vaccine Research

Antibody Tests: Testing Your Blood For COVID-19

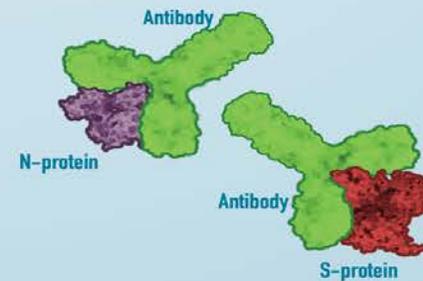
EMORY
UNIVERSITY



Multiple available serology tests

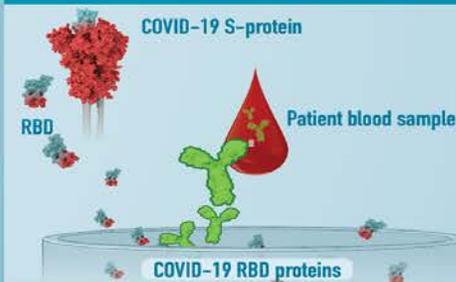


Antibodies bind to some fragment of the virus.



You may have had COVID-19 or a similar coronavirus.

Emory ELISA serology tests

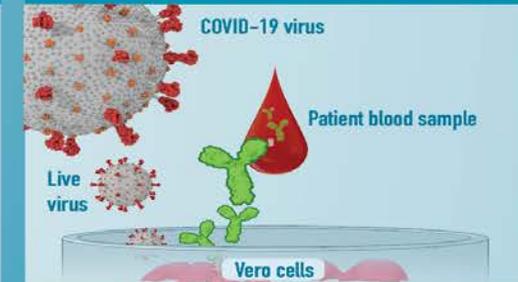


Antibodies bind specifically to receptor binding domain (RBD).

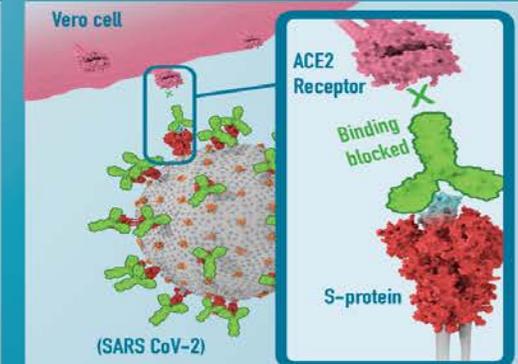


It is likely you've had COVID-19 and made antibodies that bind to the spike (S) protein that may interfere with viral infection.

Emory virus neutralization tests



Antibodies bind to live COVID-19 virus and stop from infecting vero cells.



You've made antibodies that *do* interfere with viral infection and may have some level of immunity to COVID-19.

COVID-19 Vaccine Trial (Anderson)

Emory Vaccine & Treatment Evaluation Unit

Funding Sources:

- NIH

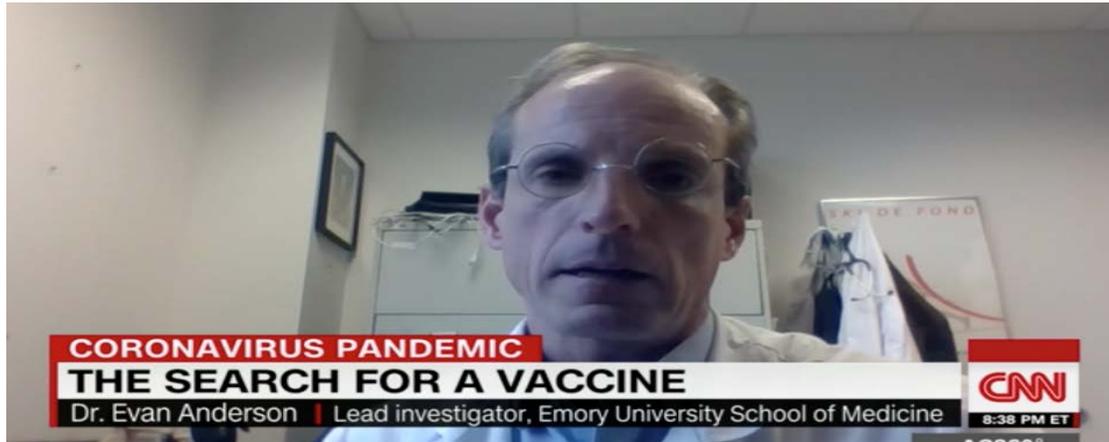
Purpose:

- Phase I study of mRNA-1273 vaccine for COVID-19

Methodology:

- Asked to provide backup for Seattle by DMID on March 12
- IRB approved and site activated March 21
- Screening March 23 and first dose March 27
- Safety, reactogenicity, and immunogenicity of the first candidate COVID-19 vaccine
- 18 – 55 yo healthy adults
- 25, **100**, and **250** microgram; 2 doses

COVID-19 Vaccine Trial (Anderson) Emory Vaccine & Treatment Evaluation Unit



MotherJones     

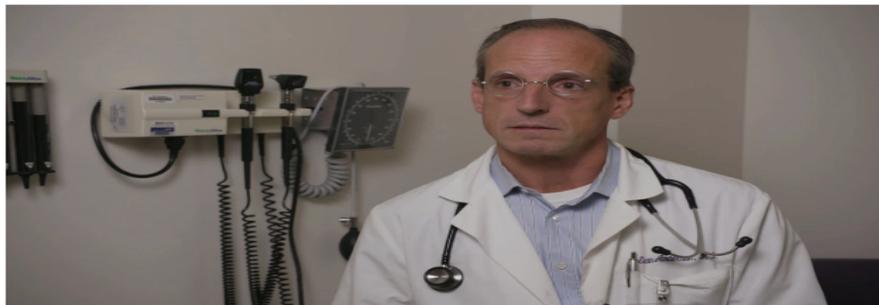
CORONAVIRUS UPDATES | APRIL 2, 2020

A Vaccine Is Our Best Hope Out of This Mess. This Doctor Tells Us What It's Like to Lead the First US Trial.

What if it mutates? What if the volunteers catch COVID while they're enrolled? And more.



KIERA BUTLER
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Dr. Evan Anderson Damon Meharg/Emory University

Health Care

COVID-19 vaccine clinical trial in Atlanta is full

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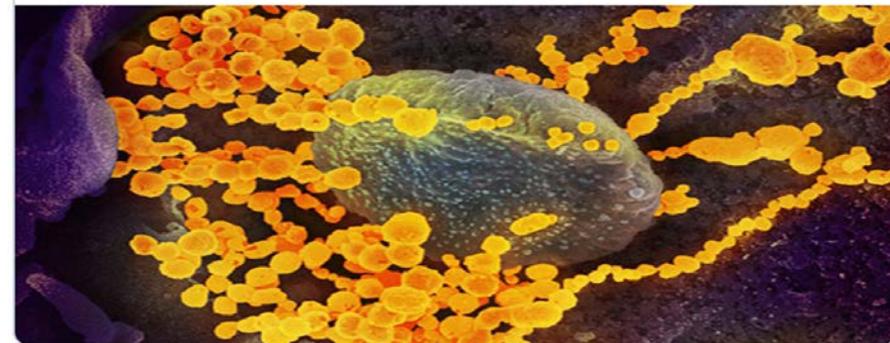


Children's [@childrensatl](#) · Apr 21

Our clinical team is working alongside our primary academic partner, [@EmoryUniversity](#) School of Medicine Department of Pediatrics, to fight [#COVID19](#) in the lab. Dr. Evan Anderson, one of our infectious disease physicians, is at the helm of the clinical trial testing for Emory.

Emory University [@EmoryUniversity](#) · Mar 27

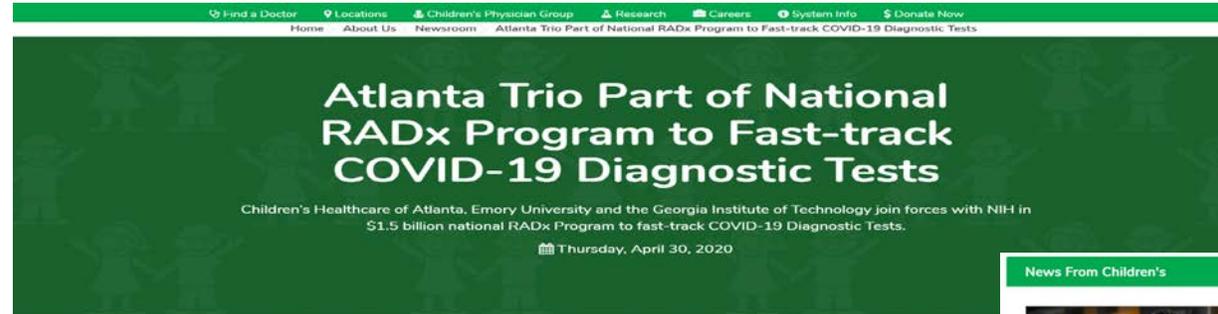
Emory participating in [@NIH](#) clinical trial testing a vaccine for the prevention of [#COVID19](#), the first such vaccine to be tested in the U. S. [links.emory.edu/cvaccine](#)



Rapid Acceleration of Diagnostics (RADx)

- An accelerated and comprehensive multi-pronged effort by NIH to make SARS-CoV-2, the virus that causes COVID-19, testing readily available to every American.
- Supports development and commercialization of innovative technologies to significantly **increase the U.S. testing capacity for detection of SARS-CoV-2 infection** (not serology)up to 100 times more what is achievable with standard approaches.
- Structured to **deliver innovative testing strategies to the public as soon as late summer 2020** to provide the information needed to make decisions about returning to normal activities and to help reduce the risk of future outbreaks.
- RADx supports innovative approaches that introduce **new test platforms as well as strategies for solving problems that limit current tests.**
- The NIBIB is urgently soliciting proposals, **on a rolling submission process**, and **can provide up to \$500M** across multiple projects to rapidly produce innovative SARS-CoV-2 diagnostic tests.

Children's, Emory, GT join forces to Fast-Track COVID-19 Tests (Lam/Martin/Brand)



Children's Healthcare of Atlanta, Emory University and the Georgia Institute of Technology join forces with NIH in \$1.5 billion national RADx Program to fast-track COVID-19 Diagnostic Tests.

ATLANTA, April 30, 2020 -- A trio of Atlanta health care and research institutions will play a leading role in helping to evaluate potential COVID-19 tests as part of a new federal initiative designed to rapidly transform potentially promising technology into widely accessible diagnostic tools to detect the virus.



Aflac Cancer and Blood Disorders Center
@ATLPedsHemOnc

We're proud of Dr. @WilburLam who is teaming up with @BME_GT_Emory and @EmoryUniversity to play a leading role in helping to evaluate potential #COVID19 tests

NIH @NIH · Apr 29
#NIH announces #RADx initiative, mobilizing innovation to speed delivery of millions of accurate, easy-to-use, rapid #COVID19 diagnostic tests to all Americans. #RADx will infuse funding into early tech & fastrack advanced tech through pipeline nih.gov/news-events/ne...
[Show this thread](#)

COVID-19 NEWS: RAPID ACCELERATION OF DIAGNOSTICS (RADx)

NIH launches new initiative aimed at speeding innovation, development and commercialization of COVID-19 testing technologies, a pivotal component needed to return to normal during this unprecedented global pandemic.

"Now is the time for that unmatched American ingenuity to bring the best and most innovative technologies forward to make testing for COVID-19 widely available." - Dr. Francis Collins

EMORY news center

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Emory part of national program to fast-track COVID-19 tests

Woodruff Health Sciences Center | April 30, 2020

COLLABORATION
Emory part of national program to fast-track COVID-19 tests
Emory Children's Healthcare of Atlanta and the Georgia Institute of Technology are teaming up to evaluate promising COVID-19 testing technology

RELEVANCE
Emory Law helps medical residents with estate planning during COVID-19 crisis
Emory Law's Winston Clark for Wilbanks has launched a program to provide advance directives, wills and other estate planning assistance to medical residents completing their training at Emory's School of Medicine.

EVENTS
Asian American Pacific Islander Heritage Month
Emory Alumni Association offers webinars for Asian American and Pacific Islander Heritage Month
To commemorate Asian American and Pacific Islander Heritage Month, the Emory Alumni Association is offering a

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Atlanta Institutions Take Lead Role in Fast-Tracking COVID-19 Diagnostic Tests

Posted April 30, 2020 - Atlanta, GA

A trio of Atlanta health care and research institutions will play a leading role in helping to evaluate potential COVID-19 tests as part of a new federal initiative designed to rapidly transform promising technology into widely accessible diagnostic tools to detect the virus.

COVID FORCE Team

Leadership:

Stacy Heilman, PhD & Ann Chahroudi, MD, PhD

- Meet **3** times a week to discuss new project submissions and guide investigators to new collaborators/existing IRB's to capitalize on expertise and conserve resources.

Special Announcements:

A special COVID-19 themed [Funding Opportunities List](#) that highlights relevant funding opportunities for investigators to consider was released May 6th.

Dr. Manoj Bhasin received a \$50,000 grant through the COVID-Catalyst-I3 grant program! He will be working on the "Evaluation of genomic evidences and network biology based repurposed therapies for COVID-19."

Publications, Awards & Proposals

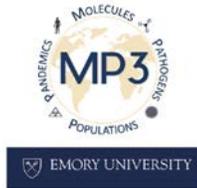
- 8** COVID-19 Publications
- 25** Proposals submitted or in progress totaling \$52M in funding as of 5/29/20.
- 5** Grants awarded to date

News & Funding Announcements

Wilbur Lam, MD, PhD, and Greg Martin, MD, received a **\$31 million** NIH supplement to lead the national effort in testing validation through the [Atlanta Center for Microsystems Engineered Point-of-Care Technologies \(ACME POCT\)](#).



2020 MP3 COVID-19 Seed Grant Awards



Pediatrics faculty were on 2 of the 3 awarded:

- 1) Landscape of coronavirus recombination across scales: **Mehul Suthar, PhD**
- 2) SARS-CoV-2 pathogenesis, immune responses, and treatment: from macaques to humans: **Raymond Schinazi, PhD**

Special Center for Childhood Infections and Vaccines (CCIV) pilot call for COVID-19 received **5** applications. **Mehul Suthar** will be funded to study genetic polymorphisms in SARS CoV-2 isolates from Emory to correlate with clinical outcomes.

Children's Operational Impact March 16 – May 1

- Children's Pediatric Research Unit (PRU) has been running at 22% of their normal patient volumes.
- Clinical research enrollments (essential research only) have averaged 26% of their normal volumes (excluding AFLAC data)
- Full month enrollment & visit comparisons from Feb (full month pre-COVID 19) to April (full month post-COVID 19) below

	Enrollments	Visits
February	125	240
April	9	74

Pediatric COVID-19 Research Webinar

June 12 from 9AM-12PM EST
Speakers: Drs. Peter Hotez, Evan Anderson, Stefan Sarafianos and more
RSVP on pedsresearch.org