

# Newsletter: Summer 2023

To Serve — To Teach — To Discover

We are already halfway through 2023 (wow!) and we are excited to share what we have accomplished at the Vaccine Center.

Our teams have published articles that have strengthened the understanding of identifying, treating, and preventing infectious diseases; we have created ties with new community partners, and facilitated diversified our research studies to tackle recognized and emerging illnesses the best way we know how: with vaccine science!

## Want more updates from the Vaccine Center?

Follow us through the Division of Infectious Disease's Twitter at @NYUGSOM\_ID.

## Community Engagement

### The Vaccine Center Sponsors Brooklyn Pride!

The Vaccine Center had an incredible time tabling at Brooklyn Pride on Saturday, June 10! As a proud event sponsor, our team tested the community's knowledge of clinical trials and vaccine science, gave out some amazing Vaccine Center merch, and chatted with over 300 people about our Pediatric and Adult Participant Registry. It was the perfect event and a great way to celebrate and support the LGBTQ+ community!



**Want to test your vaccine knowledge IQ?**  
**Try out some of the Jeopardy questions we had:**  
*Answers are at the bottom of the newsletter (no cheating!)*

1. True or False?  
Most vaccine reactions are mild, temporary, and can be treated at home.
2. Fill in the blank:  
Vaccines help your body's \_\_\_\_\_ blood cells learn to recognize and fight diseases.
3. What is the youngest age at which humans may receive a vaccine? (Bonus point if you know what vaccine we are offered first!)



## Hot Off the Press: Recent Publications

### 1. Did the bivalent COVID-19 booster offer stronger protection than the monovalent booster?

**Immunogenicity of the BA.1 and BA.4/BA.5 SARS-CoV-2 Bivalent Boosters: Preliminary Results from the COVAIL Randomized Clinical Trial** (*Journal of Clinical Infectious Disease*, Apr 2023)

**Authors include:** Dr. Angelica Kottkamp, MD, and Dr. Martin Backer, MD  
**Vaccine Center Study:** COVID-19 Variant Immunologic Landscape Trial (COVAIL)

#### Summary

The study compared the BA.1 to the BA.4/BA.5 bivalent vaccines, that target the original strain of the virus and the BA.1 or the BA.4/BA.5 Omicron subvariants respectively, as a second booster dose in individuals who had previously received a primary series and a single boost of a COVID-19 vaccine. Preliminary results show that while both boosters elicit a strong immune response against the BA.1 subvariant of the virus, the BA.4/BA.5 bivalent booster prompted a better response against the BA.4/BA.5 subvariants. Unfortunately, the immune response triggered by both bivalent boosters against more recently circulating subvariants (BQ.1.1 and XBB.1) was low. The article notes that further research is needed to confirm the effectiveness of the bivalent vaccines. But those preliminary results highlight the importance of continuing virus evolution surveillance to generate new potent vaccines to combat COVID-19.

Read the full article [here!](#)

#### Participant Shout Out!

We would like to thank each **volunteer who participated in the COVAIL clinical trial** at our Manhattan and Long Island Vaccine Center sites! Each of you played a vital role in the development of this knowledge and the study would not have been possible without your contributions. Thank you!

### 2. How does inflammatory arthritis affect an individual's immune response to the COVID-19 vaccine?

**Low Incidence and Transient Elevation of Autoantibodies Post-mRNA COVID-19 Vaccination in Inflammatory Arthritis** (*Rheumatology (Oxford)*, Jan 2023)

**Authors include:** Dr. Mark Mulligan, MD and Dr. Marie Samanovic-Golden, PhD

**Vaccine Center Study:** Specimen Collection for Infectious Diseases with Public Health Importance and Phlebotomy of Healthy Adults for the Purpose of Evaluation and Validation of Immune Response and Microbiology Assays

#### Summary

Rheumatoid arthritis is a systemic autoimmune disease characterized by the presence of autoantibodies. Multiple studies have reported autoantibodies in patients with COVID-19, but data regarding post-vaccination autoantibody production is lacking. This study aimed to determine the incidence of common autoantibody formation following mRNA COVID-19 vaccines in patients with

inflammatory arthritis and in healthy controls. Results showed that in both health and inflammatory arthritis, the risk of autoantibody seroconversion is lower following mRNA-based immunization than following natural SARS-CoV-2 infection. Importantly, seroconversion did correlate with self-reported inflammatory arthritis disease flare risk, further supporting the encouragement of mRNA-based COVID-19 immunization in the IA population.

Read the full article [here!](#)

#### Participant Shout Out!

This study, along with **FORTY** others, could not have been done without the specimen donations from **each participant in our specimen collection and assay development studies**. Those samples were essential because they helped develop our lab assays. They also served as healthy control samples to which we compared samples from individuals with inflammatory arthritis. Thank you!

### 3. What is the immune response of a COVID-19 booster during pregnancy and does the protection transfer to the newborn?

**COVID-19 booster vaccination during pregnancy enhances maternal binding and neutralizing antibody responses and transplacental antibody transfer to the newborn** (*Preprint; medRxiv, Jun 2022*)

**Authors include:** Dr. Mark Mulligan, MD, and Dr. Lalitha Parameswaran, MD

**Vaccine Center Study:** Multi-Site Observational Maternal and Infant COVID-19 Vaccine Study (MOMI-Vax)

#### Summary

While COVID-19 vaccination is recommended during pregnancy for the protection of the mother, little is known about the immune response to booster vaccinations during pregnancy. The Momi-Vax study aimed to measure immune responses to COVID-19 primary and booster mRNA vaccination during pregnancy and transplacental antibody transfer to the newborn, enrolling pregnant participants who received COVID-19 vaccination during pregnancy and their newborns. The study found that COVID-19 mRNA vaccination during pregnancy elicited robust immune responses in mothers and efficient transplacental antibody transfer to the newborn. A booster dose during pregnancy significantly increased maternal and cord blood antibody levels, including against Omicron. Importantly, those findings support continued use of COVID-19 vaccines during pregnancy, including booster doses.

Read the full article [here!](#)

#### Participant Shout Out!

We would like to send a special thank you to all the pregnant individuals who participated in this study. These participants allowed us to gain insight into how the COVID-19 vaccines benefited pregnant individuals and their newborns, an essential and underrepresented area of vaccine science. Thank you!

## Spread the Word: These Studies Are Enrolling!

Our work wouldn't be possible without our incredible community volunteers. Below you'll find a list of studies that are currently enrolling.

### Don't see a study that's right for you?

Join our **Pediatric and Adult Vaccine Research Registry** and we'll contact you whenever you may be eligible for a new study! We've recently spruced the registry up, so it's definitely worth checking out!

[Click Here](#) to learn more.

### Enrolling Studies:

#### 1. Shingles Vaccine Study (Manhattan)

- We are enrolling healthy adult volunteers, aged 50-69, in a clinical trial on a new, single-dose Pfizer Shingles vaccine that uses mRNA technology (just like the COVID-19 vaccines).
- [Click Here](#) to learn more about this study and connect with the research team.

#### 2. Predicting Poor Vaccine Responders to Hepatitis B Vaccination (Manhattan)

- We are enrolling healthy adults (18+) for a study investigating how the immune system learns from the hepatitis B vaccine, and why some people do not respond it.
- [Click Here](#) to learn more about this study and connect with the research team.

#### 3. Respiratory Syncytial Virus (RSV) Clinical Trial (Manhattan)

- We are enrolling adults (18+) who are either a) transplant recipients or b) living with non-small cell lung cancer in a phase 3 clinical trial of Pfizer's investigational RSV vaccine.
- [Click Here](#) to learn more about this study and connect with the research team.

## Trivia Answers: How many did you get right?

### Q: True or False?

**Most vaccine side effects are mild, temporary, and can be treated at home.**

**A:** True! For more information, [Click Here](#) to visit the CDC's vaccine FAQ page.

### Q: Fill in the blank:

**Vaccines help your body's \_\_\_\_\_ blood cells learn to recognize and fight diseases.**

**A:** White! For more information, [Click Here](#) to visit the CDC's page on how vaccines work.

### Q: What is the youngest age at which humans may receive a vaccine? (Bonus point if you know what vaccine we are offered first!)

**A:** You can receive your Hepatitis B vaccine within 24 hours of being born! For more information, [Click Here](#) to visit the CDC's vaccine schedules page.

## Milestone Moment



Senior Research Coordinator,  
**Stephanie Rettig, MPH**, Reflects on the Closing  
of our COVID-19 Vaccine Clinical Trials

### How does it feel to see the large national COVID-19 clinical trials, like AstraZeneca, Momi-Vax, COVAIL, and Mix & Match, closing after almost three years?

We have come a long way in the past 3 years and have accomplished so much. It's a combination of reward and relief as a result.

### Can you describe a favorite memory from one of these studies?

There was so much interest from so many individuals to participate in the Pfizer Phase 3 COVID-19 Vaccine Trial in July 2020. At this time, we were all so aware that this particular clinical trial would alter the pandemic. And once the Pfizer COVID-19 vaccine from this study was officially FDA-approved in December 2020, we were all ecstatic!

### How does it feel to have been a part of such landmark research?

It is very rewarding to know that this groundbreaking research positively impacted the world on a large scale. We came together as a team to reach each goal as planned, all while overcoming challenges encountered throughout the pandemic.

### If you could send a final message to all participants in the COVID-19 clinical trials, what would you say?

Thank you for your contribution as a study participant in a groundbreaking COVID-19 vaccine trial! The world is significantly better as a result of all COVID-19 vaccine trial participants like yourself.

On behalf of the Vaccine Center staff, we would like to thank each individual who participated in the COVID-19 vaccine clinical trials across our five sites: NYC H+H Bellevue, NYU Langone—Brooklyn, NYU Langone—Manhattan, NYU Langone—Long Island, and the VA Hospital. You are all public health heroes!

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