

What to Do About the Delta Variant of Covid 19

The Delta Variant of Covid 19 Changes the Nature of the Battle

Very recent evidence clearly indicates that breakthrough infections with Covid 19 can occur in fully vaccinated individuals. The frequency is quite low and in the vast majority of cases the patients are either asymptomatic or have mild illness. Hospitalization and death are quite rare unless the patient has a chronic health problem such as obesity or respiratory or cardiovascular disease. In addition, vaccinated individuals can transmit the virus to other people.

These findings mandate that we re-evaluate our current guidelines and consider appropriate modification(s). Before outlining possible modifications, I believe it would be helpful if the members of the Recovery Team had a better understanding of the reasons for the newly observed phenomena.

A Short Course in Immunology and Vaccines

When we get the Covid 19 vaccine, our immune system produces antibodies that specifically recognize the spike protein of the virus. Although these antibodies are specific for the form of the spike protein in the vaccine, they do recognize to a less extent, other forms of the spike protein, e.g., from the delta variant. Imagine that you have a custom-made shirt that fits perfectly. Unfortunately, six months later after gaining ten pounds, the shirt doesn't fit quite as well. That's the picture with the delta variant and our current vaccines. The vaccine still works, just not as well.

After the immune response against the Covid 19 vaccine is completed, most of the antibody-producing immune cells die. However, a small portion of the cells may live for many years—always at the ready to respond to Covid 19. If Covid 19 shows up, a powerful immune response is generated after a few days. This response prevents the virus from causing serious disease. **Note that the protective immunity induced by the vaccine doesn't prevent short-term infection, but does protect against serious disease in the vast majority of vaccinated individuals.**

Vaccine-induced immunity may not prevent the virus from taking up residence in the nasal passages, but does keep it from reaching the lower respiratory tract. As long as the virus is present in the nasal passages, it is not likely to cause serious disease, but may be transmitted to other individuals.

Why can't vaccine immunity prevent the virus from taking up residence in the nasal passages? To eliminate nasal carriage of the virus, we need a type of antibody that is not induced by the current vaccines when given in the arm. This specialized antibody is only produced when a vaccine is given as a mist into the nose. My hope is that we should see such a vaccine by next summer.

What Does All of This Mean for Temple Emanuel?

Given our current guidelines that allow vaccinated Temple members and guests to attend services and other events unmasked, we do have the possibility of transmission and potential breakthrough infections. The potential for such events can be reduced by 1) the commitment of attendees to wear a mask when entering indoor spaces away from the Temple and avoiding unvaccinated individuals in their home and/or 2) wearing a mask at Temple services and events.