



Let Us Go Then ...

How to Explain Vaccination to Your Unvaccinated Patients

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Like many physicians, I am exasperated by patients who refuse vaccination.¹ There are no good reasons to not get vaccinated. None. Zero. Nada.

I am not aware of any medical condition that precludes vaccination. There had been a question about vaccination during pregnancy and when breastfeeding, but the data overwhelmingly support vaccination in these patients.² Vaccination does not increase the risk of spontaneous abortion.^{3,4} People with certain allergies may be safer with a vaccine less likely to trigger an allergic response.⁵ However, anaphylaxis is exceptionally rare.⁶ Thrombosis with thrombocytopenia has been observed in about four to eight individuals per million following the Johnson & Johnson/Janssen or AstraZeneca adenovirus vectored vaccines,^{7,8} so patients with a history of thrombotic disease may be safer with mRNA vaccines. There is a risk of myocarditis, particularly in young men, after receiving an mRNA vaccine.⁹ However, the risk is less than to the risk of a poor outcome from COVID.¹⁰

One of the recipients of my weekly COVID-19 update¹ has Guillain-Barré and was told by friends to not get vaccinated. Her friends correctly stated that there is a very small risk of Guillain-Barré from the Janssen adenovirus vectored vaccine, about one in 100,000.^{11,12} I suggested she get the mRNA vaccine from Moderna or Pfizer, which are not associated with Guillain-Barré.¹³ Similarly, a colleague with a history of deep vein thrombosis declined vaccination because of the risk of thrombosis with the adenovirus-vectored vaccines. I suggested the mRNA vaccines, which are not associated with thrombotic risks.¹⁴

Perhaps we can explain this to patients by putting it in first person. What is the benefit-to-risk calculation if I get vaccinated, and what is the benefit-to-risk calculation if I don't get vaccinated?

If I get vaccinated

Benefits:

1. My chance of catching COVID-19 will be at least cut in half, and perhaps by two-thirds or more.¹⁵⁻²⁰



- a. The risk of "long COVID" will obviously be reduced (I won't get "long COVID" if I never get COVID).
 - b. My risk of serious disease requiring hospitalization is reduced by about 90%.^{15-18,21-23}
 - c. I have no risk of dying from COVID-19. Vaccines are nearly 100% effective in preventing death.^{15-18,23,24}
2. I have reduced the risk of my passing COVID-19 to others.^{25,26} If I don't get COVID,
 - a. My parents, spouse, siblings, and children won't get COVID-19 from me.
 - b. My friends won't get COVID-19 from me.
 - c. My coworkers won't get COVID-19 from me.
 - d. My patients won't get COVID-19 from me.
 - e. My employer won't suffer because I have impaired myself or my coworkers with illness. Moreover, my employer is responsible for the safety of its employees. My employer, Stanford University, is also responsible for the health and safety of patients cared for by Stanford physicians.
 3. I will shorten the pandemic by not providing the virus another host.
 4. I will not lend my body as a bioreactor for exploring new variants.
 5. I will help the economy recover by not contributing to the spread of COVID-19.
 6. I can relax about being indoors and around friends (although I'll still wear a mask until vaccination is complete to not promote the rise of vaccine-resistant variants).²⁷
 7. My actions reflect who I always strive to be: socially responsible, caring for my

family, caring for my community, caring for my patients, and scientifically literate.

Risks:

1. A few days of feeling ill (aches, myalgia, maybe a fever) while my immune system ramps up. That's supposed to happen.
2. Vaccines have very rare risk of complications (e.g., central venous sinus thrombosis, thrombotic thrombocytopenia, myocarditis). These risks are higher if I don't get vaccinated.^{28,29}
3. All vaccines have a risk of anaphylaxis. The risk with the mRNA vaccines appears to be about 1:100,000.³⁰

If I don't get vaccinated

Benefits:

1. I'll delay the extremely rare complications of vaccination. However, since I'll eventually get COVID,³¹ I'll increase the likelihood of eventually having these complications.
2. I don't need to take time from work to get vaccinated. I won't miss work because of feeling ill for a day or so after vaccination.
3. I won't have angst about:
 - a. Injecting myself with fetal cells (I'm not).
 - b. Magnetizing my body (I'm not).
 - c. Communicating with 5G towers (only if my cell phone is turned on).
 - d. Defying my religion (I'm likely not – all major religions support vaccination).
 - e. Yielding to my political foes (Nope, Americans of all stripes are in this together).



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Risks:

1. If I haven't been infected yet, I will get COVID-19 eventually.²² The Delta variant is so infectious³²⁻³⁵ that unless I plan on hiding in my bathtub the rest of my life, I will eventually get COVID-19. The virus isn't going away.
2. I have a 10%-25% chance of getting "long COVID."³⁶ As a result, I may be unable to return to work or engage in activities that I plan to enjoy for the rest of my life (we simply don't know how long symptoms will persist).
3. I may bring COVID home to my family. If so, they may become ill. They may develop "long COVID" and be disabled for life. They may die. I'll have to live with that.
4. My family may be bankrupted by medical bills from my hospitalization or the hospitalization of a family member. The average charge for an inpatient COVID hospitalization is \$73,300.³⁷
5. I may infect my coworkers, causing them to miss work, become ill, become disabled, or die. They may spread it to their families.
6. I may impose an economic burden on my employer. If I get ill, who will do my job? If I infect others, who will do their jobs?
7. If my employer allows me to work without vaccination, is my employer liable for my infecting my coworkers?
8. If my employer is a health care institution, is my employer liable for patients infected while receiving health care from me?
9. I will prolong the pandemic. With the resources available in the United States, we could have brought this to an end months ago. I won't have done my part.
10. I will provide the virus a bioreactor for exploring new mutations. Maybe the "Steve Shafer" SARS-CoV-2 mutation will be the one that overcomes vaccine-induced immunity. Millions could die because I didn't get vaccinated.

*Freely available – Send a note to steven.shafer@stanford.edu and I'll add you to the recipient list.

11. My actions reflect who I have become: not socially responsible, not caring for my community, and not scientifically literate.

Americans of all stripes generally accept that actions have consequences. For example, you can drink as much alcohol as you like, but if you get behind the wheel of a car you are responsible for the consequences. You can smoke as much as you like at home, but you do not have the right to increase the risk of asthma and cancer in your coworkers. It's a personal decision if you get angry at your family members, but there are consequences the moment you cause harm. Actions have consequences.

Perhaps the right approach is to frame vaccination as a choice, just like drunk driving or smoking around your coworkers are choices. Choices are actions. Actions have consequences.

I'm not exactly the poster child for success here. Several members of my family are refusing vaccination, telling me it is a "personal decision."

What am I supposed to say? This "personal decision" may leave me with a lifetime grief if I lose them to COVID. This "personal decision" may bankrupt me. This "personal decision" creates a barrier to our spending time together. Even if I had nothing to gain, I would get vaccinated just to protect them, their lives, their future. Is their love for me different?

Families can weigh in (as I have attempted to do) by explaining that unvaccinated household contacts bring risk into the home. Employers can weigh in by explaining that unvaccinated employees bring risk into the workplace. There is an excellent review in "The Economist" about the role of employer vaccinate mandates.³⁸

The key is to get as many people vaccinated as quickly as possible. As explained by William Haseltine, vaccination remains the cornerstone of bringing the COVID-19 pandemic to an end.³⁹ ■

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