

OUTLINE OF BENEFIT TO RISK ANALYSIS. COVID-19 VACCINES. January 29, 2021

Risks Associated with NOT Vaccinating. mRNA Vaccines

- Risk of infection with COVID-19—no end in sight
 - 26,724,000 infections and 457,000 deaths on January 29
- Risk of moderate or severe disease, death
- Risk of transmitting COVID-19 to family, friends, others
- No let-up in rate of disease or transmission
- Exposure to infection with new vaccine-sensitive variant COVID virus
- Costs associated with medical care
- Distance, mask, isolate from others for foreseeable future
- Continuing stress

Benefits of NOT Vaccinating with mRNA COVID-19 Vaccine

- Avoid any reactions associated with vaccine
- Avoid any adverse events associated with the COVID-19 vaccine
- Avoid any inconveniences associated with vaccination
 - Not driving to vaccination site avoids risk of automobile accident

Risks of VACCINATION with mRNA COVID-19 Vaccine.

Medical: **Reactivity**, Local and Systemic, related to vaccine

- Needle stick, twice
- One or more mild to moderate, limited duration local and systemic reactions

Medical: **Unexpected or hypothetical adverse events** related to vaccine

- **Allergic** reaction
- **Unknown** or unreported to date
 - Inherent to vaccine but very rare
 - Possible decreased efficacy, vaccine quality problems
- **Vaccine quality** issues in a particular vaccine batch
- **Decline in vaccination potency or efficacy** over time

Personal: **Inconveniences or discomforts** associated with vaccination, prime and dose visits

Benefits of VACCINATION with mRNA COVID-19 Vaccines

- **Personal Medical Benefits**
 - **Significantly less likely** (95% efficacy) to become infected and thus become ill or seriously ill or become a “long-termer” or die of COVID-19
 - Less likely to be exposed to reactions, discomforts and **risks associated with treatments** for COVID-19
 - Protective efficacy no matter my **age, gender, race or ethnicity**
 - Possibly, provides immunity and protection to emerging strains of COVID
 - Less likely to inconvenience yourself, your friends and family
 - No cost for vaccination and
 - No medical costs or monetary losses following infection
- Altruistic benefits
 - Significantly less likely to transmit and infect family, friends, health care workers, others
 - Benefit society by being a participant in
 - Termination of a pandemic by ending virus transmission
 - Preventing the generation of new or mutant strains of COVID
 - Personal relief and “helpers high”
- *If influenza vaccination had been available to our parents, grandparents or great-grandparents or their friends or neighbors or co-workers during the 1918 pandemic, would they have chosen vaccination? Would you have wanted them to be vaccinated?*

Reliable and Trustworthy Sources of Information on COVID-19 Infections and Vaccines

- Your health care provider's website
- Mayo Clinic. www.mayoclinic.org then search for COVID vaccines. Comprehensive Simply the best website for comprehensible information about COVID-19, vaccines and vaccination and most other medical or health information. Only this website...there are imposters.
- CDC. www.cdc.gov then search for COVID vaccines. Best government site for information about COVID-19, the pandemic and also good information on vaccines
- US FDA. www.fda.gov then search for COVID vaccine. Good consumer information is apparent. Extensive and detailed technical information available to public but sometimes difficult to locate
- Science or Nature magazines. Scientific reviews on COVID-19 subjects every week but need not be a scientist to understand many. Peer reviewed. At university libraries; some articles on-line.
- New England Journal of Medicine or Journal of American Medical Association, JAMA. Medical Journals but Abstracts to articles are comprehensible to non-medical person. Libraries. Most articles or abstracts in NEJM and JAMA on COVID-19 are available online. Subscribe online to receive only table of contents by e-mail. Read the ToC, click on article and abstract or abstract and article will open in a new window. <https://www.nejm.org/> then *create an account* and request Table of Contents. <https://JAMAnetwork.com> and create an account and request Table of Contents.
- Reliable scientists and health care professionals on trustworthy media. Beware there is much misinformation and conspiracy theory out there. And a few talking-head scientists can give personal opinions not based in published information, exaggerate or misquote.
- Your physician is always a reliable source.