

## A Comparison of Three COVID-19 Vaccines

	AstraZeneca-Oxford	Moderna	Pfizer-BioNTech
<b>Effectivity</b>	Undetermined, estimated 70%, but could be 90% with lower initial dose	94%	95%
<b>Cost/Dose*</b>	\$4	\$10-\$50	\$20
<b>Two doses required</b>	30 days apart	28 days apart	21 days apart
<b>Expected Side Effects</b>	Fatigue, muscle and joint pain, headache, 1 reported case of transverse myelitis; not entirely known	Fatigue – 9.7% Muscle Pain – 8.9% Joint Pain – 5.2% Headache – 4.5% Symptoms can last a few days, especially after 2 <sup>nd</sup> dose	Fatigue – 3.8% Headache – 2.0% Chills, muscle pain, especially after the 2 <sup>nd</sup> dose
<b>Any significant side effects?</b>	Not yet available	Four cases of <a href="#">Bell's Palsy</a> were reported in the clinical trials including 3 in the vaccine group, and 1 in the placebo group. This is not more than would be expected in the general population, however. A doctor in Boston with a history of shellfish allergies experienced an allergic reaction to the vaccine, but he recovered quickly after using his own EpiPen.	The CDC has identified 6 cases of anaphylaxis in people who received the vaccine. Four cases of <a href="#">Bell's Palsy</a> , a type of temporary facial paralysis, were reported in people who received the vaccine, with no cases in the placebo group. This is not more than would be expected in the general population, however.
<b>Reported cases of <a href="#">Guillain-Barre Syndrome</a> (GBS)?</b>	Not yet available	To date, no cases of GBS have been seen in people vaccinated for COVID-19. The CDC says a history of GBS is not a reason to avoid vaccination.	To date, no cases of GBS have been seen in people vaccinated for COVID-19. The CDC says a history of GBS is not a reason to avoid vaccination.
<b>Method/Origin</b>	Weakened chimpanzee cold adenovirus	Messenger RNA (mRNA), which makes the spike protein	Messenger RNA (mRNA), which makes the spike protein
<b>Where is it made?</b>	Baltimore, Maryland, USA	Norwood, Massachusetts, USA Portsmouth, New Hampshire, USA (Lonza)	Kalamazoo, Michigan, USA Puurs, BELGIUM
<b>When approved by the FDA?</b>	Not yet submitted. Approved in the UK on December 29, 2020	December 18, 2020	December 11, 2020
<b>Storage temperature</b>	2 to 8 deg C	-20 deg C for long term, one month at 2 to 8 deg C	-70 deg C for long term, 5 days at 2 to 8 deg C
<b>How many doses made available?</b>	3 billion planned for 2021	20 million, starting Dec. 21; 80 million for U.S. in 2021	50 million, starting Dec. 18; 1.3 billion in 2021
<b>Who is it recommended for?</b>	Not yet available	18 years and older	16 years and older
<b>Positives/Negatives</b>	(+) Safe for use in elderly patients, children, and those with pre-existing conditions	(-) Higher cost possibility, especially regarding 2-dose requirement	(-) Limitations regarding storage temperatures limit distribution availability
*Costs are estimated based on varying reports. Costs are still being negotiated, and early doses are reported to be free for first patients.			