

This moment, for which I am so grateful and fortunate, represents a link in a remarkable chain of events that spans decades and represents the acme of human achievement. My gratitude starts with scientists who years before this pandemic, perfected the ability to extract DNA from viruses, sequence it, and transcribe it to RNA. From there my gratitude goes to scientists who years ago developed an ingenious animal model for mRNA vaccines. The next link of gratitude is for scientists who at the start of this year quickly identified a deadly novel coronavirus and to scientists who rapidly sequenced its villainous DNA. Next I give thanks to scientists who promptly identified the segment of that DNA that codes for the spike proteins that the virus uses to invade our cells. And then I am grateful to the scientists who made the mRNA that corresponds to that specific DNA sequence and to the scientists who figured out how to create a lipid womb to protect that precious mRNA payload during its perilous journey from factory floor to the depths of our deltoid musculature. I am no less grateful to the brave people who volunteered for the Pfizer trial, taking the risk of being the first humans ever to participate in an mRNA trial with stakes so high, and to the investigators who ran that trial and the scientists at Pfizer, the FDA, and the Western Coalition who reviewed the data and approved the vaccine without bowing to political pressure. My gratitude extends to the factory workers who manufactured the vaccine in mass quantities, and the workers who manufactured the equipment that those factories rely on, and the pilots of planes and drivers of trucks who transported the vaccine to my hospital in Seattle, and to the workers who made those planes and trucks that carried that precious cargo. And the workers who devised super cold storage systems and the workers who built those systems, and the people who fed them and clothed them and housed them so that they could do this life saving work. And to the leaders at my hospital who devised our immunization plan, and the ethicists who figured out who should go first (thanks Nancy) and the workers who made the glass vials to hold the vaccine, the plastic syringes to deliver it precisely, and surgically sharp needles so that there would be no pain whatsoever when those beautiful little mRNA filled lipid particles got injected into my left deltoid muscle by a highly skilled and compassionate nurse. From there the miracle of nature takes hold causing my cells to transcribe that RNA into spike proteins

which will trigger my magical B-cells and T-cells to recognize that nasty spike protein as foreign in case it ever shows its ugly head to my respiratory mucosa, where these cells and the antibodies and chemicals they produce would stomp that wretched virus down without me ever knowing it or missing a beat, and keep me safe not only to live and thrive another day but also hopefully prevent me from spreading the virus to those I love and others I don't even know but pass within just feet of. For these miracles of nature, and the chain of human toil and genius involving innumerable individuals over many years, many whom will never be thanked or recognized, I am truly and forever grateful.