

Covid Vaccine Side Effects

[by Ray Sahelian, M.D.](#)

As with any medical treatment we always balance the benefits versus the risks. However, in order to do so wisely, it helps to be well informed about all the good vaccines can do and their shortcomings. That is the purpose of this post. Please have a discussion with your health care provider to make an informed decision. A Covid-19 infection can be serious and fatal; but the vaccines also have their own complications. You have heard of Covid-19 long-haulers... we now have Covid-19 vaccine long-vaxxers.

I have reviewed thousands of case reports on the CDC VAERS vaccine injury reporting government website; reviewed the Pfizer, Moderna, Johnson & Johnson and AstraZeneca side effect reports during the trials; read countless news articles and published medical articles; and also read countless case reports on several online groups where people mention their reactions to the Covid-19 vaccines. I have a good understanding of the types of side effects that are occurring. I am still constantly learning and this page is regularly updated. You may also wish to Follow me on Facebook or friend me on MeWe. If you landed directly on this page I recommend first reading my article on my home page (click the blue link of my name above). As to "shedding," see the last paragraph.

What Causes the Adverse Reactions?

Many who get the shots are having only minor side effects such as arm pain or light flu-like symptoms, and some have none. Others are having more serious reactions, especially after the second dose or after a prior Covid-19 infection. We are basically introducing toxins into our bodies (the spike proteins, polyethylene glycol (PEG), and other ingredients such as the lipid nanoparticles) and our immune system reacts by creating antibodies against them (good) and also launching inflammatory substances (not good). Thus far I have identified 5 plausible reasons or mechanisms that explain the myriad adverse reactions.

1. The majority of these adverse reactions are due to an overreacting inflammatory response known as systemic inflammatory response syndrome (SIRS). Systemic means whole body. This SIRS reaction -- much of it a cytokine storm -- can range from very mild to very severe. It can begin the very first day of the shot or begin days or weeks later as a delayed reaction.
2. The spike proteins attach to ACE2 receptors on cell membranes. Such cells are found widely in the body including the skin, lungs, blood vessels, heart, mouth, gastrointestinal tract, kidneys, and brain. Recently I learned that nerves all over the body have ACE2 receptors which makes me wonder whether the variety of neurological symptoms are caused (at least partly) from this mechanism.
3. The spike proteins interact with platelets and endothelial cells that line the inside of blood vessels. This can lead to clotting or bleeding (low number of circulating platelets in the bloodstream). Some of the clots, even if tiny, may cause minor damage to organs, or cause neurological symptoms if the blood supply to nerves is compromised. These tiny clots are difficult to identify by x-rays or scans.
4. We should also consider immediate or delayed release of histamine from mast cells and basophils. This causes the initial allergic reactions noticed within the first hour after a shot. Prolonged activation of mast cells could cause allergic reactions for weeks afterwards.
5. Lastly, swelling of lymph nodes in various areas of the body could interfere with blood flow, put pressure on nerves causing pain, or compromise their proper function. An interesting example: it would hardly cross anyone's mind that appendicitis could be due to a vaccine. However, if lymph nodes around the appendix gland flare up, it could lead to such a problem.

The public assumes that these mRNA vaccines (Pfizer, Moderna) or the spike protein-enhanced viral vector ones (Johnson and Johnson, AstraZeneca) are always made perfectly. There have been several quality control issues. It's possible that the production process in some batches leads to

imperfect mRNA which in turn leads to oddly-shaped spike proteins with unknown consequences. Some batches contain contaminants, as reported in Japan. Below is my preliminary assessment of Covid-19 vaccine side effects. Keep in mind that it's a work in progress and I update this page frequently. I strictly list signs and symptoms that have been reported multiple times from different people and sources.

Allergic and Anaphylactic reactions (starting within minutes or up to an hour or two, called a Type I immediate hypersensitivity reaction)

Flushing, sweating, dizziness, fainting, shortness of breath, changes in blood pressure, palpitations, increased heart rate, throat swelling or tightness, lip and tongue swelling, and even occasionally leading to ER visits, hospitalizations, and death. Researchers should look into whether premedicating with an antihistamine would reduce the allergic response.

Common Side Effects (often starting in the evening or middle of the night)

Pain, redness, and swelling at the injection site (occasionally it can persist or get worse days later, called Covid arm). Fever (can be up to 104 F or even a little higher), sweats, chills (sometimes requiring multiple blankets to keep warm). Headache (sometimes very severe and migraine-like, occasionally described by some as the worst headache in their life). Fatigue, lethargy, exhaustion, sleepiness. Body aches, muscle aches ("I feel like I got hit by a bus"). Dizziness, nausea (vomiting is less common), and malaise. A cytokine storm -- white blood cells or macrophages notice the foreign substances introduced in your body and produce inflammatory cytokines -- may be part, or most, of the reason for these symptoms, at least initially. Cytokines instruct the hypothalamus (located in the brain) to produce a fever in order to fight off a toxin or infection. Symptoms can last from a few hours to a week or two, and sometimes much longer. It's best not to drink alcohol for the first few days, nor to engage in heavy physical activity. Try to take the shot on a Friday so you do not have to be at work or drive the next couple of days. Would drinking a lot of water help flush out excess spike proteins in the urine and diminish symptoms? I have not come across any data that the severity of symptoms has a correlation to long-term immune protection. Both Moderna and Pfizer recommend the second booster shot within a month of the first. I wonder if the interval is too soon and is causing a higher rate of adverse reactions. Or, perhaps, the dose itself is just too high for some people. There could be mistakes in the amount of the vaccine injected, some may get a little more than 0.3 ml whereas others a little less. If the injection needle happens to directly enter a blood vessel more of the vaccine fluid will end up quicker in the general circulation than if the fluid stays longer in muscle tissue. A large muscular man is getting the same dose as a petite woman with small deltoids. There are a number of factors that influence a person's reaction.

Less Common (it is difficult to know how often they happen since no one is keeping accurate statistics)

Dermatological

Skin rash and hives can be all over the body, including palms and soles, and last for weeks. The rash could be macular or maculopapular. Hives and rashes are often treated with H1 and/or H2 antihistamines and/or a course of oral steroids. Itchiness (pruritus) is common. Easy bruising and small brown-purple spots under the skin appear, called petechiae (blood leaking from capillaries under the skin). Sometimes a big rash and swelling develops at the injection site a few days later, or a hard lump; infrequently causing cellulitis. Swelling of face. Swelling of hands (lymphatic blockage? leaking of fluid from blood vessels, capillary leak syndrome?) and feet (lymphatic blockage from swollen lymph nodes? DVT, especially if only one foot? heart failure? kidney issues?). Spike proteins disrupt the tight connection between cells that line the inner blood vessels leading to fluid leaking into tissues. Eczema flare-up. Psoriasis flare-up. Shingles are common. Toxic epidermal necrosis, Stevens-Johnson syndrome, blistering and peeling of skin. Erythromelalgia is diagnosed when there is redness in hands and feet (a form of vasculitis) with neurological symptoms of warmth or burning feeling. Erythema multiforme.

Neurological

Since these vaccines have an effect on nerves (neuroinflammation), or the blood supply (from clots) to all neural tissues in the body and brain, a wide variety of mild to serious neurological symptoms occur that baffle doctors. An accurate diagnosis is often difficult since multiple nerves all over the body can be affected (not following a particular pattern for known neurological diseases). Symptoms can improve and get worse, and improve again. Since they occur with the Johnson and Johnson vaccine, too, we cannot blame all the symptoms on the lipid nanoparticles or PEG, but most likely they are due to spike proteins and/or an inflammatory reaction to them. Moderna and Pfizer have PEG while J&J has polysorbate. Dizziness is very common. Vertigo (a feeling that you, or the environment around you, is spinning), is common perhaps due to vestibular nerve damage (sometimes misdiagnosed as an infection such as labyrinthitis?). Tinnitus (ringing in the ears) is very common and sometimes lasts weeks or longer; it may be caused by clots or nerve inflammation (the vestibulocochlear nerve, or eighth cranial nerve carries signals from the inner ear to the brain; ringing in the ear is a result of damage to this nerve). Sleepiness is common due, at times, to fatigue while insomnia is reported less often (but can happen due to nerve or muscle pain; some say "I'm exhausted but can't sleep"). Tremors, uncontrollable shaking, uncontrolled movements, random muscle twitching, benign fasciculation syndrome, internal vibrations have at times incapacitated sufferers for weeks or months. New onset seizures have occurred and some with an existing seizure disorder (epilepsy) have noticed worsening of symptoms. People mention "Brain zapping," or electric feelings from head to toe. Paresthesias (abnormal or strange nerve sensations) are very common; they may be mild and temporary or be a premonition for more serious nerve damage. Tingling in the face or facial numbness (forehead, nose, lips and chin numb) due to involvement of the facial nerve (cranial nerve 7). Tingling in the arms, legs and feet may be temporary or end up as a more serious neurological condition. Burning sensations all over especially in feet -- some describe it as "my body or nerves seem like they are on fire." Erythromelalgia (a combination of nerve problems and vasculitis) is diagnosed when there is burning pain in the hands or feet along with skin redness and inflammation. Pins and needles throughout the body, sensitive skin. Loss of sensation in arms and legs, feet, and toes is serious and needs prompt evaluation. Weakness or numbness in legs, loss of balance, difficulty walking, falling, legs giving out (transient paralysis, inflammation of the cerebellum? cerebellar ataxia? MG? GBS?) deserve immediate medical attention. Fainting and loss of consciousness. A high number of Bell's palsy cases involving the facial nerve (cranial nerve 7, one side of face droops), confirmed in an article in the medical journal Lancet, has been reported (also twitching of one side of face). Paralysis (unable to move arms or legs). Demyelinating neuropathies, sensory polyneuropathy, trigeminal neuralgia, small fiber neuropathy are some conditions that people have been diagnosed with. Guillain-Barre syndrome occurs when your body's immune system attacks the myelin sheath insulating nerves, leading to tingling, pain, and weakness in extremities and potential paralysis (I suspect many mild cases are undiagnosed or misdiagnosed). Myasthenia Gravis happens when a segment of the spinal cord is inflamed -- symptoms include tingling, numbness and weakness of the extremities, difficulty in bladder control and anal sphincter control, and issues with the autonomic nervous system (may have episodes of high blood pressure). As with GBS, mild cases of MG may not be accurately diagnosed. Dysautonomia occurs when the nerves that regulate nonvoluntary body functions -- such as sweating, blood pressure, heart rate, bladder control, pupil dilation or constriction, and digestion -- do not work as well.

Are the nerve-related issues due to non-mRNA substances in the vaccines (such as PEG), or due to spike proteins attaching to nerve cells triggering inflammatory reactions? or just direct damage from cytokines or other inflammatory substances? or, in some instances, blood clots that block the blood supply to a nerve? Some individuals have had immediate and ongoing neurological reactions minutes after a shot. Or is the immune system recognizing certain cells, including nerve cells, in the body as having some proteins that look similar to the spike proteins and attacking them? Fortunately many individuals with long-lasting neurological symptoms are improving over time. A few report that their neurologist prescribed gabapentin (Neurontin) for nerve related pain and issues but generally the medication was of little or no help.

Headaches

The causes of headaches are difficult to pinpoint: spike proteins are able to cross the blood-brain barrier. Blood vessels in the brain can get inflamed (vasculitis), the nerves around the scalp may act up, or there could be increased intracranial pressure. The spike proteins disturb the integrity of endothelial cells lining the blood vessels in the brain and allow leakage of fluid into the brain causing increased pressure, and thus a severe headache. Occipital headache or neuralgia (the occipital nerves are inflamed) is a sudden severe head pain associated with pain at the base of one side of the head and behind the eye; some have scalp tenderness and sensitivity to light. A migraine-type headache associated with weakness on one side of the body could be due to hemiplegic migraine. Strokes (from a clot or a bleed) can cause headaches and therefore diagnosis becomes difficult when a person shows up to the emergency room. Since vaccine-induced non-stroke headaches are so common, should everyone with a severe headache get a CT scan or MRI of the brain? Strokes are often associated with neurological deficits but not always (silent stroke).

Mental, psychiatric and behavioral changes

Mood changes, anxiety, panic attacks, anhedonia, depression, feeling emotional, crying spells, aggression, anger, feeling impatient, irritability, short-tempered, brain fog, confusion, disorientation, loss of memory. Some say "I'm just not feeling like myself." Rare cases of suicidal ideations. Night terrors or nightmares have been reported. Nursing home caretakers have noticed residents becoming confused and less able to take care of themselves and deteriorating faster. Worsening of mental function makes it difficult to decide whether to administer the vaccine to those with Alzheimer's disease or other forms of dementia. Changes in mental function and behavior could be due to spike proteins crossing the blood-brain barrier and damaging nerve cells (neurons) in the brain. The spike proteins themselves could cause damage or in combination with the inflammatory reaction to them. There could be inflammation of various parts of the brain (encephalitis) and blood vessels located within the brain (intracranial arteries and veins). Inflammation could disturb the proper hormonal release by the hypothalamus, pituitary gland and pineal gland. Inflammation could be due to cytokines or other pro-inflammatory substances (there are countless). Since spike proteins damage cells lining blood vessels (endothelium) fluid can leak out from arteries or veins into the brain increasing the pressure within (increased intracranial pressure) and causing a host of problems. Fluvoxamine (generic for Prozac) has anti-inflammatory properties and is worth a try if symptoms persist.

Eyes

Eye pain, visual impairment -- blurred vision, trouble focusing, loss of depth perception, double vision (vertical or horizontal diplopia), flashes of light in the field of vision, sensitivity to light (photophobia). Visual changes could be due to a number of factors including cerebral edema, papilledema or cranial nerve 3 palsy. Swelling or bulging of eyes (increased intracranial pressure? sudden hyperthyroidism?) or eyelids (sometimes severe enough to shut the eyelids together), eye irritation, itchy eyes, watery eyes, eyelid drooping, eyelid twitching, pupil dilation (rare). Blindness is rare but could be due a blood clot in a blood vessel or an optic nerve problem, or a clot in the visual cortex, or a clot in the occipital lobe. Subconjunctival hemorrhage, bloodshot eyes (redness or blood clot in the white of the eye, possibly from low platelets), pink eyes, conjunctivitis (allergic, immune related). Black eyes, shiners, discoloration around the eye socket (from leaky capillaries, low platelet count?). Floaters in the eyes are infrequent. Uveitis (eye tissue inflammation). Most visual adverse reactions are improving over time.

Ears

Decreased hearing, complete hearing loss (treat with oral steroids or cortisone injection in ear?), sensitivity to noise and sounds (hyperacusis), earache / pain (stabbing), ear redness, ear swelling. Ringing in ears / tinnitus, or worsening of existing tinnitus (common, sometimes lasting weeks or months). Tinnitus may be aggravated by chronic use of Advil, Motrin (ibuprofen), Aleve (naproxen) and aspirin. A few people with tinnitus mention that white noise with rain sounds helps. Some doctors are using H1 and H2 antihistamines and/or steroids. Bleeding from gums. Gum issues during dental surgery.

Oral, Nasal

Mouth sores, lip sores or burning feeling, lip swelling, tingling or twitching of lips. Metallic taste in the mouth or other types of taste alterations, loss of sense of taste and smell (not as common from the vaccine as that from Covid infection). Dry mouth. Bumps or ulcers on the tongue, swollen taste buds and tongue feeling inflamed or burning. Jaw pain. Pain in teeth. Scratchy, itchy or burning feeling in throat, swelling of the throat. Strange sensations around the mouth which may be early Bell's palsy symptoms. Runny nose, bleeding from nose (common). Strange smells. Those who have had fillers injected around the mouth as part of cosmetic procedure notice temporary swelling in that area. A few report uncontrollable chattering of teeth resulting in a chipped tooth.

Respiratory

Shortness of breath, tightness in chest, difficulty breathing, wheezing, getting easily winded, cough, chest pain. Spike proteins travel to the lungs triggering an immune reaction that inflames airways and leads to shortness of breath (could there be permanent lung tissue destruction or will they heal?). Many people are ending up in the ER and doctors think that they have a viral or bacterial pneumonia, which leads them being treated with antivirals or antibiotics. Would steroids be a better choice (if testing does not show a viral or bacterial infection)? A few hospitalized patients have been found to have fluid in their lungs. Those with asthma, COPD (chronic obstructive pulmonary disease, emphysema), interstitial lung disease (sarcoidosis, idiopathic pulmonary fibrosis) could have exacerbation of symptoms. Shortness of breath can also be caused by one or more clots in the blood vessels of the lungs (pulmonary embolism), myocarditis, or fluid accumulating in the lungs.

Cardiovascular

Tachycardia (rapid heart rate) is very common; so are irregular heart rhythms which manifest in a variety of forms: palpitations, heart fluttering, rapid changes in heart rate, A Fib (atrial fibrillation), SVT (supraventricular tachycardia), bundle branch block; postural orthostatic tachycardia syndrome (POTS). Spike proteins may end up in the sinoatrial node (SA) or the atrioventricular node (AV) damaging them or triggering an attack by the immune system leading to changes in heart rhythm. Doctors have diagnosed some patients with fast heart beats as having an anxiety attack rather than caused by the vaccine itself. Pericarditis and myocarditis (inflammation of heart muscle) have been reported in the young in Israel (up to 1 case per 3,000 individuals), the US military and in teenagers in the USA. Symptoms of myocarditis include pain to the left of the sternum or chest, heart rhythm disturbances, shortness of breath, and fatigue. Blood studies show high troponin levels. Pain can also radiate to the neck, back, and shoulders. One possible mechanism is that spike proteins (or PEG, or other substances in the vaccine fluid) go to heart muscle tissue, the inner or outer lining of the heart, and trigger an inflammatory immune response. We should not be giving these shots to the young, a minority will end up having heart problems for the rest of their life (potentially requiring a heart transplant). Fainting, lightheadedness, falling, or collapsing occur possibly from heart rhythm disturbances, heart attack or stroke, sudden drop in blood pressure, or neurological conditions. High blood pressure is quite common, including hypertensive crisis. Spike proteins can attach to ACE2 receptors present on endothelial cells lining blood vessels and influence BP. The renin-angiotensin-aldosterone system is likely involved (could angiotensin II receptor blocker meds such as losartan or valsartan help?). Low blood pressure happens less often than HTN and one potential mechanism for both could be disruption of proper nerve conduction anywhere from the brain to the sympathetic / parasympathetic nerves of the cardiac plexus and on to heart muscle cells. Could blood pressure changes also be related to spike proteins influencing angiotensin converting enzyme (ACE2) receptors within blood vessels or kidneys or down-regulating ACE2 (what is the role of ACE2 inhibitor drugs)? Chest pain or tightness, heart attack (high troponin levels), ST-segment elevated myocardial infarction (STEMI). Vasculitis -- inflammation of blood vessels such as arteries, veins and capillaries -- can occur anywhere in the body. When this occurs in the arteries in the head, it can be diagnosed as temporal arteritis (steroids may help).

Stroke from a blood clot or bleeding can occur anywhere in the brain and cause a variety of symptoms including slurred speech, paralysis, weakness of extremities, stiff muscles, difficulty

swallowing, and headache. A stroke can be triggered by very high blood pressure which the vaccines can cause. Strokes occur either from a clot or bleeding (hemorrhage) in the brain. Transient ischemic attacks (TIA) is a stroke that resolves within a day. Also consider the possibility that severe lymph gland enlargement in the neck could put pressure on blood vessels in the neck (carotid artery and jugular vein), narrowing the lumen. Blood clots, pulmonary embolism, deep vein thrombosis in legs (pain in calf), clots forming in the portal vein, splenic vein or other blood vessels in the abdomen. Swelling in legs (possibly from heart failure or blood clots).

Gastrointestinal

Nausea, and less so vomiting, are common, possibly due to cytokines having an effect on the hypothalamus. Diarrhea is likely due to spike proteins binding to ACE2 receptors in the intestinal tract, or damage to nerves that regulate digestion (dysautonomia?). Prolonged diarrhea has led to weight loss. Stomach or abdominal cramps or pain may occur quite early or be delayed by a week or so (from ACE2 receptor blockage by spike proteins? from lymph node enlargement in the abdomen?). Loss of appetite is often temporary. Feeling bloated. Abdominal pain could, rarely, be due to blood clots in certain veins in the abdomen, or the mesenteric arteries. There is a possibility of intra-abdominal bleeding. Appendicitis may occur more in the young. Lymph glands present in and around the appendix swell and block the opening of the appendix into the cecum (a pouch that connects the small intestine to the colon). Anyone with right lower abdominal pain should be evaluated right away (due to swelling of lymph nodes around the appendix?). Elevated liver enzymes (this was found in animal studies, especially elevated GGT levels), acute liver failure, autoimmune hepatitis. Animal studies (both by Moderna and Pfizer) found "microscopic vacuolation of portal hepatocytes" which simply means damage to the cells of the liver. Rectal bleeding could be from an existing lesion in the colon, internal or external hemorrhoids (bleeding made easier by temporary low platelet count?), or de novo; may require colonoscopy to make sure no tumors or other issues. Fecal incontinence has been mentioned, possibly due to temporary nerve paralysis. Could there be a flare-up in those with diverticulitis, Crohn's disease, or ulcerative colitis?

Musculoskeletal

Joint pains can affect the neck, shoulders, elbows, wrists, fingers, back, hips, knees, ankles and toes. Sometimes the joint pains are so bad it's crippling, people are unable to move easily or even get out of bed for a few days. Joint swelling or stiffness can occur in all joints and sometimes the swelling migrates from one joint to the other. Neck pain or stiffness can occur due to muscle spasms, lymph gland enlargement (more likely in the young with robust immune responses), or nerve impingement. Shoulder or arm pain limits range of motion, sometimes lasting weeks. Burning and itching can affect the entire upper arm, along with numbness in the injected arm. Shoulder blade (scapula) pain. Pain in the extremities (arms, thighs, and legs). Spasms in the thigh muscles, legs or leg cramps, legs feel tight or heavy. Pelvic pain, hip pain, knee pain. Back pain and flank pain (due to muscle spasms? kidney issues? adrenal gland inflammation? spinal cord inflammation? early signs of transverse myelitis?). Myocarditis or pericarditis could cause dull or sharp pain in the neck, back, and shoulders (pain is lessened by sitting up and leaning forward). Muscle fatigue, weakness in muscles, muscle stiffness, spasms or twitching. Bone pain. People report body aches so intense that they can hardly move for hours or days. Some have described it as the worst muscle or joint pains in their life, or like being hit by a truck. A few mention that weeks after the shots they do not have the same muscle strength or physical abilities that they used to. Shoulder injury related to vaccine administration is abbreviated as SIRVA. A few people have been diagnosed with Parsonage-Turner syndrome (brachial neuritis) which manifests as severe pain in upper arm and shoulder followed by weakness in shoulder muscles, arm, forearm or hand. Fibromyalgia can easily get worse. Some with ankylosing spondylitis or osteoarthritis may notice worsening of symptoms. In rare cases muscle tissue damage is severe (rhabdomyolysis) with elevated blood levels of creatine kinase.

Renal / Urological

Flank pain (nerve or muscle related? blood clots in kidney vessels? immune reaction against kidney cells? The nanoparticles travel to the adrenal glands, perhaps some cases of flank pain are due to

adrenal gland swelling or inflammation. Renal or kidney failure has been reported (blood clot? Immune reaction?), nephrotic syndrome and glomerulonephritis. Urinary incontinence, or loss of bladder control, possibly due to nerve paralysis (autonomic dysfunction). Urinary tract infections have been reported; prostatitis is much less frequent. Testicular pain (rare). Bleeding from the urinary tract can originate from the kidneys or bladder, may be caused by low platelet count. Once it is resolved it is prudent to do a work-up in case there is an underlying kidney or bladder problem that caused the bleeding.

Lymphatic

Swelling of lymph nodes often in the armpit of the injected arm, but sometimes above or below the clavicle or even around the neck (putting pressure on blood vessels in the neck) and behind the ears. If the immune reaction is strong enough (more common in the young) other nodes throughout the body, including the groin area, can enlarge. Enlargement of lymph glands leads to moderate to severe pain in the armpit and even some nodes swelling to the size of a golf ball. Women should wait at least two months after a Covid-19 vaccine before getting a mammogram. The Society of Breast Imaging estimates about one out of five women have swollen lymph nodes. Some individuals with right lower quadrant abdominal pain were found on CT scan to have enlarged lymph nodes around the appendix. Lymph node enlargement could impinge on nerves or blood vessels causing pain and swelling of extremities. Such swelling of lymph nodes in the abdomen, called mesenteric lymphadenitis, causes pain in the abdomen or in other places. In rare cases lymph node swelling could last more than 2 months.

Gynecological

Quite a number of women report menstrual irregularities, spotting, heavier or longer periods, and severe cramping. Postmenopausal women are often shocked to see uterine bleeding. These menstrual changes and bleeding are likely due to a combination of hormonal, immune / inflammatory, and hematological reasons. Estrogen and progesterone are involved in menstruation. It is possible that an inflammatory process in the brain, for instance involving the hypothalamus or pituitary gland, disturbs the delicate balance of hormone release. The hypothalamus secretes gonadotropin releasing hormone (GnRH) which goes to the nearby pituitary gland and influences the release of follicle-stimulating hormone (FSH) and luteinizing hormone (LH). FSH and LH enter the bloodstream and go to the ovaries where they influence estrogen and progesterone which in turn influence the lining of the uterus. Any disruption along this pathway can cause menstrual cycle and bleeding changes. Animal studies show a portion of the injected nanoparticles end up in the ovaries with currently unknown consequences if this occurs in humans (infertility?). Inflammation is part of the ovulation process. It makes sense that vaccine-induced inflammation in the uterine lining (endometrium) would lead to spotting, heavy bleeding or painful cramps. A lesser number of women report skipped periods as opposed to heavy bleeding; perhaps the fine balance of hormone release is disturbed. I don't know how these vaccines influence those who have ovarian conditions, pelvic inflammatory disease, endometriosis, uterine fibroids, or polycystic ovary syndrome (PCOS). Some women are reporting absence of periods. I am not sure about the mechanism, perhaps due to inflammation of the hypothalamus and/or the pituitary gland and subsequent disturbance of hormone release? Would the distribution of the mRNA nanoparticles to the ovaries and/or spike protein presence cause damage to the ovaries or interfere with proper ovarian function? Breast swelling and tenderness.

Hematological

Animal studies show a small portion of the nanoparticles end up in the bone marrow. Bruising, petechiae (small round brown-purple spots due to bleeding under the skin, red blood cells leak out from capillaries), bleeding from nose; uterine bleeding. Bleeding could occur in the urine, or from the rectum. A combination of clotting (thrombosis) and low platelet count (thrombocytopenia) has been noted which makes treatment difficult. Idiopathic thrombocytopenic purpura (ITP) has occurred. Blood clots can form in any blood vessel in the body. They can stay local or travel to the brain (stroke), lungs (pulmonary embolism), heart (myocardial infarction, heart attack), abdomen (portal vein, mesenteric arteries), kidneys, legs (DVT, deep vein thrombosis), spinal cord (causing paralysis) and other places.

Clots in various places in the body, along with a variety of symptoms people have due to other causes, makes it very difficult for emergency room doctors to make an accurate diagnosis. Some doctors are noticing clots occurring several weeks after the shots. Elevated D-dimer levels may be an indication of blood clots. Are women on birth control pills more likely to develop blood clots? Spike proteins cause platelets to clump together causing clots which results in low levels of circulating platelets in the bloodstream leading to bleeding. Could the lipid nanoparticles themselves enter platelets and cause damage? Spike proteins attach to endothelial cells (the cells lining blood vessels) and cause damage and clot formation. Various forms of vasculitis (inflammation of blood vessels) are likely. A serious side effect confirmed by health authorities has been cerebral venous sinus thrombosis (CVST). After vaccination antibodies can target a protein in the bloodstream called platelet factor 4 (PF4) which spurs platelets into a clotting cascade. Blood clots and bleeding are significantly more common than what you hear in the news. Anyone who has a bleeding or clotting disorder, or who is on blood thinning medications (anticoagulants) such as warfarin (Coumadin), Plavix, heparin, Eliquis, Xarelto, Lovenox, should ask their doctor to read this article. Some people take Advil (ibuprofen) or Aleve (naproxen sodium) for their flu-like symptoms after a shot. I wonder if these blood thinners contribute to bleeding, or may help prevent clotting? Difficult to know. I have been asked whether natural supplements or foods could reduce the risk for clotting. Garlic, onions and fish oils are good blood thinners and could reduce the risk for clots. The vaccines cause clotting and also bleeding which makes prevention or treatment complicated. In animal studies elevation of white blood cell (WBC) count has been noted. The Moderna animal studies showed an increase in blood fibrinogen levels and activated partial thromboplastin time. Fibrinogen increase indicates an inflammatory reaction and an increased risk for blood clots since fibrinogen helps platelets clump together. Blood studies also showed an increase in cytokine levels which mostly subsided by two weeks. Post mortem pathology showed increased weight in the liver, spleen, and adrenal glands and increased myeloid cellularity in the bone marrow along with hepatocyte vacuolation (liver damage).

Infections

These vaccines cause changes, at least temporarily, in the immune system that have yet to be well-understood. Shingles reactivation, which can be quite painful, has been frequently mentioned which may be due temporary immune T cell suppression. Ocular shingles (around the eye) has been reported. It is possible the vaccines may make other infections more likely (increased rates of urinary tract infections, for instance?) until the immune system recovers. Maybe there is a temporary drop in white blood cell count (neutropenia) or T-cell function; others have reported increased white blood cell count during an ER visit. Epstein-Barr virus reactivation? Ramsay Hunt Syndrome? Is temporary immune suppression one of the reasons that some Covid long-haulers notice a brief reduction in their symptoms after getting a shot? Some have raised the possibility that during this temporary immune system dysfunction cancer cells have an opportunity to grow faster, I am not yet aware of such studies.

Endocrine / Hormonal

I am still not sure how this vaccine affects those who have diabetes or thyroid issues. Or how it affects the hypothalamus, pineal gland, pituitary gland, thymus gland, ovaries, and testicles. Pharmacokinetic studies show that the lipid nanoparticles end up in high amounts in the adrenal glands and ovaries, and smaller amounts in the pituitary gland, thyroid, pancreas, and virtually everywhere else. If fatigue persists for several months it would be proper to evaluate adrenal function. The fact that the ovaries are a distribution target for the vaccine nanoparticles makes one wonder about the implications for fertility and production of estrogen and progesterone. I have not seen studies regarding the influence on fertility in men or women, and whether antibodies formed against the spike proteins have cross-reactivity with syncytin reproductive proteins in sperm and ova. I have read reports of diabetics noticing a spike in blood sugar levels but I need more confirmation to be certain. Those who have had a severe Covid-19 infection have a higher rate of future diabetes.

Unusual Occurrences

In rare instances there could be multi-system organ failure of the liver, heart, colon and kidneys

possibly due to disseminated blood clots.

Is it possible that by chance during injection into the deltoid muscle the fluid contents go directly into a blood vessel causing a faster and more intense allergic response?

After vaccination some people, especially seniors, have fallen and broken bones or teeth, others have had large bruises as a result of a fall.

Car accidents have happened when a driver became dizzy or passed out and lost control of the car. It's unwise to give these shots in parking lots and then let people drive away a half hour later.

Some of these have been reported however not with any significant regularity to warrant to include above.

- Hyperthyroidism, elevated thyroid hormone levels (thyroid storm), autoimmune hyperthyroidism (Grave's disease). Hypothyroidism or influence on the thyroid gland. It is possible the vaccines could have an influence in those who have autoimmune thyroid conditions. Some report feeling very thirsty (hypothalamus involved?).
- Hair loss, alopecia (hair coming out in clumps), thinning or hair turning grey, loss of eyebrows or eyelashes; this is difficult to confirm since someone could have had prior Covid-19 infection which is known to cause hair thinning or loss months later. It is also possible that vaccination induces an autoimmune reaction against hair follicles. Behcet's disease, a form of vasculitis.
- Gallbladder inflammation. Pancreas issues, pancreatitis (check amylase and lipase levels). Flare-up of irritable bowel syndrome (IBS).
- Changes in blood sugar in diabetics, mostly higher. Icy cold feeling in legs or feet.
- Bleeding from gums. Some dentists report necrosis of gum tissue after dental surgery. Pityriasis rosea.
- I have not come across any reports yet in those who have Raynaud's phenomenon (spasms of small arteries reduce blood flow turning affected parts white and blue).
- Brain aneurysm or aneurysm of other blood vessels, aortic dissection, perhaps caused by extremely high blood pressure and/or weakening of the blood vessel by spike proteins embedded in endothelial cells; arteriovenous malformation (AVM). Blood clots after surgery, for instance around gums after dental work (wisdom tooth taken out).
- Acute disseminated encephalomyelitis (ADEM), brain encephalopathy (damage or disease that affects the brain). Paranoia, depersonalization, hallucinations, "out of body" feeling. I do not know if it influences those with obsessive compulsive disorder, traumatic brain disorder, or schizophrenia.
- Some people may misinterpret heartburn as coming from the stomach whereas it could be a symptom of cardiac chest pain or myocarditis. Gastroparesis.
- New food, environmental (hay fever) or medication sensitivities or allergies, allergic to previously used hair dyes (mast cell activation syndrome, MCAS); need to carry epi pen and getting new allergy tests. A few mention being more sensitive to the sun / heat and skin burning faster.
- Eye styes have been mentioned (inflammatory meibomian gland swelling?). Retinal detachment, vitreous detachment. Exacerbation of existing iritis.
- Inflamed bladder. Dense deposit disease in kidney. Aggravation of interstitial cystitis. Acute lymphocytic leukemia.
- Some medications, such as statin drugs used to lower cholesterol, cause muscle tissue damage. Are individuals who take medications that cause muscle damage have a higher likelihood for more intense muscle pain? I wonder if being physically active through running, sports and such, the days after vaccination can make muscle tissue damage more likely. Worsening of sciatica or carpal tunnel syndrome. Worsening of restless legs syndrome (RLS). Cervical radiculopathy. polymyalgia Rheumatica is an inflammatory disease causing pain in the neck, shoulders and hips, and related to Giant Cell Arteritis, a form of vasculitis. My ramblings here: Did the vaccine makers consider the intradermal injection as an alternative to intramuscular injection in order to minimize systemic nanoparticle distribution.

Delayed and/or ongoing reactions, lasting several weeks or months

Delayed reactions can occur starting days or weeks after a shot. Some of it may be due to what is called Type II hypersensitivity where antibodies are directed against antigens (in this case spike proteins) that have lodged on cell membranes. This leads to damage to cells and tissues. Another form of damage can come through Type III Hypersensitivity, also called Immune Complex Injury. In this situation antibodies bind to antigens and form complexes that deposit in the skin, blood vessels, joints, etc., and cause all kinds of inflammatory responses. Then there is Type IV Hypersensitivity -- which often takes several days to begin -- where T-cells and macrophages do the attacking. Common ongoing and/or delayed reactions include skin rashes and hives that can last weeks and may be controlled by steroids and/or antihistamines; pain in the injected arm or shoulder resulting in limited range of motion; headaches (migraine), ringing in the ears, tics, tremors, dizziness, fainting; changes in heart rate and rhythm; changes in blood pressure; shortness of breath or wheezing; changes in menstrual cycle; joint pain, muscle pain and weakness (myositis?), changes in mood or behavior, and a wide variety of muscular and neurological symptoms, including brain fog and memory loss (damage to brain cells? potential future degenerative diseases? risk of prion diseases?). Abdominal / stomach cramps or bloating may be added to the list if I come across more cases. Fatigue could be caused by spike proteins latching on to ACE2 receptors and interfering with proper cell signaling to mitochondria -- organelles within cells that make energy in the form of ATP. Adrenal insufficiency should be ruled out as another cause of persistent fatigue. It's also possible spike proteins could enter cells and become embedded in the cell membrane of mitochondria thus disturbing their proper functions. A few days after a shot immune T-cells could go around attacking cells that have presented spike proteins on their surface, thus destroying these cells and releasing the spike proteins into the general circulation. We don't know how long spike proteins stay in the body, but hopefully they disintegrate within weeks or months (one concern is that the spike proteins could stay longer within macrophages). Some of these ongoing symptoms may be due continued high levels of certain cytokines in the system. We hope the body is able to repair the damage they have done while present. Could we have long-term neurological damage and nerve-related disorders? MCAS, mast cell activation syndrome should be considered as a possibility of ongoing symptoms; mast cells release a number of chemicals that cause allergic-type reactions that affect the skin, gastrointestinal tract, heart, lungs, and nerves. Treatment for MCAS includes cromolyn sodium, H1-antihistamines such as loratadine, H2-antihistamines such as ranitidine, montelukast (leukotriene D4 receptor antagonist -- use only briefly) and perhaps the natural supplement quercetin (initially 500 mg in am and then less over time). Could some people develop new food or chemical allergies? High, persistent levels of certain cytokines (for instance RANTES, CCL5) could be a cause for continuing hyperinflammatory responses. Fluvoxamine (Prozac) may reduce inflammation by tempering cytokine production. The good news is that in many people these delayed reactions are improving as time passes. C19vaxreactions.com is a good support group in those with ongoing symptoms. Recently I came across a condition known as macrophage activation syndrome, something to look further into.

Future immune system dysfunction

Certain individuals may become prone to having future autoimmune conditions. I am suspecting this can happen since there are now individuals who have symptoms, such as joint pain and swelling, that have lasted several months post vaccination. A doctor can check blood levels of ESR (sed rate), CRP (c reactive protein, RF (rheumatoid factor) and ANA (anti-nuclear antibody). If these levels are normal, it is still possible a person could have a high inflammatory state due to persistent elevation of certain cytokines. At least a couple of dozen major protein types in our bodies have a structure (epitope) similar to spike proteins and our immune system may attack such proteins on the lining of cell membranes in different tissues and organs, especially after another exposure to the virus or future booster shots. Antibodies against the spike proteins may cross-react with transglutaminase, ENA, neurofilament protein, myelin basic protein (MBP), nuclear antigen (NA), alpha-myosin, and thyroid peroxidase (TPO). Simply, these proteins are part of cells of the gastrointestinal tract, thyroid gland, nervous system, heart, skin, muscles, joints, liver, mitochondria, and antigens used for the screening of autoimmune diseases. I still need time to figure all this out but if these concerns turn out to be correct, we could have a high number of people in the future being diagnosed with autoimmune

conditions. Keep in mind that production of mRNA vaccines is not perfect. There could be batches that are flawed and instruct our cells to make defective spike proteins or our ribosomes may make mistakes in translation of the mRNA instructions leading to a whole set of different looking spike proteins or fragments (who knows what will be the consequences of these mistakes). Antibody Dependent Enhancement (ADE) -- vaccinated individuals develop more severe disease upon future exposure to the Covid-19 virus -- is another concern. I am all for vaccines that have been proven to be safe and effective. Sometimes when an ardent pro-vaxxer unfairly calls me an anti-vaxxer, I am tempted to call them a FAP... Future Autoimmune Patient. I wouldn't do it, though; I am too nice.

Deaths

More than 9,000 deaths have been reported to the CDC (only between 1 to 10% of such cases are estimated to be reported to VAERS), most of them occurring within a few days after the vaccine, and some within minutes or hours. Deaths have occurred in teenagers, including a 15 year old boy in Colorado, VAERS ID 1242573-1, and a 16 year old girl in Wisconsin. It has been difficult to keep accurate statistics.

ER visits and hospitalizations

More than 400,000 serious injuries have been reported to VAERS (which captures only a small percentage of actual vaccine injuries). A large number of the VAERS reports are submitted by doctors and nurses; a false report is a federal offense. More than 150,000 individuals have visited urgent care centers, rushed to emergency rooms, or have been admitted to a hospital related to post vaccine adverse reactions. It's nearly impossible to know how many people have called their family doctor or made an office appointment; or seen a specialist such as a cardiologist or neurologist. Sometimes I wonder whether Moderna and Pfizer had enough time to determine the ideal dosage for different age groups, male versus female, someone who weighs 100 pounds or 300 pounds. They did not have enough time to determine the ideal interval between doses. Maybe the second dose should be delayed another couple of weeks to minimize side effects?

These vaccines have not been thoroughly tested in:

The Elderly

Persons over the age of 85. Seniors tend to not mount much of an immune response after vaccination. It remains unclear whether giving a shot does more good than harm, especially those over the age of 80 or 90. I have come across a number of caretakers who mention a deterioration in mental and physical abilities soon after the shots. If the elderly do not mount much of an antibody response after the shots, especially against the Delta variant, what is the point of giving it to them?

Teenagers and Children

I am not comfortable with the brief studies that led FDA to recommend them for this age group. We have not determined the full spectrum of short- and long-term adverse reactions in adults, let alone in teenagers. What if, after jabbing millions of kids, we find out more of them are harmed or die from the Covid-19 vaccines than catching the infection itself? Already hundreds of myocarditis cases have been reported nationwide. We could end up having tens of thousands otherwise healthy teens end up with heart problems, strokes, neurological deficits, and other lifelong serious health issues. The young have a healthy and robust immune system which would make them more likely to mount a pronounced immune response which could negatively manifest in a number of ways. Search "Everest Romney" and read about the unfortunate story of this perfectly healthy Utah teenager, and his robust, athletic dad, who both ended up with several clots damaging their health forever. Since we now know the lipid nanoparticles end up in ovaries and testes, are reproductive issues a concern? Did FDA study this topic in enough depth before making their recommendations?

Covid-19 Infection

Those with a prior Covid infection are likely to have a more severe reaction, like adding fuel to the fire so to speak. My suggestion would be to avoid a shot if you have had an infection within the past 6

months or until better and safer vaccines are provided. The current vaccines do not offer a strong protection against the Delta variant. On a different topic, I do not think antibody testing is of significant benefit since different labs provide different results, levels diminish month over month, and they may not protect against new variants. More important is long term T cell presence, which is a more difficult blood test to do and not as readily available.

Unstable Medical Conditions

Those who have sickle cell disease, inflammatory bowel disease, polymyalgia rheumatica, thalassemia, familiar mediterranean fever (I only know of one person who took Pfizer shots and he did fine), significant cirrhosis, polyarteritis nodosa (a vasculitis which could get worse with the vaccines) or temporal arteritis (giant cell arteritis). Since the vaccines effect heart rate and rhythm, those with Wolff-Parkinson-White syndrome, congestive heart failure, or postural orthostatic tachycardia syndrome (POTS) should be very careful. Chronic Fatigue Syndrome / Myalgic Encephalomyelitis (ME) is likely to be worsened since fatigue is a common adverse effect reported. Fibromyalgia symptoms are also reported getting worse. Those with Mastocytosis, mast cell activation syndrome (MCAS) should be cautious since the vaccines are known to cause histamine release. CREST syndrome (calcinosis, Raynaud's phenomenon, esophageal dysfunction, sclerodactyly, telangiectasia) or Lyme disease.

Multiple Medications

Common types of medications include statin drugs for cholesterol reduction (statin medications can cause muscle tissue damage); blood pressure medications including ACE2 inhibitors (Accupril, Lotensin, Prinivil, Vasotec); anti-depressants such as Prozac, Zoloft; pain medications and anti-inflammatories; heart medications such as beta blockers, anti-arrhythmics; oral and injectable meds for diabetes; and many others. Interactions between vaccines and medications could easily occur with currently not-well-understood results.

Psychiatric Conditions

Individuals who have unstable psychiatric conditions, including those with anxiety disorder, depression, bipolar disorder, or psychosis.

Autoimmune Diseases

Although some report no serious reactions, others with a variety of autoimmune diseases notice flare-ups requiring a course of steroids. Common autoimmune diseases include Hashimoto's thyroiditis, rheumatoid arthritis (joint pains may get worse), celiac disease, diabetes mellitus type 1, Graves' disease, inflammatory bowel disease, multiple sclerosis (MS), psoriasis, psoriatic arthritis, SLE (systemic lupus erythematosus), and Sjogren's syndrome (dry eyes and mouth). It would be unwise to take these vaccines by those who have antiphospholipid syndrome or other hypercoagulable conditions.

Immune Suppressed Individuals

About 3% of US citizens are immune suppressed and will hardly mount an adequate immune response to vaccines. These include organ transplant patients who are on anti-metabolite medications such as azathioprine, methotrexate, mycophenolate. Those being treated with corticosteroids (prednisone, Medrol) and immune suppressing medications such as CellCept, cyclosporine, azathioprine, rituximab (Rituxan), Sirolimus. Fully vaccinated immune compromised individuals have died from Covid-19 infection. Why subject such patients to the dangers of a vaccine when the benefits are minimal and temporary, at best.

Cancer

Various cancers including myeloma, lymphoma and leukemia. The immune system of many cancer patients (breast, lung, prostate, kidney, bladder, colon, etc.), especially those undergoing chemotherapy, is compromised and may not form adequate antibody levels; is it even worthwhile to give them the shots, especially if they are on chemotherapy. The Covid-19 shots temporarily suppress immune function and some doctors are concerned this could allow cancer cells to grow faster and

spread... I have not yet seen such proof but it is possible. A urologist in Florida has noticed temporary elevations in blood levels of PSA, prostate specific antigen, a marker for prostate cancer. Since the nanoparticles end up in the bone marrow it does raise concerns about an increased risk for blood cancers such as leukemias and myelomas.

Neurological Conditions

Seizure disorders, Parkinson's disease, Alzheimer's disease, peripheral neuropathy, amyotrophic lateral sclerosis, Tourette syndrome, and other neurological disorders may be worsened. Would someone who is barely controlled with anti-seizure medications have severe, difficult to control seizures? Neurologists should be fully aware of seizure onset post Covid vaccine shots. Is the Covid-19 vaccine safe in those with Parkinson's disease or others with neurological disorders? Some with Parkinson's have had no untoward reactions whereas others have worsened dramatically.

Liver Disease

Individuals with Hepatitis B or C, or those with fatty liver disease, alcoholic liver disease or cirrhosis.

Infections

HIV patients are immune suppressed, would they develop an adequate immune response to the shots?

Pregnancy

We do not know the outcome in babies after birth if the mother has been vaccinated during pregnancy. I am aware of one case report where a mother received a shot one month prior to delivery and the newborn had seizures. We first need to determine whether spike proteins cross through the placenta. The public should be informed whether such studies have been done in animals. A pregnant woman, 38, suffered disseminated intravascular coagulation (DIC) 16 days after vaccination. She died along with her fetus, VAERS case number 1168104. There have been reports of miscarriages after the shots but it is difficult to confirm a correlation. Vaccine-induced inflammation and low platelet count could lead to hemorrhage and loss of the fetus. If spike proteins cross through the placenta damage could be done to the fetus, for instance neurologically.

Nursing

A mother who had her second dose of Pfizer vaccine breastfed her 5 month old infant. The next day he had a fever, was taken to the ER and found to have elevated liver enzymes; was hospitalized, diagnosed with TTP, thrombotic thrombocytopenic purpura, and died. The VAERS ID number is 1166062.

Treatment for Post-Vaccine Damage

I do not yet have good answers as to ways to treat or improve post vaccine harm. One could try reducing the overall inflammatory process in the body through anti-inflammatory foods, fresh fruits and vegetables, fish or fish oils, probiotic foods, outdoor walks with sun exposure (vitamin D is a potent anti-inflammatory), and deep sleep. I am not sure if supplementation with vitamin D (2,000 to 6,000 units daily), vitamin C (500 to 1,000 mg), quercetin (100 to 300 mg in am), or lipoic acid (20 to 50 mg in am, mostly for nerve related issues) would be of help. Perhaps antihistamines could be of benefit in a subset of vaccine-harmed individuals; one neurologist is experimenting with ranitidine (Pepcid, 40-80 mg twice daily for a few days), a histamine 2 blocker. Fluvoxamine (generic for Prozac) is worth a try since it reduces cytokine formation. I have read posts online, and some research articles, that ivermectin could be of benefit, and that it could block the attachment of spike proteins to ACE2 receptors but I need more time to determine if it works. India hands out ivermectin to some of its citizens as a preventative and as a treatment for Covid-19 infection. I have not come across any studies on pine needle tea (shikimic acid and suramin) which proponents claim heals from spike protein damage and prevents shedding -- I am not sure how they would measure that. The vaccines have a variety of mechanisms with which they damage the body, I can't imagine how one herb would be an effective treatment.

Psychological, Emotional, and Physical Pain... and Financial Burden, hardly mentioned by the mainstream media

When the media and vaccine companies claim that these SPEM (spike protein expressing materials, aka vaccines) products are safe and effective in preventing Covid-19 illness (which they are not), they rarely mention all the people who had unpleasant side effects, had severe discomfort or pain lasting days or weeks, had loss of mobility, suffered from worry, anxiety, depression, sleepless nights, lost time from work, had adverse reactions that lasted weeks or months (such as tinnitus, joint pains, fatigue, exhaustion), and are now potentially exposed to future immune system dysfunction (or future neurodegenerative conditions). They do not mention those who ended up in the ER getting multiple blood tests, MRIs, EKGs, holter monitors, electromyographies, lumbar punctures (to test for GBS), intravenous or IM medications, were hospitalized suffering from horrendous pain, spent weeks visiting different medical specialists (cardiologists, neurologists, ophthalmologists), incurred out of pocket medical expenses (some started GoFundMe pages), or actually have died as a result of the shots. To make the distress even worse, many doctors have denied their symptoms were related to the vaccines and even attributed the symptoms to psychological issues. A small percentage are no longer able to function in their previous work position. Eight percent of those who got their Moderna or Pfizer shots have missed their second dose. Did some of them have moderate or severe side effects that influenced their decision?

Ray Sahelian, M.D.

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Shedding or transmission

I am often asked what I think about Covid-19 vaccine shedding -- unvaccinated people getting side effects such as flu-like symptoms, headache, fatigue, fever, nausea, diarrhea, rash, nose bleeding, or uterine bleeding -- after spending a lot of time around newly Covid-19 vaccinated people. I am not aware of any published studies that have looked into it. It seems farfetched but not impossible; stranger things have happened in medicine and science (people speaking with a different accent after a stroke or head trauma). I would like researchers to look into the respiratory route as a possibility (see the article on my home page where I discuss trillions of spike proteins being formed). After vaccination the spike proteins in the blood travel through the circulation within exosomes. Scientists could analyze the exhaled air of newly vaccinated people (within the first few days) to see if any spike proteins, or fragments, are present. If they are exhaled, then the next step is to find out whether someone who is close to them inhales enough of these spike proteins to have substantial amounts circulating in their blood stream to cause noticeable adverse reactions. There are a lot of ifs here and it would be nice if researchers looked into it to allay the shedding concerns of some people. A friend who is a scientist, and skeptic, had mentioned to me 2 months ago that he had gotten ill even though he had been very careful and had stayed distant from people. He had a few days of fever, chills, and fatigue. He had tested negative for Covid-19. When I brought up the topic of shedding he recalled that his symptoms started four days after his mom, who lives in the same house but rarely goes out, had the Moderna vax. He recalled another time when he came down with similar symptoms and it was soon after having a long conversation a few feet away from a coworker who recently had her Moderna Covid-19 vaccine. Again he tested negative for Covid-19. Coincidences? I need a lot more evidence; but, again, I can't rule it out until scientists look into this matter. Spike proteins have been found in the urine of some patients with a Covid-19 infection, and they are also found in flatus. It is possible spike proteins could pass through fluids during intercourse, but in enough quantity to have an effect? Or pass by exchange of body fluids... for how long after vaccination? If spike proteins are transmitted by air, my best guess right now is that significant "shedding" would occur no longer than about two weeks. Another possibility for people noticing symptoms being around a newly vaccinated person is that someone who recently had a shot by chance was an asymptomatic carrier of the virus and passed it on to a person near them; or the shot itself temporarily lowered their immunity and they were more likely to carry the virus if newly exposed. A Pfizer report vaguely mentions transmission through the respiratory route (inhalation), and skin (through sweat?), as a possibility; they refer to it as "environmental exposure." I have read the report several times and it is not clear, perhaps purposely?

As I come across more and more stories of people mentioning their reactions after encountering those who have been recently vaccinated, I am becoming more open to the possibility of such transmission.