**mRNA**: Stands for “Messenger RNA. This is the active ingredient that directs the cells that take up the vaccine (muscle cells at the site on injection) to make a part of the viral spike protein. They make this protein which then makes the immune system react to it as if it were the real virus, thus creating immunity. In other words, the vaccine tricks the immune system into making antibodies to the coronavirus, even though it codes for only a small part of the virus and the small part of the spike protein that is made, this vaccine cannot cause the Covid disease itself.

**Lipids** ((4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 2 [(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 1,2-Distearoyl-sn-glycero-3-phosphocholine, and cholesterol): The mRNA is wrapped in a mix of these lipids that are called phospholipids, since the walls of our cells are made of lipids and phospholipids (cholesterol included). These protect the mRNA until it is injected and after injection, they allow the vaccine particles to fuse with the cells (think of two bubbles fusing into one bubble) and allow the mRNA to enter the cell. Without the lipid, the mRNA will not enter the cells efficiently, and the vaccine will not work. Cholesterol is abundant in foods such as eggs and meat.

**Potassium chloride, monobasic potassium phosphate, sodium chloride, dibasic sodium phosphate dihydrate**: These are all salts, sodium chloride for example is table salt/sea salt, and are harmless to the body in the small doses they are given.

**So there is nothing in here that is individually toxic or hazardous to health**, especially in these minute quantities, or even experimental, since the vaccine has already undergone testing in tens of thousands of subjects, but what is really novel is the use of the mRNA and the lipids wrapping. That’s what in fact, has allowed this vaccine to come to the market so quickly. Traditional vaccines may use a weakened bug (which can take years to prepare) or they use a killed bug (can take a long time to grow enough of it and then kill it), or purified protein (which can also take months to prepare), and further delays are introduced since the use of manufacturing processes then also need a quality analysis at each step to ensure what’s been prepared in the laboratories is safe.

This new vaccine simply bypasses all the lengthy manufacturing time and provides the code to our own cells and tells them what to make, eliminating the slow manufacturing process. Of course, this vaccine like all others has also undergone rigorous safety testing before using it in people.

**Meet Jeanne Greene, Koinonia’s Chief Clinical and Program Officer**

Jeanne has over 20 years of direct nursing care and healthcare experience. She is ready to answer your questions or address your concerns regarding the COVID vaccine.

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