

Transcript Details

This is a transcript of an educational program accessible on the ReachMD network. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/innovations-in-medicine/key-considerations-for-counseling-guiding-patients-on-mrna-therapeutics/14009/>

ReachMD

www.reachmd.com
info@reachmd.com
(866) 423-7849

Key Considerations for Counseling: Guiding Patients on mRNA Therapeutics

Announcer:

You're listening to *Innovations in Medicine* on ReachMD, sponsored by Moderna. This is a non-certified educational series produced and controlled by ReachMD and is intended for healthcare professionals only. Here's your host, Dr. Jennifer Caudle.

Dr. Caudle:

Welcome to *Innovations in Medicine* on ReachMD. I'm your host, Dr. Jennifer Caudle, and joining me to discuss how we can counsel our patients on mRNA therapeutics are Drs. Francesca Taraballi and Dr. John Russell. Dr. Taraballi is the Director of the Center for Musculoskeletal Regeneration at the Houston Methodist Hospital, and her research focuses on the development of smart biomaterials to target the immune system towards tissue restoration. Dr. Taraballi, welcome to the program.

Dr. Taraballi:

Hello. Thank you.

Dr. Caudle:

Of course. And Dr. Russell is not only one of our esteemed ReachMD hosts, but he's also a family medicine physician at Jefferson Health in Pennsylvania. Dr. Russell, it's great to have you here with us.

Dr. Russell:

Dr. Caudle, Jen, it's great to be with you again.

Dr. Caudle:

It's great to chat with you. So, let's start with you, Dr. Russell. What do our patients currently understand when it comes to mRNA therapeutics?

Dr. Russell:

It's such a wide spectrum. So, there are some patients who've become very savvy about this new technology, and then there's another cohort of people who really don't understand it, have a lot of misconceptions, have a lot of things based, perhaps they've heard the word DNA, so they think I'm getting this vaccine and it's going to change my DNA, or if it changes my DNA, I'm going to get cancer. Or if it works on DNA, I shouldn't be pregnant and get this vaccine. And then I think there's also a little bit of this misconception, maybe we'll talk about it, that it's brand-new technology, and it really isn't. So they're probably the things that I'm dealing with in the people who are not savvy about this mRNA technology.

Dr. Caudle:

Sure. Understood, and turning to you, Dr. Taraballi what are the most common knowledge gaps that you're seeing regarding the mRNA therapeutics?

Dr. Taraballi:

Well, he mentioned some of them, that of course, are all the people think that is a new technology. That it's something that a pop up in the hands of researcher just in the 2021 there was the problem of the pandemic. But the technology is actually in a well-established technology. I will not say old, I will say well-established technologies, from the late 80s that the first cell is translated with a molecule of mRNA. So, it's a long time, almost 30 years, that researcher works on this type of technology. This was a kind of misconception that came, I think, to the fruition to the patient when they saw at the television that the type of communication which they say we have a new weapon. And probably, it is the time in which this misconception went in the mind of a lot of people; how much is new, how this works,

how this doesn't work. And also sometimes the mechanism how the mRNA technology works is very complicated, also to explain in lay terms, so is difficult to them to understand.

Dr. Caudle:

For those of you who are just tuning in, you're listening to *Innovations in Medicine* on ReachMD. I'm your host, Dr. Jennifer Caudle, and today I'm speaking with Dr. Francesca Taraballi and Dr. John Russell about the current knowledge gaps surrounding mRNA therapeutics. So now that we better understand these gaps in knowledge, Dr. Russell, can you share some tactics to help us educate patients about mRNA therapeutics?

Dr. Russell:

Sure. So, Dr. Caudle, you and I see patients all the time who have some apprehension about vaccines. And the CDC ACIP would say, "Why don't we start with a personal narrative?" So, I tell people, "These are the vaccines that I have gotten. These are vaccines my wife, my children have gotten, my daughters of childbearing years. So, I think these are safe vaccines. These are vaccines that I've gotten for myself." And I think that that goes a long way, regardless of the vaccine, because to our patients, it tells us we have some skin in the game.

Then I'll explain a little bit about the vaccine. And, the mRNA, as people might not know but I talk about it being a recipe. And a recipe to make protein, so people can understand that we need to make hair and fingernails and cells, etc. Enzymes. So, this recipe gets plugged into the ribosome, and produces proteins. These proteins the body responds to, and forms antibodies, and these antibodies allow us to fight disease through a vaccine. So, I think that that can really help. I think there's some exciting stuff that is starting to happen with mRNA technology to produce other proteins that the body might not produce in some other way, but in the vaccine space that's what I talk about.

Dr. Caudle:

Coming back to you, Dr. Taraballi, what are some key considerations about these therapeutics that we should communicate to our patients, from your standpoint?

Dr. Taraballi:

So, first of all if something is conceived as a vaccine, rather than a therapeutic, it's the different approach that the patient has, because a vaccine is a prevention while other kinds of a new approach for mRNA technology are more therapeutic, so, they propose a cure. So, first of all, we have to understand what we are proposing right now on our weapons against the pandemic, and probably the future pandemic on this mRNA-based vaccine. So, to let them understand first that it's very important that the prevention is the best cure for everything, so the importance of vaccine. And then the second thing that I believe is a thing that we have to stress is that mRNA is an unstable molecule, and a lot of patients are actually afraid that this can mutate DNA, that can remain lingering around your body forever – while instead, the real problem of mRNA is the stability. Per definition, mRNA is not a stable molecule. That's why it took us a long time to develop vaccine because we have to let them stay as much as possible stable for the two or three days in which elicited the immune response. This is very key factor, I think, that is important to let them understand that whatever we inject, it is going to clear out from your body very quickly. It's not that stable modification of DNA.

Dr. Caudle:

Helpful. And before we close, Dr. Russell, do you have any final thoughts you'd like to leave with our audience?

Dr. Russell:

I mean the mRNA technology in the setting of the COVID vaccine was the moon landing. So, we had a fatal illness that found itself circling the globe, and within less than a year, we had a vaccine with a more than 90% efficacy, which is remarkable. And one of the other things about safety – I mean, a lot of the vaccine studies are done in, you know, couple thousand, twenty thousand patients maybe. This was a vaccine that millions upon millions upon millions of people have gotten it. We have so much data on this, and just because something happens temporally, related to getting a vaccine – so if I got struck by lightning the day after I got the shot, that might get reported to the vaccine center. They don't have anything to do with each other, so just be careful how people might cherry-pick something that they might say is related to the vaccine, because it might truly not be.

Dr. Caudle:

Coming back to you, Dr. Taraballi, what are some key considerations about these therapeutics that we should communicate to our patients?

Dr. Taraballi:

Well, in the study of medicine and the evolution of technology medicine, that definitely changed completely our work. They being developed during crisis. A big boom in technology medicine has been done after the second World War, because there was the need.

And so, when we face another big crisis, as the pandemic, this is what we came out with a new technology that can completely change the next pipeline of kind of therapeutics. So, I would like that the people embrace this kind of revolution that we have in the medicine, in which gives us a new weapon against probably new tropical disease, as well – eventually new pandemic coming. But as well as probably a lot of new cure for disease that right now don't have any kind of cure. So, I envision this new revolution with mRNA with joy, because we have a new tool to investigate, and eventually to use for unmet needs.

Dr. Caudle:

Fair enough. Well, with those key takeaways in mind, I'd like to thank Drs. Francesca Taraballi and Dr. John Russell for joining us to share their insights on how we can talk to our patients about mRNA therapeutics. Dr. Taraballi and Dr. Russell, it was great speaking with you both today.

Announcer:

You've been listening to *Innovations in Medicine* on ReachMD, sponsored by Moderna. This is a non-certified educational series produced and controlled by ReachMD and is intended for healthcare professionals only. To access this and other episodes in this series, visit ReachMD.com/InnovationsinMedicine, where you can Be Part of the Knowledge. Thanks for listening!