

Episode 14 – The Flu Vaccine

With Dr. Brody LeBlanc

Diane (00:00):

Today's Topic on Vax Matters, influenza and the flu vaccine.

Diane (00:11):

Welcome again to all our listeners. We're joined today by Dr. Brody LeBlanc, family medicine doctor at the Our Lady of Lourdes Regional Medical Center in Lafayette, Louisiana. His work focuses on preventive medicine and osteopathic treatment. Dr. LeBlanc, thank you so much. We're delighted to have you on this episode of our podcast.

Dr. LeBlanc (00:34):

Thank you very much. I'm glad to be here.

Diane (00:36):

Indeed. So Dr. LeBlanc, let's just go ahead and start off with basics. Could you briefly explain to everybody who is listening in today what is influenza and how severe can it be?

Dr. LeBlanc (00:53):

So influenza is just the- the technical term for the flu. So, we've all known people who've had it and may have even had it ourselves. Um, essentially it's a virus, just like many of the other viruses that may cause common colds or infections like that. The things that we know it causes, everybody's kind of aware that it causes fever, chills, muscle aches, can give you a cough, can make you have a stuffy, runny nose, headaches, fatigue. All those things that we know that you look out for if you're having those bad body aches and that fever, chances are you got the flu. Go get checked out.

Dr. LeBlanc (01:22):

Um, you know, we really talk about how bad can it get, what can it cause, those kind of things. Essentially, just like any cold, it can give you those symptoms that we discussed, but it really depends on each person and what they're at risk of if it can cause worse problems. Of course, it can get bad, just like anything else, but for the most part, most healthy individuals who are middle aged, not extremely young or not extremely old, that's where we see that those folks typically get a flu. A few days of feeling bad, they get better. But of course, there's a risk that it can get worse, and it can be serious.

Diane (01:59):

Well and I think that sometimes just me growing up, it was just so, it was kind of nonchalant to say, "Oh, I think that I'm getting the flu. I have the flu. So-and-so has the flu." It just kind of seemed like it was the umbrella for so many things that maybe was a little more serious. So as you said, you get checked out. Flu is not, you know, it's not inconsequential. It- it's not a mild disease. It can be serious.

Dr. LeBlanc (02:25):

Correct. And that's when we kind of worry about it. So of course, it can be serious, and that's the major concern, but exactly like you said, for the most part, when you get it, it's not a huge deal.

When it becomes a problem is when we worry. And typically, folks that we look that are at risk that we worry a little bit more about and watch a little bit closer are people who kind of have these certain risk factors. So number one is if you are either very young, so anybody younger than five years old, if you are older than 65, certain chronic medical conditions, breathing problems, looking at asthma, diabetes that's poorly controlled, heart disease, those kind of things. Um, we also worry about women who are pregnant, because of course, their bodies are undergoing a lot of stress as well and fighting off an infection can be difficult.

Dr. LeBlanc (03:13):

Um, and then we also have people who smoke are also at higher risk and people who have any lung related disease. Those are people that we watch a little bit closer.

Diane (03:22):

Mm-hmm.

Dr. LeBlanc (03:23):

And also, people who have immunodeficiency. So in other words, people who have HIV, who are on medications to decrease their immune system for different things like rheumatoid arthritis, or RA, or any autoimmune disease. Those are folks that we watch fairly close because there is a higher risk that they may have worse symptoms than what you or I may have at average risk.

Diane (03:45):

And again, as you said, it might not, but again, you'd rather err on the side of caution to make sure you kind of keep more of a closer, a closer eye, a more cautious outlook for the folks that you just mentioned.

Dr. LeBlanc (03:58):

Yes, ma'am. Very much agreed.

Diane (04:00):

You- you, growing up, um, thr- through the years, I don't really remember when I was a kid, teenager, young adult, much, uh, much talk about a flu vaccine or that you had to have a flu shot or that it was requi- not required, but it was recommended to have a flu shot. When did all of that, when was the first flu vaccine developed and who was it for basically?

Dr. LeBlanc (04:25):

Sure. So the first flu vaccine was actually around, uh, a lot longer than we are typically aware of.

Diane (04:33):

Oh? Okay.

Dr. LeBlanc (04:33):

So, usually, and 1945 is really when we saw the first vaccine. That was when it was licensed for wide use in the general population. But the first vaccine was actually developed for the US Army, or with the US Army.

Diane (04:46):

It was?

Dr. LeBlanc (04:47):

Um, it was after-

Diane (04:47):

I never heard that before.

Dr. LeBlanc (04:49):

I'm gonna check and make sure before I misspeak if it's World War I or World War II. I believe it was World War II.

Diane (04:54):

Mm-hmm.

Dr. LeBlanc (04:54):

Um, they saw so many deaths from the flu, and it was comparable, if not even more than what they saw from actual fighting. So, they really had more reason than most to say, "We really need to protect our troops not only from foreign invaders physically, but also the, uh, microscopic or sub microscopic, um, foreign invaders, such as viruses." So they, in combination with Dr. Salk, who you might recognize that name from somebody who developed the-

Diane (05:23):

The polio man?

Dr. LeBlanc (05:23):

... polio vaccine.

Diane (05:24):

The polio man?

Dr. LeBlanc (05:25):

Yes, ma'am.

Diane (05:25):

Oh my gosh, he had a part in that, in the flu vaccine?

Dr. LeBlanc (05:27):

Yes, ma'am.

Diane (05:28):

Did not know.

Dr. LeBlanc (05:29):

He sure did.

Diane (05:29):

Did not know.

Dr. LeBlanc (05:29):

And then also, uh, Thomas Francis. And they developed that with the US Army for first military use. Then in 1945 is when we saw more wide licensing for general use.

Diane (05:41):

So, it was in the mid '40s then when it became, uh, available to the public?

Dr. LeBlanc (05:47):

Yes, ma'am.

Diane (05:48):

So, maybe a lot of people are curious, and we're asking the, you know, the professional, the doctor, and it's so good to get information that is real information, not misinformation. And again, people think they know everything there is to know about the flu, but why- why is it really necessary, and is it recommended, and I know that it is, to get a flu shot every year? Is it the efficacy for the- the 12-month period? I know there are different strains. Maybe they go hand-in-hand, doctor.

Dr. LeBlanc (06:20):

They do. So part of it is it doesn't last that long in our system. So, we need booster shots. In other words, our body needs help maintaining the right amount of vigilance against that virus. So, we need reminders for our cells to say, "Hey, keep watching out for this." So the question is also, why do I need to get it? If I'm a middle-aged individual with low risk of having complications from the flu, why do I need to go get the flu shot every year? Well, the answer is you necessarily don't need to, but it may be more for those around you. So, you may be low risk and that's wonderful, however, the people you come in contact with are also a concern.

Dr. LeBlanc (06:58):

So for example, if you live in a household or you frequently visit family members who may be over 65, grandma, grandpa, mom, dad, if you have a child under the age of five years old, or you frequently visit with somebody under the age of five years old. If you work or live around and help out somebody who is immunodeficient, you may not know. Anyone you come into contact with who is high risk, if you were to contract the flu and be infectious, those are indivi- those individuals are at risk of now contracting the flu and having a severe outcome for it. So really, yes, it's to help protect you because each flu virus is different, and we may not know that you have a risk factor.

Dr. LeBlanc (07:42):

Most young, healthy individuals are not at the family medicine office every day getting checked out and making sure there's nothing going on. And even if they are, we may not have clues that something may be going on. However, there may be an underlying lung disease. You may have smoked 10 years ago. Things are fine, but your lungs may not be working optimally. And the flu may

take a bigger hit for you than it may for somebody else who doesn't have those risk factors, and you may not know that. So, we of course want to protect each person as much as we can, but we also want to protect those around you, and you never know who you come into contact with. So, it's really also for those that you come into contact with regularly.

Diane (08:18):

And that does make perfect sense, to look out for others, and especially your family members, your friends, well, people that you love, and it's basic, it's respect for your community, doctor.

Dr. LeBlanc (08:29):

Very much agree.

Diane (08:30):

So on a scale of 1 to 10, I'm just kind of curious, how contagious is the flu?

Dr. LeBlanc (08:42):

It depends on year to year. So with that evolving that we talked about with the flu, really it depends on what it picks up from what it came into contact with in the past season. So really, each flu is it, infects a host, whether it be a human or an animal. They do infect both. When they get different markers, they start to exhibit different symptoms. So for example, you may hear, "Oh, this year, the flu causes nausea."

Diane (09:07):

Mm-hmm.

Dr. LeBlanc (09:08):

"This year the flu is way more infectious. People are getting it way easier, but it's not as bad." Or you may hear, "Hey, this year is really bad. It's causing a lot of breathing problems." Those are signs that that virus is evolving. So that's really what we look at each year to see how infectious it is and how severe is it, and that's how they kind of come up with these vaccines to say, "This is what we'd like to target against. We're gonna change the vaccine from last year with these new proteins that are popping up, markers on this cell that help it to get into our cells or help it to spread more easily or to replicate more quickly. Any of those things are things that we want to target. That way, we could keep it from doing that with the vaccine, and that's what they watch each year to see what we need to do on the vaccination side, but it's kind of hard to say how quickly can it spread.

Diane (09:59):

Mm-hmm.

Dr. LeBlanc (10:00):

Each year is a little bit different, but typically the things that we worry about is respiratory droplets. So in other words, if you cough, if you sneeze, when you do that, your saliva, mucus, all of those things, the gross stuff we think of when a little kid comes up and-

Diane (10:13):

(laughs).

Dr. LeBlanc (10:14):
... rubs their hand on the-

Diane (10:14):
And wants to hug you? Yeah, uh-huh.

Dr. LeBlanc (10:17):
... uh, you, that ... They love to share, including mine.

Diane (10:18):
Yeah, they do.

Dr. LeBlanc (10:19):
We love them, but ooh, they share some-

Diane (10:21):
Mm-hmm.

Dr. LeBlanc (10:21):
... good things and some bad.

Diane (10:23):
(laughs).

Dr. LeBlanc (10:23):
Um, but that's kind of what we think of. Those are the things that you really look for as to how it spreads. So, the easiness of spreading also depends on how well does it transmit? What's the temperature? How long has it been in contact with? Those kind of things. But that's really what we're looking for and it's kind of hard to gauge exactly how infectious it might be overall.

Diane (10:44):
So the vaccine, it's tweaked every year. You're not getting the same vaccine year after year and year when it comes to your flu shot.

Dr. LeBlanc (10:53):
Not necessarily. So yes, it can be tweaked.

Diane (10:56):
Okay.

Dr. LeBlanc (10:56):
But not every year is a change.

Diane (10:58):

Oh, okay.

Dr. LeBlanc (10:58):

Don't know how often it's changed. I can't say I looked up that data.

Diane (11:01):

(laughs).

Dr. LeBlanc (11:01):

However, they essentially look year to year, season to season and say, "Do we need to change it?" And the way they do that, essentially, they have monitoring stations throughout the United States, mainly in the mid to north section of the United States, and what they do is they look at actual data and get serum samples or get blood samples. And they're finding out how well does the vaccine work for human individuals, not necessarily animals in this portion, but they're looking to see how well is the vaccine working, are people actually getting infections or not if they've been vaccinated, and if they do, how severe are they. Are they showing signs of antibodies at a sustainable level, where we need to do anything about it?

Dr. LeBlanc (11:44):

And then they see, okay, now that we've seen the human trials, then they'll also look at specifically are the viruses that we're seeing that we've isolated throughout this season, are our vaccines actually working well against them? And the way they do that is they actually do some animal trials. There's some very important ferrets that essentially they give them the flu. They see how their body respon-

Diane (12:06):

Now, there, now, wait. Now stop. There are important ferrets? Is that what you said?

Dr. LeBlanc (12:10):

There are important ferrets that [inaudible 00:12:11].

Diane (12:11):

I've never heard that st- (laughs) ... I've never heard that together.

Dr. LeBlanc (12:14):

There are. They're very important.

Diane (12:14):

Okay (laughs).

Dr. LeBlanc (12:15):

They're the ones who do this for us. So, while not a great fan of animal trials-

Diane (12:21):

Mm-hmm. Yeah.

Dr. LeBlanc (12:22):

... they are sometimes necessary.

Diane (12:23):

Yes, they are.

Dr. LeBlanc (12:23):

And I will say, these ferrets should live quite a wonderful life because they do us a large favor. So that being said, what they do is they actually infect these ferrets with the flu strains that we're seeing most commonly. Once they do that, they see what antibodies they actually create. Once they do that, they look and see how similar are our antibodies created to the flu vaccine. Once they do that, they can see, are we actually being protected against this virus without actually infecting a human. And they see, are we able to decrease the risk of getting the flu or are we able to decrease our risk of dying or having a severe infection from the flu strain that's most likely to be seen throughout the year? And that's how they gauge if they need to change it and what type of changes, they need to make to the flu vaccine each year.

Diane (13:11):

Uh, on our podcast, we've done a lot of question and answer with the different doctors about, uh, the vaccines that go through trials and testing. And you just said about the- the flu vaccine tested on this particular animal. Is it also, is it tested on humans? H- how- how does it, how does that work and how long does it take?

Dr. LeBlanc (13:34):

Yeah. So, with each flu vaccine, they do have some human trials. Um, of course they go through the trials first. Essentially, they have multiple different clinics, and the CDC actually has multiple different areas of observation, like we talked about, throughout the mid north portion of the United States-

Diane (13:52):

Mm-hmm.

Dr. LeBlanc (13:53):

... where they actually have sites that they monitor this. Essentially, they give people the flu vaccine with changes or no changes, and then they monitor them. Um, that being said, uh, I can't say I looked into very much how they are compensated or how they are elected or if these are people that are part of-

Diane (14:07):

Just volunteer, yeah.

Dr. LeBlanc (14:09):

... these trials.

Diane (14:09):

Yeah.

Dr. LeBlanc (14:09):

But as far as I know, volunteers come, they get the vaccines-

Diane (14:13):

Mm-hmm.

Dr. LeBlanc (14:13):

... and then they go, undergo some monitoring, blood tests, asking about symptoms, follow up by phone, seeing if they've been exposed, and if they exhibited any symptoms, things like that. Um, and then they also watch for side effects. And then they're able to get that data.

Dr. LeBlanc (14:29):

Um, as for how long it takes, the actual flu vaccine takes about six months to be produced in large enough amounts to distribute. The actual trials monitoring, safety and all of those things, uh, it was really difficult to find information on exactly how long that takes. So I'm not really sure if they do that for weeks, months, years, or if even they're getting a different vaccine while there's another vaccine also being distributed more generally.

Diane (14:57):

Mm-hmm.

Dr. LeBlanc (14:58):

That information was a bit difficult to find, and I assume that may be different each year. Um, but as far as I know, the main thing about how long it takes, if they were to find that, uh, vaccine is safe and that it's working well, it takes about six months to produce in a large enough amount to be able to distribute.

Diane (15:17):

Nationwide then, okay.

Dr. LeBlanc (15:18):

Sure, yeah.

Diane (15:19):

So- so le- let me ask you this. Is there anyone that you recommend should not get the flu vaccine?

Dr. LeBlanc (15:27):

Yes, ma'am.

Diane (15:27):

Okay. We have a few-

Dr. LeBlanc (15:30):

So-

Diane (15:30):

... people, a few categories here.

Dr. LeBlanc (15:31):

We do. Let's see. Now I'm gonna get to that portion. All right. So, people who should not get the flu vaccine. There's a- a limited patient population that we say, "You should talk to your healthcare provider before you get a flu vaccine." Um, those individuals of course, the main inclusion category is have you had an allergic reaction to the flu vaccine before? And if you've had that, the question is, should you get it again? The likely answer is no, unless you have some reason that it may have been a reaction to something else, or if you have something that would necessitate or just make extremely recommended that you were to get a flu vaccine, they would do some more testing to see if it would be safe and that you may have had some reaction to something else. But it would usually be in an environment that's very controlled. So in other words, they would probably watch you very closely shortly after you got the flu vaccine and thereafter.

Dr. LeBlanc (16:25):

Um, so that's the major reason, but then there's also some others. So for example, um, somebody who has an allergy to eggs. In the past, the way they made the virus was they would actually use egg yolk proteins. Um, once we've got a better, uh, process of creating the flu vaccine, that is becoming less and less of a process required and the amount of egg is not as much as it used to be. There are also egg free flu vaccines, but you should definitely talk to your doctor before getting a flu vaccine, especially at one of our outside sources. So for example, if you go to Walgreens, CVS, Walmart, any of those outside pharmacies, big pharmacies that provide vaccines, you may want to speak to your doctor first, just to be sure that the type of vaccine you're getting is a safe vaccine.

Diane (17:15):

There are different types of vaccines. You can of course get the injection. Is there also a nasal, uh, spray, uh, for- for flu vaccine? I'm not even sure if that's-

Dr. LeBlanc (17:26):

There is.

Diane (17:26):

... correct or not. Oh- oh, there is? Okay.

Dr. LeBlanc (17:27):

Yes, ma'am. There is. So, and we'll talk about that one. Um, so that's one of the next things as well and people who shouldn't get it, so we'll jump to that one. Anybody who has immuno deficiencies also should consider not getting a live virus. Now years ago, I say years, uh, I'll try to figure out how many, but essentially there was a live virus, and that live virus was attenuated. So in other words, it was weakened. And the way that they would give that vaccine and a live attenuated virus was a nasal spray. They found that it didn't work very well. And one year, in fact, it gave no protection or near no protection against the flu. So, they actually recommended stopping it.

Dr. LeBlanc (18:08):

Now that virus being a live attenuated, or a weakened virus, technically speaking, if you are immunocompromised or you can't fight off infection very well, that virus can, or that vaccine can

actually cause some problems for you. So that person, we would also recommend somebody who's immunodeficient, don't get the live attenuated vaccine, or don't get the nasal vaccine. That being said, the nasal vaccine actually is back on the market.

Diane (18:34):

I didn't realize that.

Dr. LeBlanc (18:34):

Um, so looking-

Diane (18:34):

Okay.

Dr. LeBlanc (18:34):

... it is not recommended by any of the medical societies that I could find. Um, and as far as I know, there are not many reasons that you should get that one over another one. Um, I was unable to find any. So, it is on the market, but it's not recommended. So, it is available now. Um, they're doing trials to see if it's able to protect well against the flu, but thus far, those trials have not been extremely successful and not more so than the injectable flu vaccine, but it is an option.

Diane (19:04):

There is a myth, and it's probably been going around since the vaccine came out, and would you please qualify this because there are people who still today say, "If I get the flu vaccine, I'm going to get the flu." What do you say to these people?

Dr. LeBlanc (19:23):

So me in particular, I like to talk to, with all my patients about those things, so we get that question quite frequently. The last time I got the flu vaccine, I got the flu. Unfortunately, it probably is just an unfortunate coincidence. So with the flu vaccine, so the- the intramuscular vaccine, the w- the injection, that vaccine is only parts of the virus. And when I say that it's not necessarily viral parts, but it's usually the marker proteins that live on the outside of that virus that help your body to identify that that is the flu. It is not one of your native cells that lives in your body normally. It's a foreign invader, a foreign pathogen that we need to get rid of.

Dr. LeBlanc (20:02):

Typically, what these vaccines do is help us to identify those parts, to where when we encounter them in our system, whether it be a full infection or you just breathe some in, essentially your body says, "Hey, we've detected this. Let's make antibodies against it. Let's attack it and get rid of it." That being said, with these vaccinations, they are not actual live viruses. So you may get flu like symptoms because your body reacts to the vaccine that we give you. When it reacts, most of the symptoms that you experience from the actual flu itself are actually symptoms or your body reacting to whatever it is that it's encountered, whether it be a cold virus, the flu virus or any other bacteria or any other type of illness.

Dr. LeBlanc (20:51):

So you may get flu like symptoms. You can get body aches, chills, run a low-grade temperature. You can have those things, and those are actually quite common, and it's a good sign that your body has

a good reaction and response to the vaccination. However, many people take that as, oh, I think I got the flu, or you may have also gotten the flu and had the full-blown fever, chills, tested positive for the flu shortly after you get the vaccine because it does take some time for your body to actually pick up and create the systems to where essentially the alarm is on. It takes time for your body to be prepared and fully reactive after getting the vaccination. So, if you come into contact with the flu shortly after you get the vaccine, your body may not be as primed and ready as it may be a week or two after you get the vaccination.

Diane (21:39):

So, you really need to know the backstory on why you might get that, and that it's not, it- it's not an issue. It's, as you said, an unfortunate circumstance sometimes, but it also lets you know that your body is honing in and this is exactly what your immune system needs to be doing. I know that during, you know, different flu seasons or when everybody was getting, hopefully everybody got the COVID vaccine and the boosters, you had asked, doctor, you know, 10 different people their, you know, if they had any reaction, this, that or whatever, you'd get basically 10 different answers, 'cause we're all different and our bodies respond differently to what's put in them.

Dr. LeBlanc (22:16):

That's exactly correct.

Diane (22:18):

What about the age, the age group for flu shots? The younger age group, do they have a different flu shot than the middle age? I know older folks have a stronger, uh, a stronger vaccine or a flu shot. Uh, what does, what, how- how does that age breakdown for, uh, the flu, uh, flu shot?

Dr. LeBlanc (22:37):

Yes, ma'am. So, and that's another, uh, inclusion category in the who shouldn't get the vaccine, but of course usually under the care of pediatricians at that point. But younger than six months, we don't recommend the flu shot. Once you hit six months of age, we recommend your first flu shot, especially if you're under five years old, you're high risk. Therefore, the first flu shot is actually a two-dose series. Essentially, like our other immunizations, our other vaccinations, we know that kids get two, three dose series of some of our different vaccinations to help their body create a long-lasting effect against some of these different pathogens, whether it be viruses or otherwise.

Dr. LeBlanc (23:17):

So the flu is no different. When you first get it, as your first dose, I should say, usually around six months of age, the recommendation is to get a two-dose series, that way their body creates more long lasting effect to it. Then thereafter, they get the yearly shot just like everybody else. I can't say I know for sure. I don't see pediatric patients and I can't say this is something I've researched. I don't know if the flu vaccine for young individuals is the same as adults.

Diane (23:45):

Mm-hmm.

Dr. LeBlanc (23:45):

I'm sure there is, of course some dose titration based on size and age, but I'm not sure. Um, but of course exactly as you said, once we hit 65 years of age, we do recommend a higher dose of the flu

vaccine. So, it's a high dose flu vaccine. That can protect a little bit better because our immune response isn't quite what it used to be when we were younger. So, it does take a little bit higher dose to create the same response and protection that it would in somebody at a younger age.

Diane (24:12):

And I, uh, and I believe some of my friends who went from y- turning that marker point of the mid 60s, they had a little bit more of a reaction. You know, their arm was sorer or, like you said, they just had a little bit more of an ache or whatever when they got the higher dosage that made them question, but they're doing exactly the right thing, as you said they should.

Dr. LeBlanc (24:35):

Right. And of course, just like we said earlier, everybody reacts a bit differently too.

Diane (24:39):

Mm-hmm.

Dr. LeBlanc (24:41):

So, really, it's all about what symptoms you have, and I wouldn't just brush them off as nothing. Of course, if you're having symptoms and you're concerned, talk to your doctor about it. That way, they can quantify if this is something normal to expect or if this is something that's out of proportion.

Diane (24:53):

And only, and only you know your body. You- your doctor doesn't know. Your doctor doesn't know that this feels strange, or I've never had this before or if it, if it kind of comes to your mind, pops to your mind, hmm, this is strange, that's a question, you need to follow up with. If you even think it, you need to follow up with it.

Dr. LeBlanc (25:11):

Very much agree.

Diane (25:13):

What is a pandemic flu vaccine, or is there such a thing?

Dr. LeBlanc (25:17):

There is such a thing. So essentially, pandemic unfortunately, we're going through one of those. Um.

Diane (25:22):

We know that word, don't we? Holy cow.

Dr. LeBlanc (25:22):

We do.

Diane (25:22):

Ooh.

Dr. LeBlanc (25:22):

All too well.

Diane (25:22):

Yes.

Dr. LeBlanc (25:26):

Um, that being said, so pandemic flu vaccines are very similar to our other vaccines. The only difference is we see that these pandemic flu viruses are more infectious or may potentially create more of a severe infection. So similar to the swine flu, similar to the bird flu. When those things happen, I remember, I don't remember exactly how old I was, but I remember being a younger individual and being like, "Uh, all right. We've got another flu."

Diane (25:54):

Mm-hmm.

Dr. LeBlanc (25:56):

But everybody was a little bit worried. All right, let me make sure I get my flu vaccine this year. Essentially what we're looking at with those is that this virus spreads very easily, and it goes from person to person quite well. It picked up one of those things we talked about along the way that helps it get from host to host very easily, or it also may be a more severe infection or symptom onset that we see. So that's when we start to worry about the flu because the flu is normally relatively easily spread, but we don't see it go globally, causing huge issues.

Dr. LeBlanc (26:28):

It may be in a few different populations. We may see high risk encounters where you went to a party, somebody had the flu, and you can get two or three people that may be infected around you that you came into contact with. The pandemic flu, you may see much more like what we see in COVID, is if you went around somebody, each contact that spread, we see multiple different people.

Diane (26:47):

Mm-hmm.

Dr. LeBlanc (26:47):

So, each year's a little bit different, but those pandemic flus are even worse. Now the vaccine is made in a very similar way. So they do the testing. They find out what virus it is, similar to swine flu, bird flu. It's different portions of the virus that make it more infectious. And they see, how can we create a vaccine that will give us protection against that to reduce our risk and reduce our risk of spreading the virus. That's essentially what the pandemic flu vaccine is. So, it's just the same exact vaccine make-up, but for the different virus that comes out that's more infectious.

Dr. LeBlanc (27:24):

The other key to that is how do we get a pandemic flu vaccine? How do we know when it's gonna pop up? We really don't, but what we look for is markers. So for example, if we see that in an endemic region, we have found that a flu virus has spread from an animal to a human, and when we isolate it, it is specifically one of those strains that we worry about, then we say, "Okay, what's

different about it?" And then we make a vaccine against it if it is spreading quickly. They do it in the same way that they make the other vaccines, so it takes about six months to create and to distribute in a large enough scale to get people vaccinated.

Dr. LeBlanc (28:02):

It's tested in the same ways as the other ones with different human hosts and animal hosts, making sure that we have the proper things and it's safe, but that's essentially the only difference, is it's one of those flus that is easily spread and much higher risk.

Diane (28:16):

Y- this might be kind of a stupid question, and forgive me if it is, but other parts of the world, do they have yearly, uh, flu shots, or is the US, are we the only ones that do this? Or is this commonplace?

Dr. LeBlanc (28:31):

That's a great question, and I do not know the answer to that.

Diane (28:34):

That would be kind of-

Dr. LeBlanc (28:35):

But now I'm- I'm very curious. I will definitely be looking that up.

Diane (28:37):

Well, thank you (laughs). I'm glad I could help you with that. Okay. One last question, as we're kind of wrapping up our- our podcast today. There was some concern about flu vaccines that may have contained a type of mercury. Can you respond to that?

Dr. LeBlanc (28:55):

Sure. So the ingredient that people talk about when you hear that mercury is in these flu vaccines is actually an ingredient called Thimerosal, or Thimerosal. That is a preservative that's sometimes used in vaccine in low levels. In the body, the reason we hear mercury, is it's broken down into ethyl mercury and thiosalicylate. Those essentially ingredients are the reason we hear that there's mercury in them. Now the mercury you and I think of that, you know, if you broke an old thermometer and you're not supposed to touch or play with-

Diane (29:28):

And when you were a kid, you couldn't help it. You had to touch it.

Dr. LeBlanc (29:30):

Yeah, exactly.

Diane (29:30):

Yeah.

Dr. LeBlanc (29:31):

You had to.

Diane (29:31):

Yep.

Dr. LeBlanc (29:34):

But Lord will, we are all still here and doing quite well.

Diane (29:35):

(laughs) You're right.

Dr. LeBlanc (29:37):

We made it. But that mercury is quite different. So that mercury is methyl mercury. That's the one when we think about. That one builds up in our body very quickly, and it doesn't leave very easily. Now ethyl mercury is what Thimerosal is broken down into, and that leaves the body very quickly, and it's not maintained long-term. So it does not cause the long lasting effects and the- the major issues that we worry about with heavy metal poisoning with ethyl mercury. So that is no longer a concern that we have, and it's in a very low level, but it is easily getting, uh, what's the word, it is easily ridded from the body.

Dr. LeBlanc (30:21):

The half-life of ethyl mercury is about seven days.

Diane (30:28):

Mm-hmm.

Dr. LeBlanc (30:28):

And that's the one that is broken down in the flu vaccine that your body gets rid of. As compared to methyl mercury, it lasts up to 50 days in your body.

Diane (30:38):

50 days, oh my.

Dr. LeBlanc (30:40):

50 days.

Diane (30:40):

Mmm.

Dr. LeBlanc (30:41):

So, much larger difference. And again, the concentrations are very low. So, your body gets rid of it quite well. Now, Thimerosal is actually being phased out of these vaccines.

Diane (30:51):

Good to hear.

Dr. LeBlanc (30:51):

Not necessarily because it causes anything or any problems, but mainly because there are some concerns-

Diane (30:56):

Mmm.

Dr. LeBlanc (30:56):

... that have been raised with it, so we're trying to find other ways that are safer-

Diane (31:00):

Yes.

Dr. LeBlanc (31:01):

... and that are also less problematic or considered problematic. That way, we take care of those concerns, and we can get that flu vaccine available to more people who raised these concerns.

Diane (31:12):

And there are certain times of year that we need to get the flu vaccine, primarily in the fall, heading into winter. Is that, uh, is that still standard advice, doctor?

Dr. LeBlanc (31:22):

That is still standard advice. So, we are coming up on flu season. You may be getting your postcard from your doctor or your pharmacy, and everybody is getting alerted that, hey, we're getting our flu vaccines. It's that time of year. So, it is still right around the corner, and of course we do recommend that everybody who is eligible and doesn't have any risk c- factors or concerns or problems from the flu vaccine get vaccinated to help protect both yourself and those around you.

Diane (31:45):

Well, that's always the bottom line. In, with our podcast, we want to make sure that folks are aware of what's out there and how they can help themselves, their families, as we always say, you know, your neighborhood and community, to stay as healthy and safe as possible. In our last minute or two, Dr. LeBlanc, is there anything else that possibly I didn't ask, or we didn't touch on that you would like to leave with our listeners today?

Dr. LeBlanc (32:08):

I believe we've covered everything pretty well.

Diane (32:11):

Well, you, uh, you have been excellent. We so appreciate your time. And- and again, here's to a healthy autumn and winter season for all of us. And I think that uh for our listeners, they're going to feel much more encouraged to know a little bit more. We just need the information, Dr. LeBlanc, about what's good, what maybe, you know, we need to be aware of, how our bodies react, and- and we're all different. And we're all different. We react in a different way. So, Dr. LeBlanc, thank you so very much. Uh, your input has been invaluable. We appreciate, uh, your minutes with us today. And

thank you to all of our listeners. Thank you for your time today. We have had a fabulous show, and we hope you will join us next time for another Vax Matters.