RSV, Vaccines, And Febrile Seizures Transcript

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Intro and vaccine framing

For those of you though who are flat out against vaccinations, who're trying to find data that supports your argument that vaccines are actually not safe, or that the COVID-19 vaccination has actually killed more people than the Covid- 19 virus has, you got another thing coming to you.

Because this show and this episode is not gonna be for you, and I want you to come at me with that data too, because I have a lot more reputable data than just some hack you found on TikTok or Instagram.

Speaking of which, we're now on Tik Tok and Instagram, so be sure to follow us. Welcome everyone to this week's episode of the Jaffercast. I am your host, Dr.

Mark Papadakis. Nobody particularly special, just another fucking ER doctor. Now, this we're going to be doing something a little bit different. Last week, we talked with Dr Macagorin regarding pediatric fevers, and we actually had to cut out a segment on febrile seizures, which is basically a child who develops a seizure while having a fever.

I cut it out largely for brevity. We didn't really have a lot of time to talk about it. The episode was running long, so I'm going to incorporate that discussion into this week's episode.

But I also want to talked about something that's going be a focus on intermittently throughout the show, which is going the be vaccines. When I first started talking about this show in the very first episode, I mentioned about how there are things that are going become very political.

Not because They're political by nature, but because politicians and others have made them political. And unfortunately, vaccines are one of those topics.

Now for this week, I'm going to mention two vaccines, one, of which we know very much about the COVID-19 vaccine, and that has been the subject of many a paper and opinion all throughout the interwebs.

But the other one is going to be about the vaccine for RSV, as well as a monoclonal antibody targeting RSv. RS v is a virus that is called respiratory interstitial virus because the virus itself goes inside your pulmonary cells, your lung cells and causes them to die.

Syncytium refers to a phenomenon where the virus doesn't necessarily get cleared right away. It creates a sort of cluster of cells, whether viral or immune cells and your own body sometimes cannot really get to them.

So respiratory syncytal virus is more or less a description of the name of a virus where it toggles your respiratory tract, creates syncetium inside your respitory and lung cells.

And it's triggered by a VIRUS, hence the term RSV. So that's where we're going to kick things off this week.

RSV basics and how it affects the lungs

Let's get started. So when speaking about the RSV virus, we already know that it's a virus that targets respiratory epithelium, respiratory cells that line your whole respiratory tract, including your main bronchus, your bronchioles, little smaller airways, and of course your lung tissue.

That's what we refer to when we talk about your respiratory tracts. Now RSV is what we call a lower respiratory disease, meaning it primarily affects the lungs and the cells all the way in your lower-respiratory tract.

We call those little tiny airways the bronchioles. The larger airwaves are called the Bronchus. So bronchials are like

the little sister or little baby brother to the brachus What happens with this virus is the inflammation triggered by the virus itself causes swelling.

When swelling occurs in those tiny little airways, well you can imagine the airwaves get smaller. If you have a child and your child has been sick with the type of virus, you may have actually heard something called wheezing.

Wheeze is very common in people who are smokers. People who smoke heavily, they can develop wheezings long term which can eventually develop into COPD, emphysema, However, asthmatics also have wheezing during an asthma attack.

RSV can actually trigger whezing as well. They developed a condition called bronchiolitis. As the airway gets smaller and smaller, air doesn't really travel through them as easily.

Now, the treatment for RSv is, well, not great. It's mostly just oxygen and time. There were some studies done that thought giving albuterol might help because albuterol is a medication that is inhaled by people who suffer from COPD and for asthma to reduce inflammation and irritation of that airway, open up the air way itself, and ideally create more oxygen inflow.

But turns out albuerrol doesn't really do a whole heck of a lot for this type of situation. Again, last week we talked with Dr. Goran about vibes. Same thing with RSV, except this time it's not just about the vibes, it is about how much oxygen they're getting.

So for their oxygen level to be 96-97%, great. They look good, if they are not struggling to breathe, usually the child is well enough to go home. For those children though who have oxygen levels below, let's say, 90% especially, even sometimes hovering between 90 to 92%, we usually err on the side of keeping them in the hospital either for oxygen or for monitoring, especially if the child's work of breathing is very, very difficult.

If they're grunting, their nose is flaring, if they are really having a hard time, it seems to take a deep breath, or they don't really seem to want to be able to speak or run around and do other things that kids normally do, that's usually an indication for hospitalization and observation.

This past RSV season, we were actually able develop two new ways to combat RSv, largely before the child became infected. First is an RSV vaccine that is given to expectant mothers to create antibodies against the virus itself so that way the child before they're born actually has some defense against this all the way when they come out of the womb and into the environment.

There's also another type of therapy called a monoclonal antibody. For those who went through the pandemic and COVID and for those that are also immunocompromised For those who are immunocompromised, you may recognize the term monoclonal antibody as these are given to people who were either at severe risk of disease or to treat an existing disease by actually pushing in antibodies against a certain disease.

In this situation, RSV is one of those types of viruses that we actually have antibodies for and we can give to certain populations. So what am I talking about this?

Well, as of this recording on May 20th, 2025, a report that came out two weeks ago on may 8th published on the CDC's MMWR website, Morbidity and Mortality Weekly Report, shows data regarding the hospitalization of children hospitalized with RSV.

In this study, we're actually looking about the hospitalized rates among infants and young children after being given the RSv vaccine, either the antibody itself or some maternal antibody vaccine before they were even born.

So they looked at day between October and February 2024 to February 2025. For those of you who are listening to the podcast on either Spotify or any other platforms, you can go to YouTube page and actually see what I'm showing to people on YouTube with regards to this study itself.

So let's take a look at the data talking about the RSV virus, hospitalization, and its overall effectiveness. We're talking actual hospitalizations rates not necessarily getting the virus itself when it comes to RSv, which is important because some vaccines prevent getting virus completely like the MMR vaccine, Others just prevent severe hospitalization and death, such as a COVID-19 flu vaccine and now the RSV vaccine.

Let's take a look at some of the data here. If we scroll down, first of all, we have to understand the rsv vaccine itself is given to maternal mothers who are going through their 32nd to 36th weeks of pregnancy, usually between September and January and mostly in the United States.

The reason is because RSv season typically occurs during the winter months. You don't really get it during the summertime, so if you're expected to live for, say, July, you are not really going to need it until the wintertime comes anyway.

In that situation, now you'll be talking about the monoclonal antibody, whose name I'll call Neurcevimab. Anytime you hear something ending in M-A-B or A- B, it's a pretty good chance that they're talking a monocronal antibody.

RSV prevention: maternal vaccine and monoclonal antibodies

So the monoclonal antibodies are given to infants 0 to 7 months and all children all the way up to 8 to 19 months, assuming there are increased risk of RSV.

Premature infants, those with respiratory issues, spina bifida, all these things can weaken immune response, which is why they are considered to be more high risk than your typical toddler.

If we come down and look at the data itself, there was a 28% to 43% reduction in hospitalization of these infants. And what they're looking at for comparison is the 2018 to 2020 RSV season.

23%-43% reductions in the hospitalizations is insane. That's almost half of infants that would normally be hospitalized actually managed to stay out of the hospitals.

Again, we're not talking about infants who were actually got RSV. We're talking infants whose RS V disease was so bad they had to come into the hospital and receive oxygen, high flow, all these other therapies.

The reason why they're taking about the 2018 to 2020 RSv season is largely because in the interim times of the pandemic, data was actually hard to combine.

There's a lot of social isolation still. So this past year was the first time it really had good data among the last RS v season and It was also following a very severe RSV season from 2023 into 2024.

Further looking at the study, it shows the National Immunization Survey data shows that an estimated proportion of U. S. infants 0 to 7 months protected by ED vaccination increased during the 2024-2025 season, from 30% in October to 66% This coincided with a reduction in 2024 to 2025 RSV-associated hospitalization rates.

Now the question becomes, how do we know that this is actually due to vaccination and not just a maybe a less severe RSP season? Well, it turns out they looked at that and higher RSv- associated hospitalizations rates during 2024-2555 compared to 2018 and 2020 was looked at in children in older age groups, who were of course ineligible to get the RSV vaccine.

As a result, these groups actually showed higher hospitalization, meaning that children who are actually older and not eligible to the vaccine were hospitalized more compared to children that did get that vaccine any younger.

Despite the lower age and the higher risk of severe disease, they were actually hospitalized less compared with a quote unquote healthier child who was older who ended up needing hospitalizations.

And something you're gonna find as the show goes on is that it's very difficult oftentimes to determine who is going

to be high risk for severe disease and who's not.

We talk about who was high-risk for disease, and typical ones come out like people who have diabetes, people will have immunocompromised systems, those who of cancer, but understand something.

You are healthy until you are not. It sounds pretty obvious, but the reality is anybody at any time is capable of developing a severe infection or a disease without any risk factors whatsoever.

And then suddenly, now you have a risk factor for further severe disease. Let me give you an example. If a woman develops an ectopic pregnancy during their first or second pregnancy, they are now considered to be at risk for further ectopic pregnancies, just on the idea of a loan that they have already had one eectopic pregnancy.

Before then, they're at normal risk, like any other woman in the same age group. But because they already have one pregnancy that was an eictopic, now they risk more euctopic.

So the idea that you're healthy until you are not is something that we in medicine like to look at. This is why we medicine stress the importance of public health, because somebody may be completely healthy up until they get an infection, a virus that all of a sudden causes long-term problems.

And there are long-term problems with many other viruses out there, not just RSV or COVID or the flu. We're even talking about the common cold. People sometimes get something called Guillain-Barre, which is an inflammation to the nervous system leading to weakness and sometimes temporary paralysis.

There's no way for us knowing who's going to be at risk for that or not. So we try and educate people on the idea of public health and prevention. We now have to talk about vaccines in general.

So again, as of today, May 20th, the FDA just came out saying there's going to be new requirements for COVID-19. Who can get them and who is not going be eligible?

So speaking to the time list of this episode, The New England Journal of Medicine just come out with an article written by Dr. Vinny Prasad and Martin Makkari regarding the COVID 19 vaccination.

In this article, an evidence-based approach to COVID-19 vaccination, both of them discuss the rationale for actually not wanting people who are otherwise healthy to get the COVID vaccination.

Well, mostly the boosters. This article itself is not actually a research article. It's a sounding board piece. Those who read the New England Journal of Medicine, the Journal the American Medical Association, all these pieces, basically all of these publications have sections where you can write letters to the editors, sounding boards, whatever, that actually aren't research-focused, but more or less just opinion pieces.

COVID-19 booster policy and vaccine hesitancy

So this article showed up today, picked up by the major news organizations, talked about their requirements for the COVID-19 vaccination. So what does their article actually talk about?

Well, it effectively boils down to, did somebody who's over the age of 65 or under 65 benefit in the past from getting a COVID-19 booster? Their answer is, well, we don't know.

We need to study this a little bit more. And at surface level, that makes sense. However, this is where the intersection between common sense and critical thinking tends to come into play.

Rather than continue the recommendations and advise people get the COVID vaccine booster as needed if they want to, they are now removing it so that people who actually want it may either A.

have to pay more out of pocket because insurance won't cover it or B. may not be able to get it at all. They're also

saying that current evidence suggests very young children are still at risk for getting COVID-19, but not as much as somebody who's over the age of 65. Therefore, in their view, let's not authorize it for their usage.

And here's why I want to be very clear on something. The whole idea of public health, the whole ideas of vaccination, herd immunity, terms that you've heard about much over past five years, is to prevent the spread of disease from one person to another and to prevents the emergence of more severe infections.

influenza, all those boosters are designed and tailored to what we believe to be the strongest form of the virus present at the time or will occur. That's why flu vaccines are seasonal, meaning that they look at data from the southern hemisphere when they had their winter, what the most likely strain of flu will be, and tailor the vaccine to that.

Like with COVID-19, they want to give some people some immunogenicity as soon as a virus lands, usually during cold and flu season, which is your late fall and winter months.

Now, because the recommendations are changing so that only people over 65 will be eligible to get this, that means that younger people such as myself, your friends, or family, even your children will either A, will not be able to receive this vaccine or B, have to increase more of the cost because insurance will cover for it.

Their logic, though, presents a bit of a conundrum. What if you are somebody who lives in a household and cares for their elderly parent? What If you're in the household with a very young child who's actually immunocompromised?

Yes, they are eligible to get the vaccine, but if they're not, you still stand a greater risk of transmitting it. Vaccination doesn't just help your symptoms, it also reduces transmissibility.

Not to a large extent to the point where it's 100%, but to some degree where if your body is able to clear a virus faster than it can develop symptoms you can now actually reduce your risk of transmission.

Families who have older adults living in their house are not all eligible to get the vaccine. Instead, you have families who are now going to be high risk and low risk who are going to be incompletely vaccinated and putting the burden of disease onto the older generation as opposed to everybody where it's everybody's responsibility is honestly not fair.

Just because somebody has been vaccinated doesn't also necessarily mean that they will create a proper immune response to the vaccine. Instead, the vaccines may not work for them.

No vaccine is ever 100%. Even the MMR vaccine, measles, mumps, rubella vaccine has not been shown to be fully 100% after two doses. It's 99%. And sometimes your immune system wanes over time.

You go on steroids for a condition, you develop another infection, another illness, and all of a sudden you get diseases that you thought you were immune to or that never had a problem with.

One classic example is shingles. Sometimes people who are so stressed, who were on a steroids, for whatever reason, develop shingle, which is a reactivation of the dormant virus that causes the chicken pox.

And those who have had shingly can tell you it's pretty goddamn painful. The same model applies for vaccines for regular viruses. Somebody getting a vaccine for the flu or for COVID may not develop the immune response necessary to prevent further infection.

As a result, they rely on other people around them to now help protect them from getting infected. This is what we call herd immunity, the idea that you have one or two individuals surrounded by a herd of people who now can prevent disease transmission into their own lives.

The idea of a family member being solely responsible for their protection is pretty ridiculous, especially in the world

of medicine where we know things are not 100%. One of the other claims that McCarr and Persaud made in their article are such that vaccine hesitancy has actually increased because of this vaccine and therefore this is one of those ways where we can further reassure the American public about this.

However, it's not really 100% true and this article talks about that where childhood vaccines were actually falling way before the pandemic even started.

In fact, as we all know, that the pandemic really only exacerbated an ongoing issue with vaccine hesitancy. The MMR vaccine started to fall during the Pandemic, even before the COVID-19 vaccines were available.

And you can even see here in this article, again, for those on Spotify and Apple Podcasts, I apologize. But for the ones on YouTube, you could even the data dropping here.

In between 2011 to 2015, there was a decline. At this point, it seems weren't even a political hot button topic. You see here, basically during 2011 to 2015, vaccine rates really dropped for reasons that could have been due to social media, influencing, who knows.

But all of a sudden they came back up, thankfully in time before the pandemic hit, and now suddenly they're dropping like sticks. talking about vaccination right now and vaccine hesitancy.

Well, the World Health Organization in 2010 actually listed vaccine Hesitancy as one of the top 10 global health concerns and our report in 2021 from the CSIS, The Center for Strategic and International Services basically came out saying that vaccine has HESITANCY was a big issue for national security.

If you think about a country that has a reduced immune response to any type of virus that can cause severe disease or even death. And I'm not talking about COVID-19 or measles.

I am talking something like smallpox or polio. All of a sudden, another country knows this and says, hey, we can generate an actual vector that's going to inflict death.

Another country know this. They can potentially launch a bioweapon just of small pox in an unvaccinated population that now can wipe them out while saving their own troops who have already been vaccinated.

So the idea that vaccination is a military concern, as well as an economic concern and public health concern doesn't really surprise me. It really shouldn't surprise you either.

Vaccine hesitancy is one of these issues that we deal with many times during a clinical practice. And though we talked about a little bit today, we're going to get into it a bit next time when I talk with infectious disease specialists aswell.

I'm not against somebody who has questions on vaccines. A true vaccine skeptic, in my opinion, is somebody who has legitimate questions, who's concerned about the side effects and adverse effects of not just vaccines, but any therapeutic.

And to be clear, the things that we do in medicine do have side-effects. Medications that give, treatments we institute, procedures that do from the minor to the major, all have the risk for complications, for adverse effects.

Somebody who wants to question those, in my opinion, is not wrong. They're legitimate questions that we have to ask about these therapeutics, about medications that are coming off the line, that, we always want to know, what is the safety profile?

Is it safe for my child, or myself? Can something bad happen that is actually, like they say, insecure, worse than the disease? The vaccine denialist, however, if somebody who refuses data that's already put in front of them.

We're going to talk about data, we're gonna talk the way vaccines impacts, the medications, all these things in

medicine we do impact our patients positively and have honest conversations about the ways they negatively impact patients' lives.

However, I want to be very clear about something. Vaccines as a whole are a public health godsend. They are effective, they are safe, and they've been widely used for decades.

And yes, no vaccine is 100% safe. There are people who do get reactions to it. People who suffer side effects. I'm not saying they're not. However, when we talk about risk to benefit, the benefits far outweigh the risk.

Already we're seeing cancer rates drop in older adults from things like HPV. We're see people get hospitalized less with the flu. And of course we are seeing data from the RSV vaccine showing reduction in hospitalization in our nation's children.

These are prime examples when we say an ounce of prevention is worth a pound of cure. There are always going to be questions and concerns regarding a new therapeutic and a way of tackling a known problem and that's to the expected.

And for those of you who have questions, for people who has concerns, that's what this show is going to aim in part to do and help alleviate. Not just myself, but with other experts as well.

For those who are flat out against vaccinations, who try to find data that supports your argument that vaccines are actually not safe, or that the COVID-19 vaccination has actually killed more people than the Covid- 19 virus has, you got another thing coming to you.

Because this show and this episode is not going to be for you, and I want you to come at me with that data too, because I have a lot more reputable data than just some hack you found on TikTok or Instagram.

Speaking of which, we're now on Tik Tok and Instagram, so be sure to follow us. So on that happy note, let's bring back Dr. Maggie Gorin to talk about febrile seizures.

And the reason why I'm doing february seizures in this can trigger fevers, and can figure febrile seizures. So, let's take a dive and see what we're talking about.

I do want to mention, see if you can talk about februle seizures? Yes. Februe seizures, like I said, are one big component of emergency medicine visits, calls to pediatricians, having seen them in action, they're scary.

Yes, I can understand why parents are like, my child just had a seizure. If they had the seizure, why aren't you doing it? What are you not doing anything?

Yeah. And again, it's hard to explain to a parent that, oh, because this is something that happens. This is a thing that happened in kids, right? But it doesn't happen to every kid.

No, It doesn' happen every kids. That's something I try to communicate. Then the questions begin like, well, does my kid have a seizure disorder now? Is it my kids?

Right. It gets into kind of the nitty gritty, but there are things that we consider like a simple febrile seizure. These are specific age groups, like six month olds to usually we say within like the fifth year.

Those are kids who can get these simple febrile seizures, which is like a generalized seizure. The thing that people see in the movies with the shake gang, right?

And it usually lasts. anywhere from a couple seconds to a few minutes, but as a parent, it lasted for seven years. Forever. It just keeps going. Time stops.

Febrile seizures explained

Less than 15 minutes which is a very long time to have a seizure, that time generalized in that age group we consider as simple. And it's not just 15 minutes of like one big seizure.

One thing we have to compare that people don't understand is it 15 mins of intermittent seizures too. The seizure starts, lasts for a minute, stops and they're a little confused and then it starts up again.

And we consider that one seizure episode. these more complex seizures, or febrile seizures which are, you know, gonna be like one body part, it's gonna out of that age range that we'd expect, they're gonna prolonged, those kind of things.

So I'm gonna leave those as something else. But the simple ones, the simply ones are not a form of epilepsy, right? So they are a seizure disorder. They are response to the fever.

What about the fever triggers it? Do we know? Yes. That's my first question. Okay. We do know, and it has to do with the neurons not being fully myelinated.

It has do to with cytokine storms. Cytokines, mitochondria, myelination. Yes, right. Exactly. Things you don't want to really be thinking about, but basically children's brains are not that good.

So that is the way that I could explain it. They aren't that good, they're not fully formed yet, and so they are a little bit more susceptible to things that can make their brains go, uh-oh, when there's something like a fever.

Is it the temperature? Do they hit a target and then that's a problem? Is that the rise in temperature. I've always been told that it has more to do with the rice because some kids, they can hit 104 fever and not have a seizure and some can get a 102 fever, and have the seizure.

And the most frustrating thing to tell a parent is we don't really have to know if it's going to happen or to stop it from happening. And that's the thing, because they think, oh, well, I gave my child Motrin and it still sees.

I put them in the bathtub in freezing cold water, right? Those things it doesn't, it's not going to stop it or. know we give Tylenol and Motrin because it makes them feel better but it doesn't necessarily do anything else.

Does my child now because they had a febrile seizure are they at increased risk for having more seizures? Are they more an issue for epilepsy later? Right so if they have had simple febrale seizures then there there is not a great increased Complex febrile seizures, different, but there is an increased risk of them having another febrale seizure, not epileptic seizures.

And it's important to denote simple versus complex. So, you know, obviously we're not going to get into the criteria per se, but if your doctor says this was a simple febrile seizure, that's a good thing.

Oh, okay, fine. Right. Still scary. It's 100% still scary if it is a complex febrowel seizure. Understand, we are also not just discharging these people either.

They're getting a work of very similar to a much sicker thing, so Yeah, and then it's up to the doctor to understand, is it simple? Is this complex? But parents can still be reassured that a seizure with a fever is okay, provided there are certain criteria there that it is up the the doctors to determine.

And I think it just something, you know, that we as doctors understand is very scary and I thing parents get frustrated because it seems like we're not getting afraid enough.

I'm not scared enough, Yes, don't just stand there, do something. We give Motrin Tylenol to make the child feel better. Does that mean I need to give my child Motron Tylinol around the clock?

Because… Yeah, good question, because that is something that we used to do, right? Especially if we had kids with febrile seizures and then we were sending them home, we're like, okay, give Tyl, you know, Tyleno-Motrin and

again, research, so important, has been coming out showing that this doesn't really change the risk of them having another febrale seizure.

Alright, thanks again to Dr. Maggie Gordon for coming on and talking about febrile seizures with us. That wraps up another episode of the Jaffard Casts.

A bit of a different format this week. Again, the RSV vaccine is given to pregnant mothers who are in their 32nd to their 36th week of pregnancy, usually between the months of September to January, just as RSP season is kicking into high gear.

And the monoclonal antibody is actually given into infants who in the first month of life all the way to the 7th month. One of the reasons why the RSV vaccine is not given to older children is because as children and adults get older, their airways actually increase in diameter.

As a result, the inflammation that is caused by the rsv virus doesn't actually cause the whole airway to constrict nearly as much, so they don't get hypoxic.

With regards to the recommendations from the FDA, a COVID-19 booster will only be recommended to those ages 65 and older or those who are at high risk of disease.

Those with diabetes, chronic immune problems like MS, lupus, and of course those who have neurological issues such as stroke and potentially morbid obesity.

Thanks for joining me on this episode. As always, if you're in the healthcare field and you want to be on the show to discuss topics in healthcare, please feel free to reach out as well.

Closing remarks and episode wrap-up

Or if have ideas to talk about, you can email to me at jaffordcast at gmail.com. And as always don't take my word for it, do your own research, talk to your doctor, in case it's the end of the day, I'm just another fucking ER doctor.

Make good choices everybody and stay safe out there.