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Increasing Vaccination Rates in the Pediatric and Adolescent Populations

Narrator:

Welcome to CME on ReachMD. This segment, "Increasing Vaccination Rates in the Pediatric and Adolescent Populations", is sponsored by Omnia Education.

Your host is Dr. William Fredette who welcomes Dr. John Russell, Program Director at Abington Memorial Hospital Family Medicine Residency Program in Abington, Pennsylvania.

Dr. Russell receives consulting fees from GALDERMA and speaker bureau fees from Sanofi Pasteur.

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Dr. William Fredette:

The ACIP immunization schedule for adolescents now includes recommended vaccination for human Papillomavirus, or HPV-associated cancers, meningococcal disease, influenza, and pertussis, in addition to vaccines for certain high-risk groups and those who require catch-up vaccination. However, a 2014 National Immunizations Survey reveals that vaccination uptake for HPV and meningococcal disease falls short of levels seen for many other vaccines, especially in females. Today, we will talk about these issues as well as sources of resistance to HPV and meningococcal immunization, and look at system and provider strategies for increasing the overall uptake of vaccination by adolescents.

This is CME on ReachMD, and I am your host, Dr. William Fredette. My guest is Dr. John Russell.

Dr. Russell, welcome.

Dr. John Russell:

Thank you for having me on the show.

Dr. William Fredette:

Alright, let's start broadly; what are the current vaccine recommendations for adolescents ages 11 through 21, and how have those changed over the past few years?

Dr. John Russell:

It's a story in three parts. Some things have changed very little, so we're still going to give the Tdap at 11 to 12 and we're still going to give a yearly flu vaccine. Some things have changed a little. So, with regard to our meningococcal vaccine, we're going to give it at 11 to 12, but now we're going to give a booster again at age 16. If the first dose is given at 16, we don't need that booster. And some things have changed a lot. Now there's a newer vaccine, the MenB vaccine and there are two brands, Bexsero and Trumenba, but they're not interchangeable. So, much unlike other vaccines that you and I might have in our practices, we can't substitute one for another. They recommend they get it between 16 and 23 years of age, but really our preferred time should be between 16 and 18. The Bexsero should be given at 0 and 1 month; the Trumenba is two doses at 0 and 6 months in our ordinary risk patients. Now, if we have a patient who is a

higher risk patient, they should get three doses; 0, 1-2 and 6. Overall, the interesting thing is the ACIP gave this a B recommendation which is a "may" as opposed to a "should." So, I think this is something we have to have a conversation with our patients and our parents; that this isn't a must. And then our HPV has seen some changes. So, our HPV should be offered to boys and girls starting at age 11 to 12. There is some new dosing. If the first dose is given under the age of 15, we can get away now with two doses as opposed to three doses. If we're going to start after the age of 15, we're going to give it 0, 1-2 and then 5 months later. What we've also seen that's changed with the HPV, there was a 2-valent vaccine that's no longer on the market. Traditionally, we've been using a 4-valent vaccine and we've seen the introduction of a 9-valent vaccine which, by the end of this year, will completely replace the 4-valent vaccine.

DR. William Fredette:

Now you mentioned just now the change in the dosing recommendations for HPV. Can you talk a little bit about why those changes were made?

Dr. John Russell:

Well, I think overall, if you and I are trying to vaccinate a population, if we can ever get away with two doses of vaccine, it's much better. For HPV, the highest uptake is going to be in that 11 to 15-year age range. So, we're going to get more bang for our buck with the same vaccine. We're going to save some dollars by giving two vaccines instead of three and I think it's just easier. I think none of our adolescents ever want to be vaccinated. So, if we can vaccinate someone twice and we can also vaccinate them younger. I think getting this vaccine to younger people, it's going to be more efficacious. I think we, as a country, believe that HPV is a disease of adults and it very much is a disease of adolescents.

Dr. William Fredette:

It certainly is a challenge to try to get an adolescent back in the office two additional times to complete the series. Let's focus a little bit on the HPV vaccination. What do we know about the vaccination in the U.S. and, specifically, what are the data on rates of vaccine uptake?

Dr. John Russell:

So, the last time that this was looked at in the MMWR, last August, August 2016, they looked back on the data from 2015 and 2014, and they found that only 42% of our female patients had gotten three doses by the age of 17, and they found that 63% of these same female patients had gotten one dose. So, really, we are missing the mark at getting someone fully vaccinated. When they looked at the same study in boys, they found that only 50% had gotten one dose of HPV and only 28% had received all three doses. So, we are clearly missing the mark in fully vaccinating this population. When they looked at 2015 and 2014, there were only modest changes and there were more changes seen in the boys than in the girls.

Dr. William Fredette:

And just to give us a sense of how that fits in, how does that compare to the rates of the other recommended adolescent vaccines?

Dr. John Russell:

So, in the same study in the MMWR, they looked at a tetanus vaccine and we were at 86% by 17 years of age. So, certainly we've kind of bought into that and 81% of giving one dose of meningococcal vaccine by 17, and only 33% of giving the two doses. Now that's a newer recommendation over the last few years, so I don't expect us to see quite as much uptake. If you look at varicella rates through the mid 80s of someone either having disease or having vaccine, there is a HEDIS measure that's going to happen in 2017 that is going to look at all these vaccines.

Dr. William Fredette:

If you are just tuning in, you are listening to CME on ReachMD. I am your host, Dr. William Fredette and I am speaking today with Dr. John Russell about pediatric and adolescent vaccines.

Dr. Russell, we talked a little bit about the differences in uptake for HPV compared to some of the recommended adolescent vaccines. One of the things that I face frequently in my pediatric office, and I'm sure that I'm not alone, is the challenge of talking to parents who are resistant to vaccinate and, specifically with the HPV vaccine, can you talk a little bit about some of the sources of resistance that you see to parents thinking about vaccinating their sons and daughters?

Dr. John Russell:

I think one of the big resistance, and I'm a family doctor, is you and I are not selling it as much and somehow we have mentally interchanged this vaccine with giving someone permission to be sexually active. So, we are selling this vaccine as a STI prevention vaccine instead of selling it as a cancer vaccine. You know, if you think that we have a vaccine now available for a cancer that effects 24,000 people each year in the United States, you would think there would be lines out the front of our offices to get this vaccine. But, somehow, we're just not selling it so much and we have somehow allowed kind of some background noise to do this. You know, kids are

old enough sometimes for the parents to say "Do you want the vaccine?" and every kid's going to say no. So, sometimes it really needs to be you and I being definitive. These are the three vaccines I think Jimmy needs today. I think he needs a Tdap, I think he needs a meningococcal vaccine, and I think we need to get him started on the HPV vaccine and not really turn it into this doubt-filled conversation.

Dr. William Fredette:

Have you found, in your experience, that it's a harder sale for parents of adolescent boys than for girls?

Dr. John Russell:

I haven't because, you know, I'm very much going to say there's 9,000 cases of HPV-related cancers each year in males. So, people think about cervical cancer, people don't think about oropharyngeal cancer. People don't think of anal cancer, penile cancer which effects about a third if you compare the overall numbers of cancers, a third of them are in males and, if you look at the HPV penetrance in all the high schools and even some of the junior high schools, near our offices, it's really shocking. So, I think we need to say HPV is everywhere. It's in all the kids and not just say it's in the bad kids. It's in all the kids. If you look at sexual activity, you know, it's about 80 some % of our high school seniors. A quarter of these high school seniors have had four or more partners. There is HPV present in adolescents before they have had intercourse. So, I really think we need to get this vaccine, and the vaccine's going to work best before someone has ever been exposed to HPV. There are 79 million cases of HPV in the United States, 14 million new cases a year, so this is not a trivial little, kind of strange infection that has happened in some other part of the world; this is happening on Main Street, U.S.A.

Dr. William Fredette:

Let's change gears for just a minute and talk a little bit about public health policies that are in place to increase adolescent immunization rates in the country and abroad. For example, things like universal vaccination or other similar policies. Can you talk about those?

Dr. John Russell:

Well, you know, I think universal vaccines makes a whole lot of sense though. If you look at the U.S. map, there are only three states that require universal vaccine without a medical indication in the United States. There are only three states and that would be California, West Virginia, and Mississippi. The rest allow parents to opt out for medical reasons or personal reasons. So, I think that that's one of the things kind of mandatory is we have not embraced this in our country of liberties. I think people view that this is an infringement and it isn't. It clearly is a public health issue, correct?

Dr. William Fredette:

I believe so. I mean, do you think that there's a lack of will on the part of politicians to push this or where do you think that the resistance lies?

Dr. John Russell:

It kind of depends on the disease, you know, I think that things like measles, it clearly is a public health today issue in our high schools and elementary schools and things like that. HPV is really an investment in the future, and I think it's harder to sell a vaccine that you don't clearly see prevention and not having epidemics. No one knows who were the kids in the high schools who have HPV. Now some countries, and Australia decided in 2007 that this was going to be their big public health policy. So, they started a vaccination program for girls who were 12 to 13 years of age and to get them vaccinated. By 2010, the coverage rate in Australia had reached 83% for getting one dose, 80% for two doses, and 73% for the third doses. Someone looked at this in the BMJ and looked at rates of HPV-related diseases in the three years before they started this program and the four years after. They found genital warts in young women decreased 59% and for men in the same age group it decreased 39%. There was also a striking decline in high-grade cervical abnormalities in teenage girls and when they followed this out in 2011, the rates among girls that were seen had declined 93%. Women 21 to 30 years of age it had decreased 70% but they saw no decline in women who were over 30. So, that would tell me that you did something in this younger age population that decreased HPV-related diseases and what you did is you vaccinated folks.

Dr. William Fredette:

Yeah, the numbers are difficult to argue with, yet, some parents will still argue it. It's a major part of my day sometimes in the office, is having the vaccination conversation.

Dr. John Russell:

It should be a lot easier than it is.

Dr. William Fredette:

So, let's bring it a little bit closer to home now. What are some strategies that can be implemented at the practice level to increase immunization rates in adolescents and in uptake in general?

Dr. John Russell:

One, you need a clinician who has bought in and I think we need to do educational programs like the one you and I are participating in right now to get more believers in our brethren. I think we need to make immunization part of every single visit. Right? So, teenagers are often an elusive population to have in our offices and clinics, right? So, unless they have a form or unless they're really, really sick.

Dr. William Fredette:

Unless it's sports time or they're looking for working papers, right?

Dr. John Russell:

Yeah, so we need to be mindful that if we have caught this elusive teenager in the office, someone needs to take a minute and look at what vaccines they might need because there's lots of opportunities to vaccinate, and there's very little reasons when they're in our offices or clinics not to vaccinate them. So, I think it really needs to be something we need to empower our staff. Most of us are now working in some type of electronic medical record. It's never been easier than to run through data and say, who has gotten this vaccine, how can I push people out some emails, how can I send some people some cards? And, I think we need to attack this on so many different levels. The CDC has great posters and pamphlets. You could look at your 10-year-olds in the practice and send out a reminder to say, "Hey, at year 11, these are some of the vaccines that you're going to need."

Dr. William Fredette:

Very good. Now I want to just sort of take you aside for a second and try to get your thoughts on something that we deal with here in pediatrics and there are, sort of, two camps among pediatricians; those who are very hard-lined about complete on-time vaccination even to the point where for parents who refuse, they'll ask those parents to essentially find another practice, and there are those who say every opportunity is an opportunity to reach and work with the parents but they, as a result of that, will have some unvaccinated children in the practice. Where do you stand on that?

Dr. John Russell:

You know, a three-year-old didn't elect not to be vaccinated, and that three-year-old still needs a great doctor. They still need to see you and, you know, as a great doctor, they would be denied that just because the parents have some very false beliefs. So, I think it's really hard. It's also really hard if you're taking care of a child who is leukemic that they're sitting in a waiting room with perhaps someone who has not been vaccinated with measles. You know, one of the interesting things in public health is a term called 'Are Not' and that is how many people I get sick if I have this illness. So, the 'Are Not' for flu, if I have the flu, the 'Are Not' is about 1.5. So I will get 1.5 people sick if I have flu. The 'Are Not' for measles is 18 to 19. So, putting someone with measles in an unvaccinated population will explode very, very quickly. So, I do think it's hard to be that hardline, but I think one of the things that's very sad is when they're talking about vaccines on some of these channels, it's very easy for someone to find an anti-vaccination person to come on the news. I think you and I, as leaders in our community and leaders in our practice, need to stand up and say this is an important thing. We live, you know, a hundred years ago the average American lived to be about 47 years of age. One of the big differences we've seen in this 100 years is because of vaccines. A lot of these childhood illnesses have decreased about 99%. So, you know, people have not seen a case of diphtheria, have not seen a case of rubella, have not seen a case of this or that. So, I think we need to really embrace these victories and tell people Hib disease has almost disappeared. But, you know, the CDC in 2000 said endemic measles has disappeared from the Americas, has disappeared from North America, and then we saw at Disneyland it had come back because people just elected to be unvaccinated, and the unvaccinated folks, and we talked about HPV, HPV has a higher uptake of people who live below the poverty line. But a lot of the people who don't believe in vaccines are more educated people, are people who have vaccines covered, so it is not necessarily the same issue that someone might have in the South Sudan. So, it's where people have access to vaccines but just not the will.

Dr. William Fredette:

Right, and I think you raised a great point that we make with our parents who are reluctant to vaccinate is that these diseases, while we have the luxury of not dealing with them on a regular basis due to herd immunity, are really just a plane ride away and the danger is real.

Dr. John Russell:

I think, as we've seen in Ebola and Zika, the world has gotten smaller, and certainly things could return and measles was a devastating, horrible disease, and a lot of the numbers, when you look at some of the things we vaccinate against, there used to be about 100 deaths a year for varicella. There would be 4.5 million cases and there would be 100 deaths; that's not a whole lot of deaths unless you're the parent of one of those 100 kids. So, we view life as to be a lot more precious in the United States than other parts of the world who can't get everyone vaccinated. It's just a shame to have this resource out there; if there are 24,000 cases of cancer that are HPV related and we now have a vaccine with 9-valents that might decrease up to 90% of some of these cancers and we don't use it, what are we going to tell our young adult children that we elected not to vaccinate them when they have one of these cancers.

Dr. William Fredette:

Well, we've talked a bit about adolescent vaccination, we talked about uptake rates, any final thoughts on the broader topic of pediatric vaccination that you would like to leave us with?

Dr. John Russell:

I think that vaccines are our most powerful public health tool. We should be proponents. This should be a big part of what we do in our office. This is our most successful thing public health wise that we do in primary care. We should embrace it, we should celebrate it and we should champion it.

Dr. William Fredette:

Well, Dr. John Russell, thank you for joining us today.

Dr. John Russell:

Thank you so much for having me.

I am your host, Dr. William Fredette for ReachMD. Visit us at ReachMD.com, where you can be part of the knowledge. Thanks for listening.

Narrator:

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