

# Worth a Shot

New Preventive Options Available for Respiratory Syncytial Virus



By Mark Harris

**E**very year, many people experience illness from infectious diseases. Whether caused by viruses, bacteria, or other harmful pathogens, the burden of infectious disease on society is significant.

Viral infections are certainly a major cause of infectious diseases. They include influenza (flu), COVID-19, and the rhinoviruses that cause the common cold. For instance, the United States had 31 million flu-related illnesses during the 2022–2023 season, resulting in 21,000 deaths, according to the Centers for Disease Control and Prevention (CDC).<sup>1</sup> Yet, compared with the flu, the public is probably less familiar with another common viral condition called respiratory syncytial virus, or RSV.

Indeed, one recent multicountry survey found that 60% of adults over the age of 50 were unaware of RSV.<sup>2</sup> Yet, RSV has a major impact on public health. In the United States, approximately 2.1 million outpatient visits for RSV occur yearly. This includes 58,000 to 80,000 hospitalizations. Another 100,000 to 160,000 hospitalizations for RSV-related illness are also reported among adults 60 years of age and older.<sup>3</sup>

### It's Nothing to Sneeze At

As a viral condition, RSV is a highly contagious respiratory virus that infects the nose, throat, and lungs. Since most cases of RSV are mild and self-limiting, clearing up in a week or so, its potential health risks might be easy to underestimate.

“RSV is a common respiratory virus that usually circulates in the fall and winter in the United States,” says Robert H. Hopkins Jr., MD, medical director of the National Foundation for Infectious Diseases. “While it usually causes cold-like symptoms, in small children, older adults, and those with chronic medical conditions or other risk factors, RSV can cause serious infections—most commonly pneumonia. Unfortunately, there are currently no approved antiviral medications for RSV, so treatment is supportive in nature.”

Fortunately, RSV preventive medicine is advancing. “RSV vaccines are now available

to prevent severe infections in adults and can also be used in pregnant [people] to prevent disease in infants,” Dr. Hopkins explains. “There is also a monoclonal antibody that can be given to newborn infants and older babies at high risk to prevent severe outcomes. By vaccinating our patients, we can [now] help prevent older adults and infants from being hospitalized due to RSV.”

These new therapies represent an exciting breakthrough in preventive treatment, observe experts. “What has frustrated us for many years is that we have not had any way to prevent RSV,” says Kelly L. Moore, MD, MPH, president and CEO of Immunize.org, a national nonprofit advocacy organization for vaccines and immunization services. “Discoveries in how to design vaccines allowed us to develop all at once numerous RSV vaccines that became available this past year. Until the fall of 2023, we had no tools to use to prevent RSV, other than an extremely expensive antibody treatment that was used for only a few very high-risk infants.”

Considering the burden of RSV disease in society, the significance of these new tools in prevention is apparent. “We know that somewhere between 6,000 and 10,000 adults die of RSV disease each year in the United States,” remarks Dr. Moore. “RSV illness is also the No. 1 cause of the hospitalization of infants in the United States. Until the introduction of [an] RSV vaccine during pregnancy or the RSV antibody last year, we could expect that about 1 in 50 infants would be admitted to the hospital with RSV disease in their first year of life.”

The impact of infant hospitalizations for RSV on families can be particularly distressing, adds Dr. Moore. “While thankfully only a small number of infants die from RSV disease—maybe between 100 and 300 hundred infants across the United States every year—many thousands of infants are hospitalized and their families are traumatized by severe illness in their young child,” she says. “When you think about the impact on families, the hospitalization of an infant is incredibly expensive, families lose work time, and it’s also incredibly stressful for the family. This usually [happens] with an infant under 6 months of age. So, it’s not

just hospitalization, but the cost and the trauma to the family that we can—now, for the first time—prevent.”



### On Pins and Needles

Notably, injectable antibody therapy for newborns and young children differs from RSV vaccines for older adults and pregnant people.

“The monoclonal antibody is not a vaccination per se,” explains Donna L. Tyungu, MD, a pediatric infectious disease specialist with Oklahoma Children’s Hospital OU Health in Oklahoma City. “However, it is considered an immunization as it will protect the patient against [RSV] for a period. It provides months of antibody protection to help infants come through their first winter seasons. ... Most children will be able to better tolerate RSV in later seasons of life due to having larger facial anatomy and an improved ability to control the clinical response, which consists of a large amount of nasal and respiratory secretions. It is the first season that can be the most detrimental. Those infants under 8 months old whose mothers did not receive an RSV vaccine are eligible for this protection. Traditionally, vaccination teaches our immune systems how to fight pathogens by forming new antibodies. Monoclonal antibodies provide direct and immediate antibody protection to the patient.”

Note that a monoclonal antibody is a type of laboratory-made protein that attaches to the virus and can help block it from infecting healthy cells.<sup>4</sup>

For Dr. Tyungu, getting the word out to parents and families about these new therapies is a priority. “Families should be aware of these new protective options for newborns,” she says. “At our hospital this year, we are offering the monoclonal antibody to our sickest neonates—those who have spent time in neonatal, pediatric, or cardiac intensive care units. Others will be offered the immunization at outpatient pediatric offices.”

Only one of the three RSV vaccines is authorized for use in pregnant individuals.

“RSV vaccination of pregnant [people] between 32 and 36 weeks of pregnancy helps stimulate maternal antibody production against RSV, which is passed on to the infant to protect against severe infection in their first RSV season. For infants whose mothers did not receive an RSV vaccine, the monoclonal antibody nirsevimab is an injection given to newborns within the first week of life to provide antibody protection against severe RSV infection for the first RSV season. This antibody can also be given in the second RSV season to certain infants who are at increased risk. Both are safe and effective strategies to help protect infants from severe RSV.”

—Robert H. Hopkins Jr., MD

This is Pfizer’s Abrysvo vaccine, which has been found safe and effective for use during pregnancy, reports Dr. Moore. In most of the United States, the vaccine is authorized for use during pregnancy from September through January. Providers are advised not to administer the maternal RSV vaccine outside of this seasonal framework unless evidence shows that RSV is circulating regionally in a less predictable pattern, according to the CDC.<sup>5</sup>

“The maternal RSV vaccine is a traditional vaccination intended to protect newborns via passive immunization through their mother’s immune system,” adds Dr. Tyungu. “The idea is to vaccinate pregnant [people], and their newborns will retain that immunity typically through the first 18 months of life. Infants will have maternal immunity against many different pathogens if their mother has previously been exposed to or vaccinated against that pathogen. The level of protection is significant. Infants born to vaccinated mothers have a reduced risk of hospitalization at 3 months of age—reduced by 67%—and still a decrease at 6 months of life—reduced risk of 57%. It also reduced the risk of severe disease by 82% in 3-month-old infants.”

### The Ill at Ease

Many parents might ask when a symptomatic child should be seen by a pediatrician or get tested for RSV.

“Infants who have rapid breathing, are unable to feed well, or have irritability with a respiratory illness should be assessed by a health care professional as soon as possible,” advises Dr. Hopkins. “In addition,

any infant younger than 2 months old with a fever should be assessed by a health care professional.”

While most cases of RSV cause mild symptoms, in some individuals, the virus can develop into bronchiolitis or pneumonia, which are infections of the lower airways in the chest or lungs. Generally, RSV symptoms last an average of seven to 14 days, with symptoms peaking on days three through five.<sup>6</sup>

“Most children will be able to stay home to manage their RSV symptoms,” says Dr. Tyungu. “Unfortunately, some of our youngest children cannot tolerate the amount of secretions produced by their bodies due to infection. These younger infants or immunocompromised children can present with signs and symptoms of pneumonia, persistent cough and congestion, hypoxia, or decreased oxygenation. Testing for RSV is relatively simple, and patients with cough or fever can typically receive point-of-care testing with their pediatrician. Infants who experience cyanosis—turning blue, poor appetite leading to a decrease in the number of wet diapers, and persistent cough with fever should be brought in for care. They may benefit from nasal suctioning, oxygen, or antibiotic therapy, as viral infections can predispose patients to secondary bacterial infections.”

### A Turning Point

The CDC recommends that everyone age 75 and older get an RSV vaccine. Vaccination may be recommended for adults ages 60–74 with chronic conditions that increase their risk for severe disease. The vaccination may

be also be recommended for individuals with chronic heart or lung disease, with weakened immune systems, and who are nursing home residents.<sup>7</sup>

“These vaccines work best at preventing severe disease that results in [emergency room] visits and hospitalizations,” explains Dr. Moore. “That’s our primary goal with vaccination: to prevent serious outcomes in adults. The RSV vaccines are reducing the risk of severe disease and hospitalization by around 75% or 80% in the first season, based on the information from last season. This was consistent with what we saw in the clinical trials of tens of thousands of older adults who received these vaccines. This is important especially when you look at adults who are frail and fragile, who are 75 and older, for whom the hospitalization rate can be quite high.”

The first two vaccines released in fall 2023, Pfizer’s Abrysvo and GSK’s Arexvy, are traditional protein-based vaccines, whereas the new Moderna vaccine mResvia is an mRNA-based platform.<sup>7</sup> “We think the mRNA-based vaccine will work as well as the other two vaccines, but we’re awaiting more information because it’s a newer product,” reports Dr. Moore. “We expect the protection to be a little bit less significant in the second year, but people who got vaccinated last year won’t need another dose this year. With [COVID-19 and the flu], people are getting vaccinated each year, or sometimes more than once a year, but with the RSV vaccine, we believe significant protection will last at least two years and perhaps longer.”

As Dr. Moore clarifies, a more complete assessment of the RSV vaccines is forthcoming. “One of the challenges when a new vaccine comes out is that we don’t necessarily know how long it’s going to last until we have some time to watch how it works. We’re monitoring these vaccines closely now to determine when people are going to need another dose in the future. It may be two or three or more years, but we still don’t know.”



## Disease Defenses

The best ways to help prevent the spread of RSV include the following:

- Cover coughs and sneezes.
- Wash hands often with soap and water for at least 20 seconds.
- Avoid close contact with others who are sick.
- Avoid touching the face, particularly the eyes, nose, and mouth.
- Clean frequently touched surfaces (such as doorknobs).
- Consult a health care professional if you have cold-like symptoms that linger or worsen.
- Get immunized to protect against severe RSV, if recommended.<sup>3</sup>

Why is the vaccine recommendation more qualified for the age 60–74 population? “We know that the risk of getting serious RSV disease goes way up as you age,” remarks Dr. Moore. “The real change is around age 75 and older. If you’re otherwise completely healthy and you’re 65 or 70 years old, it’s very unlikely that you’re going to end up in the hospital with RSV. But if [patients] have serious heart, lung, or kidney disease, if [patients] have diabetes but it’s not well controlled and [they] have end-organ damage, or if [patients are] particularly frail and fragile, those patients can benefit from RSV vaccination when they’re younger.”

Understandably, some older adults in the 60–74 age group might be unsure whether they should receive the RSV vaccine. “I would encourage anyone aged 60–74 years who has questions about their eligibility for RSV vaccination to talk with a trusted health care professional,” suggests Dr. Hopkins. “It is important to note that RSV vaccination is currently recommended as a one-time single dose, and those adults

who have already been vaccinated should not get another dose.”

While the RSV vaccine is available year-round, the CDC recommends eligible older adults get the vaccine in late summer or early fall (August through October) before the usual seasonal spread of the virus in the community.<sup>7</sup>

### Viral News

Many health experts recognize the need for more engaged public discussion of RSV’s potential health risks and how to prevent them. Generally, public awareness of RSV tends to lag behind other viral infections, such as the flu.<sup>8</sup> This awareness can also vary depending on the population demographic.

“The people who know the most about RSV are parents of young families,” observes Dr. Moore. “This is because almost every child is going to get infected with RSV by the time they are 2 or 3 years old. And parents remember that illness. Many will also have a friend who had a baby who was hospitalized, because it’s so common in that age group. These families are very well aware of RSV.

The good news is that many of them are demanding either vaccines during pregnancy or the antibody for the infant. They understand that RSV is scary, and they want to do everything they can to protect babies.”

Conversely, awareness of RSV’s health risks among older adults is more likely to fall short. “A recent National Foundation for Infectious Diseases survey found that many U.S. adults are not as concerned about RSV as they should be, which is concerning because RSV can be serious and can cause life-threatening complications, hospitalizations, and death,” reports Dr. Hopkins. “According to the [National Foundation for Infectious Diseases] survey, only 16% of U.S. adults are concerned about RSV, and only 21% of older adults say they will get vaccinated.”<sup>9</sup>

Dr. Moore’s explanation for why RSV awareness and its risks have been comparatively low among older adults is simple: “Until now, we couldn’t do anything about it,” remarks Dr. Moore. “We didn’t have a vaccine. We didn’t have a treatment. If they got RSV and were hospitalized, we simply did the best we could to take care of them until they got better. But because there was nothing we could do to prevent or treat it, we didn’t talk about RSV much, which kind of makes sense. We didn’t talk about what we couldn’t do anything about.”

With new preventive resources now available, older adults must be informed about their options. “Now, the tables have turned on this virus, and we can do a lot to prevent the damage it’s causing in older adults,” says Dr. Moore. “So, we need to start educating our patients who are 75 and older and our patients with serious health complications who are younger than now we can do something. We have to make sure they understand this virus is commonplace. They’ve probably had it a few times in their lives already, and if they don’t get vaccinated, they’re going to get it again. But now they are at an age when it could put them in the hospital, and we want to prevent that.”

## The Ill, Advised

Immunize.org provides a weekly newsletter, *IZ Express*, to help readers stay informed on new CDC vaccine recommendations, U.S. Food and Drug Administration vaccine approvals, newly released Vaccine Information Statements, immunization resources, notable publications, vaccine news, upcoming events, and more.<sup>14</sup>

## Resources

**Immunize.org**

<https://www.immunize.org>

**National Foundation for Infectious Diseases**

<https://www.nfid.org>

## Staff Perspectives

“We’re starting to see an uptick in our office of more pregnant [people] getting the RSV vaccine,” says Alex Szymanski, CMA (AAMA), practice manager for Advocate Medford Pediatrics in Medford, New Jersey. “We get newborn records from the hospital that will indicate [whether] the mother has had [the vaccine]. If the mom didn’t get the RSV vaccine during pregnancy, we offer [antibody] immunization to newborns and patients under the age of 19 months. If they have anything like a compromised immune system, a risk of respiratory infections, or an issue with asthma, we can give another dose the following year.”

“Quite honestly, we’ve seen a lack of immunizations [generally] since COVID-19,” adds Szymanski. “We know some parents don’t want to get their children immunized. But we’ve had a lot of interest in parents wanting the RSV antibody injection for their children. Frankly, when it came out last year, I thought nobody was going to want this. But the number of patients we had was phenomenal, and again this year. Parents want it for their children. I think it’s because RSV is very scary for a lot of parents with the complications it can lead to, especially in infants.”

Dosages for the antibody immunization are based on the age and weight of the newborn, infant, or toddler.<sup>10</sup> “In our office, the medical assistants give the injections,” says Szymanski. “It’s usually an intramuscular injection into the baby’s thigh. There are usually no major side effects other than a little soreness at the injection site. But otherwise, the babies are tolerating it well.”

As a mother of a 4-year-old and a new baby, Szymanski also has personal experience with RSV in her family. “My 4-year-old

son had RSV when he was 2,” she says. “My newborn was immunized when he was 8 weeks old. I found with RSV that it kind of hits fast. With my son, it started with what I thought was a normal cold. He was fine that morning, and by midnight, he was having very labored breathing [and] retractions in his ribs. I could tell something was off, so I took him to the [emergency room]. They did a respiratory panel, and that came back positive for RSV. We were there for several hours. They put him on a steroid and nebulizer treatment for his breathing because his oxygen level was low. He was having some respiratory stress, but once we started the nebulizer treatments every four hours with steroids we saw some improvement. It took about a week for him to recover.”

While her son was not hospitalized, Szymanski believes that if he was younger he probably would have been admitted to the hospital. “I want medical assistants and everyone to know RSV is serious,” says Szymanski. “Obviously, with your own children, you should follow your ... gut if you think something is wrong. You should especially watch out for your child’s breathing. If you know what their breathing pattern is normally versus a breathing pattern when they’re sick, that can make a huge difference. If something’s off and there are signs of respiratory distress, you would be able to identify that right away.”

Most parents are interested in the new antibody immunization for infants, agrees Jennifer Zeher, CMA (AAMA), a clinical medical assistant for a pediatrics clinic in Wake Forest, North Carolina. “In our [practice], we’ve had few parents decline it when it’s offered,” she says. “With a lot of parents worried about their children getting sick, in the wintertime especially, we’re seeing a lot of families opting for it.”

While RSV season typically starts in fall and peaks in winter, with some regional variations in timing and severity, the overall seasonal timing of the virus was disrupted during the COVID-19 pandemic.<sup>11</sup> “Our [physicians] tell us that ever since COVID-19, RSV season is all over the place,” says Zeher. “We’ve had kids coming in for RSV in June and July, which prior to COVID-

19 was unheard of. It’s showing up any time of year, although we’re allowed to order the immunization for only the RSV season.” The CDC expects, however, RSV’s traditional seasonal pattern will gradually return.<sup>11</sup>

Medical assistants must be informed and up to date on RSV, says Zeher. Working in pediatrics, she observes her learning has grown considerably since the introduction of the new vaccine and antibody therapies, but also by her own experience as a parent.

“As someone who has been a parent for only three years, my child got RSV three times in one year,” she reports. “He’s in daycare, and it just goes through there like wildfire. As far as symptoms go, he was not immunocompromised and is healthy otherwise, so he just looked miserable with a cold for a week or so. But for kids that have health issues, like lung or heart disease or other problems, they can very easily end up in the hospital. I think RSV should be everyone’s concern.”

## High Points to Come

Primary care providers, pediatricians, infectious disease specialists, medical staff, and other health care professionals all have a vital role to play in educating and raising awareness about RSV with patients, families, and communities.

“It is important for families with new babies to understand the risks of RSV and know of the preventive agents at our disposal,” concludes Dr. Tyungu. “Pediatricians are generally very good at disclosing age-appropriate risks as children grow. This is only the second year we have had these tools in our immunization toolbelt, and we should be excited about assisting families in avoiding some of the outcomes that can result from infection with this virus. Practical tools that may help spur conversations would be flyers in the [practice], mentions on clinic social media pages, emails, or informative text messages to families with young babies.”

For example, the American Academy of Pediatrics sponsors an RSV Campaign Toolkit that pediatricians can use to educate parents and families. The tool kit includes information on how to identify warning signs of RSV in babies, immunization resources, the importance of handwashing, and preventive tips to reduce the spread of RSV.<sup>12</sup> The American Lung Association has also recently launched an RSV public awareness campaign, prioritizing outreach to high-risk groups such as adults 60 or older with chronic lung disease.<sup>13</sup>

“We are all in this together—health care professionals, advocacy organizations, and the media,” concludes Dr. Hopkins. “We need to provide timely and accurate information about RSV, especially its impact on older adults and young children; the fact that there are no approved antiviral medications as treatment; and that safe and effective preventive tools are available! We want to ensure that everyone eligible is protected against RSV.”

The current juncture in medicine’s response to RSV is a promising one. With new preventive tools now available, health care professionals are poised to better support and empower patients, families, and communities to prevent severe RSV. ♦

The CE test for this article can be found on page 26.



## References

1. Preliminary estimated flu disease burden 2022–2023 flu season. Centers for Disease Control and Prevention. November 22, 2023. Accessed December 15, 2024. <https://www.cdc.gov/flu-burden/php/data-vis/2022-2023.html>
2. Steinzor P. Sixty percent of adults over 50 unaware of RSV risks, survey reveals. *Am J Managed Care*. August 30, 2024. Accessed December 15, 2024. <https://www.ajmc.com/view/sixty-percent-of-adults-over-50-unaware-of-rsv-risks-survey-reveals>
3. Respiratory syncytial virus (RSV). National Foundation for Infectious Diseases. Updated September 2024. Accessed December 15, 2024. <https://www.nfid.org/infectious-disease/rsv/>
4. Respiratory syncytial virus (RSV) monoclonal antibody. The Sydney Children’s Hospital. Updated June 17, 2024. Accessed December 15, 2024. <https://www.schn.health.nsw.gov.au/respiratory-syncytial-virus-rsv-monoclonal-antibody-factsheet>
5. RSV vaccine guidance for pregnant people. Centers for Disease Control and Prevention. August 30, 2024. Accessed December 15, 2024. <https://www.cdc.gov/rsv/hcp/vaccine-clinical-guidance/pregnant-people.html>
6. Caserta M, Jones A. RSV: when it’s more than just a cold. *HealthyChildren.org*. Updated October 25, 2024. Accessed December 15, 2024. <https://www.healthychildren.org/English/health-issues/conditions/chest-lungs/Pages/RSV-When-Its-More-Than-Just-a-Cold.aspx>
7. Vaccines for older adults. Centers for Disease Control and Prevention. August 30, 2024. Accessed December 15, 2024. <https://www.cdc.gov/rsv/vaccines/older-adults.html>
8. O’Byrne C, Bigham J. RSV season debrief: what should family physicians know? *AAFP Voices* blog. March 20, 2024. Accessed December 15, 2024. <https://www.aafp.org/news/blogs/aafp-voices/rsv-season-debrief.html>
9. As concerns about respiratory diseases among public drop to new lows, US health officials urge vaccination. National Foundation for Infectious Diseases. September 25, 2024. <https://www.nfid.org/as-concerns-about-respiratory-diseases-among-public-drop-to-new-lows-us-health-officials-urge-vaccination/>
10. RSV immunization guidance for infants and young children. Centers for Disease Control and Prevention. August 30, 2024. Accessed December 15, 2024. <https://www.cdc.gov/rsv/hcp/vaccine-clinical-guidance/infants-young-children.html>
11. Seasonality of respiratory syncytial virus — United States, 2017–2023. *MMWR*. 2023;72(14):355–361. April 7, 2023. Accessed December 15, 2024. <http://dx.doi.org/10.15585/mmwr.mm7214a1>
12. RSV (respiratory syncytial virus) campaign toolkit. American Academy of Pediatrics. Accessed December 15, 2024. [https://www.aap.org/en/news-room/campaigns-and-toolkits/rsv-respiratory-syncytial-virus-campaign-toolkit/?srsltid=AfmBOopHfmsVno16gZGWENT7aaBx3PHdD48zVxa2F9FK0cVzB4\\_z6hDB](https://www.aap.org/en/news-room/campaigns-and-toolkits/rsv-respiratory-syncytial-virus-campaign-toolkit/?srsltid=AfmBOopHfmsVno16gZGWENT7aaBx3PHdD48zVxa2F9FK0cVzB4_z6hDB)
13. New American Lung Association RSV campaign targets high-risk groups amid low vaccination rates. American Lung Association. September 25, 2024. Accessed December 15, 2024. <https://www.lung.org/media/press-releases/fy25-rsv-in-adults-campaign>
14. About *IZ Express*. *Immunize.org*. Accessed December 15, 2024. <https://www.immunize.org/news/iz-express/about/>

