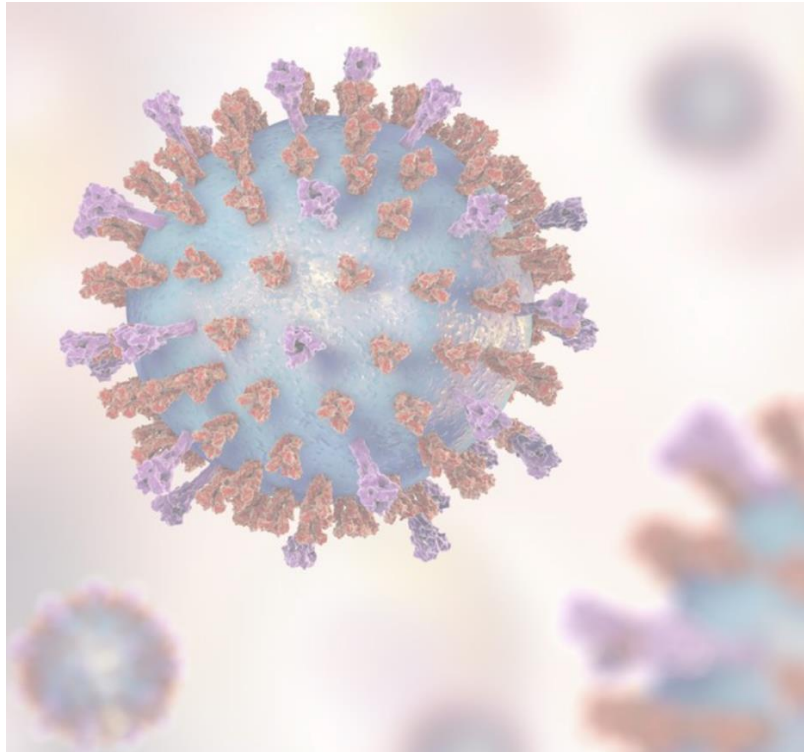


Respiratory Syncytial Virus (RSV) Toolkit



Sample Talking Points:

The fall and winter of 2022-2023 saw a surge of three respiratory illnesses—COVID, Flu and RSV - Respiratory Syncytial Virus, in addition to a predictable pneumonia season as well

Americans are largely aware of the risks of COVID and the flu, but for many, this was the first time RSV was on their radar.

The same is not true for those in the medical and scientific communities. For most people who contract RSV, they'll recover in a week or two, but for young children and infants, as well as older adults, RSV can be severe and even lead to death.

Vaccines to combat RSV have been in development for decades, and now, we're closer than ever to having vaccines to protect the most vulnerable against the virus.

Vaccines for older adults and pregnant women are expected to be reviewed by the FDA in the coming months and could potentially be available ahead of the 2023-24 respiratory virus season.

Pregnant women pass vaccine immunity on to their unborn baby.

Despite results from a [recent survey](#) conducted by Healthy Women, 8 in 10 women say that vaccines protect both mother and baby from dangerous diseases, maternal vaccination rates remain dangerously low.

Statistics for Young Children:

According to the [CDC](#):

RSV can be dangerous for some infants and young children. Each year in the United States, an estimated 58,000 children younger than 5 years old are hospitalized due to RSV infection. Those at greatest risk for severe illness from RSV include:

- Premature infants
- Very young infants, especially those 6 months and younger
- Children younger than 2 years old with chronic lung disease or congenital (present from birth) heart disease
- Children with weakened immune systems
- Children who have neuromuscular disorders, including those who have difficulty swallowing or clearing mucus secretions

According to the [National Foundation for Infectious Disease \(NFID\)](#), RSV is so common that most children will have had an infection by their 2nd birthday.

RSV is the [leading cause](#) of infant hospitalizations worldwide.

Statistics for Older Adults:

According to the [CDC](#):

RSV infections can be dangerous for certain adults. Each year, it is estimated that more than 177,000 older adults are hospitalized and 14,000 of them die in the United States due to RSV infection. Adults at highest risk for severe RSV infection include

- Older adults, especially those 65 years and older
- Adults with chronic heart or lung disease
- Adults with weakened immune systems

Until a vaccine is available to prevent the spread of RSV, it's critical that older Americans take proactive steps to protect themselves against other viruses like pneumococcal disease, the flu and COVID.

Older adults should talk to their health care provider about the availability of additional pneumococcal vaccines this year that prevent additional strains of the disease.

How to prevent spread of RSV:

Similar to flu and COVID, individuals can take some common-sense steps to reduce risk of contracting RSV. [Tips from the CDC](#) include:

- Wash your hands often.
- Keep your hands off your face
- Avoid close contact with sick people.
- Cover your coughs and sneezes
- Clean and disinfect surfaces
- Stay home when you are sick

Additional Resources:

- Alliance for Aging Research: [Not Just a Childhood Illness, RSV Can Frequently Cause Complications and Death Among Older Adults - Alliance for Aging Research.](#)
- NFID: <https://www.nfid.org/infectious-diseases/rsv/>
- CDC: <https://www.cdc.gov/rsv/index.html>
- American Lung Association: https://www.lung.org/lung-health-diseases/lung-disease-lookup/rsv?gclid=Cj0KCQjA3eGfBhCeARIsACpJNU-yT32BO7UKQ7I23r7t2DyMAnCRS5Je4uwpb_x05T4gtqD3TdSkDhYaAmYNEALw_wcB
- Healthy Women Survey on Maternal Vaccination: <https://www.healthywomen.org/health-care-policy/maternalvax>

Sample Social Media:

This year, we've seen a surge in cases of #flu #COVID and #RSV. Scientists are working to develop #RSV vaccines so the most vulnerable can be protected.

<https://www.cnn.com/2022/10/31/health/rsv-vaccines-therapies/index.html>

Like #COVID and the #Flu #RSV is most dangerous for the very young and very old. But unlike the other two viruses, there's not yet an approved #vaccine for #RSV. Learn how to reduce your chances of contracting the virus.

<https://www.cdc.gov/rsv/about/prevention.html>

#RSV is the leading cause of hospitalization for infants. #Vaccines to prevent the virus from spreading are being considered by FDA.

Social Media Graphics:



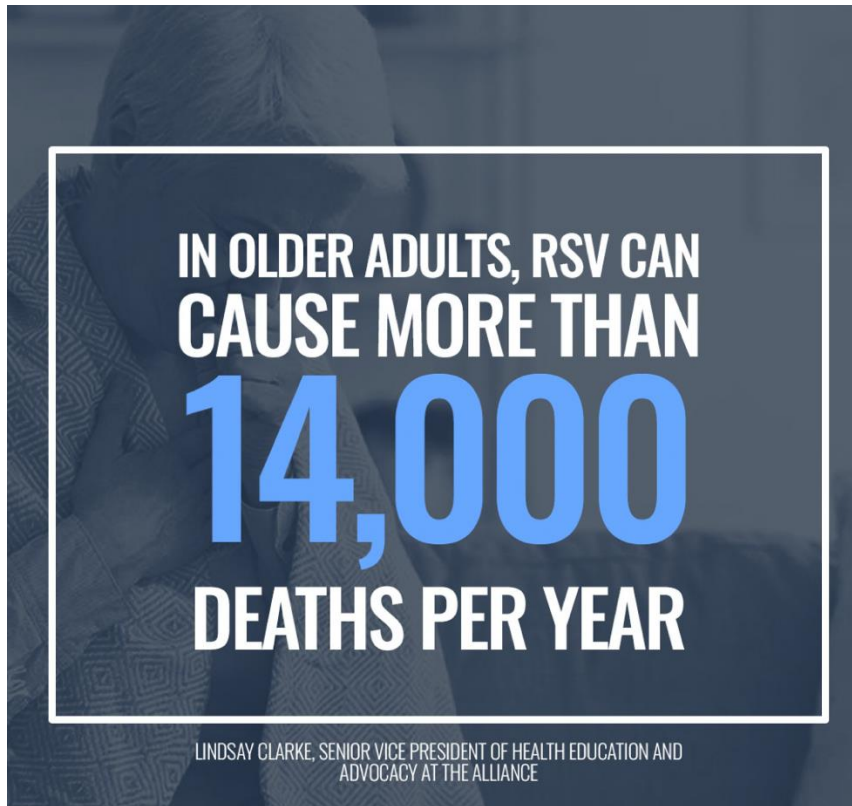
REDUCE YOUR RISK OF CONTRACTING RSV

- **WASH YOUR HANDS OFTEN.**
- **KEEP YOUR HANDS OFF YOUR FACE**
- **AVOID CLOSE CONTACT WITH SICK PEOPLE**
- **COVER YOUR COUGHS AND SNEEZES**
- **CLEAN AND DISINFECT SURFACES**
- **STAY HOME WHEN YOU ARE SICK**



**RSV IS SO COMMON THAT
MOST CHILDREN WILL HAVE
HAD AN INFECTION BY THEIR
2ND BIRTHDAY.**

ACCORDING TO THE NATIONAL FOUNDATION FOR INFECTIOUS DISEASE (NFID)



Recent Media Stories:



CNN —

It's shaping up to be a severe season for [respiratory syncytial virus infections](#) — one of the worst some doctors say they can remember. But even as babies struggling to breathe fill hospital beds across the United States, there may be a light ahead: After decades of disappointment, four new RSV vaccines may be nearing review by the US Food and Drug Administration, and more than a dozen others are in testing.

There's also hope around a promising long-acting injection designed to be given right after birth to protect infants from the virus for as long as six months. In a recent [clinical trial](#), the antibody shot was 75% effective at heading off RSV infections that required medical attention.

Experts say the therapies look so promising, they could end bad RSV seasons as we know them.

And the relief could come soon: Dr. Ashish Jha, who leads the White House Covid-19 Response Task Force, told CNN that he's "hopeful" there will be an RSV vaccine by next fall.

Charlotte Brown jumped at the chance to enroll her own son, a squawky, active 10-month-old named James, in one of the vaccine trials this summer.

"As soon as he qualified, we were like 'absolutely, we are in,' " Brown said.

Babies have to be at least 6 months old to enter the trial, which is testing a vaccine developed at the National Institutes of Health – the result of decades of scientific research.

Brown is a pediatrician who cares for hospitalized children at Vanderbilt University Medical Center in Nashville, and she sees the ravages of RSV firsthand. A recent patient was in the back of her mind when she was signing up James for the study.

"I took care of a baby who was only a few months older than him and had had nine days of fever and was just absolutely pitiful and puny," she said. Brown said his family felt helpless. "And I was like, 'this is why we're doing it. This single patient is why we're doing this.' "

Even before this year's surge, RSV was the leading cause of infant hospitalizations in the US. The virus infects the lower lungs, where it causes a hacking cough and may lead to severe complications like pneumonia and inflammation of the tiny airways in the lungs called bronchiolitis.

Worldwide, RSV causes about 33 million infections in children under the age of 5 and hospitalizes 3.6 million annually. Nearly a quarter-million young children die each year from complications of their infections.

RSV also preys on seniors, leading to an estimated 159,000 hospitalizations and about 10,000 deaths a year in adults 65 and over, a burden roughly on par with influenza.

Despite this heavy toll, doctors haven't had any new tools to head off RSV for more than two decades. The last therapy approved was in 1998. The monoclonal antibody, Synagis, is given monthly during RSV season to protect preemies and other high-risk babies.

Lessons learned after grave setback

The hunt for an effective way to protect against RSV stalled for decades after two children died in a disastrous vaccine trial in the 1960s.

That study tested a vaccine made with an RSV virus that had been chemically treated to render it inert and mixed with an ingredient called alum, to wake up the immune system and help it respond.

It was tested at clinical trial sites in the US between 1966 and 1968.

At first, everything looked good. The vaccine was tested in animals, who tolerated it well, and then given to children, who also appeared to respond well.

“Unfortunately, that fall, when RSV season started, many of the children that were vaccinated required hospitalization and got more severe RSV disease than what would have normally occurred,” said Steven Varga, a professor of microbiology and immunology at the University of Iowa, who has been studying RSV for more than 20 years and is developing a nanoparticle vaccine against the virus.

A [study](#) published on the trial found that 80% of the vaccinated children who caught RSV later required hospitalization, compared with only 5% of the

children who got a placebo. Two of the babies who had participated in the trial died.

The outcomes of the trial were a seismic shock to vaccine science. Efforts to develop new vaccines and treatments against RSV halted as researchers tried to untangle what went so wrong.

“The original vaccine studies were so devastatingly bad. They didn’t understand immunology well in those days, so everybody said ‘oh no, this ain’t gonna work.’ And it really was like it stopped things cold for 30, 40 years,” said Dr. Aaron Glatt, an infectious disease specialist at Mount Sinai South Nassau in New York.

Regulators re-evaluated the guardrails around clinical trials, putting new safety measures into place.

“It is in fact, in many ways, why we have some of the things that we have in place today to monitor vaccine safety,” Varga said.

Researchers at the clinical trial sites didn’t communicate with each other, Varga said, and so the US Food and Drug Administration put the publicly accessible Vaccine Adverse Events Reporting System into place. Now, when an adverse event is reported at one clinical trial site, other sites are notified.

Another problem turned out to be how the vaccine was made.

Proteins are three-dimensional structures. They are made of chains of building blocks called amino acids that fold into complex shapes, and their shapes determine how they work.

In the failed RSV vaccine trial, the chemical the researchers used to deactivate the virus denatured its proteins – essentially flattening them.

“Now you have a long sheet of acids but no more beautiful shapes,” said Ulla Buchholz, chief of the RNA Viruses Section at the National Institutes of Allergy and Infectious Diseases.

“Everything that the immune system needs to form neutralizing antibodies that can block and block attachment and entry of this virus to the cell had been destroyed in that vaccine,” said Buchholz, who designed the RSV vaccine for toddlers that’s being tested at Vanderbilt and other US sites.

In the 1960s trial, the kids still made antibodies to the flattened viral proteins, but they were distorted. When the actual virus came along, these antibodies didn’t work as intended. Not only did they fail to recognize or block the virus, they triggered a powerful misdirected immune response that made the children much sicker, a phenomenon called [antibody-dependent enhancement of disease](#).

The investigators hadn’t spotted the enhancement in animal studies, Varga says, because the vaccinated animals weren’t later challenged with the live virus.

“So of course, we require now extensive animal testing of new vaccines before they’re ever put into humans, again, for that very reason of making sure that there aren’t early signs that a vaccine will be problematic,” Varga said.

A breakthrough reinvigorates the field

About 10 years ago, a team of researchers at the NIH – some of the same investigators who developed the first Covid-19 vaccines – [reported](#) what would turn out to be a pivotal advance.

They had isolated the structure of the virus’s F-protein, the site that lets it dock onto human cells. Normally, the F-protein flips back and forth, changing shapes after it attaches to a cell. The NIH researchers figured out to how freeze the F-protein into the shape it takes before it fuses with a cell.

This protein, when locked into place, allows the immune system to recognize the virus in the form it’s in when it first enters the body – and develop strong antibodies against it.

“The companies coming forward now, for the most part, are taking advantage of that discovery,” said Dr. Phil Dormitzer, a senior vice president of vaccine

development at GlaxoSmithKline. “And now we have this new generation of vaccine candidates that perform far better than the old generation.”

The first vaccines up for FDA review will be given to adults: seniors and pregnant woman. Vaccination in pregnancy is meant to ultimately protect newborns – a group particularly vulnerable to the virus – via antibodies that cross the placenta.

Vaccines for children are a bit farther behind in development but moving through the pipeline, too.

Four companies have RSV vaccines for adults in the final phases of human trials: Pfizer and GSK are testing vaccines for pregnant women as well as seniors. Janssen and Bavarian Nordic are developing shots for seniors.

Pfizer and GSK use protein subunit vaccines, a more traditional kind of vaccine technology. Two other companies build on innovations made during the pandemic: Janssen – the vaccine division of Johnson & Johnson – relies on an adenoviral vector, the same kind of system that’s used in its Covid-19 vaccine, and Moderna has a vaccine for RSV in Phase 2 trials that uses mRNA technology.

So far, early results shared by some companies are promising. [Janssen](#), [Pfizer](#) and [GSK](#) each appear effective at preventing infections in adults for the first RSV season after the vaccine.

In an August [news release](#), Annaliesa Anderson, Pfizer’s chief scientific officer of Vaccine Research and Development, said she was “delighted” with the results. The company plans to submit its data to the FDA for approval this fall.

GSK has also wrapped up its Phase 3 trial for seniors. It recently presented [the results](#) at a medical conference, but full data hasn’t been peer reviewed or published in a medical journal. Early results show that this vaccine is 83% effective at preventing disease in the lower lungs of adults 60 and older. It appears to be even more protective – 94% – for severe RSV disease in those over 70 and those with underlying medical conditions.

“We are very pleased with these results,” Dormitzer told CNN. He said the company was moving “with all due haste” to get its results to the FDA for review.

“We’re confident enough that we’ve started manufacturing the actual commercial launch materials. So we have the bulk vaccine actually in the refrigerator, ready to supply when we are licensed,” he said.

Even as the company applies for licensure, GSK’s trial will continue for two more RSV seasons. Half the group getting the vaccine will be followed with no additional shots, while the other group will get annual boosters. The aim is to see which approach is most protective to guide future vaccination strategies.

Janssen’s vaccine for older adults appears to be about 70% to 80% effective in clinical trials so far, the company [announced in December](#).

In a study on Pfizer’s vaccine for pregnant women published in the [New England Journal of Medicine](#) this year, the company reported that the mothers enrolled in the study made antibodies to the vaccine and that these antibodies crossed the placenta and were detected in umbilical cord blood just after birth.

The vaccines for pregnant women are meant to get newborns through their first RSV season. But not all newborns will benefit from those. Most maternal antibodies are passed to baby in the third trimester, so preemies may not be protected, even if mom gets the vaccine.

For vulnerable infants and those whose mothers decline to be vaccinated, Dr. Helen Chu, an infectious disease specialist at the University of Washington, says the long-acting antibody shot for newborns, called nirsevimab, should cover them for the first six months of life. She expects it to be a “game-changer.”

That shot, which has been developed by AstraZeneca, was [recently recommended](#) for approval in the European Union. It has not yet been approved in the United States.

Hope on the horizon

The field is so close to a new approval that public health officials say they've been asked to study up on the data.

Chu, who is also a member of an RSV study group of the Advisory Committee on Immunization Practices, a panel that advises the US Centers for Disease Control and Prevention on its vaccine recommendations, says her group has started to evaluate the new vaccines – a sign that an FDA review is just around the corner.

No companies have yet announced that process is underway. FDA reviews can take several months, and then there are typically discussions and votes by FDA and CDC advisory groups before vaccines are made available.

“We've been working on this for several months now to start reviewing the data,” Chu said. “So I think this is imminent.”

Watching this year's RSV season unfold, Brown, the pediatrician who enrolled her son in the vaccine trial for toddlers, says progress can't come fast enough.

“The hospital is surging. We're not drowning the way some states are. I mean, Connecticut, South Carolina, North Carolina, they're really drowning. But our numbers are huge, and our services are so busy,” she says.

Brown says her son is mostly healthy. He doesn't have any of the risks for severe RSV she sees with some of her patients, so she was happy to have a way to help others.

And while it's far too early to say whether the vaccine James is helping to test will prove to be effective, the trial was unblinded last week, and Brown learned that her son was in the group that got the active vaccine, not the placebo

He has done well through this heavy season of illness, she says. The NIH-sponsored study they participated in is scheduled to be [completed next year](#).

The vaccine, which is made with a live but very weak version of virus, is given through a couple of squirts up the nose, so there are no needles. The hardest part for squirmy James, she said, was being held still.

“If we can do anything to move science forward and help another child, like, sorry, James. You had to have your blood drawn, but it absolutely was worth it.”

SCIENTIFIC AMERICAN®

RSV Is Surging: What We Know about This Common and Surprisingly Dangerous Virus

Your questions answered about what RSV is, how it spreads, what vaccines are on the way and who is most at risk

- By [Tara Haelle](#) on November 4, 2022
-

As flu season picks up and experts weigh concerns about another [possible COVID surge](#), children’s hospitals are already filling with patients with another viral threat: respiratory syncytial virus, or RSV. Even though many people haven’t heard of RSV, pretty much everyone has had it, probably multiple times, says Anthony Flores, chief of pediatric infectious diseases at the University of Texas Health Science Center at Houston and a physician at Children’s Memorial Hermann Hospital. RSV is the leading cause of bronchiolitis—inflammation of the lung’s small airways—in infants, and the virus is so common that nearly all children have encountered it by [their second birthday](#).

“It’s that ubiquitous,” Flores says. “Even adults are exposed to it repeatedly over time, so we develop some immunity to it.” In healthy adults and children, though, RSV typically presents as a common cold, with symptoms similar to those caused by other “common cold” viruses, such as rhinovirus, adenovirus and a couple of common coronaviruses. But that doesn’t mean it’s harmless. RSV costs the U.S. [more than \\$1 billion](#) each year in health care costs and lost

productivity, and it can be particularly dangerous for newborn babies and adults older than age 65.

“As we have come to learn, particularly gradually over the last 15 years, this is a virus that annually produces probably about as much illness in adults as does influenza,” says William Schaffner, a professor of medicine at Vanderbilt University Medical Center and medical director of the National Foundation for Infectious Diseases. That’s because our immune system ages along with us. “As we get older, our immune system doesn’t work as well,” Flores says.

The good news is that RSV vaccines are on the way. In fact, Pfizer just announced this week that its maternal RSV vaccine—given during pregnancy so that antibodies are transferred through the placenta to the fetus—was 82 percent effective at preventing severe RSV in babies through three months old. But until the U.S. Food and Drug Administration approves a vaccine, RSV will be one of the unavoidable viruses people encounter each year.

What is RSV, and what are its symptoms?

RSV is an RNA virus made up of 11 proteins, similar to influenza A, another RNA virus whose genes encode the same number of proteins. It infects the nose, throat, lungs and the breathing passages of the upper and lower respiratory system, according to the National Foundation for Infectious Diseases. As the body sends immune cells to virus-infected cells to fight the disease, it causes inflammation in the airways.

Symptoms include a runny nose, reduced appetite, coughing, sneezing, wheezing and sometimes a mild fever—although fever is more common in young infants and older adults. Symptoms show up about four to six days after infection and take one to two weeks to resolve.

How is RSV transmitted?

RSV spreads primarily through respiratory droplets from coughing, sneezing and kissing (transmission by airborne droplets, or aerosols, has not yet been shown). But the virus can also survive for several hours on hard surfaces, including tables and crib rails. Such “fomites” are a more common mode of transmission for RSV than they are for COVID. People infected with RSV are typically contagious for about three to eight days, even if they don’t have many symptoms. The basic reproduction number, or R_0 , for RSV is estimated to be around 3, which means a single infection of RSV will lead, on average, to three other infections.

How severe is an RSV infection?

For the average person, RSV is little more than a nuisance, Flores says. “For most of us—children over the age of two and healthy adults—it’s just like a common cold,” Flores says. “It may give us a little bit of a cough and runny nose, maybe a mild fever, but we usually get over it pretty quickly.”

But infants under six months old, and especially those under two months old, have a harder time with RSV. “That’s where we see our highest hospitalization rates [in children]—maybe three or four times higher in that age group than in others,” Flores says. The reason is basic physics. “It has everything to do with the size of their airways,” he says. Their airways simply aren’t wide enough yet to allow airflow with all the inflammation caused by the immune system’s response to the virus.

Even then, only about 1 to 2 percent of children under six months with RSV need hospitalization (usually for a couple of days), and death is rare. An estimated 58,000 U.S. children are hospitalized with RSV each year, and the virus kills about 100 to 500 U.S. children under five each year. (Since the pandemic began, COVID has killed more than 560 children under five, according to the U.S. Centers for Disease Control and Prevention.) Premature babies and those with underlying heart and lung conditions have the greatest likelihood of complications and hospitalization. Premature infants’ lungs tend to be underdeveloped and even less capable of handling the inflammation caused by the virus. In fact, children who meet strict criteria for being at highest risk are recommended to receive the preventive antibody medication palivizumab as an injection into the thigh muscle once a month when RSV is circulating.

Adults older than age 65 are also at risk of severe RSV, although public health officials have only begun to recognize the threat to older adults in the past decade. Every year an estimated 177,000 older adults are hospitalized with RSV, and about 14,000 die from it. For comparison, influenza kills anywhere from 21,000 to more than 44,000 adults older than 65 each year.

Another population at higher risk for complications from RSV are people who are immunocompromised, whether because they have an underlying condition that weakens their immune system or because they take a medication that suppresses it. Those who have had organ transplants, for example, take medications that dampen their body’s immune response to avoid rejection of the new organ. And many of the drugs used to treat autoimmune conditions also weaken the immune system.

Why are cases surging now?

Historically, RSV season was so reliable that children’s hospitals planned staffing around it. It typically ran from about November through April, with the biggest peaks in January and February, depending on local conditions. But the pandemic changed everything. With many people staying home, social distancing, washing hands and wearing masks for most of 2020 and into 2021, RSV—like influenza—never really arrived, and its seasonality has been out of whack ever since.

“All of a sudden, last summer, we had this huge surge of RSV,” Flores says. “At it first baffled everybody, but then it kind of epidemiologically made sense.” Normally, most kids encounter RSV some time in their first year and a half of life and develop some immunity as they recover. The immunity doesn’t last very long, but enough of it lingers that subsequent infections aren’t as severe. But thanks to the social distancing and masking, a whole birth cohort of kids had never been exposed to RSV before. So as society began opening back up in the summer of 2021, all of them were exposed at once, and RSV roared back like it was Christmas in July.

“We tended to see more severe reactions, so we saw more hospitalizations, and I think it’s because we had a larger pool of kids who had never been exposed to RSV in the past,” Flores says. That summer surge eventually settled down, but fast-forward to 2022, and although it’s later in the year, something similar is happening.

On one hand, current pediatric hospitalizations aren’t much higher at Flores’s hospital and many other hospitals than they would be during a typical RSV peak in midwinter. But the problem is that it’s not midwinter yet. With flu cases rising, pediatricians and public health experts are asking themselves the same question: “Are we going to see another surge with COVID later this year and then see a ‘triple-demic’?” Flores says. “That’s the big worry.” Flores doesn’t think a triple surge would necessarily cause more deaths, but it would place a significant burden on the health care system that many places aren’t prepared to weather.

Is there a vaccine for RSV?

There is no approved RSV vaccine yet, but there likely will be soon. Scientists have been working on such a vaccine for half a century, but a disastrous trial in the 1960s resulted in the deaths of two toddlers who caught RSV after receiving the vaccine. It turned out the disease was more severe in those who were vaccinated, and until that mystery was resolved, not much progress occurred. Fortunately, one of the same scientists whose team determined the spike-protein mRNA code for the COVID vaccines, Jason McLellan of the University of Texas, solved the RSV vaccine problem with virologist Barney Graham, then at the National Institutes of Health, about decade ago. Now that work is coming to fruition.

Several pharmaceutical companies began vaccine trials with McLellan’s protein in 2017, and the first successful phase III (late-stage) results came this year. Against severe disease, Pfizer’s vaccine was 86 percent effective and GSK’s was more than 94 percent effective in adults 60 and older.* Between those vaccines and Pfizer’s recent maternal RSV vaccine news, Graham, who is now retired from the NIH, expects to see at least one RSV vaccine approved by the end of 2023, if not sooner.

How is RSV treated?

There is no medication to treat RSV, so the treatment is primarily supportive care for symptoms such as fever and congestion. Those who have trouble breathing may receive a breathing tube or supplemental oxygen through a mask or nose tube. The American Academy of Pediatrics used to recommend steroids for infants, but the data are conflicting on how well they help, so that's no longer a standard recommendation, Flores says.

There are a couple of reasons therapeutics don't exist for RSV. First, it's very difficult to develop effective drugs for respiratory virus infections. Most of the four antivirals available for flu, for example, are fairly new and have limited effectiveness unless given early after infection. Second, so few children die from RSV that therapeutics weren't as high a priority as developing drugs for other conditions. The recent understanding of how many adults die from RSV and advances in monoclonal antibodies, however, have boosted the pipeline for new RSV treatments.

The drug furthest along is nirsevimab, which was 75 percent effective in healthy infants in a phase III trial and has been shown to be safe in premature infants as well. FDA approval could come late this year or next.

What should someone do if they think they or a family member has RSV?

Chances are, you won't know if you have RSV because it will feel like any other cold. You should do "all those things we've learned in the pandemic" when you're sick, Flores says. That means wearing a mask, practicing good hand hygiene, covering your mouth when you sneeze or cough and, for those able to do so, working from home. Many people won't or can't stay home from school or work with just a cold, though, so wearing a mask can at least protect others around you while you're sick, especially those at higher risk for complications. If there's anything we learned from the way flu and RSV basically disappeared in 2020, Flores says, it's that masking obviously works.

When should someone with RSV go to the hospital?

As with any other respiratory illness, the biggest sign that one should seek medical attention, regardless of age, is having difficulty breathing, Flores says. In addition, parents should take an infant under six months to the doctor or hospital if the child can't lie down without breathing difficulty, if they're sleepier than usual or if they're difficult to rouse from sleep.

What can one do to protect vulnerable people from RSV?

Infants and young children who were born premature or who have weakened immune systems, chronic lung disease, congenital heart disease or a neuromuscular disorder may qualify to

receive the drug palivizumab. Palivizumab is very expensive and in limited supply, so it's reserved for those at highest risk, who will receive the most benefit from it. When the RSV season was more predictable, at-risk infants would begin receiving palivizumab in late fall, but when RSV's seasonality shifted in 2021, state public health authorities convened to ensure the drug would become available when cases began rising.

For others at risk, including infants without underlying conditions, older adults and immunocompromised individuals, the same protections they take against COVID are also effective against RSV, as the low rates of RSV in 2020 showed. "When we see these surges like this, [vulnerable people are] absolutely instructed to be more careful," Flores says. That means not having sick family members visit, washing hands regularly and wearing a mask outside the home to prevent not only COVID but also exposure to all the other seasonal respiratory viruses, including flu and RSV. And of course, Flores says, everyone eligible for a flu vaccine and COVID vaccine should ensure they're vaccinated and boosted to reduce the risk of developing multiple infections at the same time.

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Children's hospitals grapple with a nationwide surge in RSV infections

An unseasonably early spike in [respiratory syncytial virus](#) cases among young children is pushing some hospitals to capacity.

RSV, as it's called, is a respiratory virus that mostly manifests as a mild illness with cold-like symptoms in adults but can cause pneumonia and bronchiolitis in very young children. It can be life-threatening in infants and young adults.

Most years, infections typically occur in the late fall and winter, often overlapping with flu season. But at least since last year, physicians have begun seeing surges starting during [summer months](#).

Children's hospitals in the Washington, D.C. area, including Children's National Hospital, Inova Fairfax and Johns Hopkins in Baltimore, are at or near capacity, [DCist reported](#).

Connecticut Children's Hospital in Hartford has had its pediatric in-patient beds full for the last few weeks, [WTNH reported](#). With no indication of the spread slowing down, officials there are seeking the help of the National Guard and FEMA to set up tents in order to expand capacity.

In Texas, doctors at Cook Children's hospital in Fort Worth [told](#) ABC News they are treating some 300 RSV patients a day.

"Last year, more people were wearing face masks and children were more likely to stay home while sick," Dr. Laura Romano [said](#) in Cook Children's in-house publication.

"This year, parents are sending their children to daycare and school for the first time following two years of the pandemic. ... Children who haven't been previously exposed to respiratory viruses are getting sick," Romano said.

Health officials in King County, Wash., are also alarmed as they brace for more cases once winter hits. Dr. Russell Migita with Seattle Children's Hospital [told](#) King 5 News they are seeing about 20 to 30 positive cases every day, adding that those are "unprecedented" figures.

How RSV shows up

RSV symptoms are similar to a cold and can be harmless in adults, but the CDC says children under the age of 5 are the most affected group. According to the agency's [data](#), each year approximately 58,000 children in that age range are hospitalized for RSV. The next most vulnerable group are adults over 65, in whom the infection causes 14,000 deaths a year. RSV can lead to bronchiolitis, an infection that causes airways to become inflamed and clogged with mucus, making it difficult to breathe. If the infection travels to the lung sacs, it can result in pneumonia.

Dr. Sara Goza, physician and former president of the American Academy of Pediatrics, [talked to NPR last year](#) about how the infection presents in infants.

"A lot of the babies under a year of age will have trouble breathing. They stop eating because they can't breathe and eat at the same time. And they're wheezing, so they're in respiratory distress," Goza said.

Other symptoms include coughing, excessive sleeping and lethargy.

There is no vaccine to prevent RSV, but doctors are urging patients to get the flu shot. It doesn't prevent the infection but it could spare people from more aggressive symptoms and keep them from seeking medical attention at already strained hospitals.

<https://www.npr.org/2022/10/24/1130764314/childrens-hospitals-rsv-surge>