

# MMR & Varicella Vaccines *or* MMRV Vaccine? Discussing the Options with Parents

## Discussing the Options

### Two Options for Protection

There are two options for protecting children who are 12 months–12 years old against measles, mumps, rubella, and varicella: using the varicella vaccine and the trivalent measles, mumps, and rubella (MMR) vaccine or using the quadrivalent measles, mumps, rubella, and varicella (MMRV) vaccine. This means that parents and caregivers have a decision to make, and they will rely on you as their child’s healthcare provider for help in making that decision.

Using the MMRV vaccine does result in one fewer injection, which may appeal to many parents. However, when used as a first dose at ages 12–23 months, studies have shown that this benefit comes with a tradeoff: at this age, MMRV vaccine is associated with higher risks of fever within the 42 days after vaccination (with highest risk during the 5–12 days after vaccination) and febrile seizures during the 5–12 days after vaccination when compared with administration of first dose MMR and varicella vaccines at the same visit. Data are limited to this age group, but experts agree that this increased risk of fever and febrile seizures during the 5–12 days after first dose MMRV vaccination likely also occurs in children aged 24–47 months.

### MMRV Vaccine as the First Dose at Ages 12–47 Months—The Necessary Conversation

As you know, questions or concerns about vaccines can be a source of stress for some parents during a well-child visit. As their child’s healthcare provider, you remain parents’ most trusted source of information about vaccines. For the first dose of measles, mumps, rubella, and varicella vaccines given at ages 12–47 months, either MMR and varicella vaccines or MMRV vaccine can be used. However, if you are considering using the MMRV vaccine for a child in this age group, it is important to take the time to talk with parents or caregivers about the benefits and risks of both vaccination options. Unless the parent or caregiver expresses a preference for MMRV vaccine, CDC recommends that MMR vaccine and varicella vaccine should be administered as separate injections for the first dose in children 12–47 months of age. ►

### Summary of Risks and Benefits

Discussing whether to use the MMRV vaccine or MMR and varicella vaccines for a 12- through 47-month-old’s first vaccination centers on helping parents understand the risk/benefit tradeoff.

	<b>MMR and Varicella Vaccines</b> (Administered at the same doctor visit)	<b>MMRV Vaccine</b>
<b>Protection against measles, mumps, rubella and varicella</b>	Provides the same protection against the four diseases as the MMRV vaccine	Provides the same protection against the four diseases as the MMR and varicella vaccines
<b>Number of shots</b>	Two shots needed at the same doctor visit to provide protection against measles, mumps, rubella, and varicella	One shot needed to provide protection against measles, mumps, rubella, and varicella
<b>Fever</b>	Fewer children have fevers of 102°F or higher within 42 days of being vaccinated (about 15 out of every 100 children vaccinated; the highest risk for fever occurs during 5–12 days after vaccination)	More children have fevers of 102°F or higher within 42 days of being vaccinated (about 22 out of every 100 children vaccinated; the highest risk for fever occurs during 5–12 days after vaccination)
<b>Febrile seizures</b> (Seizures caused by fever)	Fewer children have febrile seizures during the 5–12 days after vaccination (about 4 out of every 10,000 children vaccinated)	More children have febrile seizures during the 5–12 days after vaccination (about 8 out of every 10,000 children vaccinated)



## The Risk of Febrile Seizures

About 2–5 percent of young children (i.e., between 200 and 500 per 10,000 children) will have at least one febrile seizure. Febrile seizures usually occur in children aged 6–60 months. The peak age for febrile seizures is 14–18 months, which overlaps with the ages when the first doses of measles, mumps, rubella and varicella vaccines are recommended.

Although febrile seizures generally have an excellent prognosis, witnessing this type of event can be very distressing for parents and caregivers and often results in a trip to the emergency room for the child. With this in mind, it is especially important to discuss febrile seizure risk with parents when considering using MMRV vaccine for the first dose in a child aged 12–47 months.

A personal history of febrile seizures or a family history of either febrile seizures or epilepsy increases a child's risk of having a febrile seizure. Children who have a personal or family (sibling or parent) history of seizures should generally be vaccinated with MMR and varicella vaccines instead of MMRV vaccine.

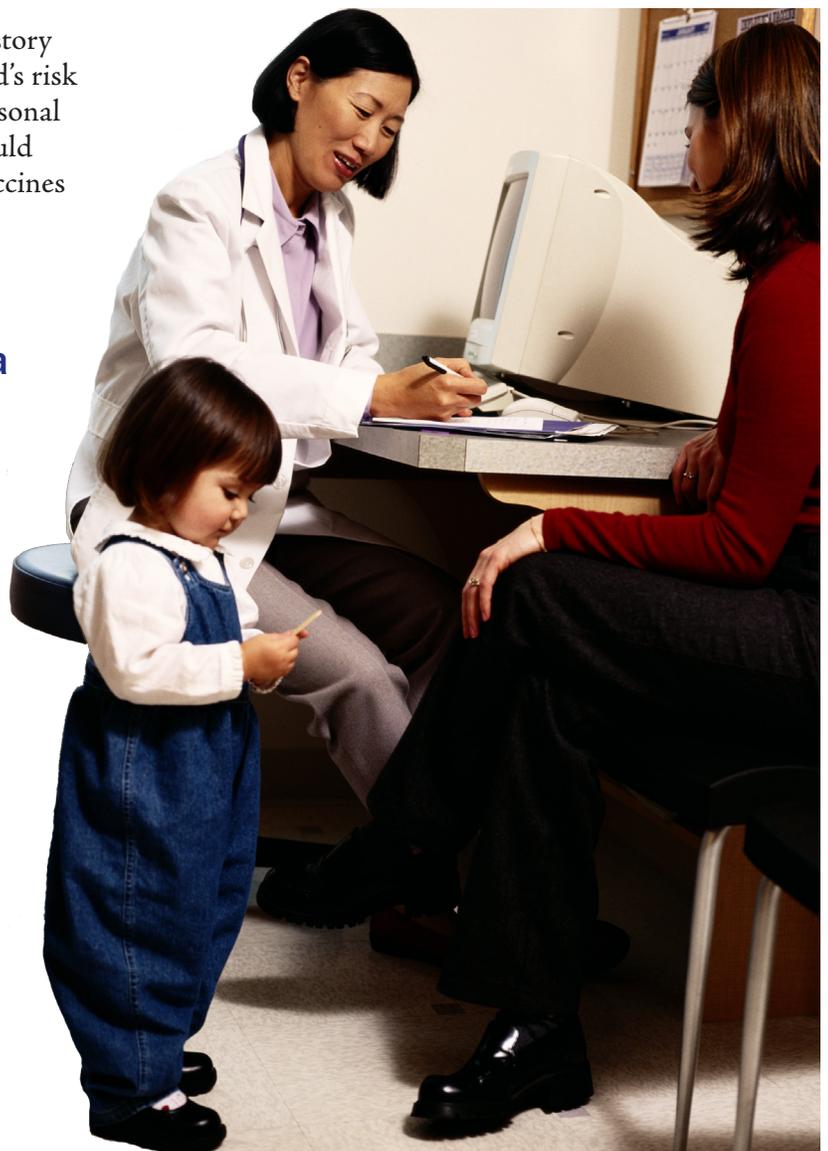
## MMRV Vaccine as a First Dose at Ages 48 Months and Older or as a Second Dose at Any Age

The available data from postlicensure studies do not suggest that children aged 4–6 years who receive MMRV vaccine have an increased risk for febrile seizures after vaccination compared with same-age children who receive MMR and varicella vaccines at the same visit. In addition, the second dose of MMRV vaccine is less likely to cause fever than the first dose.

When the first dose of measles, mumps, rubella, and varicella vaccines is administered at ages 48 months and older and for dose 2 at any age (15 months–12 years), use of MMRV vaccine generally is preferred over separate injections of MMR and varicella vaccines. Considerations should include provider assessment (including the number of injections, vaccine availability, likelihood of improved coverage, likelihood of patient return, storage and cost), patient preference, and the potential for adverse events.

## Successful Communication about the Vaccination Options

A successful discussion about vaccines involves a two-way conversation between the healthcare provider and the parent or caregiver, with both parties sharing information and asking questions. Discussing whether to use the MMR and varicella vaccines or the MMRV vaccine is a new type of conversation about comparing options. Parents may have questions and it may take time to address those questions. But your willingness to listen and answer questions will likely play a major role in helping parents to make an informed decision, and to choose one of the vaccination options over electing not to protect their child from these four diseases. 🙌



For more information on vaccines  
call **800-CDC-INFO** (800-232-4636)  
**[www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)**