



# **Varicella (Chickenpox) and Zoster (Shingles) Disease Varicella and Zoster Vaccines**

## **Pink Book Webinar Series 2019**

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# **Varicella Disease**

# Varicella Zoster Virus

- Herpes virus (DNA)
- Primary infection results in varicella (chickenpox)
- Short survival in environment

# Varicella Pathogenesis

- **Respiratory transmission of virus**
- **Replication in nasopharynx and regional lymph nodes**
- **Primary viremia 4 to 6 days after infection**
- **Multiple tissues, including sensory ganglia, infected during viremia**

# Varicella (Chickenpox) Clinical Features

- Incubation period: 14 to 16 days (10–21 days)
- Mild prodrome for 1 to 2 days (adults)
- Rash generally appears first on the head; most concentrated on the trunk
- Successive crops over several days with lesions present in several stages of development

# Varicella Complications

- Bacterial infection of lesions
- Hemorrhagic varicella
- CNS manifestations
- Pneumonia (primary viral or secondary bacterial)
- Congenital varicella
- Perinatal varicella



**Varicella with a secondary bacterial infection**

# Increased Risk of Complications of Varicella

- **Persons older than 15 years**
- **Infants younger than 1 year**
- **Immunocompromised persons**
- **Newborns of women with rash onset within 5 days before to 48 hours after delivery**



# Varicella Epidemiology

<b>Reservoir</b>	Human
<b>Transmission</b>	Person to person – respiratory tract secretions Direct contact with lesions
<b>Temporal Pattern</b>	Peak in late winter and spring (U.S.)
<b>Communicability</b>	1 to 2 days before until lesions have formed crusts May be longer in immunocompromised

**Varicella-  
containing  
Vaccines**

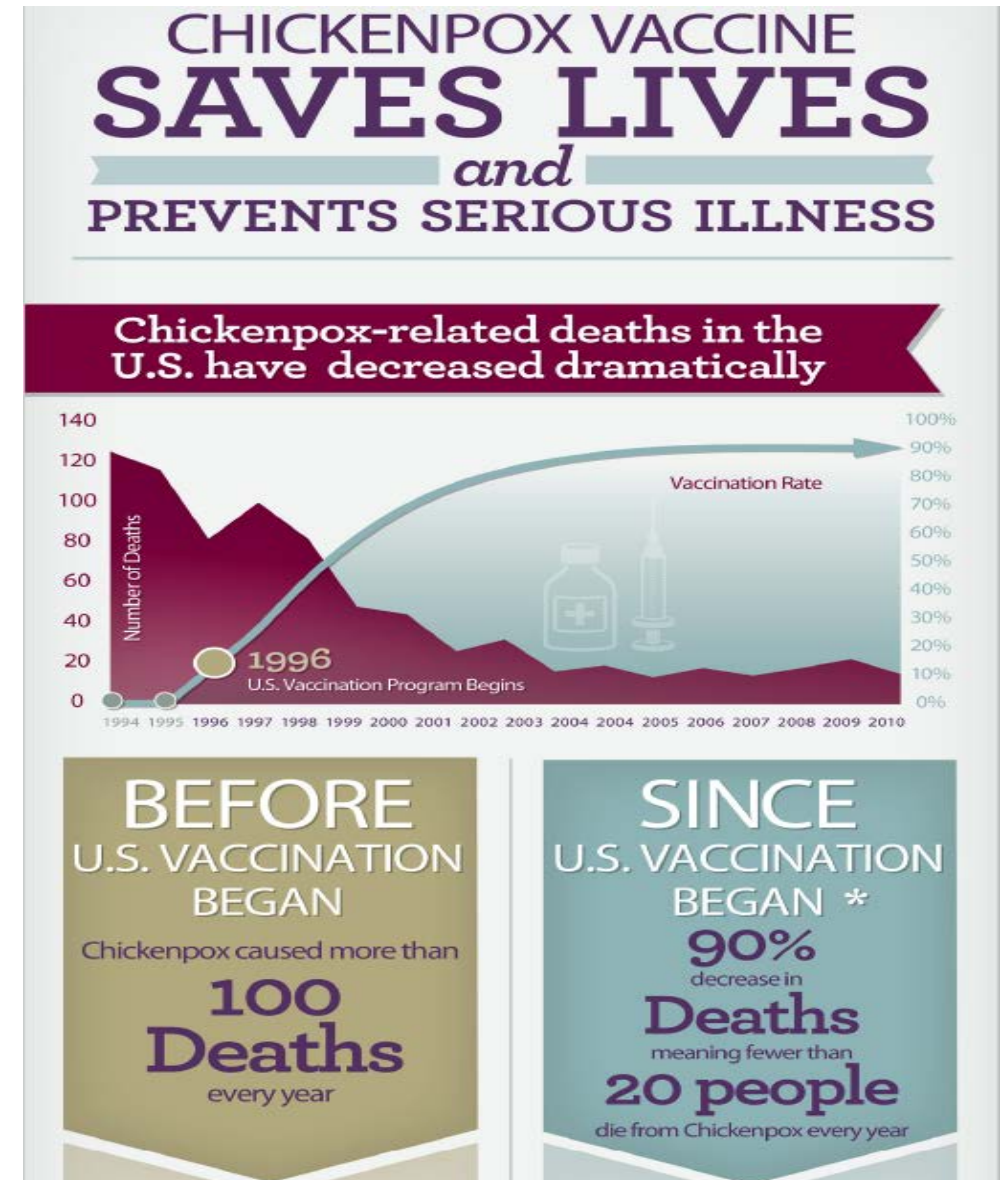
# Vaccines for the Prevention of Varicella (Chickenpox)

Product	ACIP Recommended Age Indications	ACIP Abbreviation
Varivax	12 months and older	VAR
ProQuad	12 months through 12 years	MMRV

# Varicella Vaccine

## Immunogenicity and Efficacy

- In a pre-licensure clinical trial, 2 doses of vaccine were:
  - 98% effective at preventing any form of varicella
  - 100% effective against severe varicella
- In post-licensure studies, 2 doses of vaccine were:
  - 88% to 98% effective at preventing all varicella



# Varicella-Containing Vaccines:

## Varivax (Var) and ProQuad (MMRV)

### ■ **Storage:**

- Lyophilized vaccine: In the freezer between -50°C and -15°C (-58°F and +5°F)
- Diluent: At room temperature (68°F to 77°F, 20°C to 25°C) or in the refrigerator (36°F to 46°F, 2°C to 8°C)

### ■ **Preparation: Reconstitute the vaccine with the diluent supplied by the manufacturer just before administering**

### ■ **Administration: Subcut injection**

- Site: Fatty tissue of the anterolateral thigh or upper outer triceps of the arm
- Needle length and gauge: 5/8-inch, 23- to 25-gauge needle

# **Varicella Vaccine and Clinical Considerations**

# Acceptable Evidence of Varicella Immunity

- **Written documentation of age-appropriate vaccination**
- **Laboratory evidence of immunity or laboratory confirmation of varicella disease**
- **U.S.-born before 1980\***
- **Health care provider diagnosis or verification of varicella disease**
- **History of herpes zoster based on health care provider diagnosis**

\*Birth year immunity criterion does not apply to health care personnel or pregnant women

# ACIP Immunization Recommendations: Young Children

- Routine recommendations:
  - Dose 1 at 12–15 months of age
  - Dose 2 at 4–6 years of age
- Minimum interval between doses is 3 months for children 12 years of age and younger

**Table 1** Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger United States, 2019

These recommendations must be read with the Notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Table 1. To determine minimum intervals between doses, see the catch-up schedule (Table 2). School entry and adolescent vaccine age groups are shaded in gray.

Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19-23 mos	2-3 yrs	4-6 yrs	7-10 yrs	11-12 yrs	13-15 yrs	16 yrs	17-18 yrs	
Hepatitis B (HepB)	1 <sup>st</sup> dose	2 <sup>nd</sup> dose			← 3 <sup>rd</sup> dose →													
Rotavirus (RV) RV1 (2-dose series); RV5 (3-dose series)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	See Notes													
Diphtheria, tetanus, & acellular pertussis (DTaP: <7 yrs)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	3 <sup>rd</sup> dose		← 4 <sup>th</sup> dose →					5 <sup>th</sup> dose						
Haemophilus influenzae type b (Hib)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	See Notes		← 3 <sup>rd</sup> or 4 <sup>th</sup> dose, See Notes →											
Pneumococcal conjugate (PCV13)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	3 <sup>rd</sup> dose		← 4 <sup>th</sup> dose →											
Inactivated poliovirus (IPV: <18 yrs)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose		← 3 <sup>rd</sup> dose →						4 <sup>th</sup> dose						
Influenza (IIV)						Annual vaccination 1 or 2 doses								Annual vaccination 1 dose only				
Influenza (LAIV)												Annual vaccination 1 or 2 doses				Annual vaccination 1 dose only		
Measles, mumps, rubella (MMR)						See Notes	← 1 <sup>st</sup> dose →					2 <sup>nd</sup> dose						
Varicella (VAR)							← 1 <sup>st</sup> dose →					2 <sup>nd</sup> dose						
Hepatitis A (HepA)						See Notes	2-dose series, See Notes											
Meningococcal (MenACWY-D ≥9 mos; MenACWY-CRM ≥2 mos)						See Notes									1 <sup>st</sup> dose		2 <sup>nd</sup> dose	
Tetanus, diphtheria, & acellular pertussis (Tdap: ≥7 yrs)																	Tdap	
Human papillomavirus (HPV)																	See Notes	
Meningococcal B																	See Notes	
Pneumococcal polysaccharide (PPSV23)																	See Notes	

Range of recommended ages for all children
  Range of recommended ages for catch-up immunization
  Range of recommended ages for certain high-risk groups
  Range of recommended ages for non-high-risk groups that may receive vaccine, subject to individual clinical decision-making
  No recommendation



# ACIP Immunization Recommendations: Adolescents and Adults

- Assess all persons 13 years of age and older for evidence of varicella immunity
- Administer 2 doses separated by at least 4 weeks to those without evidence of immunity
- 2nd dose recommended for persons of any age who have only received 1 dose
  - Do not repeat 1<sup>st</sup> dose because of extended interval between doses

# Varicella Vaccination and Health Care Personnel

- Assess all health care personnel for evidence of immunity
- Vaccination is recommended for all susceptible health care personnel
  - Give 2 doses, 4 weeks apart to susceptible persons
- Pre vaccination serologic screening might be cost-effective
- Postvaccination testing NOT recommended

# Varicella Serology and *Post Vaccination*

- **CDC and ACIP do NOT recommend antibody testing *AFTER* varicella vaccination**
  - Commercially available laboratory tests for varicella antibody are usually not sufficiently sensitive to detect vaccine–induced antibody
  - Even though they are generally sensitive to deduce antibodies resulting from varicella zoster virus infection
- **Documented receipt of 2 doses of varicella vaccine *SUPERSEDES* results of subsequent serologic testing**

# Varicella Vaccine and Immunocompromised Persons

- **Single-antigen varicella vaccine may be administered to persons with isolated humoral immunodeficiency**
- **Consider varicella vaccination for:**
  - HIV-infected children with CD4 count of 15% or higher
  - HIV-infected older children and adults with CD4 count of 200 or higher

# Varicella and MMRV Vaccine Contraindications

- Severe allergic reaction to a vaccine component or following a prior dose
- Pregnancy or planned pregnancy within 4 weeks\*
- Immunosuppression
- Family history of altered immunocompetence

\*ACIP off-label recommendation

*MMWR* 2007;56(RR-04)

General Best Practice Guidelines for Immunization: Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP) Contraindications and Precautions section [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html), accessed 08/12/2018

# Varicella and MMRV Vaccine Precautions

- **Moderate or severe acute illness with or without fever**
- **Recent blood product**
  - Varicella or MMRV vaccines should not be administered for 3–11 months after receipt of antibody-containing blood products
- **Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination**
  - Avoid use of these antiviral drugs for 14 days after vaccination
- **Use of aspirin or aspirin-containing products**

MMWR 2007;56(RR-04)\

General Best Practice Guidelines for Immunization: Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP) Contraindications and Precautions section [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html), accessed 08/12/2018

# Varicella-Containing Vaccines Precautions

- **MMRV only: personal or family (i.e., sibling or parent) history of seizures of any etiology**
- **These children generally should be vaccinated with separate MMR and varicella vaccines**

# Varicella Adverse Reactions

- **Local reactions (pain, erythema)**
  - Varicella:
    - 19% (children)
    - 24% (adolescents and adults)
  - Rash: 3%–4%
  - May be maculopapular rather than vesicular
  - Average 5 lesions
- **Systemic reactions not common**



# Adverse Reactions

## MMRV and MMR + VAR

- Fever is more common in the 5–12 days after vaccination with MMRV (22%) than with MMR + VAR (15%)
- Data from CDC Vaccine Safety Datalink sites indicate the rate of febrile seizures following MMRV (9 per 10,000 vaccinated) was approximately 2 times higher than among those receiving MMR + VAR at the same visit (4 per 10,000 vaccinated)
- Merck postlicensure surveillance has identified a similar trend

# MMRV Vaccine

- For the first dose of measles, mumps, rubella, and varicella vaccines at age 12–47 months, either MMR vaccine and varicella vaccine or MMRV vaccine may be used
- Providers who are considering administering MMRV vaccine should discuss the benefits and risks of both vaccination options with the parents or caregivers
- Unless the parent or caregiver expresses a preference for MMRV vaccine, CDC recommends that separate MMR vaccine and varicella vaccine should be administered for the first dose for children 12–47 months of age

# MMRV Vaccine

- **Administer MMRV:**
  - For the second dose of measles, mumps, rubella, and varicella vaccines at age 15 months through 12 years
  - For the first dose at age 48 months or older

# **Zoster Disease**

# Herpes Zoster (Shingles)

- **Reactivation of varicella zoster virus**
- **Associated with:**
  - Aging
  - Immunosuppression
  - Intrauterine exposure
  - Varicella disease younger than 18 months of age

# Complications of Herpes Zoster

- Postherpetic neuralgia (PHN)
- Dissemination with generalized skin eruptions and involvement of the central nervous system, lungs, liver, and pancreas
- Ophthalmic zoster

# Herpes Zoster

- **Approximately 1 million episodes occur annually in the United States**
- **Lifetime risk of zoster estimated to be 32%**
- **50% of persons living until age 85 will develop zoster**



**Zoster involving the ophthalmic division of the trigeminal nerve**



# Zoster Vaccines

# Vaccines for Prevention of Zoster (Shingles)

<b>Product (ACIP Abbreviation)</b>	<b>Type</b>	<b>ACIP Age Recommendations</b>
<b>Zostavax (ZVL)</b>	Live, attenuated	60 years of age and older*
<b>Shingrix (RZV)</b>	Inactivated, adjuvanted	50 years of age and older

\*Zostavax is FDA-approved for persons 50 years of age and older

# Live Zoster Vaccine (ZVL) Efficacy

- **Vaccine recipients 60 to 80 years of age had 51% fewer episodes of zoster**
  - Efficacy declines with increasing age
  - Significantly reduces the risk of postherpetic neuralgia
  - Reduces the risk of zoster 69.8% in persons 50 through 59 years of age

# RZV Vaccine Efficacy

- **Efficacy for the prevention of zoster:**
  - 96.6% in adults age 50 to 59 years
  - 97.4% in adults age 60 to 69 years
  - 91.3% in adults age 70 years and older
- **The efficacy for the prevention of postherpetic neuralgia (PHN) was:**
  - 91.2% in adults age 50 years and older
  - 88.8% in adults age 70 years and older

# Zoster Vaccine: Zostavax (ZVL)

## ■ **Storage:**

- Lyophilized vaccine: In the freezer between -50°C and -15°C (-58°F and +5°F)
- Diluent: At room temperature (68°F to 77°F, 20°C to 25°C) or in the refrigerator (36°F to 46°F, 2°C to 8°C)

## ■ **Preparation: Reconstitute the vaccine with the diluent supplied by the manufacturer just before administering**

## ■ **Schedule: 1 dose**

## ■ **Administration: Subcut injection**

- Site: Fatty tissue of the upper outer triceps of the arm
- Needle length and gauge: 5/8-inch, 23- to 25-gauge needle

# Zoster Vaccine: Shingrix (RZV)

- **Storage:** Store vaccine AND diluent in the refrigerator between 2°C and 8°C (36°F and 46°F)
- **Preparation:** Reconstitute the vaccine with the diluent (adjuvant) supplied by the manufacturer just before administering
  - If not used immediately, the reconstituted vaccine may be stored in the refrigerator and use it within 6 hours of reconstitution
  - If not used,
- **Schedule:** 2 doses, 2 to 6 months apart
- **Route:** IM Injection
  - Site: Deltoid or the thigh may be used if necessary
  - Needle gauge and length: 23- to 25-gauge needle, length varies by age/weight
- **RZV may be administered during the same clinical encounter as other vaccines**

# Vaccine Supply: Shingrix

- Due to high levels of demand for GSK's Shingrix vaccine, GSK has implemented order limits and providers have experienced shipping delays
- Order limits and shipping delays will continue throughout 2019
- GSK increased the U.S. supply during 2018 and plans to make even more doses available in 2019

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# **Clinical Considerations**



# ACIP Zoster Immunization Recommendations

- Administer 2 doses of Shingrix, 2 to 6 months apart, for adults 50 years of age and older
- Shingrix is preferred to Zostavax for persons 60 years and older
- Whether or not they report a:
  - History of zoster disease
  - Prior dose of Zostavax or varicella vaccine
    - Separate varicella-containing vaccines and Shingrix by at least 8 weeks
  - History of chronic medical condition, unless a contraindication or precaution exists

# Zoster Vaccination:

## Patients Who Do Not Report A Prior Episode of Varicella

- ACIP considers people born in the United States prior to 1980 immune to varicella
- When vaccinating adults 50 years of age and older, there is no need to:
  - Screen for a history of varicella (chickenpox) infection OR
  - Conduct laboratory testing for serologic evidence of prior varicella infection
  - More than 99% of adults age 50 years and older worldwide have been exposed to varicella zoster virus

# Zoster Vaccine and Serology

- **If tested and varicella-negative:**
  - Administer 2 doses of single-antigen varicella vaccine (Varivax) separated by at least 4 weeks
  - Followed by 2 doses of RZV, separated by 2–6 months
    - Separate the 2<sup>nd</sup> (last) dose of varicella and 1<sup>st</sup> dose of RZV by at least 8 weeks

# RZV Contraindications and Precautions

- **History of severe allergic reaction, such as anaphylaxis, to any component of a vaccine or after a previous dose of Shingrix**
- **Moderate to severe illness, including an acute episode of herpes zoster**
  - Shingrix is not a treatment for herpes zoster or postherpetic neuralgia (PHN)
- **Shingrix has not been studied in pregnant women or women who are breastfeeding. Providers should consider delaying Shingrix vaccination for these women**

# RZV and Immunosuppressive Therapy

- **Administer RZV to persons:**
  - Taking low-dose immunosuppressive therapy (e.g., <20 mg/day of prednisone or equivalent or using inhaled or topical steroids)
  - Anticipating immunosuppression
  - Who have recovered from an immunocompromising illness
- **ACIP has not yet made recommendations regarding administering RZV to persons on moderate to high doses of immunosuppressive therapy**

# Zostavax (ZVL) Contraindications

- **History of a life-threatening or severe allergic reaction to gelatin, the antibiotic neomycin, or any other component of ZVL**
- **A weakened immune system because of:**
  - HIV/AIDS or another disease that affects the immune system
  - Treatment with drugs that affect the immune system
  - Cancer treatment such as radiation or chemotherapy
  - Cancer affecting the bone marrow or lymphatic system, such as leukemia or lymphoma
- **Women who are or might be pregnant**
  - Women should not become pregnant until at least 4 weeks\* after getting ZVL

\*ACIP off-label recommendation  
MMWR 2008;57(RR-5)

# Zostavax (ZVL) Vaccine Precautions

- **Moderate or severe acute illness**
- **Current treatment with an antiviral drug active against herpes viruses**
  - Discontinue at least 24 hours before administration of zoster vaccine
  - Should not be taken for at least 14 days after vaccination
- **Recent receipt of a blood product is NOT a precaution**

# Zostavax (ZVL) Adverse Reactions

- Local reactions—34% (pain, erythema)
- No increased risk of fever
- No serious adverse reactions identified



# RZV (Shingrix) Adverse Reactions

<b>Local reactions</b>	<b>49%</b>
<b>Local reactions—Grade 3</b>	<b>9.4%</b>
<b>Systemic reactions (headache, malaise, fatigue)</b>	<b>45–78%</b>
<b>Systemic reactions (headache, malaise, fatigue)—Grade 3</b>	<b>11%</b>

# Adverse Reactions after Shingrix

- **Educate patients regarding:**
  - Potential adverse reactions, including injection site and systemic reactions
  - **The need for a second dose—even if s/he has an adverse reaction**
- **Offer comfort measures and strategies**



# Resources

# Vaccine Information Statements

## VACCINE INFORMATION STATEMENT

### Live Zoster (Shingles) Vaccine, ZVL: What You Need to Know

#### 1 What is shingles?

Shingles (also called herpes zoster, or just zoster) is a painful skin rash, often with blisters. Shingles is caused by the varicella zoster virus, the same virus that causes chickenpox. After you have chickenpox, the virus stays in your body and can cause shingles later in life.

You can't catch shingles from another person. However, a person who has never had chickenpox (or chickenpox vaccine) could get chickenpox from someone with shingles.

A shingles rash usually appears on one side of the body and heals within 2 to 4 weeks. It can be severe. Other symptoms include fever, headache, chills, and pain. A shingles infection can lead to problems, blindness, brain inflammation, or death.



For about 1 person in 5, severe pain called post-herpetic neuralgia occurs long after the rash has cleared up. Shingles is far more common in older people than in younger people. It is also more common in people whose immune system is weakened by cancer or by drugs such as steroids. At least 1 million people a year get shingles.

#### 2 Shingles vaccine (live)

A live shingles vaccine was approved by FDA in 2006. In a clinical trial, the vaccine reduced the risk of shingles by about 50% in people 60 and older. It can reduce the likelihood of PHN, and reduce pain in some people who still get shingles after being vaccinated.

The recommended schedule for live shingles vaccine is a single dose for **adults 60 years of age and older**.

#### Some people should not get this vaccine

## VACCINE INFORMATION STATEMENT

### MMRV (Measles, Mumps, Rubella, and Varicella) Vaccine: What You Need to Know

#### 1 Why get vaccinated?

Measles, mumps, rubella, and varicella are viral diseases that can have serious consequences. Before vaccines, these diseases were very common in the United States, especially among children. They are still common in many parts of the world.

#### Measles

Measles virus causes symptoms that can include fever, cough, runny nose, and red, watery eyes, commonly followed by a rash that covers the whole body.

Measles can lead to ear infections, diarrhea, and infection of the lungs (pneumonia). Rarely, measles can cause brain damage or death.

#### Mumps

Mumps virus causes fever, headache, muscle aches, tiredness, loss of appetite, and swollen and tender salivary glands under the ears on one or both sides.

Mumps can lead to deafness, swelling of the brain and/or spinal cord covering (encephalitis or meningitis), painful swelling of the testicles or ovaries, and, very rarely, death.

#### Rubella (also known as German Measles)

Rubella virus causes fever, sore throat, rash, headache, and eye irritation.

Rubella can cause arthritis in up to half of teenage and adult women.

If a woman gets rubella while she is pregnant, she could have a miscarriage or her baby could be born with serious birth defects.

#### Varicella (also known as Chickenpox)

Chickenpox causes an itchy rash that usually lasts about a week, in addition to fever, tiredness, loss of appetite, and headache.

Chickenpox can lead to skin infections, infection of the lungs (pneumonia), inflammation of blood vessels, swelling of the brain and/or spinal cord covering (encephalitis or meningitis) and infections of the blood, bones, or joints. Rarely, varicella can cause death.

Some people who get chickenpox get a painful rash called shingles (also known as herpes zoster) years later.

These diseases can easily spread from person to person. Measles doesn't even require personal contact. You can get measles by entering a room that a person with measles left up to 2 hours before.

Vaccines and high rates of vaccination have made these diseases much less common in the United States.

#### 2 MMRV Vaccine

MMRV vaccine may be given to children 12 months through 12 years of age. Two doses are usually recommended:

- First dose: 12 through 15 months of age
- Second dose: 4 through 6 years of age

A third dose of MMRV might be recommended in certain mumps outbreak situations.

There are no known risks to getting MMRV vaccine at the same time as other vaccines.

#### Instead of MMRV, some children 12 months through 12 years of age might get 2 separate shots: MMR (measles, mumps and rubella) and chickenpox (varicella). MMRV is not licensed for people 15 years of age or older. There are separate Vaccine Information Statements for MMR and chickenpox vaccines. Your health care provider can give you more information.

#### 3 Some people should not get this vaccine

Tell the person who is giving your child the vaccine if your child:

- **Has any severe, life-threatening allergies.** A person who has ever had a life-threatening allergic reaction after a dose of MMRV vaccine, or has a severe allergy to any part of this vaccine, may be advised not to be vaccinated. Ask your health care provider if you want information about vaccine components.

- **Has a weakened immune system** due to disease (such as cancer or HIV/AIDS) or medical treatments (such as radiation, immunotherapy, steroids, or chemotherapy).

- **Has a history of seizures, or has a parent, brother, or sister with a history of seizures.**

- **Has a parent, brother, or sister with a history of immune system problems.**

- **Has ever had a condition that makes them bruise or bleed easily.**

- **Is pregnant or might be pregnant.** MMRV vaccine should not be given during pregnancy.

- **Is taking salicylates (such as aspirin).** People should avoid using salicylates for 7 weeks after getting a vaccine that contains varicella.



U.S. Department of Health and Human Services  
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## VACCINE INFORMATION STATEMENT

### Recombinant Zoster (Shingles) Vaccine, RZV: What You Need to Know

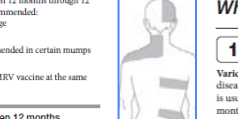
#### 1 Why get vaccinated?

Shingles (also called herpes zoster, or just zoster) is a painful skin rash, often with blisters. Shingles is caused by the varicella zoster virus, the same virus that causes chickenpox. After you have chickenpox, the virus stays in your body and can cause shingles later in life.

You can't catch shingles from another person. However, a person who has never had chickenpox (or chickenpox vaccine) could get chickenpox from someone with shingles.

A shingles rash usually appears on one side of the face or body and heals within 2 to 4 weeks. It can be severe. Other symptoms include fever, headache, chills, and pain. A shingles infection can lead to problems, blindness, brain inflammation, or death.

For about 1 person in 5, severe pain called post-herpetic neuralgia occurs long after the rash has cleared up. Shingles is far more common in older people than in younger people. It is also more common in people whose immune system is weakened by cancer or by drugs such as steroids. At least 1 million people a year get shingles.



For about 1 person in 5, severe pain called post-herpetic neuralgia occurs long after the rash has cleared up. Shingles is far more common in older people than in younger people. It is also more common in people whose immune system is weakened by cancer or by drugs such as steroids. At least 1 million people a year get shingles.

#### 2 Shingles vaccine (recombinant)

Recombinant shingles vaccine was approved by FDA in 2017 for the prevention of shingles. In clinical trials, it was more than 90% effective in preventing shingles. It can also reduce the likelihood of PHN.

Two doses, 2 to 6 months apart, are recommended for adults 50 and older.

This vaccine is also recommended for people who have already gotten the live shingles vaccine (Zostavax). There is no live virus in this vaccine.

## VACCINE INFORMATION STATEMENT

### Varicella (Chickenpox) Vaccine: What You Need to Know

#### 1 Why get vaccinated?

Varicella (also called chickenpox) is a very contagious viral disease. It is caused by the varicella zoster virus. Chickenpox is usually mild, but it can be serious in infants under 12 months of age, adolescents, adults, pregnant women, and people with weakened immune systems.

Chickenpox causes an itchy rash that usually lasts about a week. It can also cause:

- fever
- tiredness
- loss of appetite
- headache

More serious complications can include:

- skin infections
- infection of the lungs (pneumonia)
- inflammation of blood vessels
- swelling of the brain and/or spinal cord coverings (encephalitis or meningitis)
- blood stream, bone, or joint infections

Some people get so sick that they need to be hospitalized. It doesn't happen often, but people can die from chickenpox. Before varicella vaccine, almost everyone in the United States got chickenpox, an average of 4 million people each year.

Children who get chickenpox usually miss at least 5 or 6 days of school or childcare.

Some people who get chickenpox get a painful rash called shingles (also known as herpes zoster) years later.

Chickenpox can spread easily from an infected person to anyone who has not had chickenpox and has not gotten chickenpox vaccine.

#### 2 Chickenpox vaccine

Children 12 months through 12 years of age should get 2 doses of chickenpox vaccine, usually:

- First dose: 12 through 15 months of age
- Second dose: 4 through 6 years of age

People 13 years of age or older who didn't get the vaccine when they were younger, and have never had chickenpox, should get 2 doses at least 28 days apart.

A person who previously received only one dose of chickenpox vaccine should receive a second dose to complete the series. The second dose should be given at least 3 months after the first dose for those younger than 13 years.



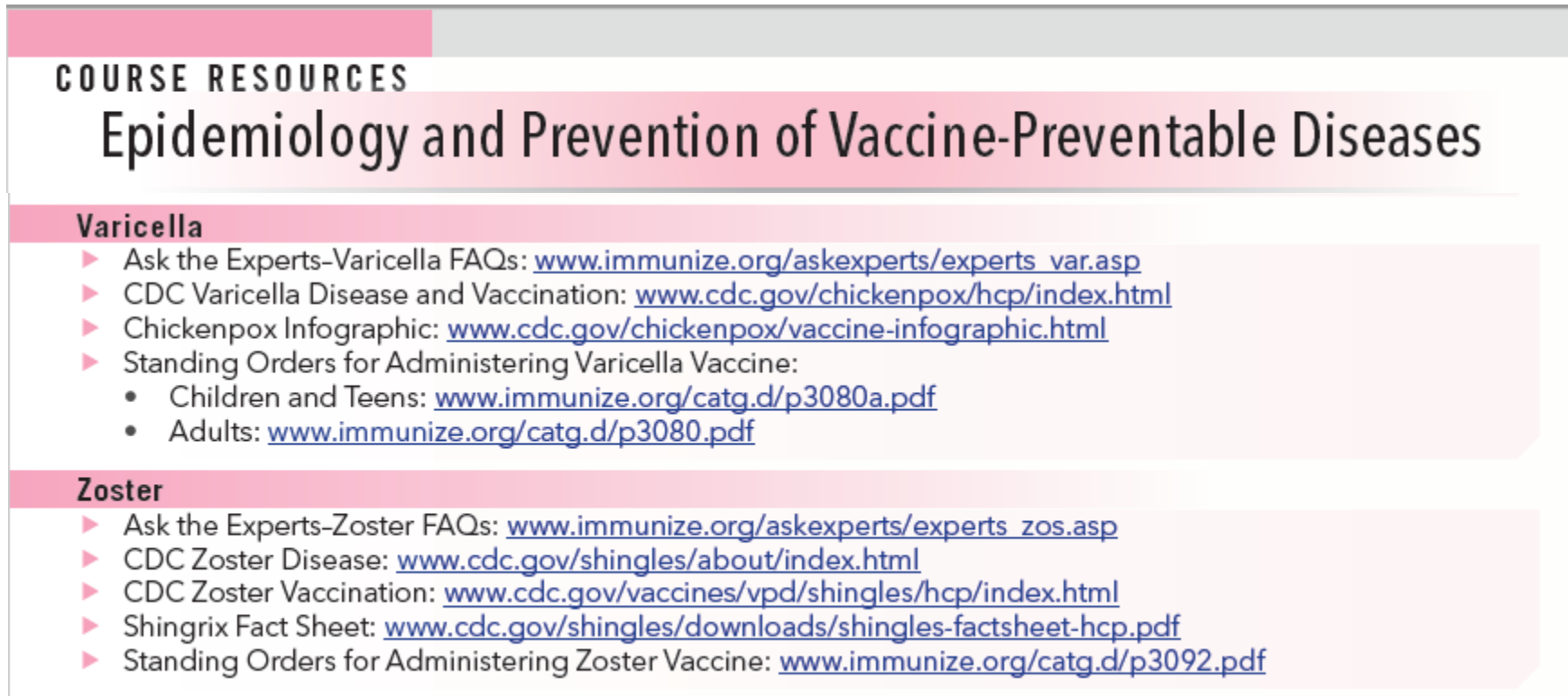
U.S. Department of Health and Human Services  
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- There is a VIS for:
  - RZV (Shingrix)
  - Var (Varicella)
  - MMRV (ProQuad)
  - ZVL (Zostavax)

- Give the parent or patient the appropriate VIS for the product that will be administered

# Varicella and Zoster Vaccine Resources and References

- Resources and references are available on the webinar web page



The image shows a screenshot of a course resource page. At the top, there is a pink header bar with the text 'COURSE RESOURCES' in white. Below this, the main title 'Epidemiology and Prevention of Vaccine-Preventable Diseases' is displayed in a large, black, sans-serif font. The page is divided into two main sections: 'Varicella' and 'Zoster', each with a pink header bar. Under the 'Varicella' section, there are five bullet points, each starting with a pink right-pointing triangle. The first four are links to external resources, and the fifth is a list of two sub-bullets. Similarly, the 'Zoster' section has five bullet points, all starting with pink right-pointing triangles and containing links to external resources.

**COURSE RESOURCES**

## Epidemiology and Prevention of Vaccine-Preventable Diseases

### Varicella

- ▶ Ask the Experts-Varicella FAQs: [www.immunize.org/askexperts/experts\\_var.asp](http://www.immunize.org/askexperts/experts_var.asp)
- ▶ CDC Varicella Disease and Vaccination: [www.cdc.gov/chickenpox/hcp/index.html](http://www.cdc.gov/chickenpox/hcp/index.html)
- ▶ Chickenpox Infographic: [www.cdc.gov/chickenpox/vaccine-infographic.html](http://www.cdc.gov/chickenpox/vaccine-infographic.html)
- ▶ Standing Orders for Administering Varicella Vaccine:
  - Children and Teens: [www.immunize.org/catg.d/p3080a.pdf](http://www.immunize.org/catg.d/p3080a.pdf)
  - Adults: [www.immunize.org/catg.d/p3080.pdf](http://www.immunize.org/catg.d/p3080.pdf)

### Zoster

- ▶ Ask the Experts-Zoster FAQs: [www.immunize.org/askexperts/experts\\_zos.asp](http://www.immunize.org/askexperts/experts_zos.asp)
- ▶ CDC Zoster Disease: [www.cdc.gov/shingles/about/index.html](http://www.cdc.gov/shingles/about/index.html)
- ▶ CDC Zoster Vaccination: [www.cdc.gov/vaccines/vpd/shingles/hcp/index.html](http://www.cdc.gov/vaccines/vpd/shingles/hcp/index.html)
- ▶ Shingrix Fact Sheet: [www.cdc.gov/shingles/downloads/shingles-factsheet-hcp.pdf](http://www.cdc.gov/shingles/downloads/shingles-factsheet-hcp.pdf)
- ▶ Standing Orders for Administering Zoster Vaccine: [www.immunize.org/catg.d/p3092.pdf](http://www.immunize.org/catg.d/p3092.pdf)