

# Varicella

## Traveler Summary

### Key Points

- | Varicella (chickenpox), a highly contagious viral infection that occurs worldwide (especially in developing countries), is acquired via inhalation of aerosolized respiratory droplets or blister fluid and by direct contact with blister fluid from infected persons.
- | Risk exists for all unvaccinated children and young adults in the U.S. (born in 1980 or later) who have not been previously infected.
- | Symptoms are mild and include fever, malaise, and itchy, fluid-filled skin blisters that become scabs.
- | Consequences of infection include bacterial infection of skin lesions in children, pneumonia in adults, and herpes zoster (shingles) in instances where the dormant varicella virus is reactivated many years later.
- | Prevention includes observing good respiratory hygiene (cough and sneeze etiquette), frequent, thorough handwashing, and avoiding infected persons.
- | Varicella vaccine is routinely given as 2 doses to children, 1 dose each at ages 12-15 months and 4-6 years. All persons, regardless of travel, 4 years and older, born in 1980 or later, and without history of disease or of 2 countable doses of live vaccine at any time during their lives should complete a lifetime total of 2 doses of varicella vaccine (spaced by at least 28 days).
- | Vaccine side effects are most commonly injection-site reactions and fever; a localized or generalized varicella-like rash may occur.
- | Duration of vaccine protection following the first dose (adequate for travel) is 4 to 6 years and following the second dose is long-lasting; no booster dose is recommended.

### Introduction

Varicella (chickenpox) is an acute, highly contagious, globally distributed infection caused by varicella zoster virus (VZV). Humans are the only reservoir for VZV, and human-to-human transmission occurs via inhalation or direct contact. Infection is usually mild and short-lived in healthy children. Serious secondary infections and other complications are more common in infants, adolescents, adults (particularly pregnant women), and persons with weakened immune systems. After primary infection as chickenpox, the virus becomes dormant in nerve tissue and can reactivate at any time, causing herpes zoster (shingles).

### Risk Areas

Chickenpox is prevalent in all countries worldwide. Childhood vaccination is used routinely in the U.S., Canada, and Australia but in relatively few other countries. In temperate climates, peak incidence among children occurs in the winter and early spring. In tropical countries, the highest incidence is in the dry, cool months. The disease tends to be acquired later in childhood, resulting in increased susceptibility among adults.

### Transmission

Chickenpox is primarily transmitted from person to person via inhalation of aerosolized respiratory droplets (e.g., from coughs or sneezes) or blister fluid from infected persons, as well as by direct contact with blister fluid. About 85% of susceptible persons in close contact will be infected with the virus.

### Risk Factors

Risk exists for anyone not protected against chickenpox, including travelers, regardless of destination. Persons at highest risk for severe infection or complications include newborns and premature infants, children with leukemia or lymphoma, and persons with weakened immune systems, who have HIV infection or AIDS, or who are pregnant.

## Symptoms

Symptoms most commonly appear 14 to 16 days (range: 10-21 days) following exposure and include an itchy rash starting on the head, chest, and back, before spreading to the rest of the body. The lesions progress to blisters before crusting over. Chickenpox is contagious from 2 days before symptom onset until the last lesion scabs over (typically 4-7 days after rash onset). Healthy children usually have a mild infection and often recover without serious complications. Adults may experience fever and malaise up to 2 days before the rash occurs and are at higher risk of severe disease.

## Consequences of Infection

Bacterial infection of skin lesions in children and pneumonia in adults may occur. Following infection, the varicella virus can reactivate at any time and cause shingles; see *Herpes Zoster*.

## Need for Medical Assistance

Susceptible persons (especially pregnant women and individuals with weakened immune systems) who have been exposed to chickenpox should seek medical attention. Varicella vaccine, if given within 5 days of exposure, can prevent or reduce the severity of illness. Varicella zoster immune globulin can be used for persons who cannot receive the vaccine.

## Prevention

### Nonvaccine

Observe good respiratory hygiene (cough and sneeze etiquette) and frequent, thorough handwashing. Avoid persons with illness or skin lesions consistent with chickenpox or shingles.

### Vaccine

Varicella vaccine is given routinely as a childhood vaccination and to all nonimmune healthy persons, including health care workers, pregnant women after delivery, and persons who are considered high risk. For travelers, vaccination is recommended for persons 12 months of age and older, unless immune. Natural chickenpox infection provides life-long immunity. A combination vaccine is also available.

### Side Effects

The most common vaccine side effects are mild and include injection-site reactions (redness, soreness, swelling, and pain) and fever. A localized or generalized varicella-like rash may occur within 2 to 3 weeks of vaccination. Serious side effects are rare but can include severe allergic reaction and various neurological conditions.

Persons with underlying medical conditions or who have concerns about the vaccine should speak to their health care provider before vaccine administration.

### Timing

Varicella vaccine, regardless of travel, is given as follows:

- ┆ Routinely to children 1-6 years old: 2 doses, 1 dose each at ages 12-15 months and 4-6 years. Children 4 years and younger only need the first dose prior to travel; an early second dose is not recommended.
- ┆ All persons 4 years and older, born in 1980 or later, and without history of disease or of 2 countable doses of live vaccine at any time during their lives: complete a lifetime total of 2 doses (spaced by at least 28 days).
- ┆ One dose before departure will provide protection for healthy persons.

Duration of vaccine protection following 1 dose is about 4 to 6 years; following a completed series (2 doses) is long-lasting and approximately 95% effective in preventing chickenpox. A booster dose is not recommended.

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