

PREVENTIVE HEALTH CARE

Varicella vaccination

Recommendation statement from the Canadian Task Force on Preventive Health Care**Recommendations**

- There is good evidence to recommend routine vaccination of children aged 12–15 months and catch-up vaccination of children aged 1–12 years for the prevention of varicella zoster virus illness (grade A recommendation).
- There is fair evidence to recommend vaccination of susceptible adolescents and adults (grade B recommendation).

Varicella (chickenpox) is characterized by a vesicular eruption accompanied by fever and malaise and is caused by the varicella zoster virus (VZV). Herpes zoster (shingles), a painful dermatomal vesicular rash, occurs with reactivation of the virus in about 15% of the population. Complications from varicella include secondary bacterial infection, pneumonia, encephalitis, hemorrhagic complications, hepatitis, arthritis and Reye's syndrome. Although only a small proportion of children experience complications, 10%–50% of all infected children will visit a physician.¹ Most cases of varicella-related morbidity and death involve people < 20 years of age.² The rate of death from varicella among children under 14 years is estimated to be 2 per 100 000 cases.³ Reporting underestimates the actual burden of disease by up to 95%.

Manoeuvres

- Universal VZV vaccination of healthy infants
- Catch-up VZV vaccination of older children
- VZV vaccination of susceptible adolescents and adults

Potential benefits

- Prevention of varicella-related morbidity and death among children and adults
- Prevention of herpes zoster due to VZV reactivation in adults

Potential harms

- Immediate adverse reactions
- Transmission of varicella from vaccinees
- A shift in varicella cases to an older group (and more severe disease)

Recommendations by other organizations

The American Academy of Pediatrics and the Immunization Practices Advisory

Committee of the US Centers for Disease Control and Prevention recommended in 1995 that all children be routinely vaccinated at 12–18 months of age, that children under 13 years receive 1 dose of vaccine and that older individuals susceptible to varicella be offered 2 doses 4–8 weeks apart.^{4,5} In Canada, the National Advisory Committee on Immunization recommends vaccination of all susceptible people aged 12 months or more, with similar dose regimens.⁶

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This statement is based on the technical report "Preventive health care, 2001 update: use of varicella vaccine in healthy populations," by Susan A. Skull and Elaine E.L. Wang, with the Canadian Task Force on Preventive Health Care. The full technical report is available from the task force office (ctf@ctfphc.org).

Evidence and clinical summary

- *Single-dose routine VZV vaccination is recommended for children aged 12–15 months, and single-dose catch-up vaccination for children aged 1–12 years.*^{7–9} Simultaneous administration with measles–mumps–rubella vaccine, at a separate site, is also safe and effective.^{10,11}
- *For susceptible adolescents and adults, 2 doses given 4–8 weeks apart appear to be more immunogenic than a single dose.* However, effectiveness data are required to clarify the optimal number of doses in adolescents and adults.^{12–14}
- *Insufficient evidence exists of the safety of VZV vaccination during pregnancy to recommend vaccination in susceptible pregnant women,* although the risk of vaccine-related infection is likely to be lower than that of naturally acquired VZV infection.
- *Fair evidence exists to support a reduction in the incidence of herpes zoster in vaccinees.*⁷
- *Immediate side effects of vaccination appear to be minimal* in both adults and children. Breakthrough VZV and herpes zoster infections are mild and occur infrequently.^{7–9} VZV transmission from the vaccine is much less frequent than transmission of natural VZV.¹⁵ The theoretical concern that vaccination may lead to an increased incidence of herpes zoster is not supported.¹⁶ Although vaccination may increase the mean age at which varicella occurs, the overall reduction in cases among adults should offset this shift.¹⁷

References

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