



Lickety Split: Varicella Zoster (Shingles) Vaccines

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September 15, 2017



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Varicella Zoster

- Herpesvirus (DNA)
 - Primary infection results in chickenpox
 - Recurrent Disease - Reactivation of latent infection results in herpes zoster (shingles)
- Respiratory transmission
- Primary viremia (virus in bloodstream) 4-6 days after infection
- Multiple tissues, including sensory ganglia, infected during viremia
- Varicella zoster virus persists in sensory nerve ganglia after primary infection

<https://www.cdc.gov/vaccines/pubs/pinkbook/varicella.html#zostervirus>



Herpes Zoster (Shingles)

- Reactivation of varicella zoster virus (VZV)
- Vesicle outbreak occurs unilaterally along a sensory nerve, usually on the trunk or along the fifth cranial nerve
- In the immunocompromised, may be generalized to skin, CNS, lungs and liver
- Postherpetic neuralgia: pain in the area of the occurrence that persists after the lesions have resolved
 - May last a year or longer after the episode - can be **extremely** painful
 - No adequate therapy available
- Associated with:
 - Aging
 - Immunosuppression
 - Intrauterine exposure
 - Varicella at younger than 18 months of age

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Herpes Zoster (Shingles): Epidemiology

- Not a reportable condition
- Estimated 500,000 - 1 million episodes occur annually
- Estimated lifetime risk of zoster estimated to be 32%
- 50% of people living until 85 years will develop zoster
- Increasing age and cellular immunosuppression risk factors

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Herpes Zoster Vaccine

- Live attenuated vaccine
- Much higher titer than varicella vaccine
- Subcutaneous injection
- 51% fewer cases of shingles for ages 60 – 80 (efficacy)
- 18% efficacy for ages 80 and above
- 66% less postherpetic neuralgia

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Herpes Zoster Vaccine: Who Gets It

- Originally, Zostavax/Merck approved for use in persons 60 years and older
- Now, approved for persons 50 years and older (FDA)
 - ACIP does not currently recommend for persons younger than 60 years due to concerns of vaccine supply and lower risk of zoster in the age group
- Has no role in post-exposure management

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Herpes Zoster: When To Give It/Adverse Reactions

- Contains same Oka/Merck varicella zoster virus used in varicella and MMRV vaccines, but at higher titer (minimum of 19,400 PFU)
- Single dose for adults whether or not they report a prior episode of herpes zoster
- CDC recommends Zostavax and Pneumovax 23 (pneumococcal vaccine) be administered at the same time
- Local reactions- 34% (pain, erythema)
- No increased risk of fever
- No serious adverse reactions identified

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Barriers to Uptake of the Shingles Vaccine

- Three out of four Americans eligible for the shingles shot have not received it
- Poor efficacy
- Cost of the vaccine
 - Not covered by Medicare Part B
 - Some Medicare Part D and Advantage plans pay part of cost
 - If not on Medicare, some ACA and private insurance plans pay for it.

“Why Does My Shingles Vaccine Cost So Much?”
Consumer Reports.org
last updated 04/28/2017





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