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Zostavax (zoster vaccine) FAQs

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Answers to Some of Your Burning Questions on Zostavax[®]

Herpes zoster (HZ) or shingles is an infection, typically unilateral appearing as a vesicular rash along a single dermatome.¹⁻³ It results from the reactivation of the varicella zoster virus, which has been dormant in the dorsal nerve root ganglia of patients who have had clinical or subclinical chicken pox (>95% of adults in developed countries).^{1,2,4} The rash is preceded 1-5 days by a prodrome that may include malaise, headache, photophobia, fever and abnormal dermal sensations ranging from minor tingling and itching to severe pain.^{1,3} The vesicles become cloudy within 3-5 days and then crust and heal within 2-4 weeks.^{3,4} Symptoms of shingles may also include acute moderate to severe pain with complications such as bacterial superinfection, hypopigmentation, hyperpigmentation, scarring, postherpetic neuralgia (PHN) (potentially debilitating) and a 10-20% incidence of herpes zoster ophthalmicus (HZO) that can result in chronic eye disease or blindness.^{2,4,5}

The risk of having shingles in one's lifetime is estimated to be around 33%, although the number of cases has been steadily increasing in patients over 40 years of age in the last few decades.^{2,4,6} In the U.S., there are an estimated one million new cases annually.^{2,3,7} Risk factors for HZ include age (>50 y.o.), female sex, stress, and primary or secondary immunosuppression.^{2,4,5}

PHN occurs due to nerve damage from varicella zoster viral replication and may be intermittent, chronic or spontaneous in nature.^{3,4} PHN may include allodynia (nonpainful stimulus perceived as painful), hyperpathia (slightly painful stimulus perceived as very painful) or dysesthesia (abnormal sensation with no stimuli) and symptoms may be sufficiently intense to interfere with sleep and other normal daily activities. PHN may last from 1 to >6 months after lesions have healed.³ In addition to the above HZ risk factors, PHN risk factors also

include severe prodromal pain, HZ infection along the trigeminal dermatomes or brachial plexus, severe rash, moderate to severe pain during the rash and ophthalmic involvement. PHN will become chronic in 30% of cases.¹⁻⁴ There is insufficient evidence to support the treatment of HZ with antivirals to decrease the risk of subsequently developing PHN.⁴

In 2006, Zostavax[®] (zoster vaccine live, attenuated) was approved for the prevention of shingles in patients aged 60 and above.^{2,4} In 2011, this approval was extended to include patients 50 years and over as a study found that Zostavax[®] was 69.8% effective in preventing HZ in individuals between the ages of 50 and 59. In the Shingles Prevention Study, Zostavax[®] was found to decrease the incidence of shingles by 51% and PHN by 66.5%.

The remainder of this article will be divided into 2 sections, one with FAQs received at DPIC from healthcare professionals and a second section with FAQs that you may be asked by your patients.

Healthcare Professional FAQs

1. ***Should Zostavax[®] be administered subcutaneously to the deltoid or triceps area?***

The manufacturer of Zostavax[®] recommends subcutaneous administration in the deltoid area because this site was used in the Shingles Prevention Study.⁸⁻¹⁰ Although there are no efficacy studies for administration into the triceps area, this site should be as efficacious and is the recommended site of administration in BC for all subcutaneous vaccines.¹¹ Advantages include ease of administration (looser skin for pinching) and consistent practice.

2. ***Any spacing required between Zostavax[®] and pneumococcal vaccine (e.g. Pneumovax[®] 23)?***

The manufacturer of Zostavax[®] advises against simultaneous administration based on a randomized controlled trial showing lower varicella-zoster virus (VSV) antibody titres at four weeks.^{8,12} However, evidence fails to suggest that increased VSV antibody titres indicate protection.^{13,14} From a safety perspective, the study demonstrated that concomitant administration was well tolerated.¹² A subsequent large observational study found no difference in the rates of HZ between those vaccinated simultaneously (n=7187) versus 30 days separated (n=7179).¹⁵ Concomitant administration appears to be effective and safe and may enhance vaccine take-up.^{12,15,16} This is in agreement with the BCCDC's guidelines for administering vaccines together. See Table 1: Interval Between Multiple Vaccines.

To aid pharmacists in making decisions on issues where recommendations from authoritative sources vary, the Pharmacists and Immunization Working Group (PIWG) has provided the following advice: "B.C. policies and best practices for vaccines may also differ from information provided by a manufacturer in a product monograph or in the Compendium of Pharmaceuticals and Specialties (CPS). When differences occur, the provincial policy prevails as described in the most current online version of the BCCDC

Immunization Manual."¹⁷

3. **Any spacing interval required between Zostavax[®] and influenza vaccine?**
Inactivated vaccines (e.g. inactivated influenza vaccine) and live vaccines (e.g. Zostavax[®]) can usually be administered at the same time or at different times without difference in effect.¹⁸⁻²⁰ In one study, simultaneous administration was well tolerated.²¹ For live influenza vaccine (intranasal), Zostavax[®] could be administered simultaneously or separated by ≥28 days. Refer to Table 1: Interval Between Multiple Vaccines.

4. **Can Zostavax[®] be given to a patient on methotrexate for rheumatoid arthritis?**
Observational studies have shown a 2-fold increased risk of development of HZ among patients with rheumatoid arthritis, suggesting that this patient population may benefit from immunization.²² However, live vaccines, e.g. Zostavax[®], are contraindicated in immunocompromised individuals due to risk of disease acquisition and a possible decreased efficacy.^{23,24} There are no randomized controlled trials that investigated the safety and efficacy of Zostavax[®] in this patient population. In some subpopulations of rheumatoid arthritis patients, however, administration of Zostavax[®] may be considered. Based on expert opinion, the Canadian Rheumatology Association recommends that patients, who are ≥60 years of age with rheumatoid arthritis and who are on methotrexate ≥25 mg/week and/or prednisone <20 mg/day, may receive Zostavax[®].²⁵ These recommendations are similar to those of the United States' Advisory Committee on Immunization Practices.²⁶

Pharmacists should refer all patients considered immunosuppressed to their primary care physician or their medical specialist.

5. **Is Zostavax[®] contraindicated if a household contact is an infant, pregnant or immunocompromised?**

This is not a contraindication.^{23,26} If a varicella-like rash develops post-vaccination, keep lesions covered and avoid direct contact with susceptible household members until lesions are crusted over.^{13,23,26,27} Susceptible individuals should avoid contact with any articles soiled from lesions.

There is a theoretical risk of acquiring infection from a person who has been vaccinated with a live vaccine. This risk may be greater for immunocompromised individuals.²⁸ For Zostavax[®], no cases of transmission of vaccine virus were reported in clinical trials.⁸

Transmission of vaccine virus has been rarely reported with other varicella virus-containing vaccines, however, not all vaccine recipients develop a varicella-like rash.^{8,24} In the Shingles Prevention Study, 0.11% of varicella zoster vaccine recipients versus 0.04% of placebo recipients developed a varicella-like rash at the injection site.¹⁰

6. **Can Zostavax[®] and Valtrex[®] be given together?**

Since Zostavax[®] is a live vaccine, concurrent use with antiviral medications (e.g. acyclovir, famciclovir and valacyclovir) may decrease its efficacy. Delay Zostavax[®] until 2 days after administration of these antiviral agents. Ideally, antiviral therapy should be avoided for 14-28 days following administration of Zostavax[®].^{16, 24,29}

7. **What should you do if you accidentally squirt Zostavax[®] in your eye?**

Immediately flush the eye with normal saline or water for 15 minutes.³⁰ Seek medical attention for any persistent eye symptoms or signs of infection. The risk of HZ is probably very low since the vaccine is attenuated (weakened). Report the incident to your employer. Become familiar with where and how eye flushing should be performed at your work setting.

Table 1: Interval Between Multiple Vaccines¹⁸

Combination	Interval		
	Simultaneous	<28 days	? 2
? 2 inactivated*	?	?	
Inactivated + live (includes live influenza intranasal)	?	?	
? 2 live parenteral** or Live parenteral + live influenza intranasal	?	X	
Live parenteral + live oral or Live oral + live oral	?	?	

*Except conjugate and polysaccharide presentations of the same antigen (PCV7) and conjugate presentation of the same antigen (MCC and MQCV).

** Administer varicella vaccine (if indicated and not contraindicated) 4 weeks apart from other live vaccines for high risk/immunocompromised patients.

Zostavax[®] (Herpes Virus Vaccine, Shingles Vaccine) FAQs for Patients

1. *What is shingles?*

Shingles is a rash, which can develop in older people who have had chickenpox. The rash can be very painful and in some people, after the rash goes away, they may develop a pain that lasts from 1 up to more than 6 months. The pain can be so bad that one is unable to wear clothing on that area of the body.

2. *Why would I need to receive the Zostavax[®]?*

If you have had chickenpox in your life, then you have a one in three chance of getting shingles in your lifetime. Zostavax[®] decreases this risk by half to two-thirds. The vaccine also may lessen the chance of getting pain, which may follow the shingles rash.

3. *How old do I need to be to get the Shingles Vaccine?*

Originally, the vaccine was approved for people 60 years and over, but in 2011 the vaccine was approved for people 50 years and over. The vaccine appears to work better in people between the ages of 50 to 59.

4. ***Are there any side effects associated with getting the vaccine?***
Reported side effects are minor and include pain, itching, swelling, headache, sore throat and flu-like symptoms. In studies, patients not given the vaccine had similar symptoms to the group vaccinated with the shingles vaccine.
5. ***How long does it work for? Will I need to repeat the dose ever?***
We don't know how long the vaccine works for, but likely 5-10 years. Trials are being done to see when patients should be re-vaccinated.
6. ***How much does it cost?***
The vaccine itself costs around \$187.00 and if it is injected by the pharmacist, there is a \$25 fee, making the total cost around \$212.00.
7. ***If I have never had chickenpox, do I still need to get the vaccine?***
The vaccine is recommended for people whether or not they have had chickenpox.
8. ***If I have shingles now, can I get vaccinated? i.e. Will it decrease my symptoms?***
The shingles vaccine is used to **prevent** shingles and it will not help if you already have shingles. If you have shingles, you need to wait for the rash and pain to stop before getting the vaccine. A person can get shingles more than once in their life, so even if you have had shingles before, the shingles vaccine may help to prevent another shingles episode.
9. ***I am currently on prednisone 10 mg daily to control my symptoms of asthma. Can I receive the shingles vaccine?***
Live vaccines are not recommended for patients who are immunosuppressed. Patients on prednisone doses less than 20 mg daily are not considered to be immunosuppressed. Thus, you may receive the shingles vaccine.(3,7)
10. ***I have heard that the shingles vaccine is the same as the chickenpox vaccine. Is this true?***
It does have the same ingredient, but the shingles vaccine is 14 times stronger than the chickenpox vaccine.

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