

Herpes zoster (shingles)

Also known as *mate huaketo hei*

What is herpes zoster (shingles)?

Herpes zoster, commonly known as shingles, is caused by the varicella-zoster virus — the same virus that causes chickenpox. Chickenpox is most common in children [see our Chickenpox (Varicella) fact sheet].

How do you get it?

In people who have previously had chickenpox, shingles occurs when the dormant varicella-zoster virus becomes active because it is no longer kept in check by the body's immune system. You cannot catch shingles from someone with chickenpox. Most adults in New Zealand will have acquired the varicella-zoster virus during childhood, even if they do not recall having had chickenpox.

Who is most at risk?

Anyone who has been infected with varicella-zoster virus, and likely to have had chickenpox previously, is at risk of developing shingles at some stage in their life. Shingles can affect people of any age but is more common as we get older. By the age of 85 years, at least half of us will have had shingles. In addition to getting older, other factors can increase the risk of getting shingles, such as having a weakened immune system, psychological stress, physical trauma, being female and having a genetically close relative who has had shingles.

What are the symptoms of shingles?

Shingles is characterised by a painful rash that develops on one area of the body. Often burning, tingling or itching is felt under the skin in the affected area before the rash develops. The rash commonly occurs on the back, abdomen or face. Tiredness, fever, headache and upset stomach may also occur. Approximately 1–14 days after the onset of pain, a rash of small blisters appear on a reddened area of skin. The blisters follow nerve pathways, and often extend front to back on one side of the body or head. The pain may become a throbbing or burning pain. After a few days, the blisters will crust over, like chickenpox. Over the course of several days to weeks, the crusts drop off and the skin will heal.

How serious is shingles?

The pain from shingles can seriously restrict daily living activities. Shingles of the face or scalp can result in complications, such as headaches and weakness on the face causing a droop on the affected side. It may take several months for this weakness to clear. Some people also develop painful eye or ear inflammation and infections.

Nerve damage can occur in the same region as the rash, particularly in the elderly, causing numbness or tingling and nerve pain for months or years after the rash has cleared. This chronic pain is known as post-herpetic neuralgia.

The blisters of the shingles rash contain the varicella-zoster virus. It is not possible to give someone else shingles, but it is possible for the virus to be passed to a close contact by touching the fluid in the blisters. In this situation, the close contact could develop chickenpox if they are not immune (after varicella vaccine or had chickenpox) or is severely immunosuppressed. The risk of this can be minimised if the rash is covered.

Complications of herpes zoster

Severe pain affecting daily living activities
Headache
Facial palsy (droopiness)

Eye and ear infections
Post herpetic neuralgia – chronic nerve damage causing pain and tingling for several months or years

Which vaccines protect against shingles?

There are two vaccines available in New Zealand to protect against shingles. A funded zoster vaccine (Zostavax®) can be given at age 65 years to help prevent the reactivation of the varicella-zoster virus. By boosting immunity against the virus, the vaccine helps to reduce the incidence or severity of shingles and its painful complications. This live vaccine contains a weakened strain of varicella-zoster virus, as used in the chickenpox (varicella) vaccine.

The second zoster vaccine (Shingrix®) is a non-live vaccine containing a protein that is found on the varicella-zoster virus known to produce a good immune response. This vaccine is not yet funded but can be given from the age of 50 years, including to those who have a weakened immune system.

	Zostavax	Shingrix
Vaccine type	Live attenuated vaccine	Adjuvanted recombinant protein subunit vaccine
Eligible age groups	from age 50 years, funded at 65 years	from age 50 years, unfunded
Number of doses	1 dose	2 doses, given 2 to 6 months apart
Contraindications	Severe immunocompromise A history of anaphylaxis to previous dose or vaccine component is a contraindication	Can be given to immunosuppressed people

How protective are the vaccines?

Zostavax is moderately protective against shingles, protecting around 6 in 10 people aged from 60 years, but becomes less effective with advancing age. It provides greater protection against post herpetic neuralgia, including for people aged over 70 years.

Two doses of Shingrix is highly effective at preventing shingles and shingles complications in more than 9 out of 10 people, with no reduction in effectiveness with advancing age. Follow-up of clinical trial participants found this protection was maintained and more than 8 out of 10 people were protected against shingles for over 8 years. It is not yet known if a further booster dose will be required.

How safe are the vaccines?

The zoster vaccine has an excellent safety record; it was first used in the U.S. in 2006. As it contains live varicella-zoster virus, specialist advice should be sought for anyone with a weakened immune system. Mild vaccine-associated adverse events such as headache, redness or swelling at injection site, and itching or rash around the injection site are known vaccine responses (refer to the table on the next page).

Shingrix is a non-live vaccine and can be given to individuals who have a weakened immune system from the age of 50 years. Potential responses include pain at injection site, muscle aches, fatigue, headache, shivering and nausea or diarrhoea.

	Zostavax	Shingrix
Potential vaccine responses	<ul style="list-style-type: none"> Mild pain, redness and swelling around injection site Itching or rash around injection site Headache. 	<ul style="list-style-type: none"> Mild pain at injection site headache muscle aches shivering/fever nausea, vomiting or diarrhoea hives or lymph node swelling.

As with all vaccines, very rarely a severe allergic reaction (anaphylaxis) can occur following vaccination

Who is recommended to have a zoster vaccine?

Vaccines are prescription medicines. Talk to your doctor or nurse about the benefits or any risks.

Zoster vaccination is recommended for anyone aged over 50 years, in particularly individuals who are at higher risk of shingles or are older and at risk of losing independence if debilitated by shingles or post herpetic neuralgia. One dose of Zostavax is funded at age 65 years. It should not be given to people with a severely weakened immune system.

Two doses of Shingrix are recommended but not funded for anyone aged from 50 years. It is particularly recommended for individuals with health conditions that increase their risk of shingles episodes, including those who have weakened immune systems. It is also available for people aged over 65 years, even if they received Zostavax at least a year previously.

Either vaccine can be given at least 12 months after a shingles episode has resolved before having a zoster vaccine. This is because the episode itself would have boosted immunity, so a vaccine is not yet needed.

Who should not have or should seek more advice before having a zoster vaccine?

Zostavax is a live vaccine. The usual contraindications and precautions for live vaccines apply to Zostavax. Seek specialist advice if you have any concerns. Anyone with who has had a severe allergic reaction to a component of this vaccine, including neomycin and gelatin, or a severe allergic reaction to a previous dose of this vaccine should not have this vaccine. **Zostavax must not be given to people who are moderately or severely immunocompromised.**

Shingrix is not a live vaccine and can be given to most people, except those who have experienced a severe allergic reaction to a previous dose or a component of the vaccine.

CALL 0800 IMMUNE (466 863) for clinical advice

References

- Ministry of Health. Immunisation handbook 2020 [Internet]. Wellington: Ministry of Health; 2020 [cited 2022 March 09]. Available from: <https://www.health.govt.nz/publication/immunisation-handbook-2020>
- Drolet M, Brisson M, Levin MJ, Schmader KE, Oxman MN, Johnson RW, et al. A prospective study of the herpes zoster severity of illness. *Clin J Pain*. 2010;26(8):656-66.
- Katz J, Cooper EM, Walther RR, Sweeney EW, Dworkin RH. Acute pain in herpes zoster and its impact on health-related quality of life. *Clin Infect Dis*. 2004;39(3):342-8.
- Kawai K, Yawn B. Risk factors for herpes zoster: A systematic review and meta-analysis. *Mayo Clin Proc*. 2017;92(12):1806-21.
- Schmader K, Oxman M, Levin M, Johnson G, Zhang J, Betts R, et al. Persistence of the efficacy of zoster vaccine in the Shingles Prevention Study and the Short-Term Persistence Substudy. *Clin Infect Dis*. 2012;55(10):1320-8.
- Keating GM. Shingles (herpes zoster) vaccine (Zostavax®): A review in the prevention of herpes zoster and postherpetic neuralgia. *BioDrugs*. 2016;30(3):243-54.
- Langan SM, Smeeth L, Margolis DJ, Thomas SL. Herpes zoster vaccine effectiveness against incident herpes zoster and post-herpetic neuralgia in an older US population: A cohort study. *PLoS Med*. 2013;10(4):e1001420.
- Schmader KE, Levin MJ, Gnann JW, McNeil SA, Vesikari T, Betts RF, et al. Efficacy, safety, and tolerability of herpes zoster vaccine in persons aged 50-59 years. *Clin Infect Dis*. 2012;54(7):922-8.
- Tseng HF, Harpaz R, Luo Y, Hales CM, Sy LS, Tartof SY, et al. Declining effectiveness of herpes zoster vaccine in adults aged ≥60 Years. *J Infect Dis*. 2016;213(12):1872-5.
- Walker JL, Andrews NJ, Amirthalingam G, Forbes H, Langan SM, Thomas SL. Effectiveness of herpes zoster vaccination in an older United Kingdom population. *Vaccine*. 2018;36(17):2371-7.
- Syed YY. Recombinant zoster vaccine (Shingrix®): a review in herpes zoster. *Drugs and Aging*, 2018. 35(12): p. 1031-1040.
- Cunningham AL, Lal H, Kovac M, et al. Efficacy of the Herpes Zoster Subunit Vaccine in Adults 70 Years of Age or Older. *N Engl J Med*. 2016;375(11):1019-32.
- Dagnew AF, Rausch D, Hervé C, et al. Efficacy and serious adverse events profile of the adjuvanted recombinant zoster vaccine in adults with pre-existing potential immune-mediated diseases: a pooled post hoc analysis on two parallel randomized trials. *Rheumatology (Oxford, England)*, 2021. 60(3): p. 1226-1233.
- Oostvogels L, Heineman TC, Johnson RW, et al. Medical conditions at enrollment do not impact efficacy and safety of the adjuvanted recombinant zoster vaccine: a pooled post-hoc analysis of two parallel randomized trials. *Hum Vaccin Immunother*. 2019;15(12):2865-72
- Boutry C, Hastie A, Diez-Domingo J, et al. The adjuvanted recombinant zoster vaccine confers long-term protection against herpes zoster: Interim results of an extension study of the pivotal phase III clinical trials (ZOE-50 and ZOE-70). *Clin Infect Dis*. 2021