

# STEPS

## New Drug Reviews

# Recombinant Zoster Vaccine (Shingrix) for the Prevention of Shingles

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Recombinant zoster vaccine (Shingrix) is a two-dose intramuscular vaccine labeled for the prevention of herpes zoster virus (shingles) in adults 50 years and older. It is not indicated for the prevention of primary varicella infection (chickenpox).<sup>1</sup>

### Safety

In clinical trials, serious adverse events, defined as “an undesirable experience associated with the vaccine that results in death, hospitalization, disability or requires medical or surgical intervention to prevent a serious outcome,” occurred at a similar rate with the recombinant zoster vaccine and a saline placebo (approximately 2% at 30 days postvaccination).<sup>1,2</sup> In two clinical trials involving 29,305 patients, one patient experienced lymphadenitis, and another developed a fever greater than 102.2°F (39°C). The rate of adverse effects was less than 0.01% for both outcomes.<sup>1</sup>

### Tolerability

Local reactions are common following administration, with pain (78%), redness (38%), and swelling (26%) being the most prevalent, especially in patients younger than 69 years. Reactions following administration have been shown to resolve after one to three days. Systemic adverse effects may also occur; myalgia (45%), fatigue (45%), and headache (38%) are the most common.<sup>1</sup> In clinical trials, more than 95% of participants completed the two-dose series.<sup>3</sup>

### Effectiveness

Recombinant zoster vaccine will prevent shingles in 96% of persons 50 to 59 years of age, 97% of persons 60 to 69 years of age, and 91% of persons 70 years and older for at least

Drug	Dosage	Dose form	Cost*
Recombinant zoster vaccine (Shingrix)	Two injections given separately two to six months apart	0.5-mL vial for intramuscular injection	\$175 for two vials

\*—Estimated retail price of one course of treatment based on information obtained at <https://www.goodrx.com> (accessed September 6, 2018).

three years (number needed to treat = 33).<sup>1-4</sup> It is 91% effective at preventing postherpetic neuralgia in patients 50 to 69 years of age and 89% effective in those 70 years and older.<sup>2,4</sup> In comparison, zoster vaccine live (Zostavax) is only 51% effective in preventing shingles and 67% effective in preventing postherpetic neuralgia.<sup>5</sup> The duration of immunity of recombinant zoster vaccine is not known, but its overall effectiveness after three years is much higher than that of zoster vaccine live, which decreases within three years and lasts for only about five years.<sup>2-6</sup> Recombinant zoster vaccine has not been directly compared with zoster vaccine live in head-to-head trials.

### Price

Recombinant zoster vaccine costs approximately \$175 for the complete two-dose series. In comparison, zoster vaccine live costs about \$230 but requires only one dose. These prices are in addition to the cost of administration by a health care professional.

### Simplicity

Recombinant zoster vaccine requires two doses. Each dose should be administered intramuscularly two to six months apart. It can be given to adults 50 years and older, regardless of history of shingles or immunization with the live vaccine.<sup>7</sup> As with the live vaccine, recombinant zoster vaccine may be coadministered with the influenza quadrivalent vaccine (Fluarix). Coadministration with the 23-valent pneumococcal vaccine (PPSV23), as well as the booster vaccine against tetanus, diphtheria, and pertussis (Boostrix), is currently being investigated. According to the Centers for

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Disease Control and Prevention, recombinant zoster vaccine may be given at the same time as either the pneumococcal conjugate vaccine (PCV13) or PPSV23, provided that a different site of injection is used for each.<sup>2,7</sup>

### Bottom Line

Recombinant zoster vaccine is a relatively new shingles vaccine that has been shown to have greater effectiveness and protection than the existing live vaccine. Local and systemic adverse effects may occur after administration, but have been shown to resolve within one to three days. Although recombinant zoster vaccine requires two doses, its more than 90% effectiveness and longer duration of protection warrant its use as the preferred shingles prevention vaccine for all adults 50 years and older. For patients who have previously received zoster vaccine live, recombinant zoster vaccine should be offered within five years of receiving the live vaccine to ensure continued protection against shingles.

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