



News item: Discussion on Zostavax

Since publication of our article on Zostavax vaccine in March, 2018, we have received feedback from several readers seeking clarification or further information on some points, including age of eligibility, vaccination in people taking immunosuppressants and vaccine efficacy in older people.

Age of eligibility for subsidised vaccine

Zostavax is fully subsidised for people aged 65 years – that means that a patient is eligible for a vaccine from when they turn 65 years until they turn 66 years.

There is currently also a two-year catch-up period for people aged 66 to 80 years – that means that from now until 31 March, 2020, people aged over 65 years can also receive a subsidised vaccine, before they turn 81 years. This includes people who turned 65 years before 1 April, 2018, when Zostavax was first subsidised.

Administering Zostavax to patients taking immunosuppressive treatment

As Zostavax is a live vaccine, it is generally contraindicated in people taking immunosuppressive treatment. However, there are some exceptions to this for patients considered to be only mildly immunosuppressed.

In the article, we referred readers to The Ministry of Health Immunisation Handbook for further details on this, which can be found in Sections 4.3.3 and 22.6.2: www.health.govt.nz/publication/immunisation-handbook-2017

The Handbook states that:

“As a general guide, low-level immunosuppression includes treatment with prednisone <2 mg/kg

with a maximum of 20 mg/day; methotrexate ≤ 0.4 mg/kg/week; azathioprine ≤ 3 mg/kg/day; or 6-mercaptopurine ≤ 1.5 mg/kg/day. High-level immunosuppression regimens include treatment regimens with higher than the above doses, and those on biological agents such as tumour necrosis factor antagonists or rituximab. Combination therapies increase the level of immunosuppression.”

Therefore, Zostavax is considered safe to administer in patients taking < 20 mg/day prednisone. However, some rheumatologists would recommend a lower threshold for safe administration of Zostavax vaccination, e.g. < 10 mg/day prednisone. A pragmatic solution is to routinely offer Zostavax vaccine to patients taking < 10 mg/day prednisone, and for patients taking 10 – 20 mg/day prednisone, consider their specific clinical scenario before deciding to vaccinate, e.g. duration of prednisone treatment, co-morbidities. Patients taking a methotrexate dose of ≤ 0.4 mg/kg/week can safely receive Zostavax. Therefore, this would encompass most adults taking a standard once-weekly dose of <15–20 mg methotrexate.

Patients taking combination treatment, e.g. methotrexate with leflunomide, should not receive Zostavax vaccine as taking two treatments at once increases the level of immunosuppression.

Zostavax vaccine may be given to patients taking:

Prednisone < 10-20 mg/day
Methotrexate ≤ 0.4 mg/kg/week
Azathioprine ≤ 3.0 mg/kg/day
Mercaptopurine ≤ 1.5 mg/kg/day

Sulfasalazine
Hydroxychloroquine
Sodium aurothiomalate (gold injection)

Topical or inhaled corticosteroids

Zostavax vaccine is contraindicated in patients taking:

Prednisone ≥ 20 mg/day
Methotrexate > 0.4 mg/kg/week
Azathioprine > 3.0 mg/kg/day
Mercaptopurine > 1.5 mg/kg/day

Other DMARDs and biologic medicines, e.g. abatacept, adalimumab, anakinra, cyclophosphamide, cyclosporin, etanercept, infliximab, leflunomide, mycophenolate, rituximab, tacrolimus, tocilizumab, ustekinumab

Chemotherapy, radiotherapy

Any of the above medicines used in combination at any dose.

Patients taking other DMARDs* and biologic medicines, such as the “mab” medicines, tacrolimus and cyclosporin, will not be able to receive a Zostavax vaccine until at least three to 12 months after treatment has stopped – in some cases immunisation with a live vaccine is absolutely contraindicated (discuss with the patient’s rheumatologist or other treating clinician).

Sulfasalazine, hydroxychloroquine and sodium aurothiomalate (gold injection) are not considered to be significantly immunosuppressive, so patients taking these treatments at any dose may still receive Zostavax vaccine, unless they are taking it in combination with another immunosuppressive medicine.

Patients should not receive Zostavax vaccine within four weeks of the start of planned chemotherapy or radiotherapy and for at least three to six months after treatment has finished. Patients who have undergone stem cell or bone marrow transplant should not receive Zostavax until at least two years after treatment.

Efficacy of Zostavax in older patients

The primary study used to assess efficacy of Zostavax was the Shingles Prevention Study, which was a randomised controlled trial.¹ Vaccine efficacy for preventing herpes zoster was calculated at 18% for people aged 80 years and over. This means that the vaccine reduced the incidence of herpes zoster by 18% compared to an age-matched group of people who did not receive the vaccine. This result was not statistically significant as it had a large confidence interval, which included

zero. It was therefore concluded that Zostavax was not reliably effective in this age group. Randomised controlled trials are considered the gold standard for basing clinical guidelines upon.

A subsequent observational cohort study reported a statistically significant vaccine efficacy of 42% for Zostavax preventing herpes zoster in people aged over 80 years.² However, results of this type of study are more likely to be affected by confounding than a randomised controlled trial, i.e. the two groups may have differences that could influence the results.

It can be agreed that the efficacy of Zostavax declines with age and vaccination is likely to be most beneficial in the age group for which it is subsidised. Decisions about the benefit of vaccination in a patient aged over 80 years should be made on an individual basis, taking into account vaccine efficacy data, as well as other factors such as general health, co-morbidities and expected longevity.

Further resources

The Immunisation Advisory Centre has a dedicated section for resources on Zostavax, including a checklist for deciding whether vaccination is appropriate for a patient, frequently asked questions and patient resources.

 See: www.immune.org.nz/zostavax-health-professionals

Notes:

- 1 Oxman MN, Levin MJ, Johnson GR, et al. A vaccine to prevent herpes zoster and postherpetic neuralgia in older adults. *N Eng J Med* 2005;352(22):2271–84.
- 2 Tseng H, Harpaz R, Luo Y, et al. Declining effectiveness of herpes zoster vaccine in adults aged ≥60 years. *J Infect Dis* 2016;213:1872-5

* Disease Modifying Anti-Rheumatic Drugs