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Shingles and flu vaccines in people taking immunosuppressive treatments including cancer therapies

Shingles vaccine (Zostavax®) is a live vaccine containing attenuated *Herpes zoster* (chickenpox) virus. It is currently being offered to adults who reach the age of 70 as part of routine vaccination, with a timetabled 'catch up' programme for those who reach 78 or who missed vaccination when they were 70. Current eligibility criteria can be found in the PHE document.[1] The aim of vaccination is to reduce the incidence and severity of shingles in this age group. One large trial found that the incidence of shingles was reduced by 38% in those vaccinated, with a reduction in post-herpetic neuralgia of about 66%.[2] Vaccination of adults aged 80 and over is not currently considered cost effective.

Patients who are immunosuppressed should broadly avoid being vaccinated with shingles vaccine due to the risk of causing disseminated active *Herpes zoster* disease. This document provides information and links to resources about who should either defer or avoid vaccination completely because of this.

Who should avoid or defer shingles vaccine due to immunosuppression or cancer therapies?

Details of those who should not receive shingles vaccine are summarised below but this list of exclusions is not exhaustive. The Public Health England 'Shingles Q&A' document[2] and Green Book chapters[3] (linked below) provide more details about specific conditions, timing and factors such as immunosuppressant doses and should be used to make the decision in each case. Generally a patient's hospital specialist should also help inform the decision to vaccinate where there is doubt and, where appropriate, the timing of vaccination. Patients who should not receive this vaccination include those with:

(i) **primary acquired immunodeficiency**, e.g. with acute or chronic leukaemias or lymphoma; those who remain under follow up for a long term lymphoproliferative disorder; those with HIV/AIDS *and* a low CD4 cell count; also patients who have received a stem cell transplant within the last 24 months.

(ii) **those who are on immunosuppressive or immunomodulating treatments**, including:

(a) immunosuppressive chemotherapy or radiotherapy (or who have had this within the previous six months), either for malignant or non-malignant disease. After this they may become eligible, seek advice.

(b) immunosuppressants for a solid organ transplant in the previous 6 months.

(c) other immunosuppressants – check with the Green Book for detailed advice.[3] This includes higher doses of prednisolone, azathioprine or methotrexate. In addition, patients who have had biologic anti-TNF treatments (infliximab, etanercept, rituximab etc), within the last 12 months, should not receive shingles vaccine, unless the patient's specialist advises.

Starting immunosuppressants: People who are due to have shingles vaccine but also likely to start any of the treatments listed above should ideally be vaccinated, with a minimum gap of 14 days (and preferably 28 days) prior to immunosuppressive treatment.

Flu vaccine in immunosuppressed and cancer patients - usually recommended

Injected influenza vaccine that is offered to adults is of the inactivated type. It therefore presents no risk to people who are immunosuppressed and offers welcome protection from winter 'flu. Annual flu vaccination should therefore be encouraged, see Cancer network leaflet for patients here.

The nasal 'flu vaccination used in children (Fluenz Tetra®) does contain live flu virus, though this is a weak (attenuated) type. There is a theoretical potential for transmission of this virus to immunocompromised contacts for one to two weeks following vaccination. In the US, where there has been extensive use of this type of vaccine, there have been no reported instances of illness or infections from the vaccine virus among immunocompromised patients inadvertently exposed. However, where close contact with *very* severely immunocompromised patients is likely or unavoidable (e.g. household contacts of bone marrow transplant patients requiring isolation), alternative inactivated influenza vaccines should be considered.[4] Seek specialist advice from local Screening & Immunisation teams where there is doubt in individual cases.

References

1. Public Health England (PHE). 'Who is eligible' poster, at https://www.gov.uk/government/publications/who-is-eligible-for-the-shingles-vaccine-beyond-2016
2. PHE. Shingles questions and answers at https://www.gov.uk/government/publications/vaccination-against-shingles-for-adults-qas-for-healthcare-professionals
3. PHE. Immunisation against infectious disease (The 'Green Book', Chapter 28a, Shingles *accessed Jan 2016*
4. PHE. Immunisation against infectious disease (The 'Green Book', Chapter 19 Influenza vaccine *accessed Jan 2016*

Further information: Shingles vaccine (information for patients at NHS choices), at http://www.nhs.uk/conditions/vaccinations/pages/shingles-vaccination.aspx

This advice is endorsed by the East Midlands Cancer network and the North & Central Midlands Screening & Immunisation Teams.

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