

Q&A: Adjuvanted & Non-Adjuvanted Influenza Vaccines

Influenza vaccination is the best strategy we have to reduce the risk of exposure to influenza, especially for the elderly. Vaccination in high-risk individuals offers protection against severe influenza illness, hospitalisation and lowers the risk of major adverse cardiovascular events.

For the elderly, the addition of the MF59® adjuvant to the standard influenza vaccine has been shown to offer modest improvements in immune response and effectiveness against influenza-related primary care visits and hospitalisations compared with non-adjuvanted influenza vaccines.

Influenza Disease Risk

People aged 65 years or older are at a higher risk for influenza-related mortality. Research indicates that this age group accounts for 7–8 out of 10 influenza-related deaths and 5–7 out of 10 influenza-related hospitalisations, each flu season.¹

Benefits of vaccination with standard vaccination

Vaccinated elderly people who are exposed to influenza are less likely to develop severe illness^{2,3}, be hospitalised⁴⁻⁷ or require admission to an intensive care unit.⁸ Standard influenza vaccination is also associated with a 36% [95% CI 16–51%] lower risk of major adverse cardiovascular events.⁹

What is an adjuvant?

The inclusion of an adjuvant intends to broaden the immunogenic response, this provides some benefit to the elderly who could be experiencing immunosenescence, a natural decline in immune function associated with increasing age. Flud Quad contains MF59®, a squalene-based, oil-in-water emulsion adjuvant, that has been used in influenza vaccines since 1997. Squalene is a naturally occurring substance, found in humans and other animals and is highly purified during the vaccine manufacturing process.

Why are adjuvants added to influenza vaccines?

An adjuvant heightens the immune response to a vaccine antigen. This provides some additional benefit to the elderly who could be experiencing a natural decline in immune function.

Are there benefits of adjuvanted vaccines compared to standard-dose vaccines for adults 65 years and older?

Studies have found a modest improvement in vaccine effectiveness in individuals, aged 65 years and older, vaccinated with an adjuvanted vaccine, compared with standard influenza vaccines. Data suggests that adjuvanted influenza vaccines can reduce respiratory-related hospitalisations^{14,15} and influenza-related primary care consultations, compared to standard influenza vaccines.¹⁶

Safety

Influenza vaccines are generally well tolerated. As a result of the enhanced responsiveness in adjuvanted vaccines, there can be an increased likelihood of local (such as redness, swelling, and pain at the injection

site) and/or systemic reactions (such as fever, chills and body aches) compared to standard, non-adjuvanted vaccines.¹¹⁻¹³ The MF59® adjuvant has an excellent safety record.¹⁰

Data

A study examining relative vaccine effectiveness for influenza vaccines in US adults over the age of 65 years during two flu seasons over the 2017-2019 period, found that those who received adjuvanted trivalent influenza vaccine had fewer influenza-related medical encounters compared to those who received a standard quadrivalent influenza vaccine. The authors note that this study evaluated the rVE specifically in older adults with underlying medical conditions, a subgroup who is at high risk of influenza and severe complications, yet are often excluded from randomised controlled trials. The adjuvanted vaccine was 7.1% [95% CI 3.3-10.8] and 20.4% [95% CI 16.2-24.2] more effective at preventing influenza-related medical encounters, for the 2017-2018 and 2018-2019 flu seasons, respectively.¹⁵

A similar US study comparing the efficacy of the adjuvanted trivalent influenza vaccine with a non-adjuvanted trivalent vaccine in aged-care residents, showed that the adjuvanted influenza vaccine reduced primary care consultations and respiratory related hospitalisations. Pneumonia, influenza and all-cause hospitalisation rates were lower for the cohort that received the adjuvanted vaccine (adjusted hazard ratio, 0.80 [95% CI, 0.66-0.98; P = 0.03] and 0.94 [0.89-0.99; P = 0.02], respectively).¹⁴

Over three influenza seasons (2017-2020) in the US, the use of adjuvanted influenza vaccine in adults aged from 65 years was shown to improve vaccine effectiveness against influenza-related medical encounters, compared with standard egg-based vaccines (overall relative vaccine effectiveness point estimate range 20.8-27.5%).¹⁷

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