

Transcript Details

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Adjuvanted Vaccines: The Modern Era in Flu Prevention for Older Adults

ReachMD Announcer:

Welcome to ReachMD. This medical industry feature, titled "Adjuvanted Vaccines: The Modern Era in Flu Prevention for Older Adults," is sponsored by CSL Seqirus.

Voiceover:

Gather round, astute health care professionals!

In June of the year 2022, the CDC's Advisory Committee on Immunization Practices voted unanimously in favor of recommending specific influenza vaccines, including adjuvanted and higher-dose vaccines, over standard-dose options for adults 65 years and older.¹ That's a real humdinger of a milestone for public health! But, why?

Well, I'm here to tell you that lower vaccine effectiveness in older adults is a real conundrum, making healthcare professionals say "humbug" and "fiddlesticks" every flu season.

You see, there are several factors that can impact vaccine effectiveness in adults 65 years and older, one of them being 'immunosenescence'—an age-related decline of the immune system that can increase one's vulnerability to influenza infection and its complications.²

Meanwhile, older adults are at higher risk of not mounting a sufficient response to traditional flu vaccines, impacting vaccine effectiveness.²

But that's not all. Another important factor is strain mismatch, which occurs when circulating influenza strains don't match the World Health Organization vaccine-selected strains.^{3,4}

Taken together, it's as clear as a summer day. To help reduce flu-related complications in older adults, we simply *must* have influenza vaccines capable of driving enhanced immune responses.⁵

Thankfully, we do. And one of the tools we have at our disposal is the adjuvanted influenza vaccine!

Let's take a closer look at adjuvants, aka those substances added to vaccines to boost the immune response. These are key ingredients helping vaccines address the challenges of immunosenescence in adults 65 and older by strengthening, broadening, and lengthening the duration of the immune response.⁶⁻⁸

Let's take, for example, an oil-in-water adjuvant with a biodegradable and biocompatible composition.⁷

At the injection site, this adjuvant, along with the antigen, recruits immune cells and differentiates these cells into antigen-presenting cells, or APCs for short.

From there, T-cell activation and B-cell expansion take place within the lymph nodes.⁹⁻¹³

When paired with an antigen, this dynamic little adjuvant-that-could stimulates more immune cells to create more diverse, cross-reactive antibodies over a longer duration of time.⁶⁻⁸

The result? You guessed it. A *strengthened, broadened, and more persistent* immune response!⁶⁻⁸

Why, that's just what we're looking for in a vaccine for older adults: one that is designed to address the challenges of immunosenescence and mismatch between circulating viruses and vaccine strains.

Isn't that right, adjuvant? You betcha.

Yes, friends, the time for leveraging advanced options to enhance vaccine effectiveness in older adults is now at hand.¹⁴

So when choosing a flu vaccine for patients 65 and older, consider the *adjuvanted* influenza vaccine!

ReachMD Announcer:

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References:

1. Grohskopf LA, Blanton LH, Ferdinands JM, Chung JR, Broder KR, Talbot HK, Morgan RL, Fry AM. Prevention and control of seasonal influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices - United States, 2022-23 influenza season. *MMWR Recomm Rep*. 2022 Aug 26;71(1):1-28. doi: 10.15585/mmwr.rr7101a1
2. Monto AS, Ansal di F, Aspinall R, et al. Influenza control in the 21st century: optimizing protection of older adults. *Vaccine*. 2009 27(37):5043-5053. doi:10.1016/j.vaccine.2009.06.032
3. Paules CI, Sullivan SG, Subbarao K, Fauci AS. Chasing seasonal influenza - the need for a universal influenza vaccine. *N Engl J Med*. 2018 378(1):7-9. doi:10.1056/NEJMp1714916
4. Zost SJ, Parkhouse K, Gumina ME, et al. Contemporary H3N2 influenza viruses have a glycosylation site that alters binding of antibodies elicited by egg-adapted vaccine strains. *Proc Natl Acad Sci USA*. 2017 114(47):12578-12583. doi:10.1073/pnas.1712377114
5. Noh JY, Kim WJ. Influenza vaccines: unmet needs and recent developments. *Infect Chemother*. 2013;45(4):375-386.
6. O'Hagan DT, Ott GS, De Gregorio E, Seubert A. The mechanism of action of MF59—an innately attractive adjuvant formulation. *Vaccine*. 2012 30(29):4341-4348. doi:10.1016/j.vaccine.2011.09.061
7. O'Hagan DT, Ott GS, Nest GV, Rappuoli R, Del Giudice G. The history of MF59[®] adjuvant: a phoenix that arose from the ashes. *Expert Rev Vaccines*. 2013 12(1):13-30. doi:10.1586/erv.12.140
8. Banzhoff A, Pellegrini M, Del Giudice G, Fragapane E, Groth N, Podda A. MF59-adjuvanted vaccines for seasonal and pandemic influenza prophylaxis. *Influenza Other Respir Viruses*. 2008 2(6):243-249. doi:10.1111/j.1750-2659.2008.00059.x
9. Seubert A, Monaci E, Pizza M, O'Hagan DT, Wack A. The adjuvants aluminum hydroxide and MF59 induce monocyte and granulocyte chemoattractants and enhance monocyte differentiation toward dendritic cells [published correction appears in J Immunol. 2009 Jan 1;182(1):726]. *J Immunol*. 2008;180(8):5402-5412. doi:10.4049/jimmunol.180.8.5402
10. Calabro S, Tortoli M, Baudner BC, et al. Vaccine adjuvants alum and MF59 induce rapid recruitment of neutrophils and monocytes that participate in antigen transport to draining lymph nodes. *Vaccine*. 2011;29(9):1812-1823. doi:10.1016/j.vaccine.2010.12.090
11. Schultze V, D'Agosto V, Wack A, Novicki D, Zorn J, Hennig R. Safety of MF59 adjuvant. *Vaccine*. 2008;26(26):3209-3222. doi:10.1016/j.vaccine.2008.03.093
12. Khurana S, Chearwae W, Castellino F, et al. Vaccines with MF59 adjuvant expand the antibody repertoire to target protective sites of pandemic avian H5N1 influenza virus. *Sci Transl Med*. 2010;2(15):15ra5. doi:10.1126/scitranslmed.3000624
13. Vono M, Taccone M, Caccin P, et al. The adjuvant MF59 induces ATP release from muscle that potentiates response to vaccination. *Proc Natl Acad Sci U S A*. 2013;110(52):21095-21100. doi:10.1073/pnas.1319784110
14. Centers for Disease Control and Prevention. Flu & people 65 years and older. Accessed July 13, 2023. <https://www.cdc.gov/flu/highrisk/65over.htm>.

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