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PHARMACIST'S LETTER / PHARMACY TECH LETTER
October 2019 ~ Resource #351015

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Flu Vaccines for 2019-2020

New NACI flu vaccine recommendations for 2019-20 are available. The **composition of the vaccine for 2019-20 is different from 2018-19**. There are no changes to the influenza B virus components (the "extra" B virus component in the quadrivalent vaccine is also the same).[1-3] Vaccination is recommended for all persons age six months and older, including pregnant women.[1] A quadrivalent formulation should be used in all children six months through 17 years, **if available**.[1] For patients 65 years of age and older, offer the high-dose IIV3 over standard-dose IIV3, but any age-appropriate vaccine can be used.[1] As in past years, **children ages six months through eight years who have never received the flu shot before will require two doses of vaccine, at least four weeks apart.**[1] LAIV (*FluMist*) will NOT be available in Canada this season due to manufacturing issues.[1] All influenza vaccines, including LAIV (not available for the 2019-20 season), may be given at the same time as, or at any time before or after, administration of other vaccines.[1] In theory, there may be more adverse effects when an adjuvanted flu vaccine (e.g., *Fluad*) is given with another adjuvanted vaccine (e.g., *Shingrix*).[8] **The following table summarizes characteristics of the influenza vaccines authorized for use in Canada for the 2019-2020 flu season**. The full guidelines can be accessed at https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/healthy-living/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2019-2020/NACI_Stmt_on_Seasonal_Influenza_Vaccine_2019-2020_v12.3_EN.pdf. Note that each province/territory determines which vaccines will be covered by publicly funded programs.

Abbreviations: CTAB = cetyltrimethyl-ammonium bromide; FFU = fluorescent focus units; GSK = GlaxoSmithKline; HA = haemagglutinin; IIV3 = trivalent influenza inactivated vaccine (previously abbreviated TIV); IM = intramuscular; LAIV = live attenuated influenza vaccine[b]; n/a = not applicable; NACI = National Advisory Committee on Immunization.

Chart is adapted from the NACI statement (reference 1).

Product Characteristics	**Trivalent Inactivated Vaccines**				**Quadrivalent Inactivated Vaccines**			
Product Name	*Fluviral*	*Agriflu*	*Fluad* and *Fluad Pediatric*	*Fluzone High-Dose*[d]	*Influvac Tetra*[4]	*Afluria Tetra*	*Flulaval Tetra*	*Fluzone Quadrivalent*
Manufacturer	GSK	Seqirus	Seqirus	Sanofi Pasteur	BGP Pharma	Seqirus	GSK	Sanofi Pasteur
Vaccine Type	split virus	subunit	subunit	split virus	subunit	split virus	split virus	split virus
Route of Administration	IM	IM	IM	IM	IM[a]	IM	IM	IM
Authorized Ages for Use	6 months and older	6 months and older	6 to 23 months (peds); 65 years and older (adult)	65 years and older	18 years and older	5 years and older	6 months and older	6 months and older

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Product Characteristics	**Trivalent Inactivated Vaccines**				**Quadrivalent Inactivated Vaccines**			
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Antigen Content (of each strain per 0.5 mL dose, unless otherwise specified)	15 mcg HA	15 mcg HA	Pediatric: 7.5 mcg HA per 0.25 mL dose Adult: 15 mcg HA	60 mcg HA	15 mcg HA	15 mcg HA	15 mcg HA	15 mcg HA
Adjuvant	No	No	MF59 (oil in water emulsion)	No	No	No	No	No
Formats Available	5 mL multidose vial	5 mL multidose vial, single-dose pre-filled syringe (no needle)	Single-dose pre-filled syringe (no needle)	Single-dose pre-filled syringe (no needle)[6]	Single-dose pre-filled syringe (with or without a needle)	5 mL multi-dose vial, single-dose pre-filled syringe (no needle)	5 mL multidose vial, single-dose pre-filled syringe	5 mL multidose vial, single-dose pre-filled syringe (no needle), single-dose vial
Shelf-Life After Vial Puncture	28 days	28 days	n/a	n/a	n/a	28 days[7]	28 days	Until expiry on vial
Thimerosal	Yes	Yes (multi-dose vial)	No	No	No	Yes (multi-dose vial)	Yes (multi-dose vial)	Yes (multidose vial)
Antibiotics (traces)	None	Kanamycin and neomycin	Kanamycin and neomycin	None	Gentamicin (or neomycin and polymyxin B)	Neomycin and polymyxin B	None	None

More. . .

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Other Clinically Relevant Nonmedicinal Ingredients[e]	Egg protein,[c] alpha-tocopheryl hydrogen succinate, ethanol formalde-hyde, polysorbate 80, sodium deoxycholate, sucrose.	Egg protein,[c] CTAB, formaldehyde, hydro-cortisone, polysorbate 80.	Egg protein,[c] barium, CTAB, formaldehyde, hydro-cortisone, polysorbate 80.	Egg protein,[c] formalde-hyde, *Triton X-100*.	Egg and chicken protein,[c] CTAB, formaldehyde, hydro-cortisone, polysorbate 80, sucrose.	Egg protein,[c] sodium tauro-deoxychloate, sucrose.	Egg protein,[c] alpha-tocopheryl hydrogen succinate, ethanol, formalde-hyde, sodium deoxycholate, polysorbate 80, sucrose.	Egg protein,[c] formalde-hyde, *Triton X-100*.

a. Product monograph lists deep subcutaneous injection as an alternate route of administration.[4]
b. LAIV (not available for the 2019-2020 season) is contraindicated in immunocompromised patients, those with severe asthma (taking oral or high-dose inhaled glucocorticosteroids or actively wheezing) or with medically attended wheezing within the previous seven days, during pregnancy, and in children two to 17 years of age taking aspirin. Delay aspirin therapy for four weeks after LAIV.[1]
c. Egg allergic patients can receive any flu vaccine that is appropriate for the patient without a prior vaccine skin test and in any settings where vaccines are routinely administered.[1]
d. *Fluzone High-Dose*: For adults 65 and older, the high-dose trivalent vaccine should be more effective and likely prevents one more confirmed flu case for every 200 standard vaccine doses given. May cause more local reactions and flu-like symptoms.[5]
e. Consult product monograph for complete listing of nonmedicinal ingredients and excipients.

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Project Leader in preparation of this clinical resource (351015): *Annette Murray, BScPharm*

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