Administration of Quadrivalent Live Attenuated Influenza Vaccine

FLUMIST® QUADRIVALENT is the quadrivalent live, attenuated influenza vaccine (LAIV-Q), approved for use in Canada. Unlike other vaccines, LAIV-Q is administered by the intranasal route. Each pre-filled glass sprayer contains a 0.2 mL dose (given as 0.1 mL in each nostril) of four strains of the attenuated influenza virus.[1] The purpose of this factsheet is to provide administration information for health care providers.

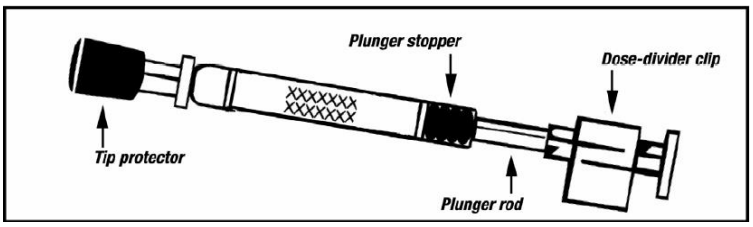
For further information, including indications for use, dosing and scheduling, contraindications, safety and efficacy see Section VII of the BCCDC Immunization Manual, the Canadian National Advisory Committee on Immunization (NACI) seasonal influenza statement, and the Canadian Immunization Guide

LAIV-Q (FLUMIST® QUADRIVALENT) is made from attenuated viruses that are able to replicate efficiently only at temperatures present in the nasal mucosa. Through manufacturing processes the four influenza virus strains become:

- **cold-adapted** so they are only able to replicate at cooler temperatures of the nasopharyngeal mucosa
- **temperature** sensitive so they are unable to replicate at warmer temperatures of the lower airways and lungs
- **attenuated** so they are unable to cause clinical influenza disease

The cumulative effect of these properties is such that the viral strains induce protective immunity without causing disease.[1]

Instructions for Administration of LAIV-Q



FLUMIST® QUADRIVALENT IS AN INTRANASAL SPRAY AND IS NOT FOR INJECTION.

The product is provided in a 'sprayer' in a firm device that looks like a syringe with a tip protector at one end and a plunger with a dose divider clip at the other end. Details and accompanying diagram on how to administer the product are contained in the product monograph.[1]

1. Remove the rubber tip protector. Do not remove the dose-divider clip at the other end of the sprayer.
2. With the recipient sitting upright, place tip of the sprayer just inside a nostril to ensure vaccine is delivered into the nose.
3. In one motion depress the plunger as rapidly as possible until the dose-divider clip prevents you from going further.
4. Pinch and remove the dose divider clip from the plunger.
5. Place the tip of the sprayer just inside the other nostril and with a single motion depress the plunger as rapidly as possible to deliver the rest of the vaccine.

Frequently Asked Questions Related to Administration of LAIV-Q

What if a child sneezes directly after receiving LAIV-Q?
The Canadian Immunization Guide supports that if the vaccine recipient sneezes immediately after administration the dose should not be repeated. The binding of the virus to epithelial cells occurs very rapidly and there are more virus particles in the vaccine than are needed to establish immunity. Therefore sneezing or blowing your nose immediately after immunization with LAIV-Q will not affect immunity.[2]

What if a child receives both half doses of LAIV-Q in the same nostril?
It is recommended that LAIV-Q be administered as 2 divided sprays (0.1 mL into each nostril) to maximize the vaccine's contact surface area of epithelial cells within the nasopharynx. No clinical trials have been conducted using a single-nostril administration. However, there is no need to repeat immunization as each half dose (0.1 mL) contains enough viral particles to induce an immune response.[3]

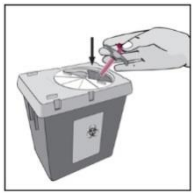
What if during LAIV-Q administration a child is sprayed in the eye instead of the nostril?
Immediately flush the area with water or saline; if irritation persists refer to physician to assess for possible conjunctivitis. If at least half of the LAIV-Q dose (0.1 mL) was administered into the nostril the client does not need further vaccine at that time. However, if the 1st half of the vaccine dose went into the eye, the 2nd half of the dose (0.1 mL) should be offered. If at that time the child or the

parent/guardian does not want to attempt further administration of LAIV offer QIIV. Complete the required patient safety/vaccine error (e.g. Patient Safety Learning System) documentation within your organization.[4]

What if a child refuses the 2nd half of the LAIV-Q dose?
If you are unsuccessful at administering the 2nd half of the LAIV-Q dose in either nostril, there is no need to repeat immunization as each half dose (0.1 mL) of LAIV contains enough viral particles to induce an immune response[3]. Complete the required patient safety/vaccine error (e.g. Patient Safety Learning System) documentation within your organization.[3]

Disposal of the Intranasal Spray

The sprayer should be disposed of according to the standard procedures for medical waste (e.g.,) sharps container or biohazard container.[1]



For additional resources to inform administration technique of LAIV-Q, see
FLUMIST® video and FLUMIST® poster

REFERENCES

[1]AstraZeneca Canada. Product Monograph. FLUMIST® QUADRIVALENT Influenza Vaccine (live, attenuated) Intranasal spray [Internet]. Mississauga (ON): MedImmune, LLC; 2015 08 May [cited 2015 Sep 30].
Available from http://www.astrazeneca.ca/en/Our-Medicines/en-Products-AZ

[2] Canadian Immunization Guide. Part 4: Active Vaccines. [Internet]. Ottawa (ON): Public Health Agency of Canada. 2012.
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[3] Astra Zeneca. FLUMIST® (Influenza Vaccine [Live, attenuated]) – Single nostril Administration/Inadvertent Single Nostril Administration [Internet] Message to: British Columbia Centre for Disease Control. 2013 July 30 [cited 2013 Aug 2]. [3 paragraphs].

[4] Astra Zeneca. FLUMIST® (Influenza Vaccine [Live, attenuated]) – Inadvertent Oral Administration & Inadvertent Eye Exposure [Internet] Message to: British Columbia Centre for Disease Control. 2013 July 30 [cited 2013 Aug 2]. [3 paragraphs].