

October 2021 ~ Resource #371001

## Communicating About Flu Vaccination

Use this FAQ, to answer common questions about flu vaccines. See our chart, *Flu Vaccines for 2021-22*, (U.S.; Canada) for specifics about available vaccines, including approved ages for use, route of administration, dose, and which vaccines are egg-free or contain thimerosal.

Question	Answer/Pertinent Information
Who should receive a flu vaccine?	<ul style="list-style-type: none"> <li>• <b>Flu vaccination is recommended for everyone ages six months and older</b> who do not have contraindications, using any age-appropriate vaccine.<sup>13,16</sup> <ul style="list-style-type: none"> <li>○ Canadian guidelines recommend focusing vaccination efforts on:<sup>13</sup> <ul style="list-style-type: none"> <li>▪ people at high risk of flu-related complications or hospitalization.</li> <li>▪ people capable of transmitting flu to those at high risk.</li> <li>▪ people who provide essential community services.</li> <li>▪ people in direct contact with poultry infected with avian flu during culling operations.</li> </ul> </li> </ul> </li> <li>• In light of COVID-19, it's more important than ever for patients to get a flu vaccine. The flu vaccine won't protect against COVID-19, but getting the flu vaccine can help conserve healthcare resources, by reducing the risk of flu illnesses, hospitalizations, and death.<sup>4,16</sup> See guidance for vaccinating during a pandemic:           <ul style="list-style-type: none"> <li>○ <b>U.S.:</b> <a href="https://www.cdc.gov/vaccines/pandemic-guidance/index.html">https://www.cdc.gov/vaccines/pandemic-guidance/index.html</a>.</li> <li>○ <b>Canada:</b> <a href="https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/guidance-use-influenza-vaccine-covid-19.html">https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/guidance-use-influenza-vaccine-covid-19.html</a>.</li> </ul> </li> <li>• For patients who cannot remember if they received this season's flu vaccine, avoid missed opportunities to vaccinate by giving the flu vaccine even if this means giving a second dose to some patients.<sup>11</sup></li> </ul>
Which flu vaccine is preferred?	<ul style="list-style-type: none"> <li>• Avoid delaying vaccination in order to use a specific flu vaccine.<sup>13,16</sup></li> <li>• <b>In the U.S.</b>, there is not a preferred vaccine when selecting among licensed, age-appropriate vaccines.<sup>16</sup></li> <li>• <b>In Canada:</b><sup>13</sup> <ul style="list-style-type: none"> <li>○ quadrivalent flu vaccines are preferred over trivalent flu vaccines in children between six and 23 months old.</li> <li>○ a high-dose flu vaccine is preferred over a standard-dose flu vaccine in patients 65 years and older.</li> </ul> </li> </ul>
When are two doses of a flu vaccine needed?	<ul style="list-style-type: none"> <li>• To provide optimal protection, <b>children 6 months through eight years</b> should receive two doses of flu vaccine (separated by at least four weeks) if they have not received at least two doses of flu vaccine (separated by at least four weeks) prior to July 1, 2021 (U.S.) or if they have not previously received the seasonal flu vaccine (Canada).<sup>13,16</sup> <ul style="list-style-type: none"> <li>○ U.S. guidance specifies that for children who should receive two doses, if the child turns nine years old between doses one and two of the vaccine, two doses are still recommended.<sup>16</sup></li> </ul> </li> </ul>

Question	Answer/Pertinent Information
When should flu vaccines be given?	<ul style="list-style-type: none"> <li>• <b>In the U.S.</b>, encourage patients to try to complete vaccination by the end of October. Generally, avoid starting vaccinations before September, due to the possibility of reduced effectiveness later in the flu season.<sup>16</sup> <ul style="list-style-type: none"> <li>○ Consider earlier vaccination (e.g., August) in children who require two vaccine doses and pregnant patients in their third trimester.<sup>16</sup></li> </ul> </li> <li>• <b>In Canada</b>, start vaccinations as soon as possible based on availability.<sup>13</sup></li> <li>• Don't miss an opportunity to vaccinate due to fears the vaccine's effectiveness will not last throughout the entire flu season. <ul style="list-style-type: none"> <li>○ Though delayed vaccination may lead to increased immunity later in the season, it could also lead to missed opportunities to vaccinate, and is not recommended.<sup>16</sup> Some evidence suggests that vaccination early in the season may lead to "waning" or "wearing off" before the end of the flu season.<sup>15</sup> However, this has not been consistently seen from year to year, nor among different patient populations. <ul style="list-style-type: none"> <li>▪ It is NOT recommended to give a booster dose later in the season for patients who receive their vaccine early in the season.<sup>13,16</sup></li> </ul> </li> <li>○ The timing of flu outbreaks is unpredictable.<sup>11</sup></li> </ul> </li> <li>• Continue to vaccinate as long as flu viruses are circulating.<sup>13,16</sup></li> </ul>
Can flu vaccines be given with other vaccines?	<ul style="list-style-type: none"> <li>• Live-attenuated and inactivated flu vaccines can be given at the same time as other vaccines, using separate administration sites.<sup>13,16</sup> <ul style="list-style-type: none"> <li>○ If two live vaccines (including <i>FluMist</i>) are NOT given on the same day, they should be administered at least four weeks apart.<sup>5,16</sup> (Canada: <i>FluMist</i> can be given together with or at any time before or after any other live-attenuated or inactivated vaccine.<sup>13</sup>)</li> <li>○ Any flu vaccines (including <i>FluMist</i>) can be coadministered with COVID-19 vaccines in the U.S., as long as different injection sites are used, preferably different limbs (due to the potential for increased local reactions [e.g., injection site pain, redness]).<sup>16</sup> Routine coadministration of flu and COVID-19 vaccines is currently NOT recommended in Canada (new guidance is expected soon).<sup>21</sup> For current NACI updates and more information refer to FAQ: <i>Communicating About COVID-19 Vaccination</i>. (Note: It is NOT known if the typical COVID-19 vaccine adverse effects will be increased with coadministration. When deciding whether to coadminister consider whether the patient is behind or at risk of becoming behind on recommended vaccines, the patient's risk of vaccine-preventable disease [e.g., outbreak, occupational exposures], and the vaccines' reactogenicity profile.<sup>16</sup>)</li> </ul> </li> <li>• Coadministration of two <b>adjuvanted vaccines</b> (e.g., <i>Fluad Quadrivalent</i>, <i>Heplisav-B</i>, <i>Shingrix</i>) has not been studied. There are theoretical concerns about more side effects. If a patient is receiving another adjuvanted vaccine, don't delay flu vaccination if an adjuvanted flu vaccine (i.e., <i>Fluad Quadrivalent</i>) is the only flu vaccine available.<sup>16</sup></li> </ul>

Question	Answer/Pertinent Information
Can the flu vaccine be given to someone who is acutely ill?	<ul style="list-style-type: none"> <li>• <b>Continue to give the flu vaccine to patients with mild acute illnesses</b> in order to avoid missed opportunities to vaccinate. Mild acute illness with or without fever (e.g., diarrhea, upper respiratory infection) is not a contraindication to receiving the vaccine.<sup>12,13</sup></li> <li>• Consider delaying vaccination in patients with moderate to severe illness (serious acute illness until symptoms are improved [Canada])<sup>13</sup> as vaccination side effects (e.g., fever, malaise) may make it difficult to assess management of acute illness.<sup>12</sup></li> <li>• Generally, delay flu vaccination in anyone with confirmed or suspected COVID-19 infection, as vaccination could expose others to COVID-19.<sup>16</sup></li> </ul>
Can immunocompromised patients receive the flu vaccine?	<ul style="list-style-type: none"> <li>• <b>Immunocompromised patients</b> may receive any licensed, recommended, age-appropriate <b>injectable</b> flu vaccine.<sup>13,14</sup></li> <li>• See our FAQ, <i>Vaccinating Immunocompromised Patients</i>, for more detailed information about use of <i>FluMist</i> in immunocompromised patients.</li> </ul>
Can pregnant or lactating patients receive the flu vaccine?	<ul style="list-style-type: none"> <li>• Vaccinate <b>pregnant women</b> (any trimester) with any licensed, recommended, age-appropriate <b>injectable</b> flu vaccine, regardless of thimerosal content.<sup>6,13,16</sup> <ul style="list-style-type: none"> <li>○ Risk of flu and potential complications in pregnant woman and/or the fetus exceeds possible risks associated with flu vaccination.<sup>7,8,13</sup></li> </ul> </li> <li>• Flu vaccination is safe while breastfeeding. Vaccinate post-partum women who did not receive a flu vaccine while pregnant, especially if breastfeeding an infant &lt;6 months old, as these infants are too young to receive a flu vaccine.<sup>6,9,10</sup> <ul style="list-style-type: none"> <li>○ <i>FluMist</i> is an option for breastfeeding patients younger than 50 years old, as long as there are no other contraindications.<sup>10,13,17</sup></li> </ul> </li> </ul>
Can patients with an egg allergy receive a flu vaccine?	<ul style="list-style-type: none"> <li>• <b>U.S.:</b> Patients with a history of severe egg allergy (symptoms more severe than hives [e.g., angioedema, respiratory distress, requiring epinephrine]) can usually tolerate any flu vaccine. But they should receive flu vaccines that may contain egg in a medical setting under the supervision of a healthcare professional who can identify and treat severe allergic reactions, if necessary.<sup>16</sup></li> <li>• <b>Canada:</b> Patients with an egg allergy may receive any age-appropriate flu vaccine, including <i>FluMist</i>, without prior flu vaccine skin test and with the full dose, irrespective of a past severe reaction to egg, and in any setting where vaccines are routinely administered.<sup>13</sup></li> <li>• <i>Flublok Quadrivalent</i> (U.S. only) and <i>Flucelvax Quadrivalent</i> are the only flu vaccines considered to be egg-free.<sup>13,16</sup></li> <li>• See our chart, <i>Flu Vaccination and Egg Allergy</i>, for answers to questions about vaccinating egg-allergic patients.</li> </ul>

Question	Answer/Pertinent Information
Should unvaccinated people who had the flu this season still get the flu vaccine?	<ul style="list-style-type: none"> <li>• Yes. Vaccinate unvaccinated people who have already had the flu during this season. The vaccine might protect against other circulating flu viruses.<sup>16</sup></li> </ul>
How effective are flu vaccines?	<ul style="list-style-type: none"> <li>• Flu vaccination is typically about 40% to 60% effective (e.g., reduces flu illness, reduces laboratory confirmed flu).<sup>18,19</sup> Generally, flu vaccines are more effective against influenza B strains compared to influenza A strains.<sup>18,19</sup> <ul style="list-style-type: none"> <li>○ Avoid trying to compare these rates to those achieved with COVID-19 vaccines. These vaccines and the definitions for effectiveness are different; comparing them is like comparing apples to oranges.<sup>20</sup> <ul style="list-style-type: none"> <li>▪ Flu vaccines and COVID-19 vaccines target different viruses (i.e., influenza, coronavirus).<sup>20</sup></li> <li>▪ The flu vaccine targets <b>multiple</b> flu viruses. COVID-19 vaccines target <b>one</b> coronavirus.<sup>20</sup></li> </ul> </li> </ul> </li> <li>• The previously available trivalent version of the <i>Fluzone High Dose</i> provided modestly greater protection against lab-confirmed flu vs standard-dose trivalent vaccine in patients <math>\geq 65</math> years of age (n=31,989; NNT=200), [Evidence Level A-1].<sup>3,16</sup> There is no comparative data for the quadrivalent vaccines.</li> <li>• <i>Flublok Quadrivalent</i> may be slightly more effective in preventing laboratory confirmed flu than quadrivalent inactivated flu vaccines in patients <math>\geq 50</math> years of age (N=8,604; NNT=100), [Evidence Level A-1].<sup>2,16</sup></li> </ul>
Who should NOT receive the LIVE-attenuated flu vaccine ( <i>FluMist</i> )?	<ul style="list-style-type: none"> <li>• Avoid use of the live-attenuated flu vaccine (<i>FluMist</i>) in the following patients: <ul style="list-style-type: none"> <li>○ anyone who is pregnant.</li> <li>○ adults or children with contraindications to live vaccines (e.g., certain chronic diseases, immunosuppression, severely immunosuppressed close contacts).<sup>16</sup></li> <li>○ adults or children who recently took an antiviral (<b>see row below</b> “Can the LIVE-attenuated flu vaccine (<i>FluMist</i>) be given to someone who received an antiviral?”).<sup>16,17</sup></li> <li>○ adults or children with asplenia, a non-functional spleen, cochlear implants (U.S.), or active cerebrospinal fluid leaks.<sup>1,16,17</sup></li> <li>○ children between the ages of 2 and 4 years with asthma or a history of wheezing in the last 12 months (U.S.).<sup>17</sup></li> <li>○ severe asthma or medically-attended wheezing within the previous seven days (Canada).<sup>13</sup></li> <li>○ children and adolescents on chronic aspirin or salicylate therapy.<sup>1,17</sup> If aspirin therapy is needed, separate aspirin and the live-attenuated flu vaccine by at least four weeks.<sup>13</sup></li> <li>○ healthcare workers (Canada).<sup>13</sup></li> </ul> </li> </ul>

Question	Answer/Pertinent Information
Can the LIVE-attenuated flu vaccine ( <i>FluMist</i> ) be given to someone who received an antiviral?	<ul style="list-style-type: none"> <li>• No data are available about <i>FluMist</i> use and antivirals.</li> <li>• Most advise avoiding <i>FluMist</i> within 48 hours of an antiviral. However, based on antiviral half-lives, it is possible antivirals could interfere with <i>FluMist</i> effectiveness if <i>FluMist</i> is given within 48 hours (oseltamivir and zanamivir), five days (peramivir [approved but not yet marketed in Canada]), or 17 days (baloxavir [approved but not yet marketed in Canada]) AFTER the antiviral.<sup>16,17</sup></li> <li>• Antivirals may interfere with <i>FluMist</i> effectiveness. Recommend revaccination with an age-appropriate inactivated flu vaccine or recombinant flu vaccine (U.S. only) if a patient receives a flu antiviral medication within two weeks of vaccination with <i>FluMist</i> (or revaccinating with <i>FluMist</i> 48 hours after completing antiviral therapy [Canada only]).<sup>13,16</sup></li> </ul>

*Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.*

## Levels of Evidence

In accordance with our goal of providing Evidence-Based information, we are citing the **LEVEL OF EVIDENCE** for the clinical recommendations we publish.

Level	Definition	Study Quality
<b>A</b>	Good-quality patient-oriented evidence.*	<ol style="list-style-type: none"> <li>High-quality randomized controlled trial (RCT)</li> <li>Systematic review (SR)/Meta-analysis of RCTs with consistent findings</li> <li>All-or-none study</li> </ol>
<b>B</b>	Inconsistent or limited-quality patient-oriented evidence.*	<ol style="list-style-type: none"> <li>Lower-quality RCT</li> <li>SR/Meta-analysis with low-quality clinical trials or of studies with inconsistent findings</li> <li>Cohort study</li> <li>Case control study</li> </ol>
<b>C</b>	Consensus; usual practice; expert opinion; disease-oriented evidence (e.g., physiologic or surrogate endpoints); case series for studies of diagnosis, treatment, prevention, or screening.	

\***Outcomes that matter to patients** (e.g., morbidity, mortality, symptom improvement, quality of life).

[Adapted from Ebell MH, Siwek J, Weiss BD, et al. Strength of Recommendation Taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature. *Am Fam Physician* 2004;69:548-56. <http://www.aafp.org/afp/2004/0201/p548.pdf>.]

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