Influenza Immunization Guideline 2022

These guidelines are to ensure that patients with cancer who are on treatment receive appropriate influenza immunization advice. The information is provided as a resource/guide only and does not take the place of any diagnostic, treatment plan or recommendations from a patient's oncologist or specialists.

1. Patients on active chemotherapy, targeted treatment, immunotherapy and/or radiation therapy **may** receive inactivated influenza vaccine if not medically contraindicated (see chart for exceptions).

2. Influenza immunization is strongly recommended for the 2022-23 season as it will coincide with circulating SARS-CoV-2. The only way to distinguish symptoms of influenza and SARS-CoV-2 is by specific testing for both viruses. There is also a risk that patients may be co-infected with influenza and SARS-CoV-2.

3. Inactivated influenza vaccines may be administered at the same time as Covid-19 vaccines. If multiple vaccines are administered at a single visit, administer each injection in a different injection site. The deltoid muscle can be used for more than one intramuscular injection administered at different sites in the same muscle.

4. Patients **should not** receive LIVE attenuated influenza vaccine (eg. intranasal FluMist®) during anticancer treatment.

5. Inactivated influenza vaccine can be given at any point during the patient's treatment. The optimal timing is not known. The vaccine is generally administered at least 2 weeks before the first round of chemotherapy. For patients currently on therapy, some references recommend administration of the vaccine two to three days prior to the next cycle as this has been reported to be safe and is recommended over not receiving the vaccine at all.

6. For patients who have had a stem cell transplant, influenza vaccine **should not** be given if the stem cell transplant (SCT) was less than four months previous in adults and less than six months previous for pediatrics. SCT candidates should receive inactivated influenza vaccine at least 2 weeks prior to the initiation of the conditioning regimen if the transplant is planned during the influenza season. Autologous SCT patients and SCT donors should receive inactivated influenza vaccine at least 2 weeks prior to stem cell collection if harvesting is planned during the influenza season. Only the inactivated influenza vaccine should be used among contacts of SCT recipients within two months of transplant and in SCT recipients with graft-versus-host disease.

7. For patients treated with B-cell depleting antibodies (e.g., rituximab, obinutuzumab, alemtuzumab, blinatumomab, ibritumomab (Zevalin®), inotuzumab ozogamicin) there is no evidence that patients will mount a sufficient protective immune response to influenza vaccination if administered within 4-6 months of treatment. However, there is little harm and there may be some potential benefit. If patients recently treated with B-cell depleting antibodies wish to discuss the benefits and risks of receiving an influenza vaccination, they should contact their oncologist or hematologist for further discussion and recommendations.

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8. For patients receiving chimeric antigen receptor T cell (CAR-T) therapy, influenza vaccine may be given at 3 to 4 months post completion of treatment.

9. Patients receiving immunotherapy, alone or in combination with other anti-cancer agents **may** receive inactivated influenza vaccine at any time. This includes PDL-1 inhibitors (durvalumab, atezolizumab, avelumab), PD-1 inhibitors (pembrolizumab, nivolumab, cemiplimab) and CTLA-4 inhibitors (ipilimumab).

10. Patients on clinical trial protocols should continue to follow instructions based on their specific protocol.

11. Families and care providers of cancer patients should be encouraged to receive an inactivated influenza vaccine if not contraindicated. Individuals who receive the live nasal influenza vaccine (FluMist® Quadrivalent) are recommended to avoid close contact with those that are severely immunocompromised (e.g. SCT recipients) for two weeks after immunization.

12. For patients with lymphedema, administer the influenza vaccine into another area of the body such as an unaffected deltoid muscle or thigh muscle. For patients that have a history of mastectomy, use opposite arm.

13. Patients on radiation therapy can receive influenza vaccine at any time during their treatment while blood counts are near normal range. The injection should be given on the opposite side if unilateral treatment is given.

14. For patients with concomittant HIV infection, when possible vaccines should be given early in the course of HIV infection although there is no contraindication to the use of inactivated vaccines at any time.

15. For patients over the age of 65, the high-dose inactivated influenza vaccine (Fluzone® High-Dose Quadrivalent) is recommended and publicly funded in Saskatchewan.

16. To determine which anticancer treatment your patient is receiving, please consult PIP or the eHealth eHR Viewer, which display SCA dispensed medications as of Aug 29, 2022. For medications dispensed prior to this date or available through special drug access programs, ask your patient for their medication list, review the most recent SCA progress note on eHealth or contact your respective cancer centre pharmacy (Allan Blair Cancer Centre, Regina, 306-766-2816 or Saskatoon Cancer Centre, 306-655-2680).

Exceptional situations	**Recommendation**
Stem Cell Transplant patients	Should not receive vaccine if the stem cell transplant was less than four months previous in adults and less than six months previous for pediatrics
B-cell depleting antibodies: rituximab, obinutuzumab, alemtuzumab, blinatumomab, ibritumomab (Zevalin®), inotuzumab ozogamicin	Should contact their oncologist or hematologist for further discussion and recommendations
Patients on clinical trials	Should continue to follow instructions based on their specific protocol

References

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