Pennsylvania Department of Health

VACCINATION OF PEOPLE WITH CANCER, CANCER SURVIVORS, AND CAREGIVERS: A GUIDE FOR VACCINE PROVIDERS

CANCER AND VACCINES

Cancer and its treatments can compromise the immune system, rendering it more vulnerable to infections. These infections may lead to additional delays in cancer treatment. Vaccination against infection is one of the key preventative measures for cancer patients as well as survivors. Health care providers should prioritize education on the significance of vaccines, their safety, and the optimal vaccination schedule to prevent vaccine-preventable illnesses among patients who have or have had cancer and their close-contacts and caregivers.

HOW CAN PROVIDERS HELP?

	Document vaccination status at the time of the first patient visit to identify patients who are not up to date with recommended vaccines and continue to monitor their vaccination status during follow up visits.
	Plan to align vaccination and revaccination (if necessary) with the treatment timeline for patients undergoing active treatment.
	Keep patient's care team of providers, pharmacists, and nursing staff updated on their vaccination status.
	Provide strong vaccine recommendations and address patient’s concerns and misconceptions related to vaccines.
	To protect patients, emphasize vaccination of household contacts and caregivers as well.
	Share fact-based resources and hand-outs to help patients and caregivers learn more about the importance of vaccines.

SAFETY OF VACCINES

Vaccine safety can be a concern for people who have or had cancer and their caregivers. Providers should address concerns by providing accurate information about how the U.S. Food and Drug Administration (FDA) and Centers for Disease Control and Prevention (CDC) have established strict safeguards to ensure vaccines are safe and effective through their complementary safety monitoring systems**.** Millions of people have received FDA-approved vaccines safely, including cancer patients and cancer survivors.

TYPE OF VACCINES

Live-attenuated vaccines may pose certain risks for cancer patients because their immune systems are often weak due to treatments. They induce durable immunity by causing a low-grade infection in otherwise healthy individuals. However, in patients with weakened immune systems, live vaccines can pose a risk of uncontrolled infection from the vaccine strain and are therefore avoided. It is very important for providers to discuss the risks and benefits of live attenuated vaccines with patients. *Ideally, live vaccines can be given 2-4 weeks before the start of cancer treatment or after the body has recovered enough to have an adequate immune response.*

Inactivated vaccines offer a safer option for cancer patients because they do not pose the same risk as live-attenuated vaccines, reducing the chances of adverse effects. This allows cancer patients to build immunity against certain diseases while minimizing potential complications associated with their treatment-weakened immune system.

VACCINE RECOMMENDATIONS

Providers should review CDC's vaccine recommendations for adults by medical condition and other indication to determine which vaccines can be given safely to a patient who has or had cancer. Another helpful resource is the clinical guidance developed by the American Society of Clinical Oncology (ASCO) to determine which vaccines are recommended for cancer patients, cancer survivors, as well as their caregivers and close contacts.

WHAT DOES THE RESEARCH SAY?

Several studies and systematic reviews of the literature continue to support the importance of vaccines in reducing morbidity and mortality associated with cancer. The findings suggest that not only can vaccines help prevent certain types of cancer but also prevent the recurrence of cancer, hospitalization, and deaths from modifiable infectious diseases.

1. **Fifteen percent of cancer cases are caused by infectious pathogens such as viruses and bacteria which are modifiable causes of cancer.** Many of these infections are caused by Helicobacter Pylori, human papillomavirus (HPV), hepatitis B, and hepatitis C viruses.[i]
2. **High-risk HPV infections that persist can cause cancer. The HPV vaccine can prevent 90% of cancers by HPV related infections and precancerous warts**. Compared to the general population, adolescent and young cancer survivors are at higher risk of contracting a second cancer from HPV-related infections.[ii]
3. **Chronic Hepatitis B virus (HBV) infection accounts for at least 50% of cases of hepatocellular carcinoma (HCC) worldwide.** Hepatitis B cannot be cured, but it can be prevented by getting recommended vaccines.[iii]
4. **Ten percent of cancer patients are hospitalized every year for pneumonia or influenza.** The second leading cause of non-cancer related death among cancer patient is infection, often caused by influenza or pneumonia.[iv]
5. **Fifty percent of septic shocks among cancer patients are caused by bacterial pneumonia.** The risk of Listeria, another serious infection that can cause pneumonia and meningitis, is also higher among cancer patients. While there is no vaccine to prevent Listeria, there are vaccines to prevent pneumonia and other types of infections that can cause meningitis.[v]

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