Ontario Health
Cancer Care Ontario

SUMMARY RECOMMENDATIONS:

Primary Care Management after Stem Cell Transplantation

These recommendations were developed by the Stem Cell Transplant Survivorship Community of Practice, under the direction of Cancer Care Ontario's Stem Cell Transplant Advisory Committee. Please refer to Full Recommendation Document for details and references.

Management of Cardiovascular Risk Factors

- Counsel patients regarding therapeutic lifestyle change (aim for ideal body weight, healthy diet, regular exercise, avoid smoking, moderate alcohol intake)
- Hypertension: target BP < 130/80
- Dyslipidemia: target LDL-C<2.0 mmol/L, non-HDL-C<2.6 mmol/L, fasting triglycerides within normal limits
- Type 2 Diabetes: metformin should be started at the time of diagnosis, target A1C of </= 6.5 within 2 to 3 months of therapy

Screening for Secondary Malignancies

- Counsel patients to avoid high-risk behaviors (e.g., smoking, UV skin exposure, excess alcohol)
- Encourage patients to perform regular self-examination (oral, skin, genitalia)
- Counsel regarding annual dental screen for oral malignancies
- Annual history and physical examination, including oral cavity, skin, thyroid, genitalia
- Annual TSH, FT4 and thyroid exam; US & FNA if palpable nodule
- Breast cancer screening:
    - Screening based on history of radiation treatment.
    - Patients that received radiation under age 30, annual mammogram and MRI (or screening breast ultrasound, if MRI is not medically appropriate) should start at age 25 or 8 years after radiation, whichever is later.
    - Patients that have not received radiation, or received radiation after age 30, screening with annual mammogram should start at age 40.
    - Encourage breast awareness so patients are more likely to notice any unusual changes (e.g., new lump or dimpling, redness, nipple discharge).

- Colorectal cancer screening: Screen according to the recommendations from ColonCancerCheck, Ontario's colorectal cancer screening program.
    - For patients at average risk for colorectal cancer (people ages 50 to 74 with no first-degree relative who has been diagnosed with colon cancer): fecal immunochemical test (FIT) every two years from ages 50-74. Patients at average risk can choose to get screened with flexible sigmoidoscopy every 10 years from ages 50-74. Colonoscopy is not recommended for screening people at average risk for colon cancer.
    - For patients at increased risk for colorectal cancer (people with a family history of colon cancer that includes one or more first-degree relatives who have been diagnosed with the disease): colonoscopy starting at age 50, or 10 years earlier than the age their first-degree relative was diagnosed with colon cancer, whichever comes first.
    - Additional resources related to colorectal cancer screening are available on the ColonCancerCheck screening program website.
- Cervical cancer screening: People with a cervix, ages 21[1] to 70, who are or have ever been sexually active, and are at elevated risk (e.g., have had a stem cell transplant) should be screened with an annual cytology (Pap) test. Additional resources related to cervical cancer screening are available on the Ontario Cervical Screening Program website.
- Prostate cancer screening: Annual DRE +/- PSA from age 50 as guided by symptoms, family history and PSA level. Decisions regarding PSA screening should be made as a part of a shared decision-making process involving a discussion between a patient and their primary care provider. Discussions about screening decisions should include:
    - The patient's risk for prostate cancer, including family history and race
    - The risks associated with biopsy and subsequent treatment, if indicated
    - The changing landscape of management towards active surveillance for low risk disease
    - The patient's general health and life expectancy, and personal preferences

  Additional resources related to prostate cancer screening, such as key messages and a test decision grid that can help guide discussions with patients, are available here.

Vaccinations

- Refer to Canadian Immunization Guide: Immunization of Immunocompromised Persons and to the suggested vaccination schedule.
- Multiple vaccines are safe to administer at the same time if available (Multiple Vaccines CDC; WHO).

[1] With the implementation of human papillomavirus testing in the future, we will be changing the age of initiation to age 25 except for people who are immunocompromised; if they are or have ever been sexually active, they can continue to start at age 21.

Table: Suggested Vaccination Schedule

Vaccine	When to Start post-HSCT	Dosing Schedule	Comments	Proposed schedule (months post-HSCT)						
				6	7	8	12	14	18	24
Universally recommended vaccines – necessary for all post-all HSCT patients										
DTaP Hib IPV* (Pediacel®)	6-12 months	3 doses, each one month apart Booster dose at 18 months	Combined vaccine for diphtheria, tetanus, pertussis, hemophilus influenzae b and inactivated polio	x	x	x	n/a	n/a	x	n/a
Pneumococcal C-13 (Prevnar ®)	3-9 months	3 doses, each one month apart		x	x	x	n/a	n/a	n/a	n/a
Pneumococcal P-23 (Pneumovax®)	6-12 months after last dose of C-13	1 dose Booster dose after 12 months	Give >6 months after last PCV-13 dose Followed by booster dose 1 year after the initial dose	n/a	n/a	n/a	n/a	x	n/a	n/a
Hepatitis B (40 mcg)	6-12 months	3 doses at 6,7 and 12 months	Give high dose vaccine (dose = 40mcg) Monitor HbsAb titres yearly	x	x	n/a	x	n/a	n/a	n/a
Meningococcal conjugate (quadrivalent - Menactra®)	6 months	1 dose 2nd dose required if first dose given within 6 months of transplant (2 months after)		x	n/a	x	n/a	n/a	n/a	n/a
Influenza	4-6 months	Annually		Yearly						
Live vaccines – recommended for patients whose serology shows they are non-immune										
MMR**	24 months	Repeat serology to confirm seroconversion 3 months post-vaccine. Repeat dose if no seroconversion.	Check serology prior to vaccine** Live vaccine – should NOT be given if patient is still immunosuppressed or has GVHD	n/a	n/a	n/a	n/a	n/a	n/a	x
Varicella**	24 months	Repeat serology to confirm seroconversion 3 months post-vaccine. Repeat dose if no seroconversion.	Check serology prior to vaccine** Live vaccine – should NOT be given if patient is still immunosuppressed or has GVHD	n/a	n/a	n/a	n/a	n/a	n/a	x
Vaccines to be considered										
Hepatitis A (Havrix®)	6-12 months	2 doses, 6 months apart	If patient has risk factors If patient plans to travel	x	n/a	n/a	x	n/a	n/a	n/a
HPV (Gardasil 9®)	6-12 months	3 doses at 6, 8 and 12 months	Females and males 9-26 years of age Consider in older patients depending on risk	x	n/a	x	x	n/a	n/a	n/a
Inactivated zoster (Shingrix®)		2 doses, 2-6 months apart	Two doses ideally 2 months apart***	n/a	n/a	n/a	n/a	n/a	n/a	n/a

*The DTaP-Hib-IPV vaccine includes diphtheria, tetanus, acellular pertussis, hemophilus influenza B and inactivated polio virus vaccine. Some jurisdictions administer this vaccine at 6, 7, 8 and 18 months post-transplant. In Canada the combination options are to give Pediacel® or Quadricel® with Act HIB vaccine

**Check serology at 24 months prior to vaccination to optimize which patients may not need re-vaccination, particularly in autologous transplantation

*** At minimum 4 weeks apart