BC Cancer Approved Indications for FDG-PET in the Clinical Management of Pediatric Oncology Patients

The numbers and types of pediatric patients that can receive a PET/CT scan at BC Cancer are limited by operational capacity and approved indications. The currently approved pediatric indications were developed in consultation with provincial tumour groups and are within the framework of the evidence based BC Cancer guidelines for FDG-PET. PET/CT referrals are currently being accepted at our facility through BC Children's Hospital for the following indications in pediatric oncology patients:

Lymphoma

1. For initial staging of patients to determine extent of disease.
2. To determine response to chemotherapy or radiation therapy.
3. Post-chemotherapy for patients with advanced stage aggressive non-Hodgkin's lymphoma and Hodgkin's lymphoma with residual CT abnormalities or initial bulky disease.
4. To plan duration of chemotherapy for patients with Hodgkin's and non-Hodgkin's lymphoma.
5. To plan duration and type of treatment for limited stage aggressive histology lymphoma.

Sarcoma

1. To evaluate the primary soft tissue mass prior to biopsy to identify high grade areas and guide biopsy.
2. For staging of locally advanced high grade soft tissue sarcomas.
3. For detection of suspected local recurrence of soft tissue sarcoma after definitive treatment.
4. For staging of Ewing's sarcoma.
5. For initial staging and evaluation of potential recurrence in osteogenic sarcoma.

Neuroblastoma

1. For evaluation of extent of viable tumour tissue in primary tumour.
2. For staging and disease evaluation of MIBG-negative tumours.
3. Post-treatment, to evaluate residual mass or primary site for recurrent or residual tumour, particularly if conventional studies are not helpful or equivocal.
4. Post-treatment or marrow transplantation, to evaluate for local recurrence or distant metastases.

Brain

1. To evaluate for recurrent tumour.
2. To differentiate between recurrent tumour and post-treatment necrosis.
3. For localization of areas of high grade disease to guide biopsy and treatment planning.

Thyroid Carcinoma

1. For detection and localization of suspected recurrence after definitive therapy, in patients with elevated or rising thyroglobulin levels and negative radioiodine scan (papillary and follicular carcinomas).