



APPENDIX IV

Processing Initial Malignant Specimens Found Unexpectedly

Purpose

To facilitate appropriate handling of malignant specimens found unexpectedly at institutions [other than tertiary centres] where pediatric surgery is carried out.

Rationale

Determining an accurate diagnosis and staging significantly influence long-term outcome in pediatric oncology. It is important that initial tumour samples be processed appropriately to ensure accurate diagnosis and staging.

The proper handling of a pediatric tumour is crucial. The improper handling of a pediatric tumour specimen may ultimately result in an inferior outcome for the child.

If a malignancy is not suspected but found incidentally at an institution where pediatric surgery is carried out, a pediatric pathologist should be contacted immediately to discuss further handling of the specimen.

The studies performed at a tertiary centre will include:

1. Fresh specimen
 - 1.1 Touch preparations at least 10 slides (air-dried, unfixed and stored at -20° Celsius until shipped)
 - 1.2 Immunocytology
 - 1.3 FISH
2. Fresh tissue for a cell suspension in saline:
 - 2.1 Flow cytometry
 - 2.2 Cytogenetics
 - 2.3 Establishment of a cultured cell line
3. Fresh frozen tissue 0.5 – 1 cm (-70 storage) for molecular diagnostic studies
4. Electron Microscopy
5. Routine formalin fixation

For appropriate processing, the referring centre requirements are:

Glutaraldehyde required for Electron Microscopy (refrigerated lasts weeks). Saline for the cell suspension and cytogenetics if transported the same or next day. The frozen tissue can be transported on dry ice at the institution's discretion.

Optimally, the tissue is received fresh at the pediatric pathology centre.

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