



Tissue Storage and Handling

Approved by

Ronald E. Filipy, Director
March 2001

This procedure details the way in which tissue samples are handled and stored following autopsy and the NHRTR's receipt of such.

Compliance

The USTUR complies with all applicable federal, state, university, and other regulations pertaining to the receipt and handling of potentially infectious human tissue samples. Thus, the Registries do not accept tissue samples which have not been tested for HBV/ HCV/ HIV at the facility performing the autopsy (USTUR PPM P150, P151). Consequently, tissue donations from individuals who are known or are reasonably likely to be HBV/HIV positive are not accepted by the Registries.

Since the establishment of the National Human Radiobiology Tissue Repository (NHRTR), a portion of every tissue specimen donated to the Registries by a Registrant is saved for future research purposes and the remainder is used for radiochemical analysis. The specimens are stored frozen and unfixed at -70°C to preserve their biochemical/enzyme integrity which is vital for most molecular biology techniques.

Whole body

For whole body donor cases, the tissues and organs are handled in accordance with a standard Registries protocol. For a complete list of tissue samples taken for whole body autopsies, see USTUR PPM F402a. Briefly, the entire right side of the body is completely disarticulated and each bone is defleshed and weighed with long bones being cut into shafts and end pieces with a Stryker bone saw. The odd numbered vertebrae are removed and cut into vertebral bodies and arches; the right half of the pelvis is divided into iliac crest, ilium body, and pubis; and the right side of the skull is divided into frontal, parietal, occipital, temporal, maxillary, and mandibular pieces. In addition, visceral organ soft tissue samples and right side whole bilateral organ samples are removed, weighed, and placed in plastic bags. All of the right side tissue samples are used for radiochemical analyses. The remaining left side of the body is completely disarticulated but the individual bone samples are stored frozen with the flesh intact. Also, all of the left side visceral soft organ samples are stored frozen intact. Any tumor samples taken at autopsy or

discovered during disarticulation are divided grossly, with part being frozen and the remainder being used for radiochemistry.

Routine

The routine autopsy protocol is a streamlined organ retrieval plan designed to obtain the most useful tissue samples for radiochemical analyses and pathological evaluation, while at the same time being as minimally invasive to the donor as possible. The routine autopsy tissue list includes samples of the primary thoracic and abdominal soft organ viscera and one or more ribs, patella, sternum, and a vertebral wedge. All of the tissue samples from routine autopsies are also handled and stored as stated previously. For a complete list of tissue samples taken for routine autopsies, see USTUR PPM F402b.

On occasion, formalin-fixed tissue specimens or whole body donations are received that have been embalmed. Accordingly, all visceral soft organ samples are fixed in fresh 10% buffered neutral formalin and the bone samples are stored frozen. All of the tissue samples taken for radiochemistry are again, handled as stated above.