

Autopsy Specimens and Ancillary Studies for Sudden Unexpected Pediatric Deaths

SPECIMEN COLLECTION AT AUTOPSY

Routine

Blood – sodium fluoride tube(s), EDTA tube(s), spot card, and SPS/sodium citrate sterile tubes or direct to blood culture bottle(s)

Cerebrospinal fluid – to sterile tube for culture

Vitreous fluid – for electrolyte testing

Lung – swab or tissue to sterile container for culture, tissue frozen for molecular testing

Nasopharyngeal swab – to sterile container for viral testing

Heart – tissue frozen (-70°C) for molecular/genetic testing

Feces – 2-3 mL in a sterile container for viral pathogens or toxins

Bile – on spot card

Urine – for toxicology

Liver – for toxicology

Gastric contents – for toxicology

Whole brain and spinal cord – to formalin for neuropathologist's examination

Supplemental

Serum – frozen (-70°C) in cryovial for serology and antigenic testing

Cerebrospinal fluid – frozen (-70°C) in cryovial for molecular testing

Spleen – for bacterial culture and frozen (-70°C) for molecular/genetic testing

Brain, liver, kidney, skeletal muscle – pieces less than or equal to 5 x 10 x 20 mm frozen -70°C

Liver, kidney, brain – multiple pieces less than 1 x 1 x 1 mm to glutaraldehyde for electron microscopy

Bile – frozen (-70°C) in cryovial for metabolic testing

Hair – stored in paper fold/envelope

Whole heart, minus above specimens – to formalin for cardiac pathologist's examination

RADIOGRAPHIC SURVEY

Appendicular Skeleton

Humeri (AP), forearms (AP), hands (PA), femurs (AP), lower legs (AP), feet (AP)

Axial Skeleton

Thorax (AP, lateral, right and left obliques) to include sternum, ribs, thoracic and upper lumbar spine

Abdomen, to include pelvis (AP), if not visualized with thorax view

Lumbosacral spine (lateral)

Skull (frontal and lateral), to include cervical spine if not completely visualized on lateral skull

MICROSCOPIC EXAMINATION (Hematoxylin and eosin staining of paraffin-embedded sections)

Cardiovascular System

Minimum – left ventricle, right ventricle, interventricular septum, grossly apparent lesions

Supplemental – atria (to include right and left atrioventricular grooves with coronary arteries), cardiac conduction system (SA and AV nodal regions)

Central Nervous System

Minimum – cortex and white matter at frontal watershed, with leptomeninges, right and left hippocampi at level of lateral geniculate nucleus, rostral medulla, cerebellum, and grossly apparent lesions that cannot be diagnosed without histology

Supplemental – basal ganglia with insular cortex, left and right amygdala, thalamus, midbrain, pons, cervical cord

Respiratory System

Minimum – each lobe of both lungs (including peripheral and central areas), trachea (extra- and intra-thoracic)

Supplemental – lobar bronchi, true vocal cords, epiglottis/aryepiglottic folds

Hepatobiliary System

Minimum – liver

Genitourinary System

Minimum – each kidney

Supplemental – bladder, gonads

Endocrine System

Minimum – each adrenal gland, thyroid gland, pancreas

Supplemental – pituitary gland

Gastrointestinal System

Minimum – stomach, small intestine, colon

Supplemental – esophagus

Immune System

Minimum – spleen, thymus, bone marrow

Supplemental – tonsil

Musculoskeletal System

Supplemental – diaphragm, rib with chostochondral junction