NSW Perinatal Postmortem Service

Postmortem Indication Guide (May 2023)

Indications for postmortem examination

All families should have the value of a postmortem examination discussed with them, but not all families will benefit from a postmortem examination of their baby. The decision to progress to postmortem examination should include an open discussion with the family, the consulting obstetrician and the perinatal pathologist, if required. We acknowledge this is an incredibly difficult time for the family and a very personal decision.

When guiding the family, consider what is already known about baby and maternal factors contributing to either the death or termination reason, and what the postmortem examination might provide to inform future pregnancies.

When antenatal testing has already confirmed a major genetic abnormality, a postmortem examination might not provide any additional information. A discussion with the perinatal pathologist will highlight the types of tests that might be indicated with the aim to limit invasive examinations where possible.

All families that would benefit from a postmortem examination of their baby and the placenta should be offered the service. The examination should occur as close as possible to the baby's death, while still respecting the bereavement process and the family's need to bond with their baby.

This service now manages all non-coronial perinatal postmortems across NSW. All referrals must be in line with the NSW Perinatal Postmortem Service's referral objectives and have an appropriate testing pathway determined.

Potential referrals to the NSW Perinatal Postmortem Service include:

- Registered and unregistered babies from 14 weeks' gestation where there is an intact fetus
- Neonates up to 28 days (corrected) post-partum
- Placentas from registered and unregistered babies, neonatal deaths and high-risk neonates.

Note:

Pregnancy loss less than 14 weeks' gestation is managed as products of conception and is not in-scope for the perinatal postmortem examination service.

- Send products of conception and placenta for routine histological examination to the local laboratory
- A fetus of 12 to 14 weeks with gross fetal anomalies may be considered after discussion with the perinatal pathologist.

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Indication guide

Baby factors	• Babies with evidence of hydrops • Evidence of hemolytic disease including; anemia, hyperbilirubinemia, thrombocytopenia, neutropenia, positive direct Coombs test • Evidence of birth trauma where not referable to the Coroner • Unexplained antepartum death • Babies who required sustained resuscitation efforts at birth, who may have lived for a period of time and displayed evidence of hypoxia or required invasive ventilation • Babies with a notable abnormality
Genetic abnormalities	• Babies with abnormal or dysmorphic features or a suspected but unconfirmed genetic condition • Family history of a genetic condition or chromosome abnormality
Growth	• Babies of normal appearance but with evidence of significant growth restriction • Large for gestation babies
Maternal factors	• Maternal anti-RhD antibodies • Autoimmune diseases such as lupus • Presence of vertically transmitted infections • Diabetes or severe pre-eclampsia • Maternal exposure to teratogens such as tobacco, mercury, lead, dioxins, pollutants (carbon monoxide, sulfur dioxide, nitrogen dioxide), pesticides, benzenes, radiation • Maternal and paternal exposure to pharmaceuticals, illicit drugs and alcohol
Placental, cord or amniotic factors	• All placentas from stillborn babies (regardless of whether the baby undergoes a postmortem examination) • Suspected or evidence of infection such as chorioamnionitis • Evidence of fetal hydrops • Cord conditions such as nuchal or knotted cord, velamentous insertion, single artery, cord prolapse, vasa previa etc. • Placenta conditions such as accreta, previa or abruption

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Types of postmortem examinations

Full postmortem	A comprehensive external and internal examination of baby including organs and structures, with full three cavity examination (thorax, abdomen and cranial cavity). Includes review of maternal clinical information, clinical photography, x-ray, evisceration, dissection, organ examination and histological evaluation. Microbiology and/or genetics (CGH microarray or FISH) depending on the clinical context). Tissue samples are usually collected for frozen storage in case further genetic testing is subsequently required. Bone and Muscle samples may be collected in some cases requiring a third incision
Less invasive postmortem examinations	
Limited postmortem	A comprehensive external examination. Includes review of maternal clinical information, clinical photographs, x-rays and microbiology. Internal examination and the collection of tissue is limited to specified organs at the family's consent. Limited autopsies usually require a surgical incision. Consent needs to be detailed in relation to what pathologists can and cannot examine and for this reason a discussion with the pathologist is required to ensure an appropriate examination is requested for each individual case
External examination	A comprehensive external examination only. Includes measurements, clinical photography, x-ray, limited testing for infection and full placental examination. Review of maternal clinical information.
Tissue sample	Includes sampling of a specified body area, (e.g. muscle biopsy, long bone sample, sample for genetic testing (usually umbilical cord). Biopsy sampling of some organs (eg: liver, kidney) can also be undertaken with a small surgical style incision.
Imaging	Routinely includes x-ray. MRI may be appropriate as an additional investigation in some cases.
Placental Histopathology	All examination types include a preliminary and final report and examination of the placenta

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NSW GOVERNMENT Health Pathology

The Sydney children's Hospitals Network

care, advocacy, research, education