Ref: T23/60735

Royal Hospital for Women (RHW) BUSINESS RULE COVER SHEET



NAME OF DOCUMENT	Perinatal Death (stillbirth and neonatal): Diagnosis, Investigation, Birth, Documentation, Transport and follow-up	
TYPE OF DOCUMENT	Clinical Business Rule	
DOCUMENT NUMBER	RHW CLIN002	
DATE OF PUBLICATION	7.9.2023	
NATIONAL STANDARDS	 Standard 1 – Clinical Governance Standard 2 – Partnering with Consumers Standard 5 – Comprehensive Care Standard 6 – Communicating for Safety 	
RISK RATING	Low	
REVIEW DATE	June 2028	
FORMER REFERENCE(S)	Stillbirth and fetal Deaths – Diagnosis, Delivery, Documentation and Transport Guideline	
EXECUTIVE SPONSOR	Medical Co-director of Maternity Services	
AUTHOR	M. Simpson – Perinatal Loss Midwife J. Tam – Perinatal Loss Midwife Dr A. Shand – Maternal Fetal Medicine Staff Specialist	
SUMMARY	Diagnosis, Investigations, birth, documentation, transport and follow-up for clinicians caring for any woman who has experienced perinatal death	







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This Clinical Business Rule is developed to guide safe clinical practice at the Royal Hospital for Women (RHW). Individual patient circumstances may mean that practice diverges from this Clinical Business Rule. Using this document outside RHW or its reproduction in whole or part, is subject to acknowledgement that it is the property of RHW and is valid and applicable for use at the time of publication. RHW is not responsible for consequences that may develop from the use of this document outside RHW.

1. BACKGROUND

On average six babies are stillborn every day in Australia, with unexplained stillbirth remaining the largest category. In NSW the rate of stillbirth is 6 per 1000 births, this rate has remained relatively unchanged in over a decade

- **Stillbirths** is defined to include a fetuses with a gestational age ≥ 20 weeks or weighing at least 400gms
- Neonatal deaths is defined as deaths of a live born neonates within 28 days of birth, regardless of gestational age at birth
- Perinatal deaths are defined as stillbirths and neonatal deaths

The aim of this CBR is to guide:

- Diagnosis of fetal death in utero (stillbirth)
- Sympathetic and culturally appropriate investigation and management of the woman and fetus/neonate
- Completion of correct documentation
- Transportation of fetus/neonate from site of death to pathology to funeral home/burial site
- · Arrangements made for postnatal follow-up

2. RESPONSIBILITIES

- 2.1 Medical staff diagnosis of stillbirth, organisation of investigations, birth and documentation
- 2.2 <u>Midwifery and nursing staff</u> physical and supportive care, management of labour and referrals to appropriate staff
- 2.3 Pathology staff perform post-mortem and investigations
- 2.4 Social workers emotional support and assistance with post birth arrangements and momentous
- 2.5 <u>Access and Demand Manager (ADM)/After Hours Nurse Manager (AHNM)</u> support staff, provide adequate staff and transport finalised documentation
- 2.6 <u>Medical Workforce Co-ordinator</u> coordinate the receipt and release of Death Certificates, Cremation Certificates, post-mortem consent

3. PROCEDURE

3.1 Equipment:

- Cardiotocograph (CTG) machine
- Ultrasound
- Handheld fetal heart rate Doppler
- Specimen bucket for placenta
- Culture medium for cytogenetics (pink in colour)
- Blood collection tubes:
 - o EDTA (purple) x2
 - o citrate coagulation (blue)x4
 - o serum gel (gold) x3







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- Body bag
- Cold cot

3.2 Clinical Practice

3.2.1 Antenatal and Intrapartum

- Suspect fetal death by the absence of a fetal heartbeat on auscultation or prior ultrasound
- Inform most senior medical officer available
- Arrange for medical officer to perform bedside ultrasound to assess presence or absence of fetal heartbeat
- Confirm fetal death with formal ultrasound in medical imaging or maternal fetal medicine (MFM) department as required
- Involve health care Interpreters as required
- Communicate the finding/diagnosis of fetal death in utero to the parents/family with sympathy. Ensure
 privacy for woman and family, and enable time for grief response before discussing further
 management
- Give parents written information:
 - Information for Parents Whose Baby is Stillborn or Dies Soon After Birth (found in P drive patient information leaflets)
 - Information for Parents about the Post-mortem Examination of a Stillborn Baby or Baby who Dies Soon After Birth (found in P drive patient information leaflets)
 - Guiding conversation with your health care team when your baby dies (booklet available from Social work or online)
- Place butterfly symbol on room door. Creating awareness of loss for all staff who interact with the family
- Discuss options for investigations including post-mortem examination. A non-selective approach
 according to the recommended core investigations is to be adopted for all stillbirths (unless the cause of
 death has been unequivocally determined antenatally.) See educational notes
- Core investigations for stillbirth include:
 - o Comprehensive maternal (medical, social, family) and pregnancy history
 - Kleihauer test
 - External examination of the baby performed by a trained clinician (e.g. senior medical officer, geneticist)
 - Clinical photographs of the baby
 - Discussion of postmortem offer for all unexpected intrauterine fetal deaths/stillbirths
 - o Detailed macroscopic examination of the placenta and cord
 - Placental histopathology
 - Cytogenetics where not previously documented (Chromosomal microarray)
- Arrange perinatal investigations and blood tests (as outlined appendix 1a and 1b)
- Involve social work department as early as possible to provide support, counselling, and resources for the family during hospital stay and after discharge. Contact details:
 - o during normal working hours, via extension 26670 (leave voice message)
 - on weekends/public holidays, page through RHW switchboard, the 'on-call' social worker between 0800-2000 hours
- Remove all fetal monitoring equipment from room where possible
- Discuss options and timing for birth according to gestation and clinical scenario. Consultant Obstetrician
 to discuss caesarean section/hysterotomy only for compelling maternal risk factors
- Discuss with parents/family their wishes around the birth including whether or not they wish to see and hold their baby
- Assist woman with labour and birth in a compassionate manner
- Recommend active management of third stage of labour







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3.2.2 Postpartum

Mother/Woman

- Discuss lactation and breast care with woman including:
 - physiological suppression management and/or
 - o pharmacological suppression, including potential side effects (see educational notes). Administer a single dose of cabergoline (Dostinex®) 1mg orally as close as practicable after birth of the placenta
 - option of bereavement milk donation (contact lactation consultant)
- Give Breast care after your loss brochure available P:\Patient Information Leaflets\Breastfeeding\English SESLHD Leaflets
- Complete eMaternity folder for Congenital Conditions if required. This can be done antenatally if known diagnosis (see appendix 2)
- Ensure ongoing social work involvement
- Review clinical indications for maternal thromboprophylaxis and prescribe if necessary
- Determine who will perform medical follow up for the woman and document. This may be the perinatal loss clinic, or the obstetrician who has cared for the woman antenatally
- Notify all relevant staff including General Practitioner (GP) as outlined in perinatal loss notification/paperwork checklist (see appendix 3)
- Notify the Bereavement Midwife to arrange follow-up appointment for mother/parents by contacting 0497631174 or email SESLHD-BereavementRHW@health.nsw.gov.au
- Send discharge summary to GP
- Manage and report unexpected perinatal deaths as outlined in <u>NSW Health Policy Directive Incident</u>
 <u>Management (PD2020_047 page 17)</u> They require a preliminary risk assessment (PRA) followed by a serious adverse event review (SAER)

Neonate/Baby

- Dress and wrap neonate/baby in appropriate clothing including parents' preference
- Encourage contact with the neonate/baby after discussion with the parents/family
- Allow parents space and time with their neonate/baby
- Recommend use of a 'cold cot' for the neonate/baby whilst with the parents (see RHW CBR <u>Stillbirth, fetal</u> and neonatal deaths Post-delivery care and creation of memorabilia)
- Perform clinical examination of neonate/baby (use appendix 4) and document. This may be undertaken by an experienced midwife, obstetric or paediatric consultant/registrar or genetics team
- Arrange further investigations of neonate/baby and placenta as outlined in stillbirth investigation checklist (see appendices 1a,1b, 3 and 5). Other tests may include cord blood for DNA storage (EDTA - purple tube), or muscle biopsy if indicated (see appendix 6)
- Request genetics team examine the neonate/baby during working hours, particularly if neonate/baby appears structurally abnormal, even if post mortem is planned (phone Sydney Children's Hospital (SCH) genetics 93825607/8 or via SCH switchboard 93826111)
- Discuss and obtain verbal consent for babygram if postmortem not requested. Complete request form.
 Inform ADM/AHNM that midwifery escort is required for babygram
- Obtain muscle biopsies or metabolic studies from the neonate/baby if indicated by clinical situation (see appendix 6). The tissues/fluid samples will need to be collected as soon as possible after birth, preferably within two hours of death. This should be discussed with the perinatal pathologist. Written consent is required for this
- Refer to <u>Stillbirths</u>, <u>Fetal and Neonatal Deaths</u> <u>Post-delivery care and Creation of memorabilia</u> CBR for subsequent care of neonate/baby and creation of memorabilia

Consent for post-mortem

- Access the NSW <u>Perinatal Post-mortem Service</u> internet page to view all guidelines and make a referral
- Obtain and complete consent for post-mortem by senior treating clinician who has an established rapport
 with the family, if possible (consent form is within perinatal loss paperwork for doctors pack in birthing
 services), consider the following:







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- Specific cultural practices may affect who can give consent for post-mortem. This needs to be discussed with the family and an alternative person clearly appointed
- A parent or legal guardian can authorise another adult to consent. Ideally, this delegation would be in writing. If a written delegation exists, place a copy in the medical record
- Make referral to <u>Perinatal Post-mortem Service</u> via website before sending baby for examination. This allows tracking and follow-up. Contact care coordinator on 0436698366 (business hours) if any questions

Role of senior treating clinician

- Outline the post-mortem process to parents/family, including:
 - explanation of the advantage of completing a post-mortem
 - where and when the post-mortem will be performed
 - o how their neonate/baby will look after post-mortem reconstruction
 - o the possibility that the post-mortem will not identify a cause of death
- Answer any questions from parents/family about the post-mortem examination
- Inform parents that they can delay their decision, if neonate/baby remains refrigerated for up to three days. However, parents should be made aware that time delays can influence the quality of post-mortem results
- Reassure the parents/family that their neonate/baby will be treated with respect and dignity
- Advise parents/family that arrangements can be made to view and hold their neonate/baby following the examination
- Advise parents/family how long their neonate/baby will be with the perinatal pathologist (usually five working days depending on clinical circumstances) and when the results of the examination will be available to them (which could be weeks to months)
- Discuss the following with parents/family and document preference on the consent form:
 - o all post-mortem options, including external, full, and limited
 - the need for collection of tissue samples and organ retention, if applicable, clarifying that tissue sampling is routine but organ retention is not
 - o options for disposal of retained tissue or organs
 - o the use of tissue for research, if applicable
 - o options for cremation, burial, or funeral arrangements
- Inform parents that their neonate/baby < 20 weeks gestation, or any retained organs will be cremated at Eastern Suburbs Memorial Park after the post-mortem is complete – unless parents advise otherwise. A non-denominational service is offered monthly which families can attend. Contact social work about this
- Advise parents/family about timing for funeral arrangement, and transportation
- Telephone anatomical pathology on extension 29020 during business hours, to discuss with the perinatal pathologist regarding post-mortem. After hours, send email to perinatal pathologists with a clinical summary for planned inductions/terminations of pregnancy with known or unexpected stillbirths
- Send the following relevant information to anatomical pathology via fax ext. 29037, with the request for post-mortem form:
 - perinatal death certificate
 - RHW notification of death form
 - any relevant clinical information using Request for clinical information to inform postmortem examination (appendix 7), ultrasound reports, and e-Maternity ('handheld record' and 'labour and birth summary')
- Advise parents/family the NSW Perinatal Post-mortem Service Care Coordinator is available to discuss any specific questions and can also facilitate family discussion with a perinatal pathologist. Contact via 0436698366 during business hours

Placenta

- Examine placenta as outlined in appendix 5 and document findings
- Inform parents/family that if they require return of placenta this can be arranged by the clinician caring for them through anatomical pathology
- Take samples from placenta as outlined appendix 5







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• Send placenta to anatomical pathology with relevant clinical information on request form e.g. gestational age, and reason for placental examination and/or attach eMaternity summary

3.2.3 Documentation and notification

- Complete documentation and notify all relevant people as outlined in perinatal loss notification/paperwork checklist by medical officer attending to care of parents/family (see appendix 5)
- Ensure completion of perinatal loss notification/paperwork. The ADM/AHNM to deliver the following documents promptly, including appendix 5, to Medical Workforce Co-ordinator:
 - notification of death
 - o medical certificate of cause of perinatal death
 - o perinatal non-coronial post-mortem consent and authorisation
 - cremation certificate
 - eMaternity birth summary (Register of Congenital Conditions (RoCC) folder to be added within, can be competed antenatally or postnatally see appendix 2)
 - o pathology request for post-mortem (if planned)
 - o notification of termination of pregnancy (if applicable)

3.2.4 Medical Workforce Co-ordinator

- Coordinate the receipt and release of Death Certificates, Cremation Certificates, post-mortem consent
- Maintain a logbook of documents received, and deaths notified
- · Act as reference point for staff from anatomical pathology, funeral directors, and other appropriate staff
- Notify social work department when documentation has been collected by funeral director

3.2.5 Transport/Release of Neonate/Baby

- Take neonate/baby to butterfly/viewing room fridge once parents, midwives and social workers have completed viewing, wrapping, and obtaining mementoes. Key for the room is available in Acute Care Ward
- Enter name of neonate/baby in mortuary register
- Place the neonate/baby in the body bag as outlined in mortuary guidelines (these guidelines are available in the mortuary)
- Don appropriate personal protective equipment if infection known or suspected, double body bag may be required
- Transport neonate/baby to pathology department by anatomical pathology staff in consultation with the social worker. Social work to call ext. 29020 when neonate/baby ready for collection and examination
- Notify return of neonate/baby to mortuary/viewing room by anatomical pathology staff to social work
- Release neonate/baby from hospital:
 - Stillbirth/neonatal death neonate/baby is released to funeral director or parents as per social work protocol, together with medical certificate and cremation certificate (if appropriate)
 - < 20 weeks gestation directly to parents or their appointed funeral director, in accordance with Social Work procedures and Public Health Act, together with Authorisation of the Release of Human Tissue to a Patient or Next of Kin

3.3 Documentation

- Medical Record
- Perinatal loss notifications/paperwork Checklist (appendix 3)
- Perinatal Non-coronial Post-mortem consent and Authorisation (SMR02009)
- RHW Notification of Death
- Mortuary Register
- Authorisation of the Release of Human Tissue to a Patient or Next of Kin (SMR020033)
- Agreement and Arrangements for Burial/Cremation of Unregistered Baby (SMR020037)
- Maternity Allowance Bereavement payment
- · Cremation certificate
- Medical Certificate of Cause of Death







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Registering a perinatal death (NSW Registry of Births Deaths & Marriages)

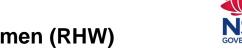
3.4 Educational Notes

- A universal bereavement symbol of a butterfly should be displayed on all door, medical records and charts to communicate the occurrence of perinatal death¹.
- Unexplained stillbirth remains the largest category of stillbirth^{1,2}
- Being overweight, obese, and smoking are important modifiable risk factors for stillbirth, and advanced
 maternal age is also an increasingly prevalent risk factor in high income countries. Prolonged pregnancies
 contribute to 14.0% of stillbirths. Causal pathways for stillbirth frequently involve impaired placental function,
 either with fetal growth restriction or preterm labour, or both^{1,3}
- It is not feasible to a have a standardised investigation list that accommodates all neonatal death scenarios, or fetal deaths less than 20 weeks gestation. Decisions regarding appropriate investigations must be made by the clinical team in consultation with the parents, based on the individual circumstances and accessing additional specialist expertise as required (PD2022_46)
- Colostrum secretion in breasts commences at 12 -16 weeks gestation. Lactation suppression should be
 discussed and pharmacological suppression offered from this gestation onward⁶ (see RHW <u>Suppression of lactation or weaning</u> CBR for more details)
- The investigation review and classification of perinatal deaths is based on the Perinatal Society of Australia
 and New Zealand (PSANZ) Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death to
 support a systematic approach to the provision of care
- Reporting to the Coroner for mandatory post-mortem is essential in the following situations: (see <u>Policy</u> <u>Directive PD2010_054</u> for guidance and full indications)
 - o the person died a violent or unnatural death
 - o the person died a sudden death the cause of which is unknown e.g. SIDS
 - o the person died under suspicious or unusual circumstances
 - death within 24 hours of anaesthetic if the death was not "reasonably expected". Deaths under Anaesthesia are to be reported to the Special Committee Investigating Deaths Under Anaesthesia
- Staff may require additional support during and after caring for a woman experiencing perinatal death e.g. Clinical supervision or Employee Assistance Program
- Unless the baby dies with a known chromosomal/ DNA diagnosis or from a lethal structural anomaly, clinicians should offer all core investigations of perinatal death including ultrasound, maternal blood tests, swabs, placental examination, babygram and post-mortem as indicated by the PSANZ/SANDA guidelines and summarised in the appendices¹
- The post-mortem examination remains the gold standard for identification of the cause of perinatal death.
 An accurate cause of death assists in the parents grieving process by potentially providing an explanation for the death and other information on the circumstances surrounding the death
- Options for limited post-mortem or other alternatives to a full post-mortem for focussed investigation of suspected abnormalities should be discussed with parents. MRI has also been used at some centres
- A retrospective population-based study has shown that postpartum, the strongest risk factor for maternal venous thromboembolism was stillbirth (risk 2,444/100,000 person-years, incidence risk ratio = 6.2)²
- A burial/cremation is not legally necessary <20 weeks gestation unless parents choose. Hospital disposal is an option if required
- Burial/cremation are mandatory requirements after 20 weeks gestation or if signs of life noted <20 weeks gestation
- Parents can apply for Maternity Allowance Bereavement Payment in the case of any stillbirths, neonatal or infant deaths
- If parents/family fail to arrange collection of neonate/baby from hospital within a reasonable time frame, all avenues of communication should be attempted to engage with family and encourage collection. If this does not occur the social work department will notify the public trustee

3.5 Useful Clinician resources:

NSW Perinatal Post-Mortem Service





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South Eastern Sydney

Local Health District

Health

Perinatal Death: Diagnosis, Investigation, Birth, Documentation, Transport and follow-up

- Birthweight percentiles
- Bears of Hope
- Red Nose grief and loss

3.6 Related Policies/Procedures/Clinical Business Rules:

- Induction of labour
- Third stage labour management following a vaginal birth
- Placental Examination and Indications for Referral to Pathology
- Suppression of Lactation or Weaning
- Stillbirths, Neonatal deaths, fetal deaths post-delivery care and creation of memorabilia
- Placenta Removal from Hospital by Parents
- Misoprostol and Mifepristone for medical termination of pregnancy or fetal death
- Prevention of Venous Thromboembolism MoH PD2019_057
- Coroners Cases and the Coroners Act 2009 PD2010 54
- Non-coronial post-mortem NSW Pathology PD2013_051
- Death verification of death and medical certificate of cause of death NSW Pathology PD2015_040
- NSW Register of Congenital Conditions Reporting Requirements NSW Pathology PD2018_006
- Consent to medical treatment information for patients NSW Pathology PD2005_406
- Deaths review and reporting of perinatal deaths NSW Pathology PD2013_001
- Designated officer policy and procedures NSW Pathology PD2013_002
- Management of SUDI NSW Pathology PD2008 070
- NSW perinatal data collection reporting and submission requirements PD2015_025
- Cremation of more than one body simultaneously NSW Pathology GL2013 014
- Client registration guideline NSW Pathology GL2007_024
- Maternity indication for placental histological examination NSW Pathology GL2014_006
- Stillbirth Clinical Care Standard. Australian Commission on the Safety and Quality in Health Care (2022 under-development)
- Investigation, Review and Reporting of Perinatal Deaths 2022. Policy Directive. CEC
- Stillbirth Management and Investigation PD2007_025
- NSW Health Policy Directive Incident Management PD2020_047.

3.7 References

- 1. CRE, Stillbirth Centre of Research Excellence. <u>Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death</u> version 3.4 January 2020.
- 2. Alyshah Abdul Sultan, Laila J. Tata, Joe West, Linda Fiaschi, Kate M. Fleming, Catherine Nelson-Piercy Matthew J. Grainge. Risk factors for first venous thromboembolism around pregnancy: a population-based cohort study from the United Kingdom. Blood 2013;121(19):3953-61.
- 3. NSW Ministry of Health Policy Directive 2007. PD2007_025, Stillbirth Management and Investigation
- 4. Flenady V, Middleton P, Smith GC, Duke W, Erwich JJ, Khong TY, et al. Stillbirths: the way forward in high-income countries. Lancet 2011.377(9778):1703-17.
- Lawn JE, et al. Stillbirths: rates, risk factors, and acceleration towards 2030. Lancet 2016; 387(10018): 587-603.
- 6. Bryant J, Thistle J. Anatomy, Colostrum. 2021 Oct 30. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan—. PMID: 30020628.

4. IMPLEMENTATION, COMMUNICATION and EDUCATION PLAN

The revised CBR will be distributed to all medical, nursing and midwifery staff via @health email. The CBR will be discussed at ward meetings, education and patient quality and safety meetings. Education will occur through in-services, open forum and local ward implementation strategies to address changes to practice. The staff are asked to respond to an email or sign an audit sheet in their clinical area to acknowledge they





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have read and understood the revised CBR. The CBR will be uploaded to the CBR tab on the intranet and staff are informed how to access

5. CULTURAL SUPPORT

- When clinical risks are identified for an Aboriginal woman, she may require additional supports. This may
 include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally
 specific services.
- When caring for culturally and linguistically diverse families it is important to avoid cultural stereotypes and cultural based assumptions. Parents must be ask whether they have any religious, cultural, or spiritual needs
- If parents will notify the nominated cross-cultural health worker during Monday to Friday business hours to help assist the family.

6. REVISION AND APPROVAL HISTORY

Date Revision No. Author and Approval

Endorsed Maternity CBR committee 27/06/2023

Reviewed February 2023

Minor amendment to Appendix 1 February 2014

Endorsed Obstetrics LOPs 3/12/13

Reviewed and combined two documents:

'Stillbirths, Fetal, Neonatal and Infant Deaths: Documentation and Transport Guideline' and

'Stillbirths and Fetal Deaths: Diagnosis and Delivery Guideline'

Following applies to both guidelines:

Reviewed and addition re NCC made following Coronial recommendations Oct 2010

Amended following introduction of SESIAHS form Nov/Dec 2010

Approved Patient Care Committee 8/5/08

Reviewed and endorsed Obstetrics Clinical Guidelines Group March 2008

Previously titled 'Protocol to be followed after Stillbirths, Neonatal Deaths and Fetal Deaths'

Approved Quality Council 21/2/05

Endorsed Maternity Services Clinical Committee and Neonatal Clinical Committee 8/7/03





PURPLE TUBE X 1

Royal Hospital for Women (RHW) CLINICAL BUSINESS RULE

Appendix 1a

or cardiac)

Perinatal Death: Diagnosis, Investigation, Birth, Documentation, Transport and follow-up

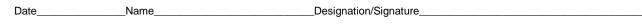
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		Materi	nal Sticker
Stillbirth* Investigation Checklist *if <20 weeks gestation or a neonatal death, this checklist may not apply, exarranged according to clinical scenario.	cept array	and clinica	al examination. Investigations should b
Maternal Investigations	Yes	No	
Kleihauer			PURPLE TUBE X 1
HbA1c (if large for gestational age as per algorithm)			PURPLE TUBE X 1
Antiphospholipid antibodies (Lupus anticoagulant, Anticardiolipin antibodies, a B2 glycoprotein- 1 antibodies) (<i>if required as per algorithm</i>)	anti		BLUE TUBE X 4
CMV IgM and IgG serology (if required as per algorithm)			GOLD TUBE x1
Syphilis serology (if not done in pregnancy, or risk factors for syphilis, or clinic features of syphilis)	cal		GOLD TUBE x1
Bile Acids, if suspected cholestasis			GOLD TUBE x1
Liver function tests, if suspected cholestasis			
	<u> </u>		
Baby Investigations	Yes	No	
Clinical examination (complete checklist)			(SEE APPENDIX 2)
Newborn screening test (if possible)			NEWBORN SCREENING CARD
Post-Mortem (if consented)			REQUEST FORM
Babygram (if PM not requested)			REQUEST FORM
If not for PM - consider MRI and or photographs in lab			

Placenta (see appendix 7)	Yes	No	
Examination of the placenta			
Umbilical cord sample for array Collect a 1cm sample of the middle of the umbilical cord, using sterile surgical knife and dissecting forceps.			PINK CULTURE MEDIUM (BIRTHING SERVICES FRIDGE OR PATHOLOGY)
Placenta to histopathology– for macroscopic examination and histology			PLASTIC BAG AND BUCKET WITH SEALABLE LID (attach eMaternity birth summary)

*Consider Dostinex for loss over 12/40 weeks * See over for Stillbirth Investigations flowchart

Blood for FBC and array /DNA storage (if required/possible obtain from cord



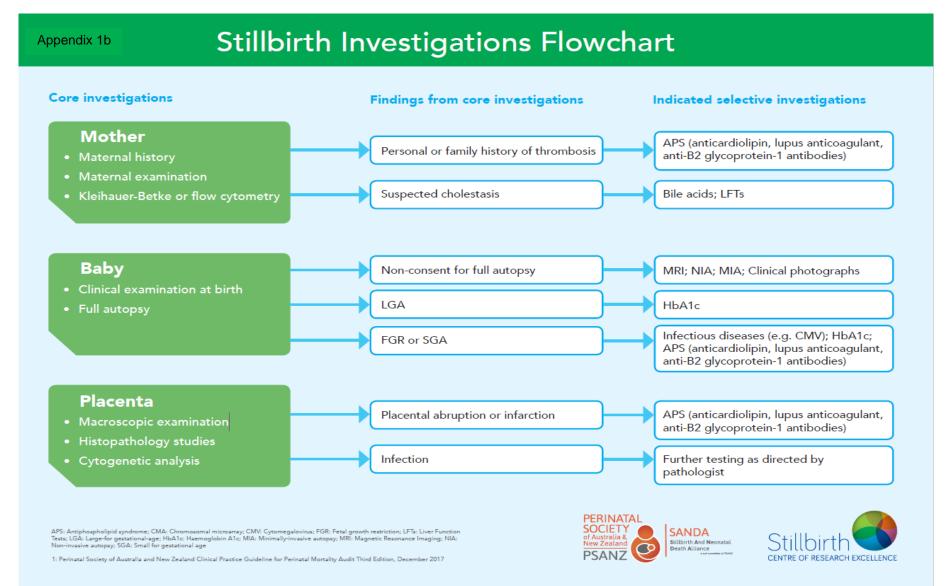




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Appendix 2

NSW Register of Congenital Conditions

Certain conditions detected during pregnancy or in a child less than one year of age are notifiable to the NSW Ministry of Health under the NSW Public Health Act 2010.

The Register is a statewide surveillance system that monitors the occurrence of scheduled congenital conditions to plan services for affected families and identify changes in incidence that may warrant investigation.

Scheduled congenital conditions include:

- 1. All structural malformations e.g. spina bifida, cleft lip/palate, dislocated hip, duodenal atresia, exomphalos, hypospadias, limb reductions, microcephaly, polydactyly, polycystic kidneys, pulmonary agenesis, transposition of the great vessels, ventricular septal defects, birth marks greater than 4 cm diameter and syndromes with at least one structural malformation
- 2. Chromosomal abnormalities e.g. Down syndrome and unbalanced translocations
- 3. Four medical conditions congenital hypothyroidism, cystic fibrosis, phenylketonuria, and thalassaemia major

Congenital conditions that are not notifiable include:

Abnormal palmar creases	Accessory nipples
Anal fissure	Bat ears
Birth injuries	Blocked tear duct
Cardiomegaly	Cerebral palsy
Cerebral palsy	Clicky non-dislocating hips
Cysts (EXCEPT: Cystic hygroma)	Deviated nasal septum
Dislocation of joints (EXCEPT: Hips)	Dysmorphic features
Fetal alcohol syndrome	Functional conditions e.g. deafness/blindness
G6PD deficiency	Haemophilia
Heart murmurs	Hernias (EXCEPT: Diaphragmatic)
Hyaline membrane disease	Hydrocele
Imperforate hymen	Intrauterine growth restriction
Intussusception	Isolated congenital infections
Low birth weight	Meckel's diverticulum
Meconium ileus	Micrognathia
Minor finger/hand and toe/feet anomalies	Mongolian spot
Muscular dystrophy	Natural circumcision
Neoplasms/tumours	Nephrotic syndrome
Palpebral fissures	Pilonidal sinus
Plagiocephaly	Pyloric stenosis
Sacral dimple	Single birthmark less than 4cm
Skin tag/fold	Strabismus
Supraventricular tachycardia	Talipes (EXCEPT: those requiring surgery)
Tongue tie	Torsion of penis/testis
Torticollis	Undescended testes (EXCEPT: those for
	surgery)
Vesico-ureteric reflux	Volvulus
Webbing of 2 nd and 3 rd toes	Wide sutures





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Appendix 3

Perinatal Death Notification/Paperwork Checklist

Notifications to the following as early as possible	Date Completed	Signature & Name
AMO on Call (neonatologist, obstetrician if not present)		
Social Worker - ext. 26670 or via RHW switchboard after hours		
Referring GP and/or obstetrician		
Genetics – if required through SCH 93825607/8 or pager 46633, or SCH switch 93821111, (preferred within business hours unless urgent)		
Anatomical Pathology if post-mortem consented, phone Ext. 29020, fax 29037 (or email pathologist)		
If Babygram only, notify radiology at POW – ext 20300		
Bereavement midwife ext. 26047, 0497631174 or SESLHD-BereavementRHW@health.nsw.gov.au		
Post-mortem online referral (if PM planned) referral via perinatal pathology care coordinator 0436 698 366 (business hours) OR 24hrs		
Access and Demand Manager (ADM)/After Hours Nurse Manager (AHNM), Pager 44020 (when paperwork complete for collection)		
Notify Director of Clinical Services (medical admin) office - ext. 26511 (when paperwork complete)		

Paperwork to be completed:	Date <20weeks	Date >20 weeks/ Stillbirth/Neonatal	Signature/ Name
RHW Notification of Death	N/A		
Medical Certificate of Cause of Perinatal Death (≤28 days)	N/A		
Consent full or limited Post-mortem			
Pathology request form for Post-mortem Include copies of relevant ultrasounds, eMaternity, karyotype/array if known + NSW perinatal post-mortem service form (appendix 8) Request for babygram if not for Post-Mortem			
Stillbirth investigation checklist			
Cremation Certificate			
Notification of Termination of pregnancy – email/fax form Fax – 02 94245977 TOP-notification@health.nsw.gov.au			
Agreement and arrangements for burial/cremation of unregistered baby		N/A	





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Authorisation of release of human tissue to a patient or next of kin		N/A	
Report to Coroner (<i>if applicable</i>) * see Circular 2003/62			
Discharge Summary/eMaternity	N/A		
Register of Congenital Conditions folder in eMaternity (if applicable see appendix 4)			
Final checking for accuracy and completeness of paperwo SignedName (Print):			
Received by Medical Workforce Co-ordinator Signed:		Date:	





Perinatal Death: Diagnosis, Investigation, Birth, Documentation, Transport and follow-up

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Appendix 4

Clinical Examination of the B	aby Checklist	
Please tick appropriate box and complete details a	Maternal Stic	cker
Baby measurements 1. Crown – heel (stretched) cms 2. Head circumference cms 3. Weight gms	(Inc Name, DOB	, MRN, Address, Telephone Number)
If Stillbirth Estimated date of IUFD:	Singleton Multiple Baby number	r (e.g. Twin 1)
Slight; focal minimal skin slippage Mild; some skin sloughing, moderate skin slippage Moderate; much skin sloughing but	Normal Mass Describe:	
no secondary comprehensive changes or decomposition		Normal Asymmetric Missing parts If other, describe: HANDS
HEAD AND FACE Head Relatively normal Collapsed Anencephalic Hydrocephalic Abnormal shape	If Spina bifida, describe: ABDOMEN Normal Flattened Distended Hemia	Appearance: Normal Abnormal If abnormal, describe:
Eyes Normal Prominent Sunken Straight Far apart Close together	Omphalocele Gastroschisis BACK	Fingers Number present If not 4 + 4, describe Unusual form of fingers
Upslanting Downslanting Globes normal Absent Seys very small Very large Lens opacity Corneal opacity	300000000000000000000000000000000000000	Abnormal webbing or syndactyly If abnormal, describe
Eyelids fused Other If other, describe:	GENITALIA Anus Normal Imperforate Other	Number present: If not 1+ 1 describe Unusual position
Nose Normal	If other, describe:	If abnormal, describe
Single nostril Other If other, describe:	Hypospadias Chordee Hypospadias, level of opening	FEET Appearance Normal Abnormal If abnormal, describe
Normal size	Scrotum Normal Abnormal I If abnormal, describe	Toes Number present: If not 5+ 5 describe
Left Right Midline Palate Intact Cleft	Testes Descended Undescended Other If other, describe:	If abnormal, describe
Mandible Normal Large Small Other If other, describe:	Female Urethral opening Present Absent/unidentifiable Vaginal introitus	If not describe Revised gestational age Based on
Ears Normal Preauricular tags Lowset Preauricular pits Cother Posteriorly rotated		Examined by: (Print name) Date: Summary of key findings:
If other, describe:	<u>Ambiquous sex</u>	









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Appendix 5

ACCOUCHEUR PLACENTAL EXAMINATION AND PREPARATION FOR PATHOLOGY

Please complete details as required

Singleton Multiple Baby number(e.g. Twin 1)

Maternal Sticker

(Inc Name, DOB, MRN, Address, Telephone Number)

Step 1 Accoucheur examination of the placenta, membranes and cord using sterile gloves

Cord insertion (Circle) Other		3		
Cord appearance (<i>Circle</i>)	,			
No. of cord vessels	Tota	I cord lengthcm	Cord knots (Circle) Yes / No
Placental dimensions odour		Placental weight	gms	Placental
Maternal surface (Circle	all that apply) Intact / Inco	omplete / Gritty / Fatty Infarcts / Retroplac	ental Clot / Succent	uriate / Circumvallate / Bipartite



Step 2 Tissue sampling for Chromosomal

Prior to sending the placenta to pathology, a sample of umbilical cord should be collected using aseptic technique as outlined below. If there are any clinical indications of placental mosaicism, then a placental sample may be required as well

- Collect a 1cm³ sample of the middle of the umbilical cord, using a sterile surgical knife and dissecting forceps.
- Place in either a designated cytogenetics bottle or a sterile container, with either sterile saline solution or Hank's solution. Then seal the bottle and label with maternal name, medical record number, date and time of collection and multiple number if appropriate



Step 3 Send Placenta, Membrane and Cord to the Pathology fresh and unfixed for histopathological examination

Perinatal Society of Australia and New Zealand Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death, Third Edition, March 2018











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Appendix 6

MUSCLE BIOPSIES at South Eastern Area Laboratory Service (SEALS)

Background

- Fetal muscle biopsies should be collected for cases of suspected fetal muscular disorders/arthrogryposis/cardiomyopathy. For cases requiring fetal muscle biopsies, skin biopsies should also be taken for cell lines (for potential functional studies, source of DNA).
- Muscle samples stored over extended periods (> 15 hours) are unlikely to be useful for some specialised tests such as muscle histochemical stains.

ALL SAMPLES

- 1. Notify the Prince of Wales Hospital (POWH), Anatomical Pathology on 9382 9090 (or ext. 29090) during office hours, (preferably 24 hours in advance) as samples are sent to Neuropathology at Royal Prince Alfred Hospital.
- 2. Provide clinical information including tests required and site of muscle biopsy on the request form
- 3. Deliver samples to Anatomical Pathology preferably by scud/airtube 152 or by porter where it must be delivered to Anatomical Pathology <u>directly</u> i.e. <u>not central specimen reception</u>.
- 4. Notify POWH Anatomical Pathology when the specimen has been sent

IN HOURS

- 1. Take biopsies as early in the day as possible, preferably before 1500 hours.
- 2. Take muscle biopsy (1.5 x 1.0 x 0.5cm minimum size) as atraumatically as possible, avoiding tendon, and place in a yellow top specimen container. Alongside specimen, place saline moistened gauze. Ring out excess saline. Do not immerse specimen in normal saline.
- 3. Send specimen URGENTLY to Anatomical Pathology

AFTER HOURS (FETAL AUTOPSIES)

- 1. Collect glutaraldehyde and Ham's F10 (cytogenetics transport medium) from Anatomical Pathology during office hours and store in fridge (4 degrees C).
- 2. Take biopsies as soon as possible after fetal death
- 3. Take muscle biopsy (0.5 x 0.5 x 0.5cm minimum size) as atraumatically as possible, avoiding tendon and place in a yellow top specimen container. Alongside specimen, place saline moistened gauze. Ring out excess saline. Do not immerse specimen in normal saline.
- 4. Place a small (1mm x 1 mm x 1mm) piece of muscle in glutaraldehyde. Handle with caution as glutaraldehyde is toxic.
- 5. Collect another sample of muscle (preferably at least 6mm cube) and store wrapped in foil at -80 degrees C within one hour of collection/death of fetus. There is a -80 degrees C freezer in clinical chemistry which is always accessible. Place a note on the freezer door that the sample for Anatomical Pathology in the freezer should be collected by Anatomical Pathology on the next working day. A SAMPLE FOR BIOCHEMISTRY IS OFTEN THE MOST IMPORTANT FOR DIAGNOSIS AND SHOULD BE STORED AT 80 DEGREES C
- 6. If skin biopsy is needed for genetic tests, collect a small (5mm) sample with sterile technique and store at 4 degrees C in culture medium (Ham's F1/cytogenetics transport medium). If culture medium is not available, place biopsy on a saline moistened gauze in a sterile container. (Skin biopsy for histology (routine paraffin sections) can be submitted in formalin. Formalin can also be obtained from Anatomical Pathology during office hours if required.)
- 7. Keep the specimens (apart from -80 degree C specimens) in the fridge (4 degrees C) and take to Anatomical Pathology on the next working day



Appendix 7

NSW Perinatal Postmortem Service:

Request for clinical information to inform post-mortem examination

Please complete the content of this proforma when requesting a postmortem examination or histopathology on a placenta. Attach relevant investigations or eMaternity summary to support request.

piacerila. Allacii relevaril irivesilya	ations of civiatemity sur	illiary to support request.
Maternal ID label		Baby ID label (if registered birth)
What clinical questions need to	o be answered by the	postmortem examination
Baby information (please include	de copies of reports)	
Date of birth: / / Time of Date of death: / / Time of CEstimated gestation at birth: Place of birth (hospital/ward/unit/Birth weight:grams	death: <u>:</u> days	if unknown best estimate:// :
Birth	Neonatal course	
Liveborn/Stillborn: Apgar scores:	Resuscitation: Neonatal problems:	
γ μ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ	Investigations or proc	edures:
Maternal information (please in	clude copies of reports	;)
Maternal medical history (includia	ng diabetes, hypertens	ion, medications etc.):
Maternal past obstetric history (ir		

Present pregnancy	
LMP <u>/ / _</u> EDD (Dates) <u>/ /</u> ED	DD (ultrasound)_//_
Multiple pregnancy: No If Yes:	
Chorionicity (if known): Complications:	
Antenatal course (including PROM/bleeding/feve	er/hypertension etc.):
Antenatal screen	Antenatal ultrasound please include copies of reports
Blood group & Rh:	Date_//_
Other antenatal screen results:	Findings:
Other maternal investigation results (including	
NIPT, amniocentesis etc.)	
Examination:	
Date: Sample processed by (site/lab):	
Result:	
Labour course	Placenta
Onset: Duration:	Placenta for examination: Yes/No
Complications:	Placenta delivery: spontaneous/operative
	Comment:
Delivery course Mode:	Was the placenta intact: Yes/No
Presentation:	Comment:
Rupture of membranes: Liquor:	
Complications:	
	Have placental swabs been taken: Yes/No
Additional information	
- Additional Information	
Defendent eliminia en	
Referring clinician name: Date of referral://	
Contact details/facility:	