



## Section 2 of 7 - Institutional Perinatal Mortality Audit

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## SECTION 2 INSTITUTIONAL PERINATAL MORTALITY AUDIT

### 2.1 Introduction

The purpose of this section is to provide guidance for clinicians at maternity hospitals in the conduct of high quality audit of perinatal deaths to determine an accurate cause of death and issues surrounding the death for the purposes of discussion with the parents; planning of future pregnancies; practice improvement; and to improve the quality of data available for monitoring and research activities aimed at reducing perinatal death. Practice recommendations are supplemented by data collection forms and checklists in the Perinatal Mortality Audit Package (*Appendix 1*) to assist clinicians in implementing the guideline recommendations.

In the development of this section an attempt was made to obtain all existing national and international guidelines and protocols on perinatal mortality review. The following guideline/policy statements were used as a basis for development of this guideline:

1. Queensland Maternal and Perinatal Quality Council. Maternal and Perinatal Mortality Audit: Guidelines for Maternity Hospitals. Queensland: Queensland Government, Queensland Health; 2003<sup>(1)</sup>.
2. NSW Health Department. Hospital Procedures for review and reporting of perinatal deaths. In; 2000<sup>(2)</sup>.
3. Perinatal Mortality Guidelines in British Columbia. Vital Statistics. In. Victoria, British Columbia; 1998<sup>(3)</sup>.

### 2.2 Recommendations and rationale

#### 2.2.1 Implementation of the guideline

*The PSANZ Clinical Practice Guideline for Perinatal Mortality Audit should be implemented in all institutions where births occur.*

*Strategies to assist in the uptake of the guideline into practice at the hospital level should be implemented. These strategies may include: identifying and addressing local barriers to uptake; ongoing structured and unstructured education for clinical staff including clinical leader advocacy; and implementing an audit and feedback mechanism on compliance with guideline recommendations..*

The implementation of best practice is often not simple and the lack of evidence for optimal approach to assist in this process remains elusive<sup>(4)</sup>. Although clinical practice guidelines are a promising tool in improving the quality of care, it is important for guidelines to be accompanied by a program for implementation and dissemination to ensure their use in clinical practice<sup>(5)</sup>. Although the evidence is unclear, interventions which may assist in the uptake of guidelines into practice include: professional education, audit and feedback, reminders and a multidisciplinary teams approach<sup>(6, 7)</sup>. The development of evidence-based practice support units within hospitals and clinical research implementation networks have been proposed as a means of effecting change to improve clinical care across the healthcare system<sup>(8)</sup>.

A recent survey of maternity hospitals in ANZ indicated less than optimal awareness and use of the guidelines<sup>(9)</sup>. The Australian and New Zealand Stillbirth Alliance and the PSANZ Perinatal Mortality Group have developed an educational program to aid in the implementation of the guidelines across Australia and New Zealand ([www.stillbirthalliance.org/anz](http://www.stillbirthalliance.org/anz)). It is hoped that this program will be used widely to address the problem of implementation.

#### 2.2.2 Perinatal mortality review committees

##### (i) **Format**

*A format for review of perinatal deaths needs to be developed in each institution, taking into account principles of confidentiality and impartiality. All perinatal deaths should be reviewed by the Perinatal Mortality Committee, including deaths of infants born within the service but who died elsewhere. Maternity services (particularly smaller hospitals) may choose to combine the functions of the perinatal mortality review committee with another hospital committee or regional mortality review committee.*

**(ii) Purpose**

*The functions of the Perinatal Mortality Committee should include:*

- *the review of all stillbirths and neonatal deaths;*
- *the classification of perinatal deaths according to the Perinatal Society of Australia and New Zealand (PSANZ)-Perinatal Death Classification (PDC) and Neonatal Death Classification (NDC);*
- *evaluation of the circumstances surrounding the death including a consideration of contributing factors; and*
- *on the basis of such considerations, the development of recommendations for improving the processes of care, ensuring feedback to clinicians;*
- *implementation of action required based on these recommendations;*
- *provision of a confidential case summary to the relevant agency within the jurisdiction's Health Department; and*
- *coordination of care for parents following a perinatal death, including follow-up.*

**(10) Membership:**

*The Perinatal Mortality Committee meetings should include multidisciplinary involvement, including those who are familiar with the circumstances of the perinatal death.*

*Membership of the Perinatal Mortality Committee should include representatives from: obstetrics, neonatology/paediatrics, pathology (preferably a perinatal/paediatric pathologist), midwifery, neonatal nursing, social workers, and other relevant medical specialists and allied health professionals.*

Review by a multidisciplinary team has been shown to increase the yield from mortality review<sup>(11)</sup>. Multidisciplinary involvement provides an opportunity for all members of the team providing care to participate in a comprehensive assessment of the standards of care and strategies for care improvement where necessary. Multidisciplinary perinatal death review is advocated by international groups<sup>(12)</sup> and is incorporated in most Health Departments perinatal mortality review in Australia. Some Health Departments in Australia currently recommend multidisciplinary review by hospital committees<sup>(1, 2)</sup> with some evidence of implementation<sup>(13)</sup>.

**(iv) Protection for committee members**

*It is the responsibility of each institution's management to ensure that committee members and their deliberations are indemnified while undertaking this kind of audit on their behalf.*

The aim of the perinatal mortality committee is to provide an atmosphere of confidence and security that will encourage health care providers and managers to communicate openly and honestly with their colleagues<sup>(14)</sup>. In order to do this, assurance should be sought by the administration of the institution that the information and discussion arising from the formal review cannot be used in legal proceedings. As mechanisms for establishing perinatal mortality committees with the appropriate protection differs across Australia and New Zealand (ANZ), committees should seek advice from their respective Health Departments.

**(v) Timing of the review**

*The review should take place as soon as possible after the death, once results of core investigations are available.*

The review should be undertaken in a timely manner so that it is within recent memory of those involved and also to enable information from the review to be incorporated into the discussion with the parents at the follow-up visit. The review should take place as soon as results are available from the initial investigations. A further review of the death by the mortality committee, once the results of all investigations are available, may be necessary to finalise the cause of death and to ensure further follow-up is arranged as required. Timely review of the death may also assist in providing counselling and support for staff.

### 2.2.3 Review of a perinatal death

**(i) Cause of death and associated factors**

*The review should take place as soon as possible after the death, once results of core investigations are available.*

*The main cause of death and associated maternal/fetal/neonatal conditions, if present, should be classified according to the PSANZ-PDC for all perinatal deaths and in addition for all neonatal deaths and the PSANZ-NDC<sup>(15)</sup>.*

*(Please see Section 7 Perinatal Mortality Classifications for full details of the classifications and also Section 2; Appendix 4 for the Classification Quick Reference sheet.)*

**(ii) Potential contributing factors**

*The review of each perinatal death should include consideration to the presence of contributing factors in three main areas:*

- *maternal/social i.e. factors relating to the woman including her social situation;*
- *infrastructure/service organisation i.e. factors relating to the setting in which the care was provided; and*
- *professional care delivery i.e. factors relating to the clinical care provided.*

The determination that contributing factors (also referred to as sub-optimal or avoidable factors) were present does not imply that the death could have been prevented if these factors were not present, rather that the risk of death may have been reduced.

Contributing factors can be classified by the type of factor: maternal/social; infrastructure/service organisation; and professional care delivery and may be further classified by timing: antenatal; intrapartum; and neonatal. This system is based on that described by the Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI)<sup>(12)</sup> and later adapted for use in the EuroNatal study<sup>(16)</sup>. Sub-optimal care factors have been identified in approximately 30- 50% of stillbirths(17-20). Similarly, the EuroNatal study involving ten European countries showed sub-optimal factors were possibly or likely to have contributed to the death in about half of the 1619 perinatal deaths reviewed. Although there is limited information available in Australia on the contribution of sub-optimal care to perinatal death, the Consultative Council on Obstetric and Paediatric Mortality and Morbidity in Victoria reported the presence of *Suspected preventable factors in perinatal deaths* in approximately 30% of perinatal deaths<sup>(21)</sup>.

*(Please see Section 2 Appendix 1.5 for a recommended format for review of contributing factors)*

**(iii) Other aspects of care - Communication and investigation**

*At review of each perinatal death, consideration should be given to the adequacy of communication with parents and between health care professionals and the investigations undertaken.*

To ensure ongoing practice improvement, a review of the adequacy of communication around the time of death and investigations undertaken should be undertaken at the time of committee review of the death. CESDI identified sub-optimal care around the time of stillbirth in the following areas relating to communication and investigation: incomplete investigation of a stillbirth; staff not discussing the possibility of a post-mortem with parents, or not presenting adequate information about the different levels of examination which could be carried out; discussion about the post-mortem often undertaken by junior staff; not undertaking a post-mortem when consent was obtained and incompleteness of post-mortem reports. Bereavement support was also criticised. The report identified several cases where bereavement support was not provided and where written communication was described by the panel members as insensitive<sup>(12)</sup>.

### 2.2.4 Data collection, documentation and reporting

**(i) Medical record**

*Clinicians should ensure that all relevant clinical details are documented clearly and accurately in the medical record at the time of the event and that all relevant documentation is completed according to local policy.*

**(ii) Death certificate**

*The Medical Certificate of Perinatal Death should be completed by, or under the supervision of, the Consultant responsible for care with due consideration to presence and significance of all perinatal conditions and complications. A revised Medical Certificate of Perinatal Death should be submitted, following review by the Perinatal Mortality Committee, where required.*

The Royal College of Pathologists Australasia (RCPA) recommend that the death certificate be issued by the senior clinician responsible for care<sup>(22)</sup>. As Perinatal Death Certificates are often issued prior to the results of an autopsy becoming available and, as perinatal autopsy may identify significant information about the cause of death<sup>(23)</sup>, the completion of death certificates without consideration of autopsy findings may result in significant error in cause of death data<sup>(24-26)</sup>. Review by a multidisciplinary clinical group has also been shown to increase the value of post-mortem examination in determining an accurate cause of death. Therefore, it is essential that for all perinatal deaths the details on the death certificate are reviewed by the perinatal mortality committee including the full results of the autopsy when available<sup>(11)</sup>.

As the process of revising the death certificate may differ across regions, it is recommended that all perinatal mortality committees become familiar with the process within their region and that a process is implemented to ensure that a revised death certificate is submitted when required.

**(iii) Confidential clinical summary**

A comprehensive confidential clinical summary should be completed for every perinatal death to facilitate local audit and, if required, forwarded to the relevant agency within the jurisdiction's Health Department.

A standardised data set should be collected for all perinatal deaths. This data set includes all significant family, medical and obstetric history; all major pregnancy complications including whether the pregnancy was terminated; and investigations undertaken around the time of the death including placental histopathology and autopsy.

*The PSANZ Perinatal Mortality Audit Package (Section 2; Appendix 1) is recommended for data collection and perinatal mortality review.*

## **2.2.5 Communication and feedback**

**(i) Feedback to clinicians**

*Notification of the death to the General Practitioner and other relevant care providers should be undertaken as soon as possible after the death. This should be followed by a comprehensive clinical summary promptly after review of the death.*

*A process of feedback to clinicians needs to be in place so that individual practices and hospital policy can be improved as a result of the review process. This includes standards in relation to perinatal mortality investigation, documentation and communication.*

**(ii) Follow-up consultation for parents**

*A follow-up consultation service should be provided for all parents following a perinatal death.*

The follow-up meeting should involve the senior clinician who provided care and be scheduled at a suitable time after all relevant test results are available and following hospital perinatal mortality committee review where possible.

In cases of a congenital abnormality it may be appropriate to discuss the need for genetic counselling with a geneticist prior to the follow-up appointment with the senior clinician who provided care. The geneticist can then either attend the follow-up consultation or a further appointment can be offered at the time.

Depending on the results of the initial investigation, it may also be necessary to arrange further tests such as investigations for thrombophilia.

*(Please see Section 5 Investigation of stillbirths and Section 6 Investigation of neonatal deaths for further details.)*

## 2.2.6 Definitions for registration of births and perinatal deaths

The following definitions and examples are provided for clarification of the requirements for registration of births and perinatal deaths.

### (i) **Stillbirth (fetal death)**

Death prior to the complete expulsion or extraction from its mother of a product of conception of 20 or more completed weeks of gestation or of 400 gms or more birthweight. The death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

A Perinatal Death Certificate is required by the Australian Bureau of Statistics (ABS) for all stillbirths according to the above definition. This definition applies regardless of the known or presumed timing of the death in utero. Examples are provided here of circumstances which may require clarification.

#### *Example 1: Fetus papyraceus*

In the case of a birth after 20 weeks gestation where the birth weight is less than 400 gms and where the Intrauterine Fetal Death (IUFD) may have occurred some time before the birth, the birth is considered a stillbirth except in the case of fetus papyraceus where the fetus is not readily recognisable.

#### *Example 2: Multiple pregnancy*

In the case of a twin pregnancy with an IUFD of Twin 1 at 19 weeks and spontaneous onset of labour and delivery at 23 weeks gestation where Twin 2 is live born weighing 550 gms and Twin 1 weighs 200 gms, Twin 1 is registered as a stillbirth and Twin 2 as a livebirth.

In the case of a twin pregnancy with a fetal death and spontaneous delivery of Twin 1 at 19 weeks weighing 200 gms and subsequent fetal death and delivery of Twin 2 at 21 weeks weighing 300 gms, Twin 1 is not required to be registered, however Twin 2 is.

### (ii) **Neonatal death**

*Livebirth:* A livebirth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn<sup>((27))</sup>.

*Neonatal death:* is defined as death of a liveborn baby within 28 days of life.

A Perinatal Death Certificate is required by the ABS for all neonatal deaths according to the above definition. This definition applies regardless of the birthweight or gestational age and also for resuscitated stillbirths.

#### *Example 1: Resuscitated stillbirth*

Where an infant is stillborn and, following active resuscitation, a heart beat is detected, the birth is required to be registered as a livebirth. If the infant subsequently dies up to 28 days of age registration as a neonatal death is necessary.

## 2.3 References

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# Perinatal Mortality Audit Package



**THE PERINATAL SOCIETY OF  
AUSTRALIA AND NEW ZEALAND**

**Perinatal Mortality Group**  
<http://www.psanz.org.au>

- 1.1 Stillbirth investigations**
- 1.2 Neonatal death investigations**
- 1.3 Accoucheur placental examination and preparation for pathology**
- 1.4 Clinical examination of baby checklist**
- 1.5 Perinatal mortality confidential case summary**
  - Part a Perinatal death clinical summary**
  - Part b Perinatal Mortality Committee review**

# 1.1 Stillbirth investigations

CORE INVESTIGATIONS		
At diagnosis of IUFD	Performed Yes/No	Comments/Results
<i>Please place √ (Yes) or X (No) in boxes provided</i>		
<b>Mother</b>		
Medical & obstetric history	<input type="checkbox"/>	See Appendix 1.5
Ultrasound	<input type="checkbox"/>	.....
<b>Amniocentesis</b>		
Performed .....	<input type="checkbox"/>	.....
Sample for microbiology	<input type="checkbox"/>	.....
Sample for chromosomes	<input type="checkbox"/>	.....
<b>Vaginal culture</b>		
Low vaginal/Peri-anal culture .....	<input type="checkbox"/>	.....
<b>Blood tests</b>		
Full blood exam .....	<input type="checkbox"/>	.....
Group & antibody screen	<input type="checkbox"/>	.....
Kleihauer .....	<input type="checkbox"/>	Date, time : .....
Renal function .....	<input type="checkbox"/>	.....
Liver function .....	<input type="checkbox"/>	.....
HbA <sub>1c</sub> .....	<input type="checkbox"/>	.....
Thyroid function test .....	<input type="checkbox"/>	.....
Bile acids .....	<input type="checkbox"/>	.....
CMV .....	<input type="checkbox"/>	.....
Toxoplasma .....	<input type="checkbox"/>	.....
Parvo .....	<input type="checkbox"/>	.....
Rubella .....	<input type="checkbox"/>	.....
Syphilis serology .....	<input type="checkbox"/>	.....
Anticardiolipin antibodies	<input type="checkbox"/>	.....
Lupus anticoagulant .....	<input type="checkbox"/>	.....
APC resistance .....	<input type="checkbox"/>	.....
Other .....	<input type="checkbox"/>	.....
<b>Other</b> .....		.....
.....		.....
Signature .....		.....
Date ...../...../.....		.....

  

CORE INVESTIGATIONS		
At birth	Performed Yes/No	Comments/Results
<i>Please place √ (Yes) or X (No) in boxes provided</i>		
<b>Baby</b>		
Clinical examination .....	<input type="checkbox"/>	Abnormal ..... <input type="checkbox"/> See Appendix 1.4
Clinical photographs .....	<input type="checkbox"/>	..... See Appendix 2
Babygram .....	<input type="checkbox"/>	.....
Swabs of ear & throat .....	<input type="checkbox"/>	.....
<b>Autopsy</b>		
Not approached .....	<input type="checkbox"/>	.....
Refused .....	<input type="checkbox"/>	.....
Partial <input type="checkbox"/> Full <input type="checkbox"/>	<input type="checkbox"/>	Genetic autopsy <input type="checkbox"/>
Results .....		.....
.....		.....
.....		.....
<b>Cord/Cardiac blood samples</b>		
Full blood count with smear (nucleated red count) .....	<input type="checkbox"/>	.....
Newborn Screening Test	<input type="checkbox"/>	.....
.....		.....
Chromosomal analysis	<input type="checkbox"/>	.....
<b>Placenta, membranes and cord</b>		
Macroscopic examination	<input type="checkbox"/>	See Appendix 1.3
Placental swabs for Microbiology .....	<input type="checkbox"/>	.....
Biopsy of placenta & amnion for chromosomal analysis	<input type="checkbox"/>	.....
Placental histopathology.	<input type="checkbox"/>	.....
.....		.....
.....		.....
<b>Other</b> .....		.....
.....		.....
Signature .....		.....
Date ...../...../.....		.....

### Maternal Sticker

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

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

### FURTHER INVESTIGATIONS

8-12 weeks Postpartum	Performed Yes/No	Date/ Results
<i>Please place √ (Yes) or X (No) in boxes provided</i>		

<b>Thrombophilia</b>		
Anticardiolipin antibodies .....	<input type="checkbox"/>	.....
Lupus anticoagulant .....	<input type="checkbox"/>	.....
APC resistance .....	<input type="checkbox"/>	.....
Fasting homocysteine .....	<input type="checkbox"/>	.....
Protein C deficiency .....	<input type="checkbox"/>	.....
Protein S deficiency .....	<input type="checkbox"/>	.....
Prothrombin G20210A .....	<input type="checkbox"/>	.....
Factor V Leiden mutation .....	<input type="checkbox"/>	.....
MTHFR .....	<input type="checkbox"/>	.....

**Other** .....

.....

.....

**Comments** .....

.....

.....

Signature .....

Date ...../...../.....

## 1.2 Neonatal death investigations

AT BIRTH OF HIGH RISK INFANT				
	Performed Yes/No	Comments/Results		
<i>Please place ✓ (Yes) or X (No) in boxes provided</i>			Performed Yes/No      Comments/Results	
<i>Please place ✓ (Yes) or X (No) in boxes provided</i>			<i>Please place ✓ (Yes) or X (No) in boxes provided</i>	
<b>Mother</b>				
Medical & obstetric history	<input type="checkbox"/>	See Appendix 1.5		
<b>Vaginal culture</b>				
Low vaginal/Peri-anal culture	<input type="checkbox"/>	.....		
<b>Blood tests</b>				
Full blood exam	<input type="checkbox"/>	.....		
Group & antibody screen	<input type="checkbox"/>	.....		
Kleihauer	<input type="checkbox"/>	.....		
Renal function	<input type="checkbox"/>	.....		
Liver function	<input type="checkbox"/>	.....		
HbA <sub>1c</sub>	<input type="checkbox"/>	.....		
CMV	<input type="checkbox"/>	.....		
Toxoplasma	<input type="checkbox"/>	.....		
Parvo	<input type="checkbox"/>	.....		
Rubella	<input type="checkbox"/>	.....		
Syphilis serology	<input type="checkbox"/>	.....		
Anticardiolipin antibodies	<input type="checkbox"/>	.....		
Lupus anticoagulant	<input type="checkbox"/>	.....		
APC resistance	<input type="checkbox"/>	.....		
<b>Other</b>	<input type="checkbox"/>	.....		
<b>Placenta, membranes and cord</b>				
Macroscopic examination	<input type="checkbox"/>	See Appendix 1.3		
Placental swabs for microbiology	<input type="checkbox"/>	.....		
Biopsy of placenta & amnion for chromosomal analysis	<input type="checkbox"/>	.....		
Placental histopathology	<input type="checkbox"/>	.....		
<b>Other</b>	<input type="checkbox"/>	.....		
Signature				
Date...../...../.....				
<b>Baby</b>				
Clinical examination	<input type="checkbox"/>	Abnormal	<input type="checkbox"/>	See Appendix 1.4
Clinical photographs	<input type="checkbox"/>	.....	See Appendix 2	
Baby gram	<input type="checkbox"/>	.....		
Swabs of ear & throat	<input type="checkbox"/>	.....		
Urine	<input type="checkbox"/>	.....		
<b>Autopsy</b>				
Not approached	<input type="checkbox"/>	.....		
Refused	<input type="checkbox"/>	.....		
Partial	<input type="checkbox"/>	Full	<input type="checkbox"/>	Genetic autopsy
Results	.....			
<b>Cord blood sample</b>				
Full blood count with smear (nucleated red count)	<input type="checkbox"/>	.....		
<b>Other bloods</b>				
Group DCT	<input type="checkbox"/>	.....		
Culture	<input type="checkbox"/>	.....		
Chromosomes	<input type="checkbox"/>	.....		
Neonatal screen	<input type="checkbox"/>	.....		
C Reactive Protein	<input type="checkbox"/>	.....		
Newborn Screening Test	<input type="checkbox"/>	.....		
Transferrin isoforms	<input type="checkbox"/>	.....		
<b>Other</b>	.....			
Signature				
Date...../...../.....				
<div style="text-align: center; font-weight: bold; margin-bottom: 10px;">Maternal Sticker</div> <p>(Inc Name, DOB, UR, Address, Telephone Number)</p>				
Singleton <input type="checkbox"/> Multiple <input type="checkbox"/> Baby number..... (e.g. Twin 1)				
FURTHER INVESTIGATIONS				
8-12 weeks Postpartum	Performed Yes/No	Comments/ Results		
<i>Please place ✓ (Yes) or X (No) in boxes provided</i>				
<b>Thrombophilia</b>				
Anticardiolipin antibodies	<input type="checkbox"/>	.....		
Lupus anticoagulant	<input type="checkbox"/>	.....		
APC resistance	<input type="checkbox"/>	.....		
Fasting homocysteine	<input type="checkbox"/>	.....		
Protein C deficiency	<input type="checkbox"/>	.....		
Protein S deficiency	<input type="checkbox"/>	.....		
Prothrombin G20210A	<input type="checkbox"/>	.....		
Factor V Leiden mutation	<input type="checkbox"/>	.....		
MTHFR	<input type="checkbox"/>	.....		
<b>Other</b>	.....			
<b>Comments</b>				
.....				
.....				
.....				
Signature				
Date...../...../.....				

### 1.3 Accoucheur placental examination and preparation for pathology

Please complete details as required

#### Maternal Sticker

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

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

#### Step 1

#### Placental cultures

Using aseptic technique and being careful not to cross contaminate, swab in between the amnion and chorion.

#### Step 2

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

Cord insertion (Circle) Eccentric / Central / Marginal / Velamentous / Other .....

Cord appearance (Circle) Thin / Thick / Meconium Stained / Other .....

No of cord vessels ..... Total cord length .....cm Cord knots (Circle) Yes / No

Placental dimensions ..... cm Placental weight .....gms Placental odour .....

Maternal surface (Circle all that apply) Intact / Incomplete / Gritty / Fatty Infarcts / Retroplacental Clot / Succenturiate / Circumvallate / Bipartite

#### Step 3

#### Tissue sampling for chromosomal analysis

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 1cm<sup>3</sup> 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 twin number if appropriate.

#### Step 4

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

# 1.4 Clinical examination of baby checklist

Please tick appropriate box and complete details as required

## Maternal Sticker

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

<p><b>Baby measurements</b></p> <p>1. Crown – heel (stretched) ..... cms</p> <p>2. Head circumference..... cms</p> <p>3. Weight..... gms</p> <p><b>If Stillbirth</b></p> <p><b>Estimated date of IUID:</b> ...../...../.....</p> <p><b>Maceration degree</b></p> <p>Fresh; no skin peeling ..... <input type="checkbox"/></p> <p>Slight; focal minimal skin slippage ..... <input type="checkbox"/></p> <p>Mild; some skin sloughing, moderate skin slippage..... <input type="checkbox"/></p> <p>Moderate; much skin sloughing but no secondary comprehensive changes or decomposition..... <input type="checkbox"/></p> <p>Marked, advanced..... <input type="checkbox"/></p> <hr/> <p><b>HEAD AND FACE</b></p> <p><b>Head</b></p> <p>Relatively normal <input type="checkbox"/> Collapsed <input type="checkbox"/></p> <p>Anencephalic <input type="checkbox"/> Hydrocephalic <input type="checkbox"/></p> <p>Abnormal shape <input type="checkbox"/></p> <p>If abnormally shaped, describe: .....</p> <p><b>Eyes</b></p> <p>Normal <input type="checkbox"/> Prominent <input type="checkbox"/> Sunken <input type="checkbox"/></p> <p>Straight <input type="checkbox"/> Far apart <input type="checkbox"/> Close together <input type="checkbox"/></p> <p>Upslanting <input type="checkbox"/> Downslanting <input type="checkbox"/></p> <p>Globes normal <input type="checkbox"/> Absent <input type="checkbox"/></p> <p>Eyes very small <input type="checkbox"/> Very large <input type="checkbox"/></p> <p>Lens opacity <input type="checkbox"/> Corneal opacity <input type="checkbox"/></p> <p>Eyelids fused <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Nose</b></p> <p>Normal <input type="checkbox"/> Abnormally small <input type="checkbox"/></p> <p>Asymmetric <input type="checkbox"/> Abnormally large <input type="checkbox"/></p> <p><b>Nostrils</b></p> <p>Apparently patent <input type="checkbox"/> Obstructed <input type="checkbox"/></p> <p>Single nostril <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Mouth</b></p> <p>Normal size <input type="checkbox"/> Large <input type="checkbox"/> Small <input type="checkbox"/></p> <p><b>Upper Lip</b></p> <p>Intact <input type="checkbox"/> Cleft <input type="checkbox"/></p> <p>If cleft, location:</p> <p>Left <input type="checkbox"/> Right <input type="checkbox"/></p> <p>Bilateral <input type="checkbox"/> Midline <input type="checkbox"/></p> <p><b>Palate</b></p> <p>Intact <input type="checkbox"/> Cleft <input type="checkbox"/></p> <p><b>Mandible</b></p> <p>Normal <input type="checkbox"/> Large <input type="checkbox"/></p> <p>Small <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Ears</b></p> <p>Normal <input type="checkbox"/> Preauricular tags <input type="checkbox"/></p> <p>Lowset <input type="checkbox"/> Preauricular pits <input type="checkbox"/></p> <p>Other <input type="checkbox"/> Posteriorly rotated <input type="checkbox"/></p> <p>If other, describe: .....</p>	<p><b>Singleton</b> <input type="checkbox"/> <b>Multiple</b> <input type="checkbox"/> <b>Baby number</b> ..... (e.g. Twin 1)</p> <p><b>NECK</b></p> <p>Normal <input type="checkbox"/></p> <p>Mass <input type="checkbox"/></p> <p>Describe: .....</p> <p><b>CHEST</b></p> <p>Normal <input type="checkbox"/> Long &amp; narrow <input type="checkbox"/></p> <p>Short &amp; broad <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If Spina bifida, describe: .....</p> <p><b>ABDOMEN</b></p> <p>Normal <input type="checkbox"/> Flattened <input type="checkbox"/></p> <p>Distended <input type="checkbox"/> Hernia <input type="checkbox"/></p> <p>Omphalocele <input type="checkbox"/> Gastroschisis <input type="checkbox"/></p> <p><b>BACK</b></p> <p>Normal <input type="checkbox"/> Spina bifida <input type="checkbox"/></p> <p>If Spina bifida, describe: .....</p> <p>Scoliosis <input type="checkbox"/> Kyphosis <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>GENITALIA</b></p> <p><b>Anus</b></p> <p>Normal <input type="checkbox"/> Imperforate <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Gender</b></p> <p>Male <input type="checkbox"/> Female <input type="checkbox"/> Ambiguous <input type="checkbox"/></p> <p><b>Male</b></p> <p><b>Penis</b></p> <p>Normal <input type="checkbox"/> Very small <input type="checkbox"/></p> <p>Hypospadias <input type="checkbox"/> Chordee <input type="checkbox"/></p> <p>Hypospadias, level of opening .....</p> <p><b>Scrotum</b></p> <p>Normal <input type="checkbox"/> Abnormal <input type="checkbox"/></p> <p>If abnormal, describe .....</p> <p><b>Testes</b></p> <p>Descended <input type="checkbox"/> Undescended <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Female</b></p> <p><b>Urethral opening</b></p> <p>Present <input type="checkbox"/> Absent/unidentifiable <input type="checkbox"/></p> <p><b>Vaginal introitus</b></p> <p>Present <input type="checkbox"/> Absent/unidentifiable <input type="checkbox"/></p> <p><b>Clitoris</b></p> <p>Present <input type="checkbox"/> Unidentifiable <input type="checkbox"/></p> <p>Enlarged <input type="checkbox"/> Other <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>Ambiguous sex</b> .....</p>	<p><b>LIMBS</b></p> <p><b>Length</b></p> <p>Normal <input type="checkbox"/> Short <input type="checkbox"/> Long <input type="checkbox"/></p> <p>If Short, what segments seem short .....</p> <p><b>Form</b></p> <p>Normal <input type="checkbox"/> Asymmetric <input type="checkbox"/> Missing parts <input type="checkbox"/></p> <p>If other, describe: .....</p> <p><b>HANDS</b></p> <p><b>Length</b></p> <p>Appearance: Normal <input type="checkbox"/> Abnormal <input type="checkbox"/></p> <p>If abnormal, describe: .....</p> <p><b>Fingers</b></p> <p>Number present: .....</p> <p>If not 4 + 4, describe.....</p> <p>Unusual form of fingers <input type="checkbox"/></p> <p>Unusual position of fingers <input type="checkbox"/></p> <p>Abnormal webbing or syndactyly <input type="checkbox"/></p> <p>If abnormal, describe.....</p> <p><b>Thumbs</b></p> <p>Number present: .....</p> <p>If not 1+ 1 describe.....</p> <p>Unusual position <input type="checkbox"/></p> <p>Looks like a finger <input type="checkbox"/></p> <p>If abnormal, describe.....</p> <p><b>Finger nails</b></p> <p>All present <input type="checkbox"/></p> <p>If not describe.....</p> <p><b>FEET</b></p> <p>Appearance Normal <input type="checkbox"/> Abnormal <input type="checkbox"/></p> <p>If abnormal, describe .....</p> <p><b>Toes</b></p> <p>Number present: .....</p> <p>If not 5+ 5 describe.....</p> <p>Spacing: Normal <input type="checkbox"/> Abnormal <input type="checkbox"/></p> <p>If abnormal, describe .....</p> <p><b>Toe nails</b></p> <p>All present <input type="checkbox"/></p> <p>If not describe.....</p> <p><b>Revised gestational age</b> .....</p> <p><b>Based on</b> .....</p> <p><b>Examined by:</b> ..... (Print name)</p> <p><b>Date:</b> .....</p> <p><b>Summary of key findings:</b> .....</p> <p>.....</p> <p>.....</p>
---	--	--

# 1.5 Perinatal mortality confidential case summary

## Part A - Clinical summary

Form to be completed by Hospital of birth  
Please tick appropriate box and complete details as required

<b>Maternal Sticker</b>		
(Inc Name, DOB, UR, Address, Telephone Number)		
<b>Singleton</b>	<b>Multiple</b>	<b>Baby number..... (e.g. Twin 1)</b>

### Maternal details

Country of birth: ..... Ethnicity: .....

Education: <High school  High school completed  Tertiary completed

Occupation: Mother ..... Husband/Partner .....

Marital Status: Never married  Married  De facto  Widowed  Divorced  Separated

### Medical and obstetric history

(Details)

(Details)

**Family history** Venous thromboembolism  ..... Hypertension  .....

Congenital abnormalities  ..... Diabetes  .....

Other relevant  .....

**Maternal medical history** Cervical surgery  Venous thromboembolism  Uterine abnormality

Other  Details .....

Previous pregnancy outcomes (numbers) Miscarriages ..... Terminations ..... Stillbirths ..... Live births ..... Neonatal deaths ..... Postnatal deaths .....

### Obstetric history

DOB	Baby number	Sex	GA	Birth weight	Delivery method	Baby outcome	Complications	(Include details of congenital abnormalities and cause of death)
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....

### Current pregnancy

### Maternal transfer:

Plurality: Gravida ..... Parity .....  
 Singleton  Multiple  (Number) .....

Charge status: Public  Private

Adverse social factors .....

Antenatal  During labour  Postnatal

Date and time of transfer...../...../.....; .....

Hospital transferred from .....

Reason .....

Type of antenatal care: No antenatal care  Hospital clinic  General practitioner (GP)  Birth centre

Home birth midwife  Obstetrician/Midwife (Private)  GP/Midwife  Other

### Intended place of birth

Maternal height ..... Maternal weight at booking visit ..... BMI .....

**Antenatal medications**

Corticosteroids: - Not stated  - None  - < 24 hrs prior to baby's birth  - Complete  - > 7 days before baby's birth

Tocolytics  Folic acid  Antibiotics  Methadone  - Dosing ..... Other  Please state .....

**Diet**

Normal  Vegetarian  Vegan

Dietary supplement  Please state .....

### Substance use

**Tobacco Smoking**

At first visit: - Never smoked  - Quit in last 12 months  - Quit before 1st visit  - Smoker  - Unknown

Average number of cigs: Nil  Number per day ..... Occasional smoker (<1 Per Day)  Unknown  Smoking at time of birth Yes  No  Unknown

**Alcohol**

Nil  Units per day ..... Units per week .....

**Other**

Cannabis  Heroin  Hallucinogens  Amphetamines  Cocaine  Ecstasy

Comments .....

# 1.5 Perinatal mortality confidential case summary

**Maternal Sticker**

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

## Part A - Clinical summary *continued*

Please place  $\surd$  (Yes) or X (No) in boxes provided

### Antenatal (AN)

EDC by USS ...../...../..... EDC by LMP ...../...../.....

Assisted conception  Type ..... Morphology USS  Gest  Total No. USS

Gestation at 1st antenatal visit . ..... Total No. of antenatal visits.....

### Screening/Diagnostics/Monitoring

- Chorionic villus sampling  - CTG  Glucose screen
- Nuchal translucency  - Doppler studies  Cervical suture
- Amniocentesis  - Group B strep screen  Other diagnostics/procedures.....
- Cordocentesis  - Vaginal culture (HVS)

### Medical conditions and pregnancy complications

- |   |  |   |  |
|---|--|---|--|
| Diabetes                                  | Hypertension   | Antepartum haemorrhage                                | Twin twin transfusion                              |
| - Pre-existing <input type="checkbox"/>   | - Chronic hypertension: essential <input type="checkbox"/>   | - Placental abruption <input type="checkbox"/>        | Threatened preterm labour <input type="checkbox"/> |
| - Gestational <input type="checkbox"/>    | - Chronic hypertension: secondary <input type="checkbox"/>   | - Placenta praevia <input type="checkbox"/>           | Oligohydramnios <input type="checkbox"/>           |
| SLE <input type="checkbox"/>              | - Chronic hypertension: unspecified <input type="checkbox"/> | - Vasa praevia <input type="checkbox"/>               | Polyhydramnios <input type="checkbox"/>            |
| Cardiac disease <input type="checkbox"/>  | - Gestational hypertension <input type="checkbox"/>          | - Other APH <input type="checkbox"/>                  | Anaemia <input type="checkbox"/>                   |
| Renal disease <input type="checkbox"/>    | - Pre-eclampsia <input type="checkbox"/>                     | - APH or undetermined origin <input type="checkbox"/> | Urinary tract infection <input type="checkbox"/>   |
| Asthma <input type="checkbox"/>           | - Pre-eclampsia superimposed                                 | Cervical incompetence <input type="checkbox"/>        | Asymptomatic bacteriuria <input type="checkbox"/>  |
| Epilepsy <input type="checkbox"/>         | on chronic hypertension <input type="checkbox"/>             | Bleeding <20 wks <input type="checkbox"/>             | GBS vag culture positive <input type="checkbox"/>  |
| Maternal injury <input type="checkbox"/>  | - Unspecified hypertension <input type="checkbox"/>          | Prelabour ROM <input type="checkbox"/>                | Fetal growth restriction <input type="checkbox"/>  |
| Cervical surgery <input type="checkbox"/> | - Max systolic ..... Max diastolic.....                      | Duration MR Wks..... Days .....                       | Other fetal abnormalities <input type="checkbox"/> |
| Other.....                                |  | Hrs ..... Unknown .....                               |  |

### Labour and Delivery

- Labour onset** Spont  Induced  No labour  **Labour duration** (hrs/mins) 1st stage ...../..... 2nd stage ...../.....
- Induction reason** ..... **Amniotic fluid** Clear  Meconium  Nil
- Induction method** Oxytocin  Prostaglandis  ARM  Other  .....
- Method of delivery** ..... **Labour complications**
- Spont vag  Vacuum  Fetal distress  Chorioamnionitis
- Forceps  C.S. emerg  C.S. elect.  PPH  - Clinical signs
- Reason for Operative Delivery**..... Other  - Placental pathol
- Presentation** Cephalic  Breech  Other  Please state .....
- Analgesia** None  Nitrous oxide  IMI narcotic  Epidural  Spinal  Other .....
- Anaesthesia** None  General  Spinal  Epidural  Pudendal  Other  .....

### Relevant obstetric events summary

Date	Gestation	Event
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

## 1.5 Perinatal mortality confidential case summary

### Maternal Sticker

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

### Part A - Clinical summary *continued*

Please complete Clinical Examination of Baby Form (Appendix 1.4)

#### Baby Details

UR number: ..... Birth order ..... Sex Male  Female  Undetermined   
Gestational age ..... wk ..... days Birthweight ..... gms Date & Time of birth: ...../...../.....; .....:.....  
Place of birth .....  
Type of death: Fetal  Antepartum death Unknown  No  Yes  → If yes estimated date of death ...../...../.....  
Neonatal (NND)  → NND date & time of death: ...../...../.....; .....:.....

#### Resuscitation:

**Apgars** 1 min ..... 5 min ..... 10 min ..... 15 min .....  
**Resuscitation** None  Suction  Oxygen therapy  IPPV - bag and mask  IPPV - intubation  External cardiac massage   
**Who performed resuscitation?** Not done  Neonatologist  Paediatrician  Obstetrician  Neonatal nurse   
Neonatal Registrar  Paediatric Registrar  Obstetric Registrar  Midwife  Other  .....  
**Resuscitation medications** None  Narcotic antagonist  Sodium bicarbonate  Adrenaline  Other  .....

#### Neonatal death:

**Admitted to SCN** Yes  No  **Admitted to NICU** Yes  No  **Mech. Vent** Yes  No   
Main reason for admission .....  
Other morbidity .....  
**Postnatal transfer** Yes  No  Hospital transferred to: ..... Date & time of transfer: ...../...../.....; .....:.....  
Place of death ..... Date & time of death: ...../...../.....; .....:.....  
**Active life supporting measures withdrawn** Yes  No  If yes, date & time of withdrawal: ...../...../.....; .....:.....

#### Relevant neonatal events summary

Date	Time	Postnatal age	Event
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
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.....	.....	.....	.....
.....	.....	.....	.....



## 1.5 Perinatal mortality confidential case summary

### Part B - Perinatal Mortality Committee review

Please tick appropriate box and complete details as required

#### Maternal Sticker

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

### 1. Classification of Cause of Death

(i) PSANZ Perinatal Mortality Classification cause of death

a. Perinatal Death Classification (PSANZ-PDC)

Category No.

Category Description: .....

b. Neonatal Death Classification (PSANZ-PDC)

Category No.

Category description: .....

(ii) Cause of death recorded on Medical Certificate

a. Main disease or condition in fetus or infant: .....

b. Other diseases or conditions in fetus or infant: .....

c. Main maternal disease or condition affecting fetus or infant: .....

d. Other maternal diseases or conditions affecting fetus or infant: .....

e. Other relevant circumstances .....

### 2. Classification of associated conditions

(i) Perinatal Mortality Classifications associated conditions 1

a. Perinatal Death Classification (PSANZ-PDC)

Category No.

Category description: .....

.....

b. Neonatal Death Classification (PSANZ-NDC)

Category No.

Category description .....

.....

(ii) Perinatal Mortality Classifications associated conditions 2

a. Perinatal Death Classification (PSANZ-PDC)

Category No.

Category description: .....

.....

b. Neonatal Death Classification (PSANZ-NDC)

Category No.

Category description .....

.....

### 3. Congenital abnormality

Was congenital abnormality present? Yes  No  Unknown

If yes, please state abnormality: .....

.....

If unknown, are results of investigations pending? Yes  No  .....

If yes, please state tests awaiting: .....

.....

### 4. Fetal / Neonatal infection

Did infection contribute to the death? Yes  No  .....

If yes state organism .....

Culture site ..... Date & time: ...../...../.....; .....

### 5. Termination of pregnancy

Was the pregnancy terminated? Yes  No

If yes, was the pregnancy terminated due to:

Fetal abnormality

Maternal psychosocial reasons (pre-viable)

Maternal medical condition (pre-viable)

## 1.5 Perinatal mortality confidential case summary

### Part B - Perinatal Mortality Committee review *continued*

Please tick appropriate box and complete details as required

#### Maternal Sticker

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

### 6. Factors relating to care

#### (i) **Potentially contributing factors:**

Were any potentially contributing factors relating to care access or provision thought to be present? Yes  No

If yes, please complete below:

Factor	Timing		
	Antenatal	Intrapartum	Postnatal
(a) Factors relating to the woman/ her family/ social situation: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Factor 1: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Factor 2: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Factors relating to access to care: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Factor 1: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Factor 2: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Factors relating to professional care: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Factor 1: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Factor 2: .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### (ii) **Other factors** (e.g. counselling, communication, investigation)

Were any other factors present relating to care? Yes  No

If Yes, please state factors: .....

### 7. Practice improvement recommendations:

Were any areas identified for practice improvement Yes  No

If yes, please complete *Practice Improvement Recommendations* below.

Recommendation 1: .....

Action required: .....

Action to be reviewed by (date): ..... / ..... / ..... Person responsible: .....

Recommendation 2: .....

Action required: .....

Action to be reviewed by (date): ..... / ..... / ..... Person responsible: .....

Recommendation 3: .....

Action required: .....

Action to be reviewed by (date): ..... / ..... / ..... Person responsible: .....

### 8. Other discussion relevant to practice improvement or educational aspects

.....  
 .....  
 .....

## 1.5 Perinatal mortality confidential case summary

### Part B - Perinatal Mortality Committee review *continued*

Please tick appropriate box and complete details as required

#### Maternal Sticker

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

### 9. Follow-up visits for parents

Obstetrician: .....

Date arranged: ..... / ..... / .....

Neonatologist: .....

Date arranged: ..... / ..... / .....

General Practitioner: .....

Date arranged: ..... / ..... / .....

Other: .....

GP notified of the death? Yes  No  Date General Practitioner was notified .....

Genetic counselling required? Yes  No  Date arranged: ..... / ..... / .....

Further investigations required? Yes  No  If yes, please state .....

.....  
.....  
.....  
.....  
.....

### 10. Administrative Details

Hospital of birth name: .....

Date of committee review: ..... / ..... / .....

Review finalised: No  Yes

If no, specify outstanding areas for finalisation of this review: .....

.....  
.....

If yes, date finalised: ..... / ..... / .....

Name of person completing this form: .....

Contact person for additional information: .....

Phone number: .....

Signed .....

.....

## Section 2; Appendix 2 Instructions on taking clinical photographs

High quality medical photographs are preferred; however, Polaroid pictures are better than no pictures at all. Ideally digital photographs should be taken which will allow the clinician to check each photograph after it is taken. These photographs should be taken in addition to bereavement photographs.

### Consent:

Parental consent is necessary prior to taking clinical photographs. Due to their clinical nature it is strongly recommended that the parents are not offered copies, but specific bereavement photographs are taken instead.

### Background:

Plain white or surgical drapes (other backgrounds may create glare or alter skin tone).

### Scale:

- Place a paper tape measure next to the baby (a plastic ruler will create glare)
- Ensure zero is aligned at the base of the foot or crown of the head.
- Use sticky tape to ensure the tape is straight; and
- Measure should be on the bottom of the frame or the left.

### Identification:

Write the baby's UR number on the paper tape measure for identification.

Don't write any other identifying information in case the photographs are ever mislaid.

### Setting:

Photographs should be taken in a private area away from the parents.

### Technique:

The photographs should be taken from directly above the baby. Consequently it is best to place the baby on the floor, in order to get sufficient height above the baby.

### Magnification:

Use a 50 mm lens/magnification for the whole body photographs, and maintain a consistent distance.

Use a 100 mm lens/magnification (except for digital) for the facial photographs, filling the whole frame.

### Baby:

The baby should be naked for all the photographs.

### Position:

- AP view – whole body frontal including limbs
- PA view – whole body back including limbs
- Lateral view of the body
- Lateral views of the face
- Frontal view of the face
- Photographs of any abnormalities

## Section 2; Appendix 2 Instructions on taking clinical photographs *continued*

**AP View – Whole body frontal including limbs**



- Tape measure to the left
- Palms facing up

**PA View – Whole body back including limbs**



- Keep the baby in this position for the minimum time possible.
- Tape measure to the left
- Palms facing down

**Lateral view of the body**



To stabilise:

- Pull underneath arm forwards
- Legs in 'running position'
- Top arm and leg will fall forward which will aid stability.
- Keep the tape measure to the left

**Frontal view of the face**



- Ensure tape measure is in the frame

## Section 2 Appendix 2 Instructions on taking clinical photographs *continued*

### Lateral views of the face

Right lateral



Left lateral



- Keep tape measure to the left of the frame to aid easy identification of the side being viewed.

If there are any specific abnormalities these should be photographed individually, with a scale in view and the photograph labelled with the baby's UR number.

**Section 2; Appendix 3 Autopsy clinical summary form**

Please attach the following:

- copy of the death certificate;
- copies of all antenatal ultrasound reports; and
- copy of amniocentesis report if available

**Maternal Sticker**

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

**Baby Details**

Singleton	Multiple	Baby number..... (e.g. Twin 1)
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UR number: ..... Sex Male  Female  Undetermined

Gestational age ..... wks ..... days Birthweight ..... gms Date & Time of birth: ...../...../.....; .....

Place of birth .....

Type of death: Fetal  Antepartum death Unknown  No  Yes  → If yes estimated date of death ...../...../.....

Neonatal (NND)  → NND date & time of death: ...../...../.....; .....

Death Certificate completed Yes  No

**Treatment or condition likely to cause hazard at autopsy**

Hepatitis B Pos  Tuberculosis  HIV (Aids Virus)  Other

Specify .....

**Clinical summary (including details to be clarified at autopsy)**

.....

.....

.....

.....

**Provisional clinical diagnosis (to be completed by physician requesting autopsy)**

1 .....

2 .....

3 .....

4 .....

**Please list doctors to receive report**

Name	Address
1 .....	.....
2 .....	.....

Consultant .....

Clinical contact ..... Telephone ..... Pager .....  
(Please print)

Signature (person completing this form)..... Date ..... / ..... /

Print name .....

## Section 2; Appendix 4 Perinatal Mortality Classifications - quick reference sheet

PSANZ-PDC	6 Specific Perinatal Conditions	9.3 Spontaneous preterm with membrane rupture of unknown duration before delivery	4 Infection
<p><b>1 Congenital Abnormality (including terminations for congenital abnormalities)</b></p> <ul style="list-style-type: none"> <li>1.1 Central nervous system</li> <li>1.2 Cardiovascular system</li> <li>1.3 Urinary system</li> <li>1.4 Gastrointestinal system</li> <li>1.5 Chromosomal</li> <li>1.6 Metabolic</li> <li>1.7 Multiple/non chromosomal syndromes</li> <li>1.8 Other congenital abnormality               <ul style="list-style-type: none"> <li>1.81 Musculoskeletal</li> <li>1.82 Respiratory</li> <li>1.83 Diaphragmatic hernia</li> <li>1.84 Haematological</li> <li>1.85 Tumours</li> <li>1.88 Other specified congenital abnormality</li> </ul> </li> <li>1.9 Unspecified congenital abnormality</li> </ul> <p>Please note that terminations of pregnancy for perinatal deaths within this category should be identified by the inclusion of an "09" for two-digit codes and a "9" for the three digit codes</p> <p><b>2 Perinatal Infection</b></p> <ul style="list-style-type: none"> <li>2.1 Bacterial               <ul style="list-style-type: none"> <li>2.11 Group B Streptococcus</li> <li>2.12 E coli</li> <li>2.13 Listeria monocytogenes</li> <li>2.14 Spirochaetal eg Syphilis</li> <li>2.18 Other bacterial</li> <li>2.19 Unspecified bacterial</li> </ul> </li> <li>2.2 Viral               <ul style="list-style-type: none"> <li>2.21 Cytomegalovirus</li> <li>2.22 Parvovirus</li> <li>2.23 Herpes simplex virus</li> <li>2.24 Rubella virus</li> <li>2.28 Other viral</li> <li>2.29 Unspecified viral</li> </ul> </li> <li>2.3 Protozoal eg Toxoplasma</li> <li>2.5 Fungal</li> <li>2.8 Other specified organism</li> <li>2.9 Other unspecified organism</li> </ul> <p><b>3 Hypertension</b></p> <ul style="list-style-type: none"> <li>3.1 Chronic hypertension: essential</li> <li>3.2 Chronic hypertension: secondary, eg renal disease</li> <li>3.3 Chronic hypertension: unspecified</li> <li>3.4 Gestational hypertension</li> <li>3.5 Pre-eclampsia               <ul style="list-style-type: none"> <li>3.51 With laboratory evidence of thrombophilia</li> </ul> </li> <li>3.6 Pre-eclampsia superimposed on chronic hypertension               <ul style="list-style-type: none"> <li>3.61 With laboratory evidence of thrombophilia</li> </ul> </li> <li>3.9 Unspecified hypertension</li> </ul> <p><b>4 Antepartum Haemorrhage (APH)</b></p> <ul style="list-style-type: none"> <li>4.1 Placental abruption               <ul style="list-style-type: none"> <li>4.11 With laboratory evidence of thrombophilia</li> </ul> </li> <li>4.2 Placenta praevia</li> <li>4.3 Vasa praevia</li> <li>4.8 Other APH</li> <li>4.9 APH of undetermined origin</li> </ul> <p><b>5 Maternal Conditions</b></p> <ul style="list-style-type: none"> <li>5.1 Termination of pregnancy for maternal psychosocial indications</li> <li>5.2 Diabetes / Gestational diabetes</li> <li>5.3 Maternal injury               <ul style="list-style-type: none"> <li>5.31 Accidental</li> <li>5.32 Non-accidental</li> </ul> </li> <li>5.4 Maternal sepsis</li> <li>5.5 Antiphospholipid syndrome</li> <li>5.6 Obstetric cholestasis</li> <li>5.8 Other specified maternal conditions</li> </ul>	<ul style="list-style-type: none"> <li>6.1 Twin-twin transfusion</li> <li>6.2 Fetomaternal haemorrhage</li> <li>6.3 Antepartum cord complications               <ul style="list-style-type: none"> <li>6.31 Cord haemorrhage</li> <li>6.32 True knot with evidence of occlusion</li> <li>6.38 Other</li> <li>6.39 Unspecified</li> </ul> </li> <li>6.4 Uterine abnormalities, eg bicornuate uterus, cervical incompetence</li> <li>6.5 Birth trauma (typically infants of &gt;24 weeks gestation or &gt;600g birthweight)</li> <li>6.6 Alloimmune disease               <ul style="list-style-type: none"> <li>6.61 Rhesus</li> <li>6.62 ABO</li> <li>6.63 Kell</li> <li>6.64 Alloimmune thrombocytopenia</li> <li>6.68 Other</li> <li>6.69 Unspecified</li> </ul> </li> <li>6.7 Idiopathic hydrops</li> <li>6.8 Other specific perinatal conditions               <ul style="list-style-type: none"> <li>6.81 Rupture of membranes after amniocentesis</li> <li>6.82 Termination of pregnancy for suspected but unconfirmed congenital abnormality.</li> <li>6.83 Fetal subdural haematoma</li> <li>6.88 Other</li> </ul> </li> <li>6.9 Unspecified</li> </ul> <p><b>7 Hypoxic Peripartum Death (typically infants of &gt;24 weeks gestation or &gt;600g birthweight)</b></p> <ul style="list-style-type: none"> <li>7.1 With intrapartum complications               <ul style="list-style-type: none"> <li>7.11 Uterine rupture</li> <li>7.12 Cord prolapse</li> <li>7.13 Shoulder dystocia</li> <li>7.18 Other</li> </ul> </li> <li>7.2 Evidence of non-reassuring fetal status in a normally grown infant (eg abnormal fetal heart rate, fetal scalp pH/lactate, fetal pulse oximetry without intrapartum complications)</li> <li>7.3 No intrapartum complications and no evidence of non-reassuring fetal status.</li> <li>7.9 Unspecified hypoxic peripartum death</li> </ul> <p><b>8 Fetal Growth Restriction (FGR)</b></p> <ul style="list-style-type: none"> <li>8.1 With evidence of reduced vascular perfusion on Doppler studies and /or placental histopathology (eg significant infarction, acute atherosclerosis, maternal and/or fetal vascular thrombosis or maternal floor infarction)</li> <li>8.2 With chronic villitis</li> <li>8.3 No placental pathology</li> <li>8.4 No examination of placenta</li> <li>8.8 Other specified placental pathology</li> <li>8.9 Unspecified or not known whether placenta examined</li> </ul> <p><b>9 Spontaneous Preterm (&lt;37 weeks gestation)</b></p> <ul style="list-style-type: none"> <li>9.1 Spontaneous preterm with intact membranes, or membrane rupture &lt;24 hours before delivery               <ul style="list-style-type: none"> <li>9.11 With chorioamnionitis on placental histopathology</li> <li>9.12 Without chorioamnionitis on placental histopathology</li> <li>9.13 With clinical evidence of chorioamnionitis, no examination of placenta</li> <li>9.17 No clinical signs of chorioamnionitis, no examination of placenta</li> <li>9.19 Unspecified or not known whether placenta examined</li> </ul> </li> <li>9.2 Spontaneous preterm with membrane rupture ≥24 hours before delivery               <ul style="list-style-type: none"> <li>9.21 With chorioamnionitis on placental histopathology</li> <li>9.22 Without chorioamnionitis on placental histopathology</li> <li>9.23 With clinical evidence of chorioamnionitis, no examination of placenta</li> <li>9.27 No clinical signs of chorioamnionitis, no examination of placenta</li> <li>9.29 Unspecified or not known whether placenta examined</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>9.31 With chorioamnionitis on placental histopathology</li> <li>9.32 Without chorioamnionitis on placental histopathology</li> <li>9.33 With clinical evidence of chorioamnionitis, no examination of placenta</li> <li>9.37 No clinical signs of chorioamnionitis, no examination of placenta</li> <li>9.39 Unspecified or not known whether placenta examined</li> </ul> <p><b>10 Unexplained Antepartum Death</b></p> <ul style="list-style-type: none"> <li>10.1 With evidence of reduced vascular perfusion on Doppler studies and /or placental histopathology (eg significant infarction, acute atherosclerosis, maternal and/or fetal vascular thrombosis or maternal floor infarction)</li> <li>10.2 With chronic villitis</li> <li>10.3 No placental pathology</li> <li>10.4 No examination of placenta</li> <li>10.8 Other specified placental pathology</li> <li>10.9 Unspecified or not known whether placenta examined</li> </ul> <p><b>11 No Obstetric Antecedent</b></p> <ul style="list-style-type: none"> <li>11.1 Sudden Infant Death Syndrome (SIDS)               <ul style="list-style-type: none"> <li>11.11 SIDS Category IA: Classic features of SIDS present and completely documented.</li> <li>11.12 SIDS Category IB: Classic features of SIDS present but incompletely documented.</li> <li>11.13 SIDS Category II : Infant deaths that meet Category I except for one or more features.</li> </ul> </li> <li>11.2 Postnatally acquired infection</li> <li>11.3 Accidental asphyxiation</li> <li>11.4 Other accident, poisoning or violence (postnatal)</li> <li>11.8 Other specified</li> <li>11.9 Unknown/Undetermined               <ul style="list-style-type: none"> <li>11.91 Unclassified Sudden Infant Death</li> <li>11.92 Other Unknown/Undetermined</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>4.1 Bacterial               <ul style="list-style-type: none"> <li>4.11 Congenital bacterial                   <ul style="list-style-type: none"> <li>4.111 Group B Streptococcus</li> <li>4.112 E coli</li> <li>4.113 Listeria monocytogenes</li> <li>4.114 Spirochaetal, eg syphilis</li> <li>4.118 Other bacterial</li> <li>4.119 Unspecified bacterial</li> </ul> </li> <li>4.12 Acquired bacterial                   <ul style="list-style-type: none"> <li>4.121 Group B Streptococcus</li> <li>4.122 E coli</li> <li>4.125 Other Gram negative bacilli (other than E coli)</li> <li>4.126 Staphylococcus aureus</li> <li>4.127 Coagulase negative Staphylococcus</li> <li>4.128 Other specified bacterial</li> <li>4.129 Unspecified bacterial</li> </ul> </li> </ul> </li> <li>4.2 Viral               <ul style="list-style-type: none"> <li>4.21 Congenital viral                   <ul style="list-style-type: none"> <li>4.211 Cytomegalovirus</li> <li>4.213 Herpes simplex virus</li> <li>4.214 Rubella virus</li> <li>4.218 Other specified viral</li> <li>4.219 Unspecified viral</li> </ul> </li> <li>4.22 Acquired viral                   <ul style="list-style-type: none"> <li>4.221 Cytomegalovirus</li> <li>4.223 Herpes simplex virus</li> <li>4.224 Rubella virus</li> <li>4.228 Other specified viral</li> <li>4.229 Unspecified viral</li> </ul> </li> </ul> </li> <li>4.3 Protozoal e.g. Toxoplasma</li> <li>4.5 Fungal</li> <li>4.8 Other specified organism</li> <li>4.9 Unspecified organism</li> </ul> <p><b>5 Neurological</b></p> <ul style="list-style-type: none"> <li>5.1 Hypoxic ischaemic encephalopathy / Perinatal asphyxia (typically infants of &gt;24 weeks gestation or &gt;600g birthweight)</li> <li>5.2 Intracranial haemorrhage               <ul style="list-style-type: none"> <li>5.21 Intraventricular Haemorrhage</li> <li>5.22 Subgaleal Haemorrhage</li> <li>5.23 Subarachnoid Haemorrhage</li> <li>5.24 Subdural Haemorrhage</li> <li>5.28 Other Intracranial Haemorrhage</li> </ul> </li> <li>5.8 Other</li> </ul> <p><b>6 Gastrointestinal</b></p> <ul style="list-style-type: none"> <li>6.1 Necrotising enterocolitis</li> <li>6.8 Other</li> </ul> <p><b>7 Other</b></p> <ul style="list-style-type: none"> <li>7.1 Sudden Infant Death Syndrome (SIDS)               <ul style="list-style-type: none"> <li>7.11 SIDS Category IA: Classic features of SIDS present and completely documented.</li> <li>7.12 SIDS Category IB: Classic features of SIDS present but incompletely documented.</li> <li>7.13 SIDS Category II : Infant deaths that meet category I except for one or more features.</li> </ul> </li> <li>7.2 Multisystem failure               <ul style="list-style-type: none"> <li>7.21 Secondary to intrauterine growth restriction</li> <li>7.28 Other specified</li> <li>7.29 Unspecified/undetermined primary cause or trigger event</li> </ul> </li> <li>7.3 Trauma               <ul style="list-style-type: none"> <li>7.31 Accidental</li> <li>7.32 Non accidental</li> <li>7.39 Unspecified</li> </ul> </li> <li>7.4 Treatment complications               <ul style="list-style-type: none"> <li>7.41 Surgical</li> <li>7.42 Medical</li> </ul> </li> <li>7.8 Other specified</li> <li>7.9 Unknown/Undetermined               <ul style="list-style-type: none"> <li>7.91 Unclassified Sudden Infant Death</li> <li>7.92 Other Unknown/Undetermined</li> </ul> </li> </ul>
		<p style="text-align: center;"><b>PSANZ-NDC</b></p> <p><b>1 Congenital Abnormality (including terminations for congenital abnormalities)</b></p> <ul style="list-style-type: none"> <li>1.1 Central nervous system</li> <li>1.2 Cardiovascular system</li> <li>1.3 Urinary system</li> <li>1.4 Gastrointestinal system</li> <li>1.5 Chromosomal</li> <li>1.6 Metabolic</li> <li>1.7 Multiple/non chromosomal syndromes</li> <li>1.8 Other congenital abnormality               <ul style="list-style-type: none"> <li>1.81 Musculoskeletal</li> <li>1.82 Respiratory</li> <li>1.83 Diaphragmatic hernia</li> <li>1.84 Haematological</li> <li>1.85 Tumours</li> <li>1.88 Other specified congenital abnormality</li> </ul> </li> <li>1.9 Unspecified congenital abnormality</li> </ul> <p><b>2 Extreme Prematurity (typically infants of &lt;=24 weeks gestation or &lt;=600g birthweight)</b></p> <ul style="list-style-type: none"> <li>2.1 Not resuscitated</li> <li>2.2 Unsuccessful resuscitation</li> <li>2.9 Unspecified or not known whether resuscitation attempted</li> </ul> <p><b>3 Cardio-Respiratory Disorders</b></p> <ul style="list-style-type: none"> <li>3.1 Hyaline membrane disease / Respiratory distress syndrome (RDS)</li> <li>3.2 Meconium aspiration syndrome</li> <li>3.3 Primary persistent pulmonary hypertension</li> <li>3.4 Pulmonary hypoplasia</li> <li>3.5 Chronic neonatal lung disease (typically, bronchopulmonary dysplasia)</li> <li>3.6 Pulmonary haemorrhage</li> <li>3.7 Pneumothorax</li> <li>3.8 Other</li> </ul>	