

Queensland Clinical Guidelines

Translating evidence into best clinical practice

Maternity and Neonatal **Clinical Guideline**

Stillbirth care

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The Department of Health acknowledges the Traditional Custodians of the lands, waters and seas across the State of Queensland on which we work and live. We also acknowledge First Nations peoples in Queensland are both Aboriginal Peoples and Torres Strait Islander Peoples and pay respect to the Aboriginal and Torres Strait Islander Elders past, present and emerging.

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- Providing care within the context of locally available resources, expertise, and scope of practice
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners, including the right to decline intervention or ongoing management
- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary
- Ensuring informed consent is obtained prior to delivering care
- Meeting all legislative requirements and professional standards
- Applying standard precautions, and additional precautions as necessary, when delivering care
- Documenting all care in accordance with mandatory and local requirements

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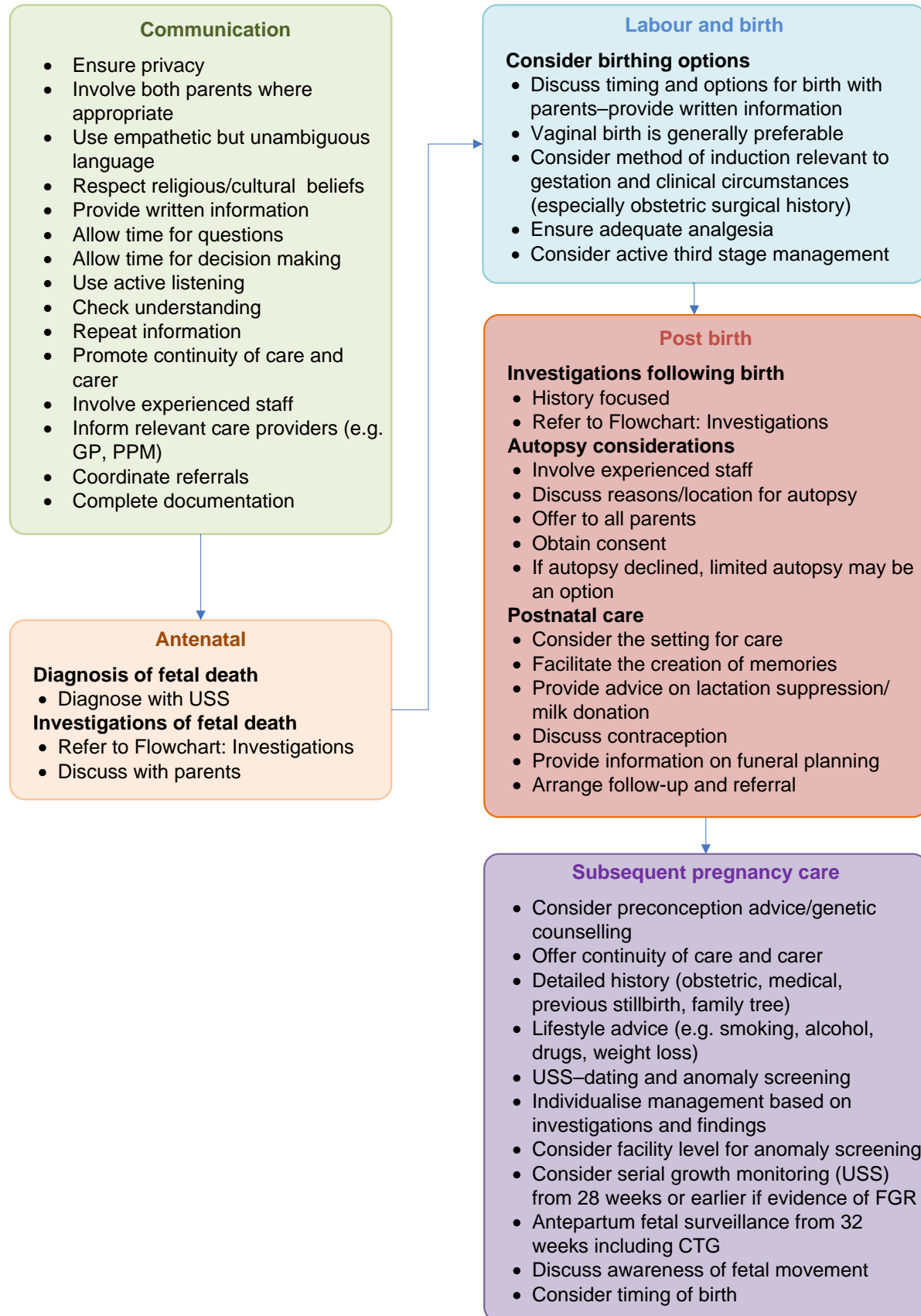
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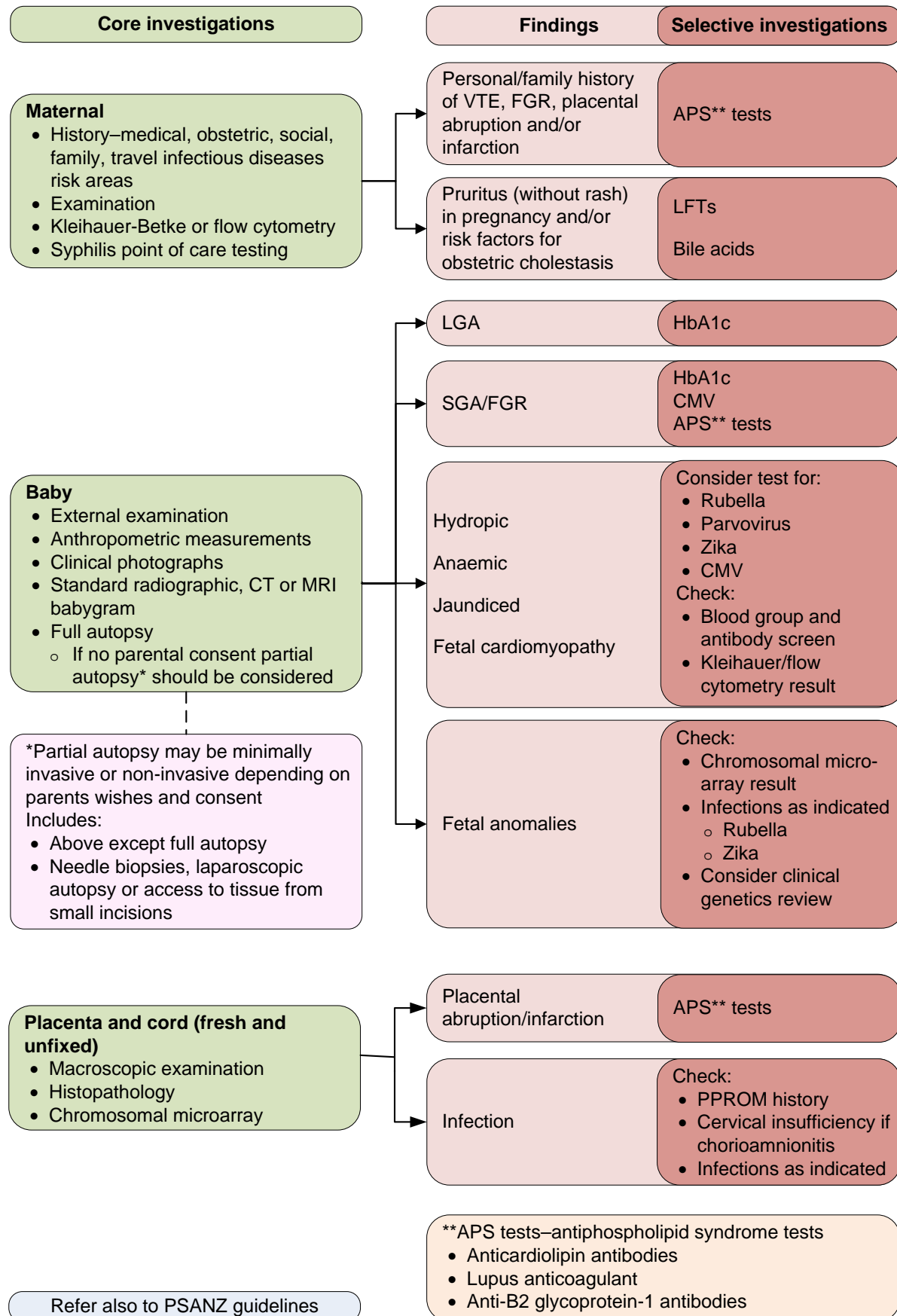
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Flowchart: Stillbirth care



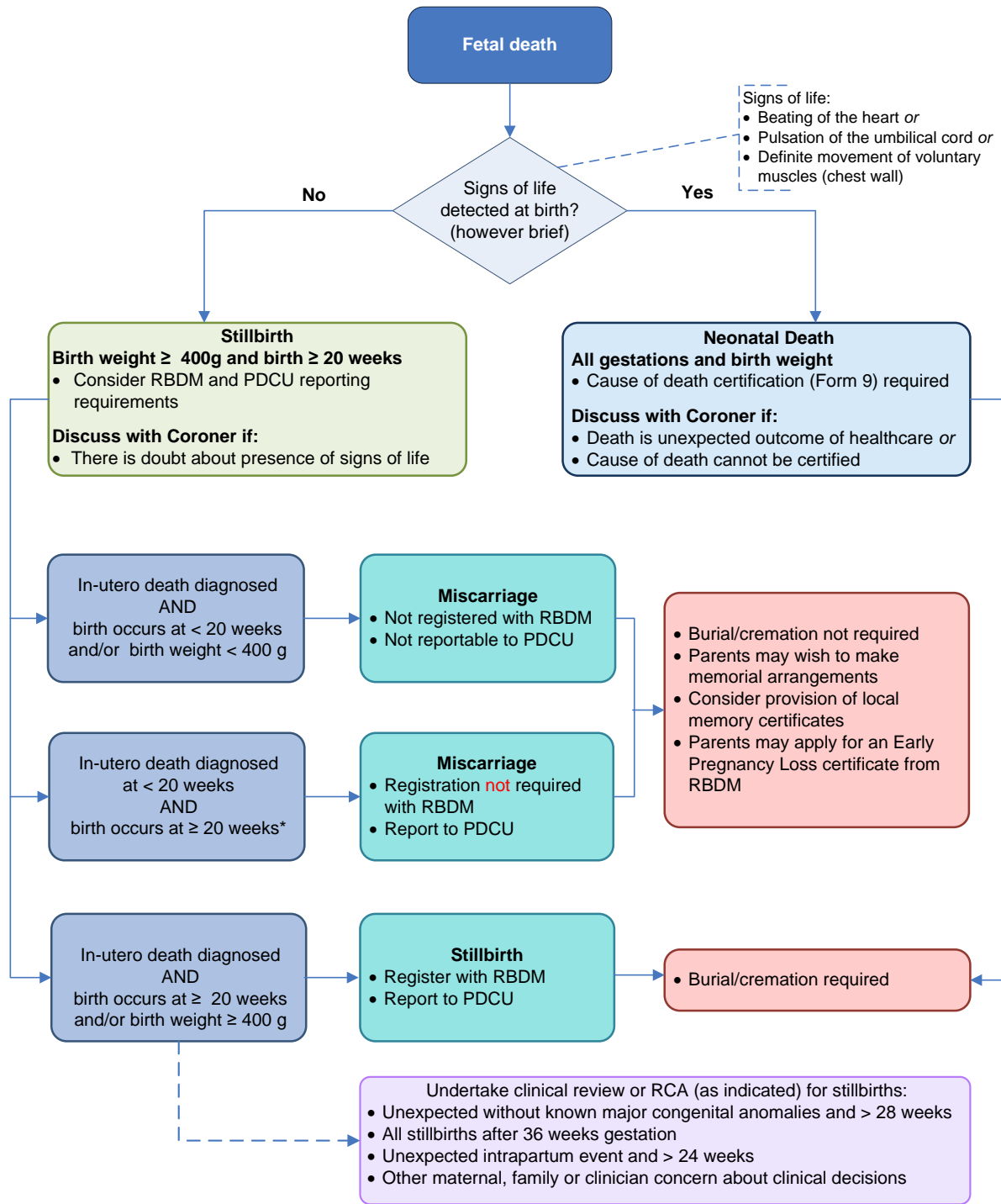
Abbreviations: CTG: Cardiotocograph; FGR: fetal growth restriction; GP: General Practitioner; PPM: Private Practice Midwife; PSANZ: Perinatal Society of Australia and New Zealand; USS: Ultrasound scan

Flowchart: Stillbirth investigations



Abbreviations: **APS:** Antiphospholipid syndrome; **CMV:** Cytomegalovirus; **CT:** Computed tomography; **HbA1c:** Glycated haemoglobin; **FGR:** fetal growth restriction; **LFTs:** Liver function tests; **LGA:** large for gestational age, **MRI:** Magnetic resonance imaging; **PPROM:** Preterm prolonged rupture of membranes; **PSANZ:** Perinatal Society of Australia and New Zealand; **SGA:** small for gestational age; **VTE:** venous thromboembolism

Flow Chart: Perinatal death reporting in Queensland



*Apply clinical judgment when it is not known whether intrauterine fetal death occurred before or after 20 weeks gestation. Delivery of acardiac twin or of a fetus papyraceous when the timing of intra-uterine demise is uncertain or extraction of a dead fetus at maternal autopsy are situations undefined in the legislation. In the absence of a clear legal path it is optional to notify RBDM but it is a requirement to report to PDCU.

RBDM: The funeral director will submit the Death Registration Application (Form 8) electronically after a Cause of Death Certificate (Form 9) and Perinatal Supplement (Form 9a) have been issued or a coronial autopsy has been performed. Parents experiencing a miscarriage may apply for an Early Pregnancy Loss Recognition Certificate.
PDCU: Notification is by maternity staff electronically or using Perinatal Data Collection Form (MR63D)

Abbreviations: ≥: greater than or equal to; <: less than; **RBDM:** Registrar of Births Deaths and Marriages; **RCA:** Root cause analysis; **PDCU:** Perinatal Data Collection Unit

Abbreviations

APMCAT	Australian Perinatal Mortality Clinical Audit Tool
IOL	Induction of labour
IV	Intravenous
MTHFR	Methylenetetrahydrofolate
OC	Obstetric cholestasis
PDCU	Perinatal data collection unit
PSANZ	Perinatal Society of Australia and New Zealand
QMPQC	Queensland Maternal and Perinatal Quality Council

Definitions

Anthropometric measurements	Systematic measurement of the physical characteristics, primarily dimensional descriptors, of body size, proportion and shape.
Chromosomal microarray	Molecular analysis of chromosomes, with higher yield for abnormality compared to standard karyotyping techniques. Microarray testing can be performed on the placenta following stillbirth.
Expectant management	Close monitoring of condition without treating unless signs and symptoms appear or change.
Fetal death	Diagnosis made at antenatal ultrasound assessment given no cardiac activity and no signs of fetal movements or blood flow in the unborn baby or fetus.
Fetus papyraceus	The dead co-twin in a continuing multiple pregnancy that is delivered as part of the placenta and membranes, having died some time before birth and undergone post-mortem changes. The fetus papyraceus is not easily recognisable and appears flat and paper-like with a birthweight less than 400 grams. ¹ May occur in singleton pregnancies (less common).
Live birth	Describes a baby where there are signs of life after delivery of the baby is completed ² regardless of gestation or birthweight.
Neonatal death	Death of a newborn baby of any gestation or birth weight within 28 days of livebirth, when heart beat or respiration or other signs of life were observed after the birth is completed. ²
Miscarriage	Describes pregnancy loss with no cardiac activity documented at less than 20 weeks gestation.
Perinatal death	Describes the death of a newborn around the time of birth, including both stillbirth and neonatal death.
Signs of life	Beating of the heart or pulsation of the umbilical cord or definite movement of voluntary muscle (e.g. chest wall).
Stillbirth	Describes a baby born with no heart beat or respiration, or other signs of life with a birthweight greater than or equal to 400 g or gestation at/or birth greater than or equal to 20+0 weeks gestation. ² The stillbirth occurs when the baby is born. ³
Woman/women	In QCG documents, the terms <i>woman</i> and <i>women</i> include people who do not identify as women but who are pregnant or have given birth.

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1 Introduction

Stillbirths make up the majority of perinatal deaths and have a significant impact on families and care givers.^{1,4} In Australia in 2020, there were 7.7 stillbirths per 1,000 births.⁵ In Queensland in 2020, there were 7.9 stillbirths per 1,000 births. However, for Aboriginal and/or Torres Strait Islander women the rate of adverse perinatal outcomes continues to be higher than for the nonindigenous population.⁵ In 2020 this rate was 11.9 stillbirths per 1000 births.⁶

1.1 Standard care

Table 1. Standard care

Aspect	Consideration
Standard care	<ul style="list-style-type: none"> • Refer to Queensland Clinical Guideline <i>Standard care</i>⁷ for care considered 'usual' or 'standard' • Includes for example: privacy, consent, decision making and discussion about the risks and benefits of treatment options, sensitive communication, medication administration, staff education and support, culturally appropriate care, and documentation
Supporting resources	<ul style="list-style-type: none"> • There are several Queensland Clinical Guidelines that help inform care of women at risk of stillbirth. These include: <ul style="list-style-type: none"> ○ <i>Hypertensive disorders of pregnancy</i>⁸ ○ <i>Gestational diabetes mellitus (GDM)</i>⁹ ○ <i>Obesity and pregnancy</i>¹⁰ ○ <i>Early onset Group B Streptococcal disease(EOGBSD)</i>¹¹ ○ <i>Venous thromboembolism (VTE) prophylaxis in pregnancy and the puerperium</i>¹² ○ <i>Perinatal substance use: maternal</i>¹³ ○ <i>Induction of labour (IOL)</i>¹⁴ ○ <i>Intrapartum fetal surveillance (IFS)</i>¹⁵ ○ <i>Preterm labour and birth</i>¹⁶ ○ <i>Prelabour rupture of membranes: preterm and term</i>^{17,18} ○ <i>Trauma in pregnancy</i>¹⁹ ○ <i>Syphilis in pregnancy</i>²⁰ ○ <i>Rheumatic heart disease and pregnancy</i>²¹ ○ <i>Fetal movements</i>²²

1.2 Causes and risk factors

Table 2. Causes and risk factors

Aspect	Consideration
Context	<ul style="list-style-type: none"> • In Queensland in 2020, stillbirths were most commonly caused by⁵: <ul style="list-style-type: none"> ○ Congenital abnormality (32%) ○ Maternal conditions (14%) ○ Unexplained antepartum death (13%) • Fragmented maternity care, without a primary known carer, is associated with poor perinatal outcomes (including stillbirth) due to poor antenatal care attendance and inadequate monitoring of women²³
Maternal demographic²⁴	<ul style="list-style-type: none"> • Age under 20 years or over 35 years • Living in a rural or remote area with limited access to health care • Low socioeconomic status • Ethnicity²⁵ (e.g. South Asian, African and Middle Eastern) • Aboriginal and/or Torres Strait Islander women
Maternal health	<ul style="list-style-type: none"> • There may be no obstetric antecedent¹ • Conditions including, but not limited to:²⁴ <ul style="list-style-type: none"> ○ Diabetes or hypertension (pre-existing or onset during pregnancy) ○ High risk of, suspected, or history of fetal growth restriction ○ High risk of, diagnosed, or history of pre-eclampsia ○ Obstetric cholestasis ○ Metabolic disturbance (e.g. diabetic ketoacidosis, malabsorption syndromes including Crohn's disease) ○ Reduced oxygen states (e.g. cystic fibrosis, obstructive sleep apnoea) ○ Uterine abnormalities (e.g. Ashermann's syndrome) ○ Current or history of spontaneous preterm birth • Elevated body mass index (BMI)^{26,27} • Isoimmunisation • Infections <ul style="list-style-type: none"> ○ Syphilis²⁸ ○ Rubella²⁹ • Mental health disorders • Sleep position • Exposure to infections (e.g. Zika virus) • Trauma
Pregnancy and fetal health²⁴	<ul style="list-style-type: none"> • Prenatal diagnosis of a genetic or structural fetal anomaly • Nulliparity • Multiple pregnancy, with or without monochorionic placentation • Pregnancy through assisted reproductive technology • Abnormal placentation or placental dysfunction • Post-term (prolonged) pregnancy (≥ 42 weeks gestation) • Reduced, altered or abnormal fetal movements²⁴ • Infection • Anaemias of fetal origin (e.g. alpha-thalassaemia) • Cord accidents (e.g. true knot) • Materno-fetal transfusion
Maternal lifestyle and/or environmental factors	<ul style="list-style-type: none"> • Maternal or household smoking¹ • Alcohol consumption and/or other substance use^{30,31} • Experiencing, or being at risk of family violence • Poor nutrition and food security²⁴
Unknown	<ul style="list-style-type: none"> • No positive investigation finding of fetal death <ul style="list-style-type: none"> ○ Interpret as hypoxic event of unknown aetiology

2 Clinical standards

Stillbirth has a profound effect on the emotional, mental and social health of women and their families.^{1,32,33} Care from health professionals needs to be sensitive, empathetic and attuned to each individual woman and family.³⁴ Listen to and investigate any concerns expressed by the parents, including seeking the advice of a more experienced clinician if required. Provide parents with copies of the result(s) of any investigations performed and assist interpretation.

Table 3. Clinical standards

Aspect	Consideration
Cultural safety and equity ²⁴	<ul style="list-style-type: none"> • The risk of stillbirth is increased risk among Aboriginal and/or Torres Strait Islander women, and women from migrant and refugee backgrounds • Offer women access to culturally safe continuity of maternity care models according to individual preferences • Facilitate referral to Aboriginal and/or Torres Strait Islander health care workers, or liaisons to support care
Organisational responsibilities	<ul style="list-style-type: none"> • Address potential barriers to care in rural and remote areas and provide access to care via telehealth services, where appropriate • Facilitate continuity of care and carer (e.g. midwifery models of care) • Nominate a point of contact for families experiencing a perinatal death (e.g. bereavement midwife/nurse or another experienced clinician) • Facilitate appropriate investigation into perinatal deaths¹ • Facilitate appropriate debriefing and follow-up of affected families (support women to voice their account of the events)³⁵ • Provide culturally appropriate support services (including religious considerations) for women and their families • Implement local procedures for the respectful and sensitive transport of a stillborn baby between and within maternity services and the mortuary • Develop local procedures to support parents to take their stillborn baby to an outside environment (e.g. home) if they desire including: <ul style="list-style-type: none"> ○ The use of a cooling devices (e.g. Techni-ice®) ○ Documentation applicable to the local government (Council) regulations • A point of phone contact for the woman and partner, including out of hours • Implement local procedures to facilitate specimen collection and autopsy examination of stillborn baby¹
Staff education and support ¹	<ul style="list-style-type: none"> • Provide education about stillbirth procedures and investigations including autopsy (e.g. Improving Perinatal Mortality Review and Outcomes Via Education (IMPROVE) program)¹ • Provide training in bereavement counselling involved in perinatal deaths³⁶ including open communication and information available to share with women³⁷ • Provide access to debriefing support services • Facilitate opportunities, (including for students and new graduate clinicians), to gain appropriate training in bereavement care
Perinatal mortality review	<ul style="list-style-type: none"> • Review all perinatal deaths through a formal process (e.g. Perinatal Morbidity and Mortality Committee) involving the multidisciplinary team <ul style="list-style-type: none"> ○ Refer to the Queensland Maternal and Perinatal Quality Council (QMPQC) <i>Perinatal mortality review—resource toolkit</i>³⁸ • Refer to Table 2. Causes and Table 6. Legal definitions • Provide feedback to clinicians on clinical care, perinatal mortality investigations, documentation, and communication • Arrange debriefing and follow-up of families following the review, and consider open disclosure (if appropriate) to the woman and partner
Criteria for stillbirth analysis	<ul style="list-style-type: none"> • Suggested criteria for stillbirth analysis (clinical incident analysis or root cause analysis (RCA))³⁹ <ul style="list-style-type: none"> ○ All stillbirths after 36+0 weeks gestation as standard practice ○ All stillbirths after 28+0 weeks of gestation <ul style="list-style-type: none"> ▪ Exclude known major congenital abnormalities where stillbirth is not unexpected ○ All stillbirths after 24 weeks of gestation where unexpected intrapartum fetal death occurs ○ Stillbirths where there are clinician, maternal or family concerns ○ Refer to PSANZ and Centre of Research Excellence (CRE)¹

2.1 Antenatal counselling

Table 4. Antenatal counselling

Aspect	Consideration
Counselling	<ul style="list-style-type: none"> • Professionally discuss ways to reduce risk factors and modifiable lifestyle risks⁴⁰ • Recommend safe sleep positions (e.g. side sleeping)⁴¹ • Understand normal fetal movements at different stages of pregnancy <ul style="list-style-type: none"> ○ Advise women to seek advice immediately if any change to fetal movements at any time^{42,43} ○ Refer to Queensland Clinical Guideline <i>Fetal movements</i>²² ○ Refer to the PSANZ clinical practice guideline for <i>The management of women who report decreased fetal movements</i>⁴⁴ ○ Refer to the Safer Baby Bundle⁴⁵
Antenatal care ⁴⁶	<ul style="list-style-type: none"> • Comprehensive medical, obstetric, social, family and travel history • Identification and management of pregnancy risks including²⁴: <ul style="list-style-type: none"> ○ Hypertension [refer to Queensland Clinical Guideline <i>Hypertension and pregnancy</i>⁸] ○ Diabetes type 1 and type 2 [refer to Queensland Clinical Guideline <i>Gestational diabetes mellitus</i>⁹] • Discuss importance of: <ul style="list-style-type: none"> ○ Regular antenatal appointments ○ Routine screening (e.g. fetal growth restriction) ○ Ultrasound scan early in pregnancy
Previous stillbirth or perinatal loss ²⁴	<ul style="list-style-type: none"> • Consider additional monitoring that may be required • Make an individualised plan of care with the woman that may include, but is not limited to: <ul style="list-style-type: none"> ○ Continuity of carer ○ Increased frequency of ultrasound scans or monitoring ○ Aneuploidy testing for women with a history of loss due to a congenital anomaly ○ Low dose aspirin for women at risk for placental insufficiency ○ Cervical length screening and/or progesterone therapy for women with a history of spontaneous preterm birth ○ Refer to Queensland Clinical Guideline <i>Preterm labour and birth</i>¹⁶
Diet and supplementation	<ul style="list-style-type: none"> • Discuss a balanced diet—a balanced energy/protein diet versus no supplementation suggests a probable reduction in stillbirth⁴⁷ • Offer advice about preconception folic acid supplementation⁴⁸, iron, calcium and vitamin fortification or supplementation • Advise about food borne illness (e.g. listeriosis)
Travel advice ^{49,50}	<ul style="list-style-type: none"> • Risks associated with travel to countries where exposure to infection is increased (e.g. malaria, Zika virus)
Sexually transmitted infections	<ul style="list-style-type: none"> • Undertake comprehensive sexual health history to identify and manage sexually transmitted infections⁴⁸ • Refer to Queensland Clinical Guideline <i>Syphilis in pregnancy</i>²⁰
Substance use	<ul style="list-style-type: none"> • Offer smoking cessation program and support⁴⁶ • Offer referral and support for substance use • Refer to Queensland Clinical Guideline <i>Perinatal substance use</i>¹³
Birth planning	<ul style="list-style-type: none"> • Unless otherwise clinically indicated (e.g. concern for maternal or fetal health including risk of stillbirth) IOL or caesarean section not generally indicated • Provide information on the benefits of delaying birth, where possible <ul style="list-style-type: none"> ○ Birth planned prior to 39 weeks gestation is only recommended for specific maternal indications • Discuss IOL relevant to the specific circumstances, risks and preferences, and provide written information about the possible benefits and harms to the women and/or baby • Facilitate access to Aboriginal and/or Torres Strait Islander healthcare workers or liaisons (if appropriate) to support discussions about birth planning • Consider the impact on women living in rural and remote areas, and how distance from health care may influence timing of birth • Consider IOL for post-term pregnancy⁵¹ <ul style="list-style-type: none"> ○ Refer to Queensland Clinical Guideline <i>Induction of labour</i>¹⁴

2.2 Communication

Stillbirth exacts a heavy psychological and social burden on women and families.^{52,53} Grief can be overwhelming, and the repercussions of stillbirth can be life changing. An estimated 60–70% of women who experience a stillbirth will experience grief related symptoms at a clinically significant level for one to four years, after their baby's death.⁵⁴ Poor communication by a health professional when a woman has experienced a fetal death and/or stillbirth can be detrimental to mental health and may interrupt or exacerbate the grieving process.

Deliver care to the woman, partner family and the baby with sensitivity, compassion and empathy.⁴⁰ Encourage women, and their families/support people, to express their thoughts and ask questions throughout pregnancy.²⁴ Consider the woman and partner's, psychosocial, cultural and spiritual beliefs, and provide timely referral to support services, if required.²⁴

Table 5. Communication with parents

Aspect	Consideration
Communication ⁵⁵	<ul style="list-style-type: none"> • Recognise parenthood and assure parents that their baby will be treated with care and respect at all times¹ • Provide honest and transparent information using clear and understandable language • Offer verbal, written and electronic information, repeat details and answer parent's questions • Allow time for questions and discussions³⁶ • Recognise the impact of stillbirth on families including the partner, siblings, grandparents and other family members¹
What to say	<ul style="list-style-type: none"> • I'm sorry you have to go through this • How can I support you? • I wish things had ended differently • I don't know what to say • Do you have any questions? • We can talk again later • We will do the best that we can to care for you and your baby
What not to say	<ul style="list-style-type: none"> • It's best this way • It could have been worse • Time will heal • You can have more children or at least you have other children • It's good your baby died before you got to know him/her well • Baby is in a better place • Start conversations with 'at least' • Refer to baby as 'it' or as 'the fetus' or as 'products of conception'
What to do	<ul style="list-style-type: none"> • Use respectful language when referring to the baby including the baby's name and gender if known • Use the language that the parents use (e.g. bub, little one, angel) • Answer questions honestly • Use straightforward and simple language • Show emotion • Listen to the parents and talk about their baby • Provide the parents time to make decisions • Allow time for the parents to talk about their baby
What not to do	<ul style="list-style-type: none"> • Use medical terminology or language, jargon and ambiguous descriptions including 'incompatible with life' • Argue with parents • Avoid questions • Ignore the parents

3 Reporting requirements

3.1 Legal definitions

Table 6. Legal definitions

Aspect	Considerations
Births, Deaths and Marriages Act 2003	<ul style="list-style-type: none"> • In Queensland: Part 6, Section 33 Births, Deaths and Marriages Act 2005 a stillborn child is taken to have died: <ul style="list-style-type: none"> ○ When the child left the mother's body; and ○ At the place where the mother was when the child left the mother's body⁵⁶
Public Health Act 2003	<ul style="list-style-type: none"> • In Queensland: Part 1 Perinatal Statistics Division 1 Definitions 214 Public Health Act 2003 defines a baby not born alive as a baby: <ul style="list-style-type: none"> ○ Who has shown no sign of respiration or heartbeat, or other sign of life after completely leaving the child's mother; and ○ Who has been gestated for 20 weeks or more or weighs 400 grams or more² • It is a clinical decision as to whether or not there are signs of life [refer to Definitions • Refer to Appendix A: Scenario based reporting aid
Coroner's Act 2003	<ul style="list-style-type: none"> • Stillbirths are not reportable under the Queensland Coroner's Act 2003³ <ul style="list-style-type: none"> ○ Exceptions⁵⁷ (to determine if the baby was born alive): <ul style="list-style-type: none"> ▪ The body is an abandoned newborn whose birth was unwitnessed by clinicians ▪ There is clinical disagreement or doubt about whether the child was born alive • Discuss with coroner when: <ul style="list-style-type: none"> ○ The cause of death is likely to be asphyxia or hypoxic ischaemic encephalopathy after active resuscitation is required at birth. This includes cases considered to be a 'resuscitated stillbirth' when the newborn requires significant immediate resuscitation after an apparently uncomplicated term birth or after an emergency birth for an acute maternal condition in pregnancy⁵⁷
Hospital and Health Boards Regulation 2023	<ul style="list-style-type: none"> • Section 37 (1) of the Hospital and Health Boards Regulation 2023 includes stillbirth as a reportable event⁵⁸ • This allows for clinical incident management and allow root cause analysis in a legally privileged environment <ul style="list-style-type: none"> ○ No legislation or binding policy describes which form of analysis to be undertaken • Refer to Table 3. Clinical standards for management of perinatal mortality review and suggested criteria for stillbirth analysis

3.2 Reporting and documentation

Table 7. Reporting and documentation

Aspect	Consideration
Perinatal data collection	<ul style="list-style-type: none"> • Assists: <ul style="list-style-type: none"> ○ Monitoring and analysis of obstetric and perinatal patterns and outcomes⁵³ ○ Monitoring and analysis of perinatal mortality rates ○ Researching perinatal care ○ Monitoring congenital abnormalities ○ Planning of obstetric and perinatal health services⁵⁹
Documentation	<ul style="list-style-type: none"> • Document clearly and accurately all relevant clinical details in the woman's medical record • In Queensland complete the following: <ul style="list-style-type: none"> ○ Cause of Death Certificate—Form 9 <ul style="list-style-type: none"> ▪ If required following Perinatal Mortality Committee review, complete another Form 9 and write 'amended' at the top of the form (Amended Cause of Death Certificate) ○ Perinatal Supplement (to Cause of Death Certificate)—Form 9A ○ Birth registration application—Form 1⁵⁶ ○ Queensland Perinatal Data Collection (PDC)⁵⁹ <ul style="list-style-type: none"> ▪ Electronic file format or ▪ Paper form MR63D ○ Centrelink claim form for Bereavement Payment and provide this to the parents <ul style="list-style-type: none"> ▪ Include the full name of mother of baby, baby's sex, date of birth, place of birth, weight, and gestation • Complete the discharge summary for the woman's primary care and community-based health care providers (e.g. general practitioner, private practice midwife)
Classification	<ul style="list-style-type: none"> • Use the Perinatal Society of Australia and New Zealand—Perinatal Death Classification (PSANZ–PDC) to classify the stillbirth⁶⁰ • Review each stillbirth once results of core investigations are available to correctly classify or reclassify if necessary • Knowledge of the classification system is required to correctly classify the cause of the stillbirth • The QPMPQC provides advice and makes recommendations on matters relating to statewide and facility specific morbidity and mortality⁶¹ <ul style="list-style-type: none"> ○ Refer to the QMPQC <i>Perinatal mortality review—resource toolkit</i>³⁸ • Collect and record data according to the PSANZ Clinical Guideline¹ and using Australian Perinatal Mortality Clinical Audit Tool (APMCAT)⁶² <ul style="list-style-type: none"> ○ Provide copies to QMPQC of: <ul style="list-style-type: none"> ▪ PDC (electronic or paper version) ▪ Forms 9 and 9A ▪ APMCAT summary ▪ Discharge summary ▪ Pathology reports—autopsy, placental pathology and cytogenetic reports

4 Model of care

Genuine engagement and individualised personal care as well as sensitivity, emotion and empathy expressed by health care providers, is appreciated by parents, and can shape their experience.^{36,63} An individualised plan of care and approach focuses on and validates the woman's experiences.³⁷

4.1 Care at time of diagnosis of fetal death

Table 8. Time of diagnosis care

Aspect	Consideration
Context ^{1,63}	<ul style="list-style-type: none"> • Hold discussions with parents in a quiet and private area • Parents and families: <ul style="list-style-type: none"> ○ Are at risk of detrimental psychosocial effects (e.g. grief, depression, self-blame and feelings of guilt, shame, or failure) ○ May experience culture related issues including how they relate to their family and their system of kinship • If adequately trained and prepared, healthcare providers can mitigate negative feelings • Consider other family members (e.g. siblings and grandparents) as they may also require emotional support and attention⁶⁴ <ul style="list-style-type: none"> ○ Offer age-appropriate support to siblings in terms of explanation and their level of involvement based on discussions with the parents ○ Provide advice regarding local support groups and school programs for children including SANDS and Red Nose resources
Informing parents about stillbirth diagnosis and management	<ul style="list-style-type: none"> • Experienced practitioners are best placed to inform parents and discuss their options • Do not delay informing parents about their baby's death but consider their emotional state when choosing a time and place for discussions³⁶ • Acknowledge the woman and partner as parents • Use empathetic and unambiguous language (e.g. 'your baby has died') • Be sensitive and non-judgemental regarding the emotions and actions expressed by the parents and allow them time to process and make decisions • Acknowledge and validate the emotional experience and reactions of the parents⁶³ • Offer access to support services (e.g. social worker, bereavement midwife, Aboriginal and/or Torres Strait Islander liaison officer, religious leaders or pastoral care worker) as appropriate • After informing parents of stillbirth offer privacy, whilst continuing to provide care • Discuss a plan for the investigation into the cause of the stillbirth <ul style="list-style-type: none"> ○ Avoid speculation about the cause of death until investigations are completed ○ Explain that some stillbirths remain unexplained even after detailed investigation and review • Reassure parents that every attempt will be made to identify the cause of death³⁶ <ul style="list-style-type: none"> ○ Consider timing of discussion about perinatal investigations including autopsy • If late fetal death, advise the woman that passive fetal movements may be experienced until the baby is born³²
Model of care ¹	<ul style="list-style-type: none"> • Individualise care so that it is responsive to the parent's needs (including flexible visiting hours, when appropriate and available) • Consult with parents and establish their preferences⁶³ for the most appropriate time and place, for the woman's birth and postnatal care • Allow parents as much time as they need to consider their options and make decisions • Where possible provide care by known healthcare provider to promote continuity of care and carer (e.g. midwifery models of care, bereavement midwife) • Give parents the option of remaining in hospital for IOL or going home first to prepare for the birth

4.2 Care considerations prior to labour and birth

Discuss the options for labour and birth in detail and provide written information to the woman. Take into consideration the woman's preferences, previous medical obstetric history, and safety. Advise the woman who is considering expectant management that this may affect the autopsy, and the appearance of the baby (e.g. increased skin slippage).

Generally vaginal birth is recommended, although some women will require or request a caesarean.³² Most women will labour spontaneously within three weeks of a fetal death.³² However maternal anxiety during this time may be significant and waiting for spontaneous onset of labour may not be preferable.⁶⁵

Table 9. Care considerations prior to labour and birth

Aspect	Consideration
Preparation for birth	<ul style="list-style-type: none"> • Prepare parents by providing clear step by step information about IOL and the birthing process including potential length of labour <ul style="list-style-type: none"> ○ Provide information about methods of analgesia ○ Refer to Queensland Clinical Guidelines <i>Normal birth</i>⁶⁶ and <i>Intrapartum pain management</i>⁶⁷ • Provide information about caesarean birth (emergency and planned) when required • Reassure parents that their baby will be treated with care and respect at all times¹ • Advise parents about bringing a camera, clothes, blanket and soft toys for the baby if they wish⁶⁵ <ul style="list-style-type: none"> ○ Discuss if the parents would like to take photographs or have staff assist with this • Be aware of the complex nature of grief for parents of a multiple pregnancy where one or more baby has died¹ <ul style="list-style-type: none"> ○ Parents may appreciate a photograph of the babies together (including ultrasound scans) ○ Inform parents about baby's physical appearance with regard to gestational age and development, physical abnormalities and potential injuries (e.g. skin slippage) • Avoid overmedicalisation and confronting descriptions that may impact their decisions about seeing their baby⁶⁵ • Support the parents if they do not wish to hold or see their baby
Preparation for labour	<ul style="list-style-type: none"> • Timing between diagnosis and birth: <ul style="list-style-type: none"> ○ Collaborate with parents regarding the timing of IOL ○ Include both parents in information provision and discussion⁶³ ○ Ask parents if they have a birth plan ○ Consider woman's medical condition and previous intrapartum history³² • Prepare the birthing suite/operating theatre and equipment in a manner that supports parents during a stillbirth • Where possible, and after discussion with woman, provide a designated area away from crying babies but with access to staff able to support the parents⁶³ <ul style="list-style-type: none"> ○ Maternity staff may be able to provide clinical care in non-maternity ward ○ Advise parents before birth if they will be cared for in a maternity unit • Refer to Table 18. Labour, birth and post birth care

4.3 Post birth care of woman and family

Parents consider stillbirth no less tragic than a neonatal or child death.⁶⁸ The impact of a stillbirth can last for many years for parents and families. Ongoing support and sensitive care from healthcare providers may reduce the detrimental psychosocial effects of stillbirth.⁶⁹ Support parents to be involved in all care of their baby, if they wish.

Table 10. Post birth care

Aspect	Consideration
Culturally appropriate care¹	<ul style="list-style-type: none"> • Acknowledge the parent's cultural, spiritual, and religious beliefs • Be aware of the specific cultural and religious practices when providing care • Offer to assist parents to contact their preferred spiritual, religious and cultural support, and services • Engage an accredited interpreter, if required • Aboriginal and/or Torres Strait Islander people may wish support from elders, family and community members⁶³, or liaison officer or health worker
Post birth care	<ul style="list-style-type: none"> • Physical spaces and surroundings are essential to support good communication <ul style="list-style-type: none"> ○ Support access to privacy whilst also maintaining immediate access to appropriately trained healthcare professionals ○ Accommodate in a single room in an appropriate area of the hospital, where possible ○ Keep room door or curtain closed according to the woman's wishes • Identify the woman's room and medical record with universal symbols (e.g. a flower or butterfly so that all clinical and non-clinical staff are aware) • Offer referral to psychologist, social worker or bereavement midwife (if available) • Provide impartial, accessible and objective information³⁵ <ul style="list-style-type: none"> ○ Written, verbal and electronic information to assist decision-making regarding investigations and post-mortem examination⁶⁹ <ul style="list-style-type: none"> ▪ Use an empathetic and sensitive approach to discussions about autopsy ▪ Inform parents how the baby is transported for the autopsy and to the funeral home ○ Support and provide advice (written, verbal and electronic) regarding birth registration and organisation of a funeral • Repeat all information as often as necessary • Offer debriefing [refer to Table 18. Labour, birth and post birth care] • Discharge woman when clinically and emotionally appropriate and following discussion regarding their preferences
Support	<ul style="list-style-type: none"> • Offer information sensitively about <ul style="list-style-type: none"> ○ Grief and mental health conditions (e.g. depression, post-traumatic stress disorder) ○ Physical (physical changes, lactation, sex and contraception), emotional, psychological, social and relationship issues experienced following a stillbirth ○ Options for pre-conception counselling for subsequent pregnancies ○ Supporting other children and family members ○ Physical activity to help manage grief⁶⁹ ○ Local support groups for parents and family who have experienced perinatal loss (e.g. SANDS and Red Nose) • Refer to Queensland Clinical Guideline parent information <i>Stillbirth care</i>

4.4 Care of baby

Table 11. Care after birth

Aspect	Consideration
Decision to see/hold baby	<ul style="list-style-type: none"> • Respect and support parental decisions about whether to see/hold their baby • Normalise fears of seeing baby by providing examples from other parents' experiences <ul style="list-style-type: none"> ○ Describe the baby's appearance and/or provide a photograph as a first step to normalising the fear of seeing their baby • Discuss the options of <ul style="list-style-type: none"> ○ Seeing baby again at the funeral home or returning to the hospital if baby is remaining in the mortuary ○ Photographs (e.g. staff or professional photographers) • If parents choose, or choose not to see or hold their baby³², explain they may change their minds at any time
After birth²⁴	<ul style="list-style-type: none"> • Encourage and support parents to spend as much time as they like cuddling, bathing and dressing their baby to normalise and validate their feelings³⁶ <ul style="list-style-type: none"> ○ Dressing the baby if their skin is macerated from skin slippage may help parents ○ Assist parents with bathing their baby if they choose ○ Temperature of bath water as per wishes of the family ○ Involve siblings when appropriate ○ Use cooling aids (e.g. Techni ice®) or cold cot if available ○ Offer opportunity for skin-to-skin contact immediately after birth • Offer options to take their baby home (if possible), or see and spend time with their baby on more than one occasion • Advise parents about physical changes that may occur with their baby over time (e.g. nose bleeds, blue lips, cold to touch, smell/odour)
Creating memories	<ul style="list-style-type: none"> • Support and guide parents when spending time with their baby to create valuable memories • Inform and assist parents with creation of memories including: <ul style="list-style-type: none"> ○ A memory box for photographs, sketches or drawings, ultrasound images, locks of hair, nail clippings, blankets, items of clothing and hand and footprints • If parents initially decline these items, offer to collect and store items (as per local hospital protocols) or give to another family member (if possible and with their consent)⁶⁵
Going home	<ul style="list-style-type: none"> • Support the parents as they leave the hospital without their baby noting that parting without their baby may be extremely distressing⁶⁵ • Discuss with parents how they wish to say goodbye to their baby and leave the hospital (e.g. they may feel comfortable handing their baby to a midwife as they leave) • Discuss option of seeing their baby again⁷⁰

5 Clinical management

5.1 Diagnosis of intrauterine death

Table 12. Diagnosis of intrauterine death

Aspect	Consideration
Context	<ul style="list-style-type: none"> • Diagnosis requires appropriate, urgent assessment by real-time ultrasound examination • Do not make the diagnosis of fetal death based on fetal heart not heard on auscultation by hand-held Doppler
Diagnosis	<ul style="list-style-type: none"> • Performed by experienced clinician—obstetrician, maternal fetal medicine specialist, radiologist, or sonographer • The diagnosis of fetal death requires: <ul style="list-style-type: none"> ○ Formal confirmation by an ultrasound examination to demonstrate lack of fetal heart activity ○ A clear and unambiguous communication with the pregnant woman and family describing the reason for the urgent ultrasound assessment ○ Escort and support from a midwife/bereavement midwife while attending ultrasound examination ○ Support from a social worker, bereavement midwife, Aboriginal and/or Torres Strait Islander healthcare worker, pastoral care worker, translator or other suitable person, continuity of healthcare provider

5.2 Management of labour

Table 13. Management of labour

Aspect	Consideration
Context	<ul style="list-style-type: none"> • Expectant management may increase maternal anxiety for some, and for others it may assist the grieving process • IOL is supported and often required following a fetal death <ul style="list-style-type: none"> ○ Refer to Queensland Clinical Guideline <i>Induction of labour</i>¹⁴
Timing	<ul style="list-style-type: none"> • Many women will go into spontaneous labour within two to three weeks of an intrauterine fetal death³² • If the woman has ruptured membranes, infection, pre-eclampsia or placental abruption, recommend immediate IOL⁷¹ • If the woman is physically well, the risk from expectant management is low when the membranes are intact and there is no evidence of infection, pre-eclampsia or bleeding including laboratory evidence of disseminated vascular dissemination (DIC) <ul style="list-style-type: none"> ○ Immediate IOL is not required, and timing of birth is based on the woman's preference ○ Provide the woman with the option of IOL, or support to delay IOL for a few days if she does not want expectant management³² • If labour delayed for more than 48 hours advise woman to have twice weekly testing for DIC³² and discuss rationale
Risks	<ul style="list-style-type: none"> • Management of stillbirth in women with a favourable cervix is often uncomplicated • Failed IOL and uterine rupture—increase when cervix is unfavourable⁷¹ • Obstetric complications—shoulder dystocia and postpartum haemorrhage • DIC—risk increases in women retaining a dead fetus more than 4 weeks⁷¹ <ul style="list-style-type: none"> ○ May also develop in 10% of cases⁷² within 4 weeks³²
Methods	<ul style="list-style-type: none"> • Pharmacological: <ul style="list-style-type: none"> ○ Refer to Section 5.3 Induction of labour • Mechanical IOL: <ul style="list-style-type: none"> ○ Balloon (transvaginal) catheter (e.g. Cook cervical ripening balloon) ○ Artificial rupture of membranes (ARM) ○ Refer to Queensland Clinical Guideline <i>Induction of labour</i>¹⁴ • Provide adequate analgesia to the woman as requested <ul style="list-style-type: none"> ○ Refer to Table 9. Care considerations prior to labour and birth

5.3 Induction of labour

If the woman declines or has risk factors for expectant management then IOL is indicated. Mifepristone followed by misoprostol significantly improves the rate of successful vaginal birth with a shorter induction to birth interval compared with misoprostol alone after a fetal death.⁷³

The dose and frequency are influenced by the maternal response to the medications (e.g. woman may become febrile or develop diarrhoea). Refer to Section 5.4.1 and Section 5.4.2 for suggested induction regimens for women with and without risk of uterine rupture. Regimens vary and different local protocols may be appropriate.

Table 14. IOL medications

Aspect	Consideration
Dinoprostone* (Prostaglandin E2)	<ul style="list-style-type: none"> Refer to Queensland Clinical Guideline <i>Induction of labour</i>¹⁴ for dosing regimen and further information
Misoprostol* (Prostaglandin E1)	<ul style="list-style-type: none"> Superior to oxytocin as a first line treatment as has: <ul style="list-style-type: none"> Shorter induction to birth interval Shorter duration of hospital stays Lower complication rates^{74,75} Indicated in a woman with an unfavourable cervix with diagnosis of fetal death⁷⁶ May be used for medical management of fetal death in second trimester If PGE1 analogue Gemeprost pessary used: <ul style="list-style-type: none"> Do not use lubricants other than water Advise woman to lie down for 30 minutes after administration Do not replace if it falls out Only use oxytocin six hours after pessary removed (due to additive effects of both on uterus)
Mifepristone*⁷⁷	<ul style="list-style-type: none"> Effective for induction of labour in setting of intrauterine fetal death
Oxytocin*	<ul style="list-style-type: none"> Refer to Queensland Clinical Guideline <i>Induction of labour</i>¹⁴ for dosing regimen and further information Avoid oxytocin infusion within 6 hours of misoprostol or dinoprostone

*Refer to an Australian pharmacopoeia for complete drug information

5.4 Care during induction of labour

Table 15 Care during induction of labour

Aspect	Consideration
Cautions	<ul style="list-style-type: none"> Seek expert advice from a higher-level service as required
Pre-care	<ul style="list-style-type: none"> Baseline vital signs, vaginal loss, pain prior to commencement IV access is recommended If Rh negative, administer Rh D immunoglobulin (Anti-D) <ul style="list-style-type: none"> Refer to Queensland Clinical Guideline <i>Rh negative women and pregnancy</i>²¹ Full blood count (FBC), group and hold as clinically indicated
Inpatient clinical care	<ul style="list-style-type: none"> Offer analgesia Offer antiemetics if required Vaginal examination as clinically indicated Bed rest 30 minutes after each dose but may mobilise freely at other times Consider administration of oxytocin intravenously at time of birth If the placenta is not spontaneously delivered within 60 minutes of the baby (or earlier if excessive bleeding occurs) consider operative removal
Observations	<ul style="list-style-type: none"> Vital signs vaginal loss, contractions, pain Assess 30–60 minutes after initial dose of misoprostol and after each subsequent dose

5.4.1 Induction regimen for women at risk of uterine rupture

Table 16. Induction regimen with risk of uterine rupture

Risk of uterine rupture or with previous uterine surgery	
Cautions	<ul style="list-style-type: none"> • Seek expert advice from a higher level service⁷⁸ as required • Consider IV access and monitor women closely for evidence of scar complications
Less than 34+0 weeks	<ul style="list-style-type: none"> • Day 1: mifepristone 200 mg oral⁷⁹ • Day 2: 36–48 hours after mifepristone <ul style="list-style-type: none"> ○ Misoprostol 200 micrograms inserted into the posterior fornix of the vagina ○ If birth has not occurred within 4 hours of initial dose, then misoprostol 200 micrograms inserted into the posterior fornix of the vagina every 4 hours for 4 doses (may also be given sublingual or buccal) • If undelivered at 24 hours after initial dose, then commence misoprostol 400 micrograms inserted into the posterior fornix of the vagina every 6 hours for a maximum of 4 further doses • If undelivered at 48 hours after initial dose, then review by an obstetrician is indicated. Options may include: <ul style="list-style-type: none"> ○ Continue with misoprostol 400 micrograms 6 hourly or ○ Rest day then recommence or ○ IV oxytocin is most effective if some effacement and dilation has occurred or ○ Surgical delivery
34+0 weeks or more	<ul style="list-style-type: none"> • Transcervical catheter • Oxytocin infusion and artificial rupture of membranes • Avoid misoprostol or dinoprostone

*Refer to an Australian pharmacopoeia for complete drug information

5.4.2 Induction regimen for women not known to be at risk of uterine rupture

Table 17. Induction regimen with no known risk of uterine rupture

Follow protocol according to gestational age	
13+0 to 24+6 weeks	<ul style="list-style-type: none"> • Day 1: mifepristone 200 mg oral⁷⁹ • Day 2: 36–48 hours after mifepristone⁸⁰ <ul style="list-style-type: none"> ○ Misoprostol 400 micrograms vaginal or sublingual ○ Followed by misoprostol 400 micrograms vaginal or sublingual every three hours up to a maximum of four further doses
25+0 to 33+6 weeks	<ul style="list-style-type: none"> • Day 1: mifepristone 200 mg oral⁷⁹ • Day 2: 36–48 hours after mifepristone⁸⁰ <ul style="list-style-type: none"> ○ Misoprostol 200 micrograms vaginal or sublingual every 3–6 hours for six doses over 24 hours
34+0 weeks or more	<ul style="list-style-type: none"> • Pre-induction: <ul style="list-style-type: none"> ○ Dinoprostone or transcervical catheter • Induction <ul style="list-style-type: none"> ○ Misoprostol 50–100 micrograms sublingually or per vagina 3–6 hourly for five doses over 24 hours ○ Oxytocin infusion and consider artificial rupture of membranes after labour established

*Caution: refer to the Australian product information for complete drug information

5.5 Care during labour, birth, and post birth

Respect and support the wishes and preferences of the parents. Provide culturally sensitive care and acknowledge and support the religious beliefs, practices and rituals of the parents and family.

Table 18. Labour, birth and post birth care

Aspect	Consideration
Labour	<ul style="list-style-type: none"> • Provide routine normal birth care <ul style="list-style-type: none"> ○ Offer analgesia, according to woman's preferences ○ Refer to Table 9. Care considerations prior to labour and birth ○ Refer to Queensland Clinical Guideline <i>Normal birth</i>⁶⁶ and <i>Intrapartum pain management</i>⁶⁷ • Observe for complications of birth including shoulder dystocia, postpartum haemorrhage and amniotic fluid embolism
Birth	<ul style="list-style-type: none"> • Discuss and support requests to normalise birth <ul style="list-style-type: none"> ○ Cutting the umbilical cord ○ Skin to skin contact • Consider active third stage management <ul style="list-style-type: none"> ○ Refer to Queensland Clinical Guideline <i>Normal birth</i>⁶⁶
Post birth	<ul style="list-style-type: none"> • Provide routine post birth care <ul style="list-style-type: none"> ○ Refer to Section 4.3 Post birth care of woman and family • Provide the woman and partner with appropriate debriefing, support, referral and follow-up to reduce the risk of postnatal depression, anxiety and post-traumatic stress disorder • Discuss the importance of breast care <ul style="list-style-type: none"> ○ Provide verbal and written advice on supporting lactation suppression (e.g. the Australian Breastfeeding Association <i>Lactation after your baby dies</i>⁸¹) ○ Support the woman's choice to suppress lactation or donate milk • Sensitively provide verbal and written contraception advice including <ul style="list-style-type: none"> ○ Return to a normal fertile cycle with lactation suppression is rapid ○ Discussing the emotional and physical preparedness and options for delaying subsequent pregnancies until individually ready • Advise on postnatal exercises <ul style="list-style-type: none"> ○ Refer to physiotherapy services if required • Refer to home visiting midwifery services, and/or other support services, and notify primary healthcare provider (e.g. general practitioner, community health facility, local hospital) • Offer postnatal review to discuss stillbirth and further investigations • Discuss implications for future pregnancy planning and management
Management of maternal medical conditions	<ul style="list-style-type: none"> • Consider maternal conditions requiring further investigation and management (e.g. pre-eclampsia, HELLP syndrome) • Consider full blood examination to assist detection of: <ul style="list-style-type: none"> ○ Infection ○ Maternal anaemia (e.g. caused by thalassaemia) ○ Low platelet level—a marker for pre-eclampsia ○ Autoimmune diseases (e.g. systemic lupus erythematosus and idiopathic thrombocytopenia) ○ Elevated platelet level may be indicative of thrombocythemia ○ Parental platelet typing indicated if intracranial haemorrhage identified on ultrasound scan or autopsy • Renal function tests—urea and creatinine if renal disease or pre-eclampsia <ul style="list-style-type: none"> ○ Abnormal renal function tests may be indicator of systemic lupus erythematosus • Recommend bedside point of care testing for syphilis for women with no history of previous infection and/or those who have not engaged in antenatal care⁸²

6 Investigation of stillbirth

The risk of stillbirth continues to be high in subsequent pregnancies if the cause is known to be potentially recurrent.⁴⁰ Where the cause of a stillbirth is not known, the risk in subsequent pregnancies is unclear. Stillbirth is the result of many complex and interacting factors and may be unexplained for many reasons including inadequate investigations.⁸³

Knowledge and understanding of the events prior to the stillbirth inform the direct investigations required. Avoid assumptions about the cause of death until the autopsy and subsequent maternal investigations are complete. Offer investigations, targeted to the obstetric history and the circumstances of the baby's death, that are going to help inform or manage postnatal care and subsequent pregnancies.

Explain the investigations and the type of information they may provide to the parents. Offer the parents copies of results from the investigations.

6.1 Recommended investigations

Table 19. Investigation of stillbirth

Aspect	Consideration
Purpose	<ul style="list-style-type: none"> • Investigations of stillbirth are primarily aimed at identifying an accurate cause of death⁸⁴ and: <ul style="list-style-type: none"> ○ Providing quality information to parents to help understand the cause of death ○ Informing future pregnancy planning ○ Informing care in future pregnancies
Core investigations	<ul style="list-style-type: none"> • Recommended core investigations (unless cause of death unequivocally determined antenatally (e.g. termination of pregnancy) include:^{1,24} <ul style="list-style-type: none"> ○ Comprehensive maternal (medical, social, family) and pregnancy history ○ If no previous history of syphilis or no antenatal care, recommend point of care testing to determine syphilis serostatus following stillbirth⁸² ○ Kleihauer-Betke test/flow cytometry for fetal to maternal haemorrhage ○ External examination of the baby ○ Clinical photographs of the baby ○ Autopsy ○ Detailed macroscopic examination of the placenta and cord ○ Placental histopathology (including cord and membranes) ○ Cytogenetics (chromosomal microarray (CMA) or karyotype if CMA is not available) ○ Additional tests based on individual clinical scenario (e.g. pre-eclampsia, diabetes, hypothyroidism) • Refer to Section 6.2 Core investigations
Selective investigations	<ul style="list-style-type: none"> • Recommended selective investigations performed according to the clinical scenario based on a comprehensive history, and information gained from core investigations • Refer to Section 6.3 Selective investigations

6.2 Core investigations

Table 20. Core investigations

Aspect	Consideration
Maternal history	<ul style="list-style-type: none"> Comprehensive medical, obstetric, social, family and travel history
Maternal blood	<ul style="list-style-type: none"> Kleihauer-Betke test or flow cytometry to detect fetomaternal haemorrhage (prior to birth preferably) Point of care syphilis testing⁸² <ul style="list-style-type: none"> Refer to Queensland Clinical Guidelines <i>Syphilis in pregnancy</i>²⁰
External examination of the baby	<ul style="list-style-type: none"> Detailed external examination of the baby is a component of a full autopsy Where possible, a perinatal pathologist is the most appropriate person to perform the examination <ul style="list-style-type: none"> This does not replace the initial examination by attending clinician at birth which may guide the full autopsy Follow PSANZ and CRE guideline <i>Clinical practice guideline for care around stillbirth and neonatal death, appendix D—Clinical examination of baby checklist</i>¹ and includes, but not limited to: <ul style="list-style-type: none"> Physical examination Accurate measurements of birth weight, head circumference and length Clinical photographs and/or medical imaging Surface swabs: <ul style="list-style-type: none"> Swab the ear and pharynx of the baby Culture for anaerobic and aerobic bacteria Consider testing fetal tissue for Zika virus if known maternal travel⁸⁵
Clinical photographs	<ul style="list-style-type: none"> Enables later review Are additional to bereavement photographs, and require appropriate labelling and documentation in the clinical record May include: <ul style="list-style-type: none"> Whole body frontal position including the limbs Frontal and lateral aspects of face Any abnormalities including genitalia if uncertain Coordinate imaging and photographs, as required Refer to PSANZ and CRE guideline <i>Clinical practice guideline for care around stillbirth and neonatal death, appendix H—instructions on taking clinical photographs</i>¹
Autopsy	<ul style="list-style-type: none"> Recommended as the gold standard for determining the cause of stillbirth <ul style="list-style-type: none"> Refer to Section 5.3 Autopsy Provide autopsy consent form and copies of the death certificate, clinical obstetric history, antenatal ultrasound scan reports, prenatal karyotype results (if available), clinical photographs If parents decline autopsy: <ul style="list-style-type: none"> Discuss non-invasive/minimally invasive autopsy Complete external examination, clinical photographs and babygram An MRI may be offered as an alternative Other alternatives include needle biopsies, laparoscopic autopsy and access to tissue by small incision access
Placental and cord investigations	<ul style="list-style-type: none"> At the time of birth, recommend a detailed macroscopic examination of the placenta and cord and document findings (normal and abnormal)⁴⁰ <ul style="list-style-type: none"> Keep cord in situ and wrapped around baby if possible—take clinical photograph if removed Send placenta (fresh and unfixed) for macroscopic and histological examination once samples collected for cytogenetics and microbiology <ul style="list-style-type: none"> Notify pathology if placenta is to be returned to parents Collect cord blood sample. or cardiac puncture can be performed with parent's consent when insufficient cord blood available for: <ul style="list-style-type: none"> Microbiological culture and assessment of fetal inflammatory response Haematological assessment—full blood count, nucleated red cell count, group and antibody screen
Cytogenic investigations	<ul style="list-style-type: none"> Chromosomal microarray (CMA)—microarray superior to karyotype as can be detected in macerated fetal tissue <ul style="list-style-type: none"> If family history or specific phenotype suspected, testing using fetal and/or placental DNA is preferred

6.3 Selective investigations

Selective investigations are recommended according to the individual clinical scenario based on a comprehensive history, and information gained from core investigations. Use clinical judgement to determine the need for additional selective investigations wherever possible. For further investigations, refer to Section 7.1 Further maternal investigations and Section 5.5 Care during labour, birth, and post birth

Table 21. Selective investigations

Aspect		Consideration
Congenital infections	CMV	<ul style="list-style-type: none"> Maternal CMV serology where placental histopathology shows evidence of CMV infection and/or when the baby is small for gestational age (SGA)/fetal growth restriction (FGR)
	Toxoplasmosis	<ul style="list-style-type: none"> Maternal-fetal transmission is more likely later in pregnancy <ul style="list-style-type: none"> Routine testing not recommended in the absence of indications
	Parvovirus (B19)	<ul style="list-style-type: none"> When antenatal ultrasound or autopsy finds: <ul style="list-style-type: none"> Severe anaemia Non-immune hydrops and/or Fetal cardiomyopathy
	Rubella	<ul style="list-style-type: none"> Indicated if: <ul style="list-style-type: none"> Antenatal screening indicated woman is non-immune or not tested Clinical features of rubella infection during pregnancy Autopsy finds features consistent with rubella infection
Maternal blood testing	Blood group and antibody screen	<ul style="list-style-type: none"> If a blood group and antibody screen has not been performed antenatally: <ul style="list-style-type: none"> Perform selectively to exclude haemolytic disease of the baby due to maternal sensitisation to red cell antigens if the baby is anaemic, jaundiced and/or hydropic
	Thrombophilia	<ul style="list-style-type: none"> Antiphospholipid syndrome (APS—anticardiolipin antibodies, lupus anticoagulant, anti-B2 glycoprotein-1 antibodies) selectively where stillbirth occurs within the context of any of the following: <ul style="list-style-type: none"> Maternal or family history of thrombosis FGR Placental abruption Placental infarction Other thrombophilia studies as indicated (e.g. prothrombin G20210A mutation⁸⁶ and Factor V Leiden mutation^{87,88}) If positive repeat, 12 weeks after stillbirth <ul style="list-style-type: none"> Refer to Table 24. Further investigations
	HbA1c	<ul style="list-style-type: none"> If baby SGA, FGR or large for gestational age (LGA) <ul style="list-style-type: none"> Not required if oral glucose tolerance test normal two weeks earlier Consider random glucose test
	Thyroid function	<ul style="list-style-type: none"> Disorders (overt hyper- and hypothyroidism) associated with increased risk of miscarriage, hypertension in pregnancy, low birth weight and stillbirth⁸⁹ <ul style="list-style-type: none"> Routine testing of euthyroid women is of limited value Discuss with an expert practitioner
	Liver function and non-fasting bile acids	<ul style="list-style-type: none"> If history of pruritus during the pregnancy or following the diagnosis of fetal death Abnormalities in liver function tests are markers for viral hepatitis, acute fatty liver of pregnancy, HELLP syndrome and obstetric cholestasis (OC) Risk factors for OC—ethnicity, history of previous liver and or gallbladder disease, hepatitis B or C, prior OC, and multiple pregnancy
	Substance screen	<ul style="list-style-type: none"> Indicated from maternal history

6.4 Autopsy

Autopsy is the gold standard for determining the cause of fetal death³⁸. There is no legal requirement in Queensland to perform an autopsy. In 2018 and 2019 just over one third of stillborn babies had an autopsy (38.3 %) and of this, almost one quarter (23.4 %) of stillbirths were classified as unexplained.³⁸

Table 22. Autopsy

Aspect	Consideration
Benefits	<ul style="list-style-type: none"> • Encourage parents to consider permission for autopsy • Benefits of perinatal autopsy include⁹⁰: <ul style="list-style-type: none"> ○ Help in planning for the management of future pregnancies⁸³ ○ Explanations about cause of death ○ More accurate genetic counselling to the family regarding the reason for the stillbirth and the recurrence risk for future pregnancies ○ Targeted emotional support, information and bereavement care ○ Enhancing teaching and medical knowledge that may reduce stillbirths for other families ○ Auditing of perinatal program outcomes
Discussion with parents	<ul style="list-style-type: none"> • When discussing autopsy include: <ul style="list-style-type: none"> ○ Options for full, limited or stepwise examination ○ Issue of retained fetal tissues ○ Value of autopsy and benefits to parents and others ○ Not all autopsies provide definite answers for the cause of the stillbirth but may help with future pregnancy planning • Advise about incisions, size and appearance and fragility of baby after autopsy by a known healthcare provider • Advise where the autopsy will be performed and time it may take for tests to be completed • Provide verbal and written information that is respectful of personal, cultural and religious beliefs of parents⁹⁰ <ul style="list-style-type: none"> ○ Refer to Queensland Clinical Guidelines parent information <i>Autopsy examination of a baby</i> • Respect the parents' decision to decline an autopsy with sensitivity and understanding • Parents who decline may: <ul style="list-style-type: none"> ○ Feel baby has suffered enough already ○ Assume antenatal investigations provide sufficient information ○ Have received inadequate explanation by healthcare providers ○ Not be aware of options ○ Have personal values or cultural and/or religious beliefs⁹⁰
Documentation	<ul style="list-style-type: none"> • Requires comprehensive accompanying information: <ul style="list-style-type: none"> ○ Detailed history ○ Physical examination (external) ○ Laboratory investigations and placental pathology examination⁹¹ • Include the following: <ul style="list-style-type: none"> ○ Autopsy consent form ○ Record of clinical history including current and previous obstetric history ○ Copy of the death certificate ○ Copies of antenatal ultrasound reports and antenatal karyotyping results (if available)

7 Follow-up care and management

Follow-up discussions are led by an experienced medical clinician who was involved in the woman's antenatal care.

Discuss the progress being made toward establishing the cause of death, any additional investigations that may be indicated and implications for future pregnancy care.³²

Table 23. Follow-up care and management

Aspect	Consideration
Discharge	<ul style="list-style-type: none"> • Contact woman's local healthcare provider to advise of stillbirth <ul style="list-style-type: none"> ◦ Provide copy of relevant medical record, including investigations and outcomes (where appropriate) • Offer follow-up phone call to woman after discharge • Offer clinical follow-up in area away from maternity service, if possible <ul style="list-style-type: none"> ◦ Provide support as required from other clinicians (e.g. social worker, bereavement midwife, identified health worker) ◦ Offer debriefing and/or open disclosure meeting to woman and family ◦ Offer telehealth follow-up for debriefing and/or investigation results, if requested by the woman • If indicated, offer referral to perinatal mental health service
8–12 weeks postnatally	<ul style="list-style-type: none"> • Investigate further for thrombophilia • Refer to Table 24. Further investigations
Death certificate	<ul style="list-style-type: none"> • Following review and perinatal death classification, amendments to the baby's death certificate may be required <ul style="list-style-type: none"> ◦ Advise parents prior to discharge this may occur • Contact parents prior to sending an amended death certificate⁵⁶
Subsequent pregnancy	<ul style="list-style-type: none"> • Risk of stillbirth in next pregnancy is increased (OR 3.38, 95% CI 2.61–4.38⁸³) • Vulnerability, depression and anxiety in the next pregnancy and puerperium may be related to the length of time since the stillbirth <ul style="list-style-type: none"> ◦ More recently bereaved women are at greater risk⁹⁰ • Offer woman opportunity to be cared for by same or different healthcare provider (if appropriate and available) • Provide additional support during the next pregnancy and as required around the anniversary of the stillbirth⁶⁹ • Provide lifestyle advice (e.g. smoking, alcohol, substance use and/or weight loss) • Refer to section 2.1 Antenatal counselling • Individualise management based on previous investigations and findings

7.1 Further maternal investigations

Further maternal investigations may be indicated 8–12 weeks after birth.¹ Investigations are based on the maternal history and findings at autopsy.

Table 24. Further investigations

Aspect	Consideration
Indications¹	<ul style="list-style-type: none"> • The stillbirth is associated with: <ul style="list-style-type: none"> ○ Fetal growth restriction ○ Pre-eclampsia ○ Maternal thrombosis ○ Maternal history of thrombosis • The stillbirth remains unexplained following core investigations • Tests for thrombophilia were positive at the time of stillbirth, initial testing or not previously performed
Thrombophilia studies¹	<ul style="list-style-type: none"> • If positive at birth repeat: <ul style="list-style-type: none"> ○ Anticardiolipin antibodies ○ Lupus anticoagulant • If activated protein C (APC) resistance positive at birth, test for Factor V Leiden mutation • If fasting homocysteine positive, test for methylene-tetrahydrofolate reductase (MTHFR) gene mutation • Protein C and S deficiency • Prothrombin gene mutation 2021A • Anti-thrombin III • If cleft lip/palate, neural tube defect or congenital cardiac defect test for MTHFR mutation
Anti-Ro or anti-La antibodies	<ul style="list-style-type: none"> • Evidence of atrioventricular node calcification on autopsy or hydrops in baby

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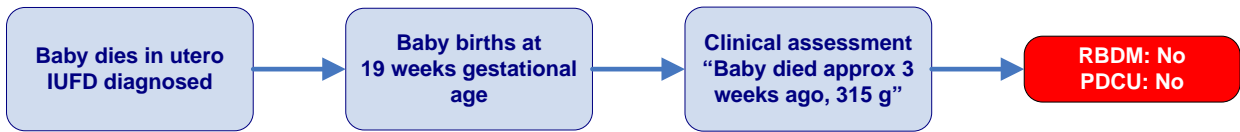
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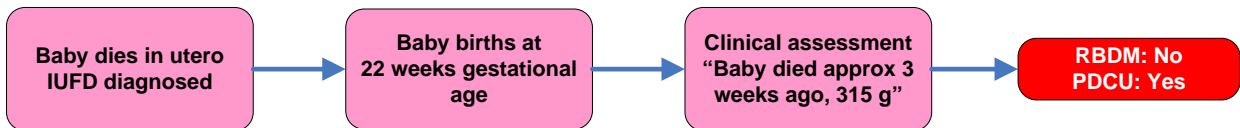
Appendix A: Scenario based reporting aid

Scenario One: Singleton Pregnancy



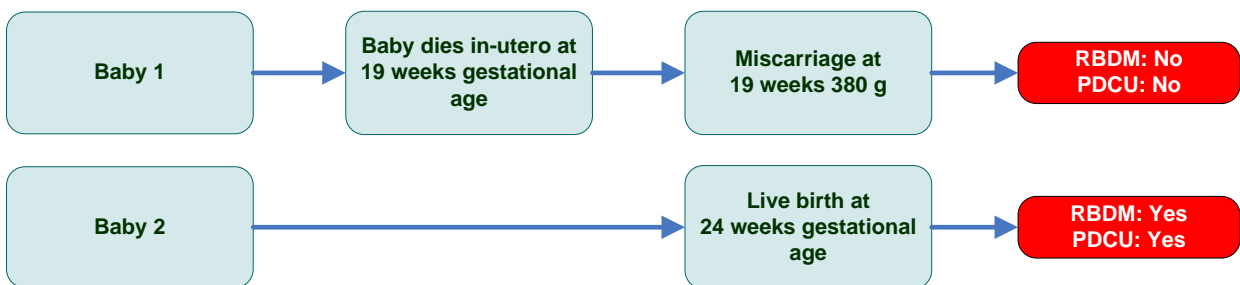
For PDCU Reporting: The date of birth drives or is the final determinant for assessing if a baby meets the criteria (i.e. ≥ 20 weeks and/or ≥ 400 g).
In the example above the baby is birthed less than 20 weeks and the baby is less than 400 g so is not to be registered to RBDM nor reported to PDCU.

Scenario Two: Singleton Pregnancy



For PDCU Reporting: The date of birth drives or is the final determinant for assessing if a baby meets the criteria (i.e. ≥ 20 weeks and/or 400 g).
In this example the baby died at approx 19 weeks but is birthed at 22 weeks. The birth registration is not required with the RBDM but must be reported to PDCU.

Scenario Three: Twin Pregnancy

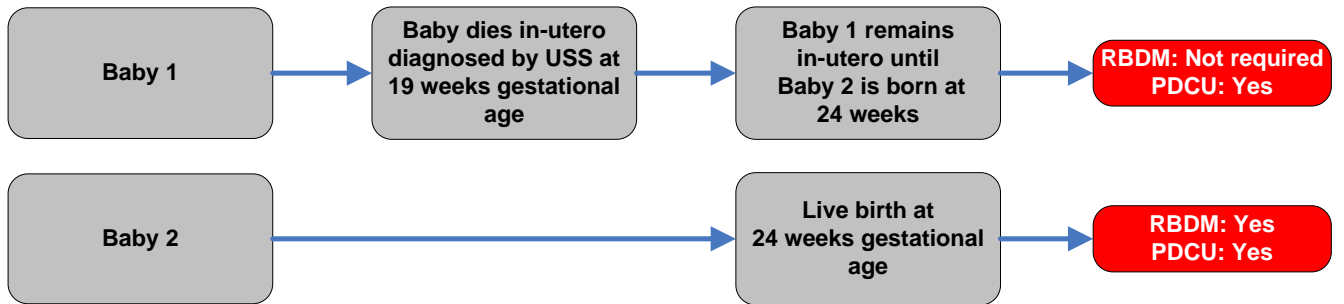


This a singleton pregnancy
Birth order of Baby 2 = 1
Plurality of pregnancy = 1

For PDCU Reporting: The date of birth drives or is the final determinant for assessing if a baby meets the criteria (i.e. ≥ 20 weeks and/or ≥ 400 g).
In this example Baby 1 is birthed at 19 weeks with Baby 2 remaining in-utero to be birthed at 24 weeks. In this case Baby 1 is a miscarriage and Baby 2 then becomes a singleton birth of one baby. Baby 1 is not to be registered to RBDM nor reported to PDCU. Baby 2 is to be registered as a singleton as well as reported to PDCU as a singleton.

Abbreviations: IUFD In-utero fetal death; PDCU Perinatal Data Collection Unit; RBDM Registrar of Births, Deaths and Marriages; USS Ultrasound scan

Scenario Four: Twin Pregnancy

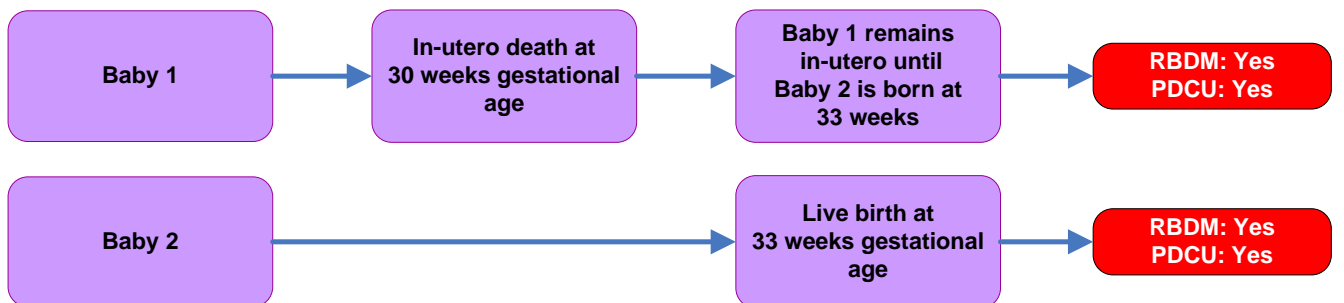


Twin pregnancy— Plurality of pregnancy = 2

- Gestation of Baby 1 = 24 weeks Birth order of Baby 1 = 1
- Gestation of Baby 2 = 24 weeks Birth order of Baby 2 = 2

In this example, even though Baby 1 is an IUFD at 19 weeks, both Baby 1 and Baby 2 are born together at 24 weeks. Registration to the RBDM is not required for Baby 1 and mandatory for Baby 2. Both Baby 1 and Baby 2 are reported to the PDCU.

Scenario Five: Twin Pregnancy



Twin pregnancy— Plurality of pregnancy = 2

- Gestation of Baby 1 = 33 weeks Birth order of Baby 1 = 1
- Gestation of Baby 2 = 33 weeks Birth order of Baby 2 = 2

In this example, even though Baby 1 is an IUFD at 30 weeks, both Baby 1 and Baby 2 are born together at 33 weeks. Registration to the RBDM is mandatory for both Baby 1 and Baby 2. Both Baby 1 and Baby 2 are reported to the PDCU.

Abbreviations: IUFD In-utero fetal death; PDCU Perinatal Data Collection Unit; RBDM Registrar of Births, Deaths and Marriages; USS Ultrasound scan

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