STILLBIRTHS AND FETAL DEATHS: DIAGNOSIS AND DELIVERY GUIDELINE

1. OPTIMAL OUTCOMES
   - Diagnosis of fetal death and stillbirth
   - Sympathetic and appropriate management of the mother and fetus/baby intra-partum

2. PATIENT
   - Woman who has a miscarriage/fetal death where the fetus is:
     ° at less than 20 weeks gestation without a heartbeat or respiratory effort after birth or on antenatal ultrasound scan
     ° where gestation is unknown a fetus is defined as being less than 400 grams in weight.
   - Woman who has a stillbirth/fetal death where the fetus is of 20 weeks gestation or more and/or weighs more than 400 grams does not breathe or have a heartbeat after birth or on antenatal ultrasound scan

3. STAFF
   - Registered Midwives
   - Registered Nurses
   - Student midwives
   - Sonographers
   - Medical staff
   - Social Workers

4. EQUIPMENT
   - CTG machine
   - Ultrasound
   - Doppler
   - Specimen bucket for placenta
   - Pink colour culture medium for cytogenetics
   - Sterile container (yellow top)

5. CLINICAL PRACTICE
   Ante and intrapartum
   - Suspect fetal death by the absence of a fetal heart beat on auscultation, inform medical officer
   - Ensure privacy for woman and family and sensitively discuss findings
   - Confirm fetal death on formal ultrasound scan and perform detailed ultrasound scan where possible for fetal anomalies, liquor volume and maternal anatomy
   - Convey the diagnosis to the parents with sympathy, allow time for a grieving reaction before discussing further management
   - Recommend amniocentesis for karyotype and infection screen to be performed by fetal medicine dept in working hours
   - Discuss options for delivery according to gestation and clinical scenario, patients of less than 20 weeks gestation may be managed on the gynaecology ward:
     ° Induction of labour
     ° Surgical dilation and curettage or dilation and evacuation
     ° Caesarean section/ Hysterotomy only for compelling maternal risk factors
   - Remove all fetal monitoring equipment from room if possible
   - Involve Social Work Department as early as possible to provide support, counselling and resources for the family during hospitalisation and after discharge

   cont’d ..../2
Perform the following maternal investigations:
- Kleihauer-Betke test
- Blood group and antibody screen
- FBC
- Hb electrophoresis (paternal also if the fetus is hydropic or if indicated)
- Urea and electrolytes, uric acid, creatinine
- Liver function tests
- Infection screen including the following:
  - toxoplasmosis
  - HSV
  - CMV
  - Parvovirus B19
  - rubella (if unknown status)
  - VDRL (if unknown status)
- HbA1c
- Lupus anticoagulant/anticardiolipin antibodies
- Factor V Leiden and prothrombin gene mutation
- Anti thrombin 3
- Protein C
- Protein S
- Serum bile acids if fasted and homocysteine

Offer maternal and paternal karyotype
Perform low vaginal swab for GBS and bacterial vaginosis
Discuss with parents their wishes around the birth including whether or not they wish to see and hold the baby
Conduct birth with empathy
Active management of third stage
Offer women, who have with informed consent, and elected to have their lactation suppressed, or have experienced a neonatal death, a stat dose of Dostinex 1mg as close as practicable to placental delivery
Inform Social work and arrange social worker review
Inform Department of Medical Genetics SCH for review by Geneticist extension 21708

Postpartum
Wrap baby in towelling/sheet, encourage contact if the parents wish as per discussion
Allow parents individual time with the baby
Investigations
- Take placental swabs from maternal and fetal surfaces
- Send biopsy of amnion for karyotype from near cord insertion in pink culture medium to Cytogenetics
- Send 1 x 2 cm fresh full thickness placental biopsy to department of virology in a yellow top jar without preservative. Send rest of placenta for histo-pathological examination
Discuss and if applicable obtain consent for autopsy from parents, discuss the option of limited autopsy where the parents are unable to consent to a full autopsy
Obtain consent for babygram and external examination whether or not parents consent to autopsy
Obstetrics Clinical Guidelines Group March 2008

ROYAL HOSPITAL FOR WOMEN

CLINICAL POLICIES, PROCEDURES & GUIDELINES

STILLBIRTHS AND FETAL DEATHS : DIAGNOSIS AND DELIVERY GUIDELINE  cont’d

- Obtain consent if parents wish hospital disposal in the case of fetal death
- Give parents “Information for parents about the post-mortem examination” and NSW Birth Defects Register information
- Invite Geneticist to examine the baby/fetus during working hours
- Refer to Stillbirths, fetal deaths and neonatal deaths documentation and transport guideline for paperwork to be completed
- Refer to Stillbirths and fetal deaths post-delivery care for subsequent care

6. HAZARDS/SUB-OPTIMAL OUTCOMES
- Autopsy not discussed with parents
- Consent not obtained
- Investigations not performed
- Anti-D administered too late in allo-immunised patients
- Inconsistent management of woman

7. DOCUMENTATION
- Cytogenetics request form
- Pathology request form
- Post-mortem consent form
- Integrated notes
- ObstetriX

8. EDUCATIONAL NOTES
- Unexplained stillbirth remains the largest category of stillbirth
- Common emotional reactions to stillbirth include disbelief, anger, blame, shock, guilt, denial, hope, despair, depression, crying, displacement, fear and anxiety, bargaining, awkward questions, relief, threats and humour. Giving the parents the bad news tests the professionals counselling skills and abilities to the limits
- A fetal autopsy is the most useful investigation for determining the cause of a stillbirth (Incerpi 1998)
- Anti-phospholipid antibody syndrome and SLE have been significantly associated with fetal loss, other thrombophilia mutations are associated with loss, but studies have been too small to show a significant association (Fretts 2005). Therefore caution should be employed with postnatal counselling.
- The following infections have been associated with stillbirth:
  - GBS
  - Parvovirus B19
  - CMV
  - Toxoplasmosis
  - Listeria
  - Ureaplasma urealyticum and Mycoplasma hominis

cont’d ..../4
9. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES

- Induction of labour
- Misoprostol induction of labour
- Cervagem induction of labour
- Third stage labour management
- Stillbirths, fetal deaths and neonatal deaths documentation and transport guideline
- Stillbirths, Neonatal deaths, fetal deaths post-delivery care & creation of memorabilia
- NSW Health: Stillbirth Management and Investigation

10. REFERENCES

- Fretts RC 2005 Etiology and prevention of stillbirth AJOG;193:1923-35
- Perinatal Society of Australasia and New Zealand Perinatal Mortality Guideline
## STILLBIRTH INVESTIGATION CHECKLIST

### Maternal Investigations

<table>
<thead>
<tr>
<th>Test</th>
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<tbody>
<tr>
<td>FBC &amp; Hb electrophoresis</td>
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<tr>
<td>Kleihauer</td>
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<tr>
<td>HbA1c</td>
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<tr>
<td>Coagulation screen</td>
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<td>Lupus anticoagulant</td>
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<td>Prothrombin gene mutation</td>
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<td>Anti thrombin 3</td>
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<tr>
<td>Protein C &amp; Protein S</td>
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<tr>
<td>Anticardiolipin &amp; antinuclear antibodies</td>
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<td>Parvo &amp; Toxo</td>
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<tr>
<td>TFTs</td>
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<tr>
<td>Fasting Bile Acids</td>
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<tr>
<td>Hep B</td>
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<td>HSV</td>
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<td>Rubella</td>
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<td>Syphilis</td>
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<td>CMV</td>
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<td>VDRL</td>
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<tr>
<td>Karyotype (maternal &amp; paternal)</td>
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<td>Blood group &amp; Ab screen</td>
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<td>LFTs</td>
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<td>Urea &amp; electrolytes, uric acid &amp; creatinine</td>
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<tr>
<td>Factor V Leiden</td>
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<tr>
<td>Homocysteine</td>
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<tr>
<td>Low vaginal swab</td>
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### Baby Investigations

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<tbody>
<tr>
<td>Ear swab for M/C/S</td>
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<td>Nasal swab for M/C/S</td>
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<td>Anal swab for M/C/S</td>
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<td>Groin swab for M/C/S</td>
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<tr>
<td>Cord blood for FBC</td>
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</table>

### Histopathology & Cytogenetics

<table>
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<tbody>
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<td>Placental swabs (maternal and fetal surfaces) for M/C/S</td>
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<tr>
<td>Placental tissue in pink culture medium for cytogenetics</td>
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<tr>
<td>Placental tissue (dry) in yellow top jar for virology</td>
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<tr>
<td>Placental histology</td>
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<tr>
<td>Consent for autopsy</td>
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<tr>
<td>Detailed pathology request form regarding autopsy</td>
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<tr>
<td>Director of Pathology notified by telephone regarding autopsy</td>
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</table>

This form completed by:

Name: ____________________________ Status: ____________________________

Signature: ____________________________ Date: ____________________________

Revised March 2008

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

Approved Quality Council 21/2/05

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