PLACENTAL EXAMINATION GUIDELINE

1. OPTIMAL OUTCOMES
   - Identification of risk of retained products of conception
   - Examination and triage performed for all placentae and referral for further examination as required
   - Supply of sufficient information to anatomical pathology

2. PATIENT
   - Woman giving birth after 20 weeks

3. STAFF
   - Registered Midwife
   - Student Midwife
   - Medical staff

4. EQUIPMENT
   - Triage examination of the placenta worksheet (Appendix A)
   - Pathology request form
   - Suitable specimen bucket
   - Personal protective equipment (PPE)

5. CLINICAL PRACTICE
   - Use PPE when examining and disposing of the placenta
   - Perform initial examination of the placenta in the clinical area where birth occurred
     Examine the following starting with the fetal surface:
     - note presence of offensive odour
     - total cord length
     - number of cord vessels
     - cord insertion
     - membranes
     - presence of amnion and chorion
     - completeness and cloudiness
     - turn placenta over and examine the maternal surface for texture, completeness, extra cotyledons and areas of infarction
   - Document results on the partogram and in ObstetriX
   - Collect a fresh specimen of placenta as outlined in Appendix B if special studies required
   - Refer to list of indications for examination of a placenta by anatomical pathology (Appendix C)
   - Send entire placenta including entire length of umbilical cord to anatomical pathology if either the examination was abnormal or the clinical case meets criteria as listed in Appendix C
   - Ensure detailed pathology request form is filled out listing indication for anatomical pathology review (‘placenta for histology’ is not sufficient). Include gestational age and Hepatitis C/HIV status.

6. HAZARDS/SUB-OPTIMAL OUTCOMES
   - Unidentified retained products of conception
   - Triage examination of placenta does not occur
   - Placenta not sent to anatomical pathology when indication exists
   - Insufficient information forwarded to anatomical pathology
   - Occupational exposure

7. DOCUMENTATION
   - Integrated clinical notes
   - Partogram
   - ObstetriX
8. EDUCATIONAL NOTES  
- A cord that is <32 cms is abnormally short and >100cms is abnormally long\(^1\)
- Benefits of placental examination include; clarification of the cause of many adverse pregnancy outcomes, improvement in the risk assessment for future pregnancies, and ascertainment of newborn risk factors for long-term neurodevelopmental sequelae\(^2\).
- Information on placental abnormalities may reveal the presence of chronic fetal insults and allow their differentiation from acute stresses\(^3\).
- In the case of stillbirth it is particularly important for the placenta to be examined. Best results are achieved when the fetus and placenta are examined together\(^3\).

9. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES  
- Stillbirth and fetal deaths – Diagnosis and delivery
- Third stage management
- Disposal of placenta

10. REFERENCES  
3) British Columbia Reproductive Care Program, Perinatal Mortality Guideline 4; Clinical Examination of the placenta. April 1999

cont’d ..../3
### APPENDIX A – Triage Worksheet (adapted from ref 1)

**Triage Examination of the Placenta**
(circle correct response)

<table>
<thead>
<tr>
<th>MRN;</th>
<th>Name;</th>
<th>DOB;</th>
<th>Consultant;</th>
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<table>
<thead>
<tr>
<th>Odour</th>
<th>Metallic</th>
<th>Offensive</th>
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<tr>
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<table>
<thead>
<tr>
<th>Cord insertion:</th>
<th>Eccentric / Central</th>
<th>Marginal / Velomentous / Other…</th>
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<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>No. of cord vessels:</th>
<th>3</th>
<th>2</th>
<th>&gt;3</th>
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</thead>
<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Total cord length:</th>
<th>…………..cm</th>
<th>&lt; 32cm</th>
<th>&gt; 100cm</th>
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<td></td>
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<table>
<thead>
<tr>
<th>Maternal surface:</th>
<th>Intact</th>
<th>Incomplete</th>
<th>Other….</th>
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<thead>
<tr>
<th>Fetal membranes:</th>
<th>Normal and complete</th>
<th>Cloudy/incomplete</th>
<th>Other….</th>
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<table>
<thead>
<tr>
<th>Other placental indication for examination:</th>
<th>None</th>
<th>Specify………</th>
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<table>
<thead>
<tr>
<th>Maternal indication for examination:</th>
<th>None</th>
<th>Specify………</th>
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<tr>
<th>Fetal / neonatal indication for examination:</th>
<th>None</th>
<th>Specify………</th>
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APPENDIX B- Special studies requiring fresh placental tissue (adapted from ref 1)

1. Bacterial culture:

Indications: suspected chorioamnionitis, premature rupture of the membranes, maternal fever $>38.5^\circ$.
Specimen: tissue and swabs from the chorionic plate and peripheral membranes placed in sterile saline.

2. Viral nucleic acid testing:

Indication: clinical suspicion of viral infection
Specimen: Send 1.5 x 1.5cm piece of placenta in yellow top sterile container. Include pathology request form for Multiplex viral PCR.

3. Cytogenetic studies:

Indication: clinical suspicion of chromosomal/genetic abnormalities; multiple congenital malformations, stillbirth.
Specimen: tissue taken from the mid portion of the placenta placed in tissue culture medium.

4. Metabolic studies:

Indication: fetal hydrops or family history of metabolic disease.
Specimen: at least 10 – 20g of villous tissue rapidly frozen.
PLACENTAL EXAMINATION GUIDELINE cont’d

APPENDIX C – Recommended Indications for Examination of the Placenta by Anatomical Pathology (adapted from ref 1):

Maternal Indications:

Systemic disorders with clinical concerns for mother or infant (eg, severe diabetes, hypertensive disorders, collagen disease, seizures, severe anaemia <9gl)
Premature delivery <36 weeks gestation
Peripartum fever >38.5°C and/or infection
Unexplained third-trimester bleeding
Clinical concern for infection during this pregnancy (eg, HIV, syphilis, CMV, primary herpes, toxoplasma, rubella)
Severe oligohydramnios
Unexplained or recurrent pregnancy complications (eg, IUGR, stillbirth, spontaneous abortion, premature birth)
Invasive procedure with suspected placental injury
Abruption
Meconium stained placenta

Fetal / Neonatal Indications:

Admission to other than level 1 nursery
Stillbirth or perinatal death
Birth weight <10th percentile
Seizures
Infection or sepsis
Major congenital anomalies, dysmorphic phenotype, or abnormal karyotype
Multiple gestation