Perinatal Services BC
An agency of the Provincial Health Services Authority

GUIDELINES FOR REGISTERED NURSES

Core Competencies and Decision Support Tools: Management of Labour In An Institutional Setting If the Primary Maternal Care Provider Is Absent

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GUIDELINES FOR REGISTERED NURSES

Core Competencies and Decision Support Tools: Management of Labour In An Institutional Setting If the Primary Maternal Care Provider Is Absent

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Preface

Welcome to the second edition of the *Guidelines for Registered Nurses – Core competencies and decision support tool: Management of labour in an institutional setting if the primary maternal care provider is absent,* developed and published by Perinatal Services BC. The first edition was released in September 2009. This edition has been revised to improve clarity and consistency of information, based on current evidence and best practices, and incorporated feedback from professional nurses and other maternity care providers.

Acknowledgement

We would like to extend our sincerest thanks to members of the original committee who contributed their professional expertise and time in the first edition; many members are also contributors and reviewers in this second edition.

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Aim of the Document

In August 2005, the Nurses (Registered) and Nurse Practitioners Regulation under the Health Professions Act came into force. This Regulation sets out the scope of practice for registered nurses and nurse practitioners in British Columbia.

The following core competencies are set for Restricted Activities in Section 6 of the Regulation for Registered Nurses (RNs) caring for labouring women in an institutional setting if the primary maternal care provider is absent (College of Registered Nurses of British Columbia [CRNBC], 2008). Restricted activities in the management of labour pose significant risk of harm to the public; CRNBC has further set limits/conditions on these restricted activities by requiring that:

Registered Nurses who manage labour in an institutional setting must demonstrate the competencies and follow decision support tools established by Perinatal Services BC (PSBC). www.perintalservicesbc.ca

A. Introduction

For the purpose of this document, the identified core nursing competencies for managing labour relate to the care of healthy women in labour at term with spontaneous onset of labour. According to the BC Perinatal Database Registry, about 40,000 women give birth in British Columbia each year; most women have healthy pregnancies. In 2009–2010, almost 84% of women gave birth to a single baby after 37 weeks of pregnancy with the baby presenting head first. Most women (more than two-thirds) go into labour spontaneously. The majority of women giving birth in BC therefore fall under the scope of this document.

The core competencies in this document are focused primarily in the realm of normal labour, which the committee members deemed to be applicable as a starting point to delineate common nursing competencies in the perinatal arena across all settings providing maternity services. Normal labour is defined as "a spontaneous onset and progress of labour to a spontaneous (normal) delivery at 37–42^{+0} gestation with a normal third stage" (SOGC, 2008). However, it is acknowledged that RNs caring for women with apparent "normal" labour must possess the competencies to recognize, communicate and intervene in commonly occurring urgent and emergent situations and to provide emergency care in the absence of the primary care provider.

These core competencies and decision-support tools will provide guidance to registered nurses for the care of women during labour within the framework of:

- Assessment
- Organization, Coordination and Provision of Care
- Communication and Documentation
- Urgent and Emergent Maternal, Fetal, and Newborn Conditions

They have been designed to provide a framework for nurses, clinicians and nurse educators for supporting continuing professional development and are useful for all perinatal nurses whether they be a novice or an experienced practitioner.

B. Key Assumptions

1. Definition of Management of Labour

The definition for management of labour was adopted from the joint statement developed by the CRNBC, College of Midwives of BC and The College of Physicians and Surgeons of BC (May 2008) as: Managing labour includes providing care, advice and support to a woman in labour, guided by current standards and evidence for optimum maternity care. It includes collaborating with other care providers, as appropriate to each regulated health professional's scope of practice, and is carried out in the context of informed consent, respecting the woman's values and her role in decision-making.

Managing labour means taking professional responsibility and accountability for:

- the assessment of maternal and fetal well-being in labour
- the assessment of progress in labour
- clinical decisions and clinical actions based on the above assessments

2. Support for Normal Labour and Birth

- Labour and birth are normal physiological processes for healthy childbearing women and should be protected, promoted and supported by all health care providers.
- The aim of the care is to achieve a healthy mother and child with the least possible level of intervention that is compatible with safety. This approach implies that: in normal birth there should be a valid reason to interfere with the normal process (WHO, 1997).

3. Practice Setting

- The core competencies and decision-support tools apply equally to RNs in BC who care for women in labour at facilities that offer designated maternity services. Facilities with designated maternity services are defined as those with patient units or portions of patient units that are appointed for the specified purpose of providing intrapartum and postpartum care.
- An RN who works in a small rural hospital or setting that does not have designated maternity services is ethically obligated to provide the best care s/he can in the absence of the primary care provider, given the circumstances and her/his level of competence.

4. One-to-one Support in Labour

- A woman in active phase of labour should receive supportive one-to-one care; this means that the RN provides continuous supportive care for the woman and fetus/newborn from active first stage to completion of the fourth stage of labour.

5. Neonatal Resuscitation Program

- The Neonatal Resuscitation Program is an education program designed to teach the principles and concepts of newborn resuscitation in maternity care settings. The Canadian Paediatrics Society recommends that there should be at least one person at every low-risk delivery whose primary responsibility is the baby and can initiate resuscitation (NRP, 2006). NRP is a well accepted educational program in British Columbia. Nurses who provide intrapartum care are expected to keep current in their NRP certification.

C. Core Nursing Practice Competencies

Managing Labour in an Institutional Setting if the Primary Maternal Care Provider is Absent			
KNOWLEDGE of:	**SKILL in:**	**JUDGMENT or reasoning in:**	**ATTITUDE by:**
1. Assessment			
• Maternal anatomical and physiological adaptation to pregnancy, labour and birth[1] • Psychosocial adaptations of pregnancy and in labour and birth • Fetal growth and development pattern during pregnancy, including placental function and fetal heart rate adaptation • Comprehensive assessment of fetal well being including gestational age and fetal growth assessment • Comprehensive maternal assessment including demographic, obstetrical, medical, surgical, psycho-social, religious, spiritual and cultural factors • Risk factors for maternal/fetal complications • Social determinants of health and their impact on access to care and perinatal outcomes • Process and stages of normal labour and birth • Process of initiation of breastfeeding • Assessment for urgent and emergent conditions	• Protecting and supporting the normal labour and birth process • Providing evidenced based care • Identifying psychosocial support needs • Performing a comprehensive assessment of maternal/fetal/newborn well being using a variety of sources • Assessing fetal heart rate • Promoting maternal-newborn interaction and attachment behaviours	• Assessing the appropriateness of labour admission • Identifying maternal-fetal risk factors • Recognizing the signs and symptoms, and progression of the labour and birth process • Evaluating progress in labour • Recognizing normal and variances in fetal wellbeing during labour • Recognizing the need for transfer or transport to a higher level of care • Selecting the appropriate method of intrapartum maternal and fetal assessment (appropriate use of technology)	• Valuing childbirth as a healthy, normal physiologic event • Providing Woman-Centred Care • Respecting the woman's preferences, choice, and cultural beliefs • Demonstrating self-awareness of own beliefs and values and their impact on perinatal care

1 Labour and birth include the first, second, third and fourth (end of first hour) stages of labour.

Managing Labour in an Institutional Setting if the Primary Maternal Care Provider is Absent			
KNOWLEDGE of:	**SKILL in:**	**JUDGMENT or reasoning in:**	**ATTITUDE by:**
2. Organization, Coordination and Provision of Care			
• Methods used to promote labour progress and comfort • Physical and psychological needs during labour and birth • Non-pharmacologic comfort techniques and pharmacologic pain relief options • Maternal and neonatal levels of care and transport	• Assessing woman's knowledge, expectations of care and capacity to manage her labour and birth • Using clinical reasoning and judgement in decision making • Providing a safe physical & therapeutic labour and birth environment in expected and unplanned situations • Supporting the woman and her support person(s) using therapeutic support measures and providing evidenced based care • Implementing appropriate comfort measures to the labouring woman • Monitoring woman's response to pain relief options • Administering appropriate medications/ treatment • Collecting specimens, and interpreting laboratory data • Initiating intravenous access • Facilitating breastfeeding initiation and maternal-newborn interaction • Performing neonatal resuscitation	• Advocating for spontaneous labour • Ensuring freedom of movement as a means of promoting normal labour • Recognizing indications for and the effects of non-pharmacological or pharmacological pain relief options • Selecting appropriate interventions to promote maternal/fetal/newborn wellbeing • Interpreting laboratory test and ultrasound results and taking appropriate action	• Promoting normal labour and birth • Keeping mother and baby together • Promoting early skin-to-skin contact • Demonstrating self-awareness of own attitudes and beliefs about labour support strategies and use of comfort measures and/or pain relief options

Managing Labour in an Institutional Setting if the Primary Maternal Care Provider is Absent			
KNOWLEDGE of:	**SKILL in:**	**JUDGMENT or reasoning in:**	**ATTITUDE by:**
3. Communication and Documentation			
• Effective and systematic communication • Documentation and reporting requirements	• Communicating the woman's assessment and care plans with the Primary Care Provider (in a thorough and timely manner) • Utilize a systematic method of communication • Using provincial (PSBC) documentation tools and institutional records	• Appropriate consultations to: ▪ Primary care provider ▪ Other health care disciplines ▪ Referrals to community services • Guiding the woman through an informed decision-making process • Providing evidenced based information to the woman and her support person(s)	• Demonstrating respect to others • Celebrating birth • Respecting the woman's choice • Discussing with the woman her wishes, concerns and questions regarding her birth plans
4. Urgent and Emergent Maternal/Fetal/Newborn Conditions			
• Maternal/fetal/newborn urgent and emergent conditions • Guidelines for maternal/ fetal/newborn urgent and emergent conditions	• Initiating appropriate treatment for urgent and emergent conditions • Effective and timely communication with primary care provider • Facilitating transfer to another facility • Keeping mother and support person(s) informed of condition • Participating in post birth debriefing with the woman and her support person(s)	• Recognizing the onset of urgent and emergent complications	• Demonstrating Woman-Centred Care principles

D. Managing Labour: Decision Support Tools

As indicated by CRNBC, DSTs for managing labour are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider the woman's needs and preferences when using decision support tools to make clinical decisions.

Although the information provided in the DSTs is designed to assist nurses once a concern or problem has been identified; nurses are expected to possess foundational knowledge, skills, attitude and judgements in basic maternity nursing care and know when labour is progressing well on its own. However, the following content should not be construed as educational content for a comprehensive perinatal nursing course, nor do they replace additional education in perinatal nursing specialty. For a detailed description of a suggested curriculum for Perinatal Nursing Specialty, please refer to Annex 1: Education Curriculum for Managing Labour.

1. Decision Support Tools

For selected urgent and emergent conditions, the following DSTs have been developed:

Decision Support Tools
Managing Labour in an Institutional Setting
if the Primary Maternal Care Provider is Absent

1. Obstetrical Triage and Assessment
2. Intrapartum Fetal Health Surveillance
3. Assessment and Immediate Management of Preterm Labour/Birth
4. Evaluation of Progress of Labour/Dystocia
5. Discomfort and Pain in Labour

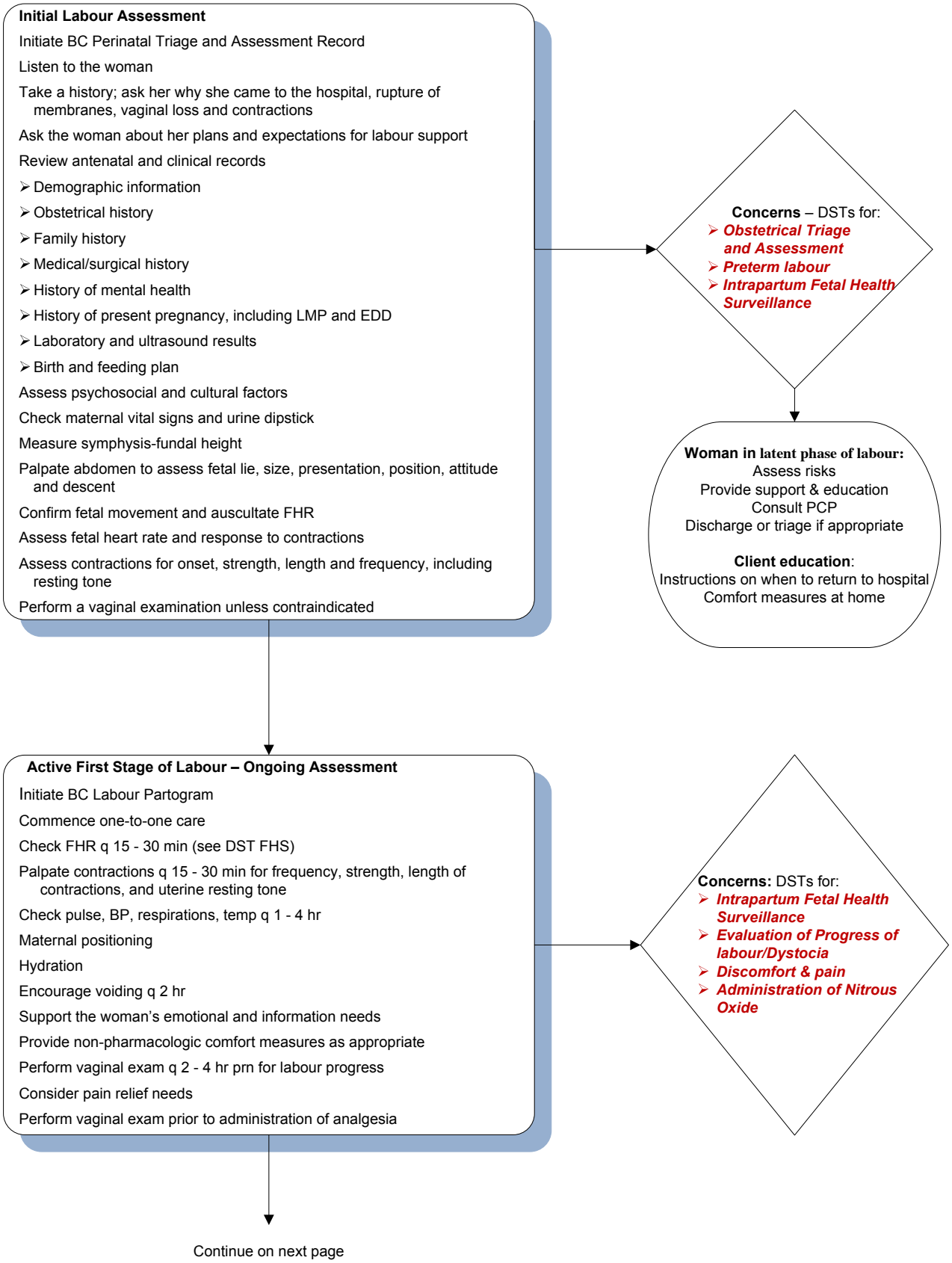
   5A. Administration of Nitrous Oxide
6. Birth in the Absence of a Primary Care Provider
7. Postpartum Hemorrhage

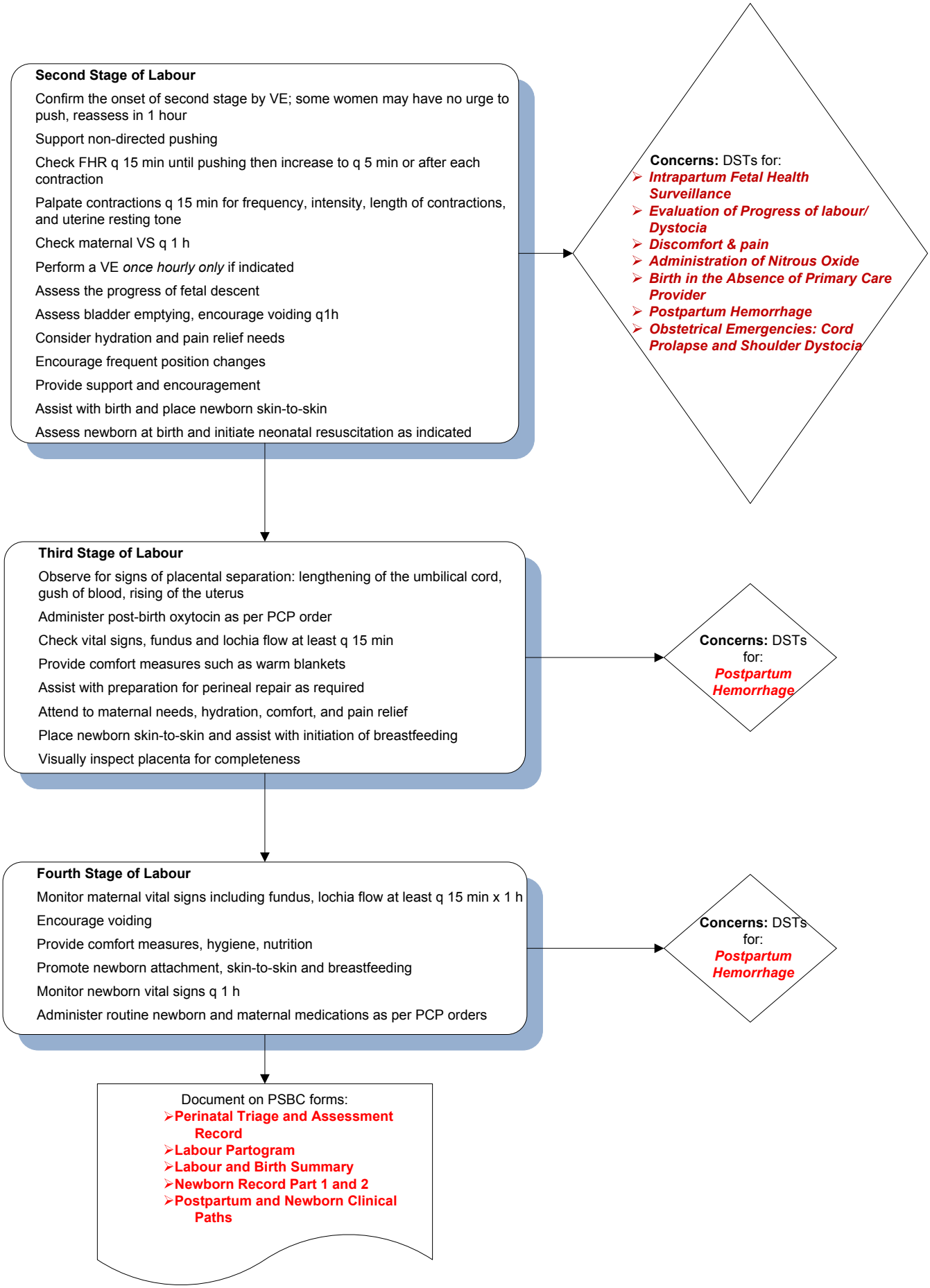
8A. Obstetrical Emergencies – Cord Prolapse

8B. Obstetrical Emergencies – Shoulder Dystocia

2. *Assessment in Labour and Birth*

The following section outlines the nursing assessment required to care for a healthy woman and her fetus/ newborn during the first, second, third and fourth stages of labour.





ANNEX 1: SUGGESTED EDUCATION CURRICULUM FOR MANAGING LABOUR

THEORETICAL CONTENT

General

1. The RN will be able to discuss the relationship between social context and pregnancy outcomes. Specifically, the RN will be able to describe and discuss the health impacts including but not limited to:
   - Social determinants of health (*poverty)
   - Lack of access to prenatal care (*support)
   - Substance use
   - Violence
   - Mental health issues
2. The RN will be able to effectively communicate clinical findings, including a nursing diagnosis, using appropriate terminology and a clear and systematic approach e.g. SBAR (Situation-Background-Assessment-Recommendation) or CHAT (Context-History-Assessment-Tentative Plan).
3. The RN will be able to describe and demonstrate use of PSBC and institutional documentation forms

Antepartum

1. The RN will be able to describe, interpret and discuss the components and significance of:
   - Anatomical and physiological adaptations of pregnancy
   - Psychosocial adaptations of pregnancy
   - Fetal growth and development pattern during pregnancy, including placental function and fetal heart rate adaptations
   - A comprehensive assessment of fetal well being
   - A comprehensive antenatal assessment including:
     - Demographic data
     - Obstetrical history
     - Family history
     - Medical/surgical history
     - Social history
     - History of mental illness
     - History of substance use and exposure
     - Gestational age assessment
     - Laboratory and ultrasound results
     - Birth and feeding plan
     - Maternal and fetal physical assessment
     - Psychosocial, life-style, spiritual and cultural assessment
     - Prenatal visit record

Intrapartum

1. The RN will be able to describe, interpret and/or discuss the components and significance of:
   - Promoting, protecting and supporting normal birth
   - The 4P's related to the mechanism of labour (powers, passage, passenger, psyche)
   - The mechanism of labour
   - Appropriate indications for induction
   - Anticipated length of each phase and stage of labour
   - Ongoing maternal assessments
   - Maternal physical and psychosocial needs
     - Emotional and psychosocial support
     - Oxygenation
     - Nutrition/Hydration

    - Rest, activity, and freedom of movement during labour
    - Non pharmacologic and pharmacological comfort measures
        - ◊ Incorporating the woman's and family choices
        - ◊ Indications and contraindications for pain relief options
        - ◊ Risks and benefits of non pharmacological and pharmacological options
        - ◊ Nursing assessments required when nonpharmacological and pharmacologic pain relief options are used
- Ongoing fetal assessments:
    - Rationale for using intermittent auscultation
    - Rationale for initiating electronic fetal monitoring
- Preparation of a safe environment for birth
- Priority setting and provision of care in a rapidly progressing labour (precipitous)

2. The RN will be able to describe, interpret, and/or discuss the significance of:

- Latent phase of labour
    - Assessment of the women in a triage setting
    - Avoiding admission to labour and delivery area until active labour is established
    - Establishing a plan to meet the woman's needs at home or in a non-labouring hospital unit
    - Observation, rest and therapeutic analgesia are preferable compared to an active approach of amniotomy and oxytocin induction
- Cardinal movements of birth
- The benefits of spontaneous physiological pushing techniques (in non supine positions)
    - Intact perineum
    - Promoting pelvic floor integrity
    - Optimal fetal oxygenation
- Nursing interventions that promote normal labour progress
    - Woman-centred care
    - Continuous labour support
    - Freedom of movement during labour
    - Hydration
    - Position changes
    - Empty bladder
    - Avoiding routine interventions and restrictions
    - Appropriate use of technology
    - Evaluation of uterine activity
- Comfort and support measures
- Ongoing maternal assessments
- Ongoing fetal assessments
- How to appropriately respond to the emotional needs of the woman

3. The RN will be able to describe and discuss:

- Physiological vs. active management of the third stage of labour
- Normal appearance and integrity of the placenta
- Number of vessels in umbilical cord
- Principles of cord blood sampling
- Normal newborn transition
- The benefits of early skin-to-skin contact
- Normal newborn behavioural states and reflexes
- Nursing actions that promote stabilization of the newborn
- Newborn conditions that would require further assessment
- Resuscitation of the newborn according to NRP standards
- The joint WHO/UNICEF statement for the ten steps for successful breastfeeding.
- The benefits of breastfeeding and the risks associated with breast milk substitutes

4. The RN will be able to describe and discuss:
   - The normal course of the fourth stage
   - Nursing actions that promote and maintain maternal and newborn stabilization
   - Rationale for prophylactic newborn medications
   - Strategies to facilitate maternal-infant attachment
   - Nursing actions that facilitate and promote early skin-to-skin contact and initiation of breastfeeding
   - Mother and baby together with no restrictions on breastfeeding
   - Components of maternal postpartum assessment
   - Components of neonatal assessment
   - The components of a comprehensive discharge plan

Urgent and Emergent Conditions

1. The RN will be able to recognize and manage and/or discuss the management of the following urgent conditions:
   - Early labour assessment
   - Abnormal progress of labour/labour dystocia
   - Precipitous labour
   - Meconium stained amniotic fluid
   - Atypical FHR tracings
   - Prolonged second stage
   - Spontaneous vaginal delivery in the absence of the primary care provider (Nurse assisted birth)
   - Uterine atony
2. The RN will be able to recognize and manage and/or discuss the management of the following emergent conditions:
   - Abnormal IA or atypical or abnormal FHR tracings
   - Preterm birth
   - Cord prolapse
   - Shoulder dystocia
   - Unstable newborn
   - Postpartum hemorrhage

SKILLS CONTENT

1. Woman-centred care
2. Effective communication and collaboration – woman and her support person(s); other disciplines
3. Proficient documentation
4. Organization and coordination of care
5. Promote, protect and support normal birth
6. Maternal history taking with/without Antenatal Record
7. Maternal and fetal physical examination
8. Measurement of symphysis-fundal height
9. Abdominal palpation using Leopold's Maneuvers
10. Vaginal examination
11. Assessment of uterine contractions
12. Assessment of urine using dipstick
13. Positioning and freedom of movement during normal labour and birth
14. Intermittent auscultation and electronic fetal monitoring
15. Ensuring continuous labour support

16. Comfort measures in labour
- Labour support
- Positioning – mobilization
- Massage
- Relaxation/breathing techniques
- Hydrotherapy & thermal therapy
- Psychoprophylaxis & complementary therapies
- Environmental
- Sterile water injections (intradermal or subcutaneous)
- Administration of Nitronox or Entonox
- Administration of opioids e.g. morphine, fentanyl
- Assisting with insertion of an epidural catheter

17. IV initiation

18. Obstetrical triage

19. Preparation of the sterile delivery table

20. Preparation and use of the newborn receiving unit (radiant warmer)

21. Support with spontaneous pushing (preferably in non supine positions)

22. Nurse-assisted delivery in absence of the primary care giver

23. Clamping and cutting the umbilical cord

24. Visual examination of the placenta

25. Collection of umbilical cord arterial and venous blood gases

26. Maternal postpartum care
- Immediate maternal postpartum care
- Keeping mother and baby together – promoting maternal newborn attachment behaviours
- Breast assessment for breastfeeding purpose
- Assisting with breastfeeding initiation – promote the joint WHO/UNICEF statement for the Ten Steps for Successful Breastfeeding
- Provide information for mothers who have made an informed decision not to breastfeed
- Assessment of involution
  - Palpation of fundal height/fundal massage
  - Lochia and perineum
  - Maternal voiding – postpartum catheterization
- Physical and psychosocial assessment
- Adjustment to parenthood
- Appropriate ongoing community supports and referrals

26. Newborn Care
- Receiving of newborn
- Determination of Apgar score
- Newborn thermoregulation including skin-to-skin care
- Physical assessment at birth including newborn transition from intrauterine to extrauterine environment – identification of variances
- Behaviour states and reflexes - identification of variances
- IM injections
- Prophylactic eye care

27. Preparation for Emergency C/S birth

28. Neonatal Resuscitation

GLOSSARY OF TERMS

Active Phase – regular, frequent uterine contractions accompanied by progressive cervical changes (dilatation and effacement) from 3-4 cm to full dilatation and effacement of the cervix

Fetal Fibronectin – glycoprotein found in extracellular matrix of amniotic membranes which binds chorion to the underlying decidua. It is normally found in cervico-vaginal secretions until 22 weeks gestation and again near the time of labour.

Latent Phase – first phase of labour in the presence of uterine activity resulting in progressive effacement and dilatation of the cervix preceding the active phase; from 0-3cm dilatation (nulliparous), 0 – 4/5cm (parous). Cervix length < 1cm. Onset difficult to define.

Competencies – The knowledge, skills, judgments and attitudes needed to develop competence.

Competence – The integration and application of knowledge, skills, attitudes and judgments required to perform safely, ethically and appropriately within an individual's nursing practice or in a designated role or setting.

Decision-support tools (DSTs) – An evidence-based document used by the nurse to guide the assessment, diagnosis and treatment of client-specific problems.

ABBREVIATIONS

AROM – Artificial rupture of membranes

BPM – Beats per minute

CRNBC – College of Registered Nurses of British Columbia

C/S – Cesarean section

EDD – Expected delivery date

EFM – Electronic fetal monitoring

fFN – Fetal fibronectin

FHR – Fetal heart rate

IA – Intermittent auscultation

IUPC – Intrauterine pressure catheter

IV – Intravenous

LBW – Low birth weight

LMP – Last menstrual period

mcg – Microgram

mg – Milligram

MVA – Motor vehicle accident

NRP – Neonatal resuscitation program

O_2 – Oxygen

PCP – Primary care provider, refers to a physician or midwife

PO – per ora

PPROM – Preterm prelabour rupture of membranes

PROM – Prelabour rupture of membranes

PTB – Preterm birth

PTL – Preterm labour

PV – Per vagina

ROM – Rupture of membranes

SL – Sublinqual

SROM – Spontaneous rupture of membranes

VS – Vital signs

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Registered Nurse Initiated Activities
Decision Support Tool No. 1:
Obstetrical Triage and Assessment

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	Assessment of the pregnant woman to Labour/Delivery
Related Resources, Policies, and Standards:	
Definitions and Abbreviations:	**CTAS**–Canadian Emergency Department Triage and Acuity Scale **Non-urgent**–Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these conditions could be delayed or even referred to other areas of the hospital or health care system. **Urgent**–Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living. **Emergent**–Conditions that are a potential threat to life, limb or function, requiring rapid medical intervention

Assessment

- Upon arrival at the hospital, the RN/designate documents:
  - Date/time of arrival
  - Method of transportation
  - Accompanying support person(s)
- The RN completes (as soon as possible) an initial assessment on the woman's arrival to determine the urgency of care by assessing the following information:
  - Reason for coming to the hospital
  - Number of pregnancies and previous deliveries
  - Estimated date of delivery: term/preterm, gestational age
  - Presence of contractions: frequency, duration, intensity and resting tone
  - Show, bleeding, amount if there is bleeding
  - Fetal movements
  - Woman's response to labour: emotional status and pain scale
  - ROM: Status of membranes: time of rupture, colour/consistency, amount, odour and presence of meconium
  - Presence of obstetrical/medical concerns, e.g. multiple pregnancy or malpresentation
  - Any exposure to infectious disease(s)

- The obstetrical priority categories of non-urgent, urgent and emergent are based on the initial triage assessment
- This classification is adapted from the CTAS system that enables the nurse to:
  - Triage women according to the type and severity of their presenting signs and symptoms
  - Prioritize the care requirement of the woman by determining when she is to be seen and assessed by a PCP and the speed of notification (to the PCP)

Nursing Diagnosis

- Altered individual coping in response to labour
- Labour risk related to pregnancy complications
- Health seeking behaviour related to onset of labour

Application of Obstetrical Priority Level

Priority Level	Non-Urgent	Urgent	Emergent
When to notify Physician/ Midwife	Less than or equal to 120 minutes of completion of nursing assessment	Less than or equal to 60 minutes of completion of nursing assessment	Immediate to 15 minutes of completion of nursing assessment
Term Labour		Labour (See DST #4 Evaluation of Progress in Labour/Dystocia)	Imminent birth Unassisted out-of-hospital birth Multiple pregnancy Malpresentation in labour
Obstetrical/ Medical Complications (Examples)	Suspected urinary tract infection Vaginal show Discomfort of pregnancy	History of hypertensive disorder of pregnancy Decreased fetal movement ROM Suspected maternal fever Planned elective C/S in labour Nausea/vomiting and/or diarrhea with dehydration No prenatal care Substance use in pregnancy	Suspected preterm labour < 37 weeks Vaginal bleeding Maternal seizure or other abnormal neurological symptoms Suspected severe hypertension in pregnancy[1] Maternal respiratory distress Cord prolapse Persistent abdominal pain Suspected fetal compromise/ absent fetal movement Suspected uterine rupture Maternal trauma Suspected psychosis

1 Severe hypertension is defined as a systolic BP of >160 mmHg or a diastolic BP of >110 mmHg (SOGC, 2008, p.S3).

Intervention

The admitting RN will:

1. Continue to complete the clinical assessment or have another RN do so
2. Complete assessment according to the questions listed on the PSBC Perinatal Triage and Assessment Record (PSBC 1590). Refer to the Antenatal records and woman's health record on file
3. Assess the potential need for transfer to the most appropriate facility for labour and birth
4. Document the name and time of notification to PCP as well as arrival time

Guidelines for Providing Care in Your Facility

1. Woman is appropriately cared for in your facility
2. Inability to safely transfer mother due to imminent delivery or poor travel conditions

Guidelines for Transfer to a Referral Center

1. Consult with PCP or most responsible provider (MRP) regarding transfer decisions
2. Provide support and assessment
3. Consider factors for safe transport/transfer (adequate time before delivery, weather conditions, distance) including:
   - **a.** Experience of transport attendants
   - **b.** Risk of delivery enroute
   - **c.** Stability of woman's clinical condition
4. Reassess labour progress prior to transfer

Guidelines for Triage Home

1. If appropriate assessment indicates that the woman is neither in labour nor requiring other assessment or intervention, the woman might be offered the option of discharge after discussion with the PCP
2. The woman should be advised of the signs of labour and encouraged to return if her condition changes
3. Provide information on comfort measures

Intended Outcomes

Using a standard classification system, the woman who presents to a labour and delivery unit receives timely and appropriate care.

Education

Assist the woman with regard to decision making in early/latent phase of labour and/or the potential for travel/transfer to the most appropriate facility for labour and birth

Documentation

PSBC Perinatal Triage and Assessment Record, admission record and specified institutional forms

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Registered Nurse Initiated Activities
Decision Support Tool No. 2:
Intrapartum Fetal Health Surveillance

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	To assess uterine contractions and fetal heart rate pattern in labour, recognize abnormalities and respond appropriately.
Related Resources, Policies, and Standards:	Joint SOGC–BCPHP Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline (2007).
Definitions and Abbreviations:	**Intermittent auscultation (IA)**–a listening technique of counting fetal heart beats following established protocols. **Electronic fetal monitoring (EFM)**–the use of an electronic fetal heart rate monitor either externally or internally for the continuous evaluation of fetal heart rate pattern in labour. **Fetal scalp electrode (FSE)**–internal signal source for electronically monitoring the fetal heart rate inserted through vagina and cervix and attached to the presenting part **External tocotransducer**–Pressure sensitive electronic device for measuring uterine activity transabdominally – detects changes in surface pressure **Intrauterine Pressure Catheter (IUPC)**–catheter inserted into uterine cavity to assess uterine activity and pressure (measured in mmHg) by electronic means using a solid sensor tip.

Assessment

1. General

- "Intermittent auscultation, following an established protocol of surveillance and response, is the ***recommended*** method of fetal surveillance for healthy term women in spontaneous labour, in the absence of risk factors for adverse perinatal outcome" (SOGC, 2007).
- Determine if the labouring woman has risk factors for adverse perinatal outcomes (refer to Appendix 1)
- Using the appropriate methods of fetal health surveillance – IA or EFM, assess and document fetal heart rate at the *recommended* frequency

2. Uterine Activity

- Identify uterine contraction patterns that might adversely affect oxygen delivery to the fetus
- Assessment of uterine activity is performed in conjunction with IA or EFM, and is necessary in order to correctly classify the fetal heart rate patterns with EFM
- Palpate by hand and/or
- Assess using an external tocotransducer or an internal IUPC

  NOTE: The external tocotransducer does NOT measure the contraction intensity or uterine resting tone

3. Intermittent Auscultation

- Indications for intermittent auscultation:
  - Healthy, term women without risk factors for adverse perinatal outcomes at initial assessment in triage and throughout labour
  - Assess FHR before:
    - ◊ initiation of labour-enhancing procedures (e.g. amniotomy)
    - ◊ administration of medications
    - ◊ administration or initiation of analgesia/anaesthesia
    - ◊ transfer or discharge of the woman
  - Assess FHR after:
    - ◊ admission of woman
    - ◊ artificial or spontaneous rupture of membranes
    - ◊ vaginal examinations
    - ◊ abnormal uterine activity patterns (e.g. increased resting tone or tachysystole)
    - ◊ any untoward event during labour (e.g. maternal hypotension, bleeding)
    - ◊ administration or initiation of analgesia/anaesthesia
- Recommended procedure for FHR auscultation:
  - Perform Leopold's Maneuvers to identify fetal presentation and position
  - Place the Doppler over the area of maximum intensity of fetal heart sounds, usually over the fetal back or shoulder
  - Listen to hear the FHR and place a finger on mother's radial pulse to differentiate maternal from fetal heart rate
  - Establish a baseline heart rate by listening and counting between uterine contractions for a full minute (60 seconds)
  - Once the FHR baseline is established auscultate the FHR immediately after a contraction for ongoing readings.

  NOTE: Although both 30- and 60-second counting periods are used in practice, little evidence exists regarding best counting duration. However, a 60-second count improves accuracy as it is longer and most likely reflects the number of fetal heart beats per minute. Also, some clinicians listen through a contraction but this practice is not supported by research evidence (Lee et al., 2009)
- Recommended frequency of auscultation:
  - **First stage-latent phase** – approximately q 1 h and as clinically indicated (ideally the woman is at home)
  - **First stage-active phase** – q 15 – 30 min
  - **Passive second stage** – q 15 min before the onset of pushing
  - **Active second stage** – q 5 min or after each contraction once the woman has begun pushing
- Systematic Interpretation of Intermittent Auscultation, assess:
  - Uterine activity pattern, frequency, duration, intensity and resting tone by palpation
  - Baseline fetal heart rate – counting FHR for 60 seconds after contractions improves accuracy; in active labour, counting for 30-seconds (and multiplying by 2) may be more feasible
  - Rhythm (regular or irregular)
  - Presence of accelerations
  - Presence of decelerations (abrupt or gradual)
  - Classify IA findings as normal or abnormal (Table 2.1)
  - Evaluate the whole clinical picture
  - Document IA and uterine characteristics as per stages of labour

Table 2.1: Classification Of Intermittent Auscultation Findings

Normal FHR	Abnormal FHR
• Baseline FHR 110 – 160 bpm • Regular rhythm • Presence of accelerations *Abrupt* increase of FHR above baseline, ≥ 15 bpm, lasting ≥ 15 seconds from onset to return ***NOTE:*** Abrupt = onset of acceleration to peak in < 30 seconds ***NOTE:*** In a fetus of ≤ 32 weeks, accelerations of 10 bpm lasting 10 seconds may be acceptable. ***NOTE:*** Accelerations suggest the presence of fetal well-being. However, since auscultation is done intermittently, the absence of accelerations on its own is not necessarily concerning and does not make the auscultation findings "abnormal". When considering the significance of the absence of accelerations and whether other actions to determine fetal well-being are indicated, it is important to consider the auscultation findings in light of the total clinical picture, including the general activity of the fetus, the stage of labour and other risk factors.	• Baseline FHR < 110 bpm • Baseline FHR > 160 bpm • Irregular rhythm • Changing FHR • Decelerations – abrupt or gradual decrease in FHR

4. Electronic Fetal Monitoring

- Indications for EFM - for women who are preterm or term with risk factors for adverse perinatal outcome (see Appendix 1)
  - Discuss risk factors with woman when EFM *may* be beneficial
  - Consult with PCP about EFM use in the presence risk factors or when the severity of risk factors require further discussion
- Recommended frequency of EFM
  - EFM frequency is the same as those recommended for IA
  - Normal EFM tracings in 1st stage of labour – may be appropriate to interrupt the EFM tracing for up to 30 min if:
    - ◊ Maternal/fetal condition normal
    - ◊ If Oxytocin infusion rate is stable
- Systematic Interpretation of Electronic Fetal Monitoring, assess:
  - Quality of tracing
  - Paper speed and graph range
  - If mode is external or internal
  - Uterine activity pattern - frequency, duration, and intensity and resting tone by palpation if external tocotransducer is used
  - Baseline FH rate
  - Baseline variability
  - Fetal heart rate accelerations
  - Periodic or episodic decelerations
  - Classify the EFM tracing as normal, atypical, abnormal (see Appendix 3)
  - Evaluate the whole clinical picture
  - Document EFM including uterine characteristics q15-30 minutes (SOGC, 2007)

  * If EFM is indicated for a woman who wishes to ambulate or not to be in bed in labour, telemetry should be used where available (SOGC, 2007)

Nursing Diagnosis

- Normal or abnormal auscultated FHR responses to uterine activity or labour (see Table 2.1)
- Normal, atypical or abnormal FHR tracings in response to uterine activity (see Appendix 3 – Classification of Intrapartum EFM tracings)

Special Considerations/Precautions

- Both IA and EFM are intensive fetal health surveillance methods that require close nursing support during active labour.
- The use of an established protocol addressing the technique, frequency of assessment and response is recommended by SOGC (2010).
- RNs must have the knowledge of the benefits and limitations of fetal surveillance methods (Feinstein, 2000; SOGC, 2007)
- Palpate maternal radial pulse to differentiate between maternal from fetal heart rate
- When a change in the woman's condition occurs (such as rupture of the membranes with meconium, development of bleeding or other concerning clinical findings), evaluation of fetal heart rate using the most appropriate method should be instituted. Notify the PCP.

Intervention

For IA

Normal FHR

- Continue intermittent auscultation as per protocol
- Continue to promote maternal comfort and fetal oxygenation, and to provide supportive care

Abnormal FHR

- Interpret the abnormal findings in conjunction with **the total clinical picture**
- Perform further **assessments** to clarify or confirm findings and determine potential causes
- Auscultate FHR again following the next contraction to confirm abnormal FHR
- Assess potential causes
- Check maternal pulse, BP, respirations & temperature
- Perform a vaginal exam as indicated
- **Intervene** in an attempt to eliminate or reduce the effects of the cause, institute intrauterine resuscitation to promote four physiologic goals (see Appendix 2)
  - Improve uterine blood flow
  - Improve umbilical blood flow
  - Improve oxygenation
  - Decrease uterine activity
- If abnormal FHR is resolved with the interventions, continue with IA and individualized support care
- If abnormal FHR persists, consider further interventions:
  - Initiate EFM if available, to obtain baseline FHR, variaibility, presence of accelerations and decelerations (see appendix 3)
  - Communicate with Primary Care Provider

For EFM

- If EFM tracing is atypical or abnormal consider potential causes (see Appendix 1)
- Intervene when the tracing is atypical or abnormal by promoting four physiologic goals: (see Appendices 2 and 3)
  - Improve uterine blood flow
  - Improve umbilical blood flow
  - Improve oxygenation
  - Decrease uterine activity
- Communicate with PCP

Intended Clinical Outcomes

- Appropriate method of fetal health surveillance is used
- Normal, atypical and abnormal tracings are interpreted, managed and appropriate interventions are carried out.

Education

- Engage woman in decision making for IA and EFM
- Discuss with the woman her wishes, concerns and questions regarding the benefits, limitations and risks of IA and EFM as indicated

Documentation

- On Partogram and Interprofessional Progress Notes

For IA

- Use numerically defined terms – bradycardia, tachycardia
- Describe
  - Numerical baseline rate in bpm
  - Rhythm as regular or irregular
  - Frequency of contractions: uterine contraction are quantified as the number of contractions present in a 10 minute period, averaged over 30 minutes. (NICHD, 2008). Contraction frequency may also be estimated from the beginning of one contraction to the beginning of the next and described in minutes apart.
  - Contraction intensity by palpation as mild, moderate or strong
  - Resting tone by palpation as soft or firm
- Note presence or absence of accelerations or decelerations (nature of change gradual or abrupt) (SOGC, 2007)
- Interpret findings as normal, abnormal
- Record
  - Maternal observations and assessments
  - Actions taken
  - Maternal and fetal responses to interventions
- Communicate with PCP

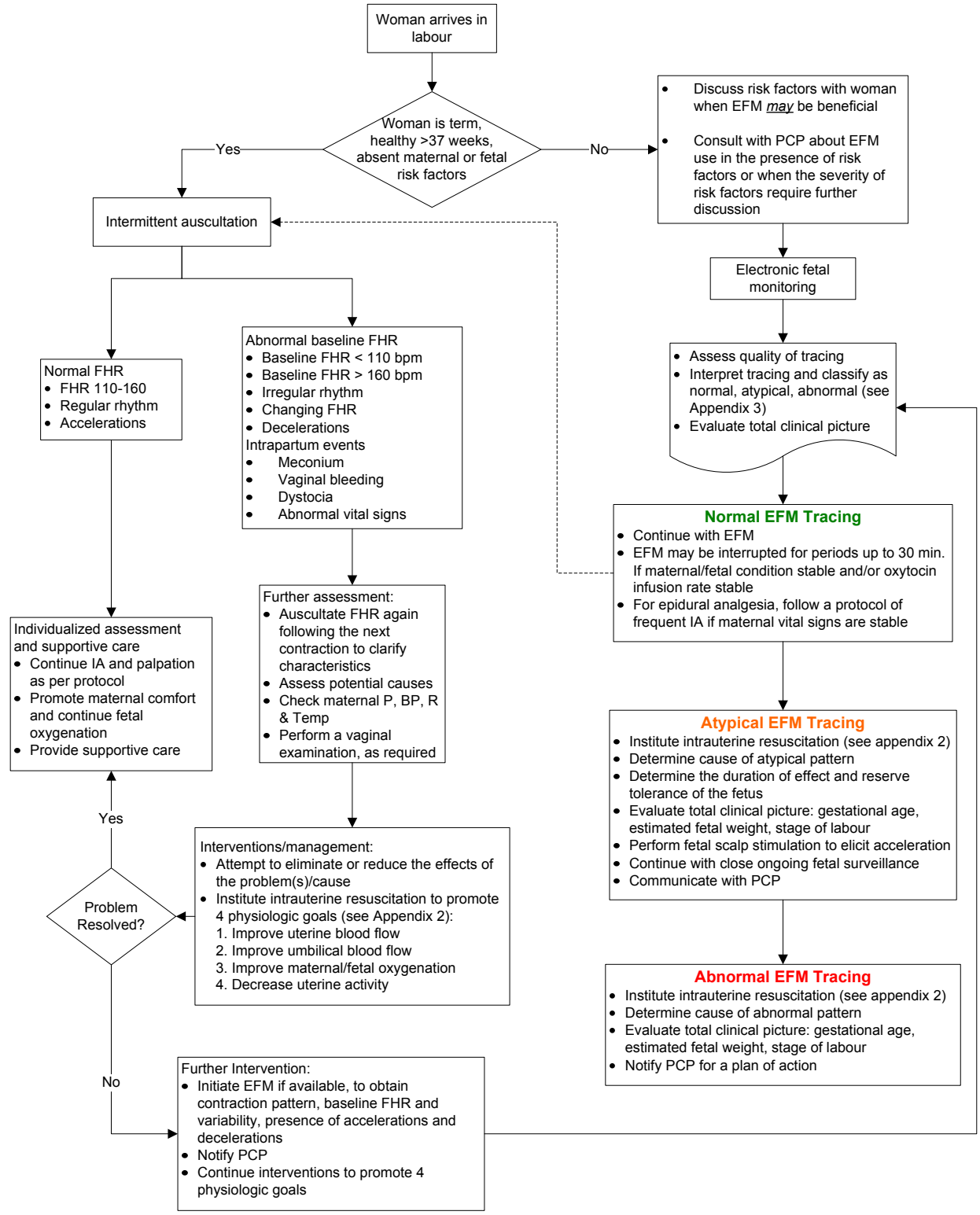
For EFM

- Indicate reason for initiating EFM
- Indicate mode of fetal heart rate and uterine monitoring: external
  - External
    - ◊ Uterine: External tocotransducer
    - ◊ FHR: Ultrasound
  - Internal
    - ◊ Uterine: Intra-uterine pressure monitoring
    - ◊ FHR: Fetal scalp electrode
- Apply label with addressograph information to beginning of tracing
- Ensure the timing of nursing notation corresponds with the time on the monitor clock
- Describe
  - Baseline rate – average number in bpm rounded to increments of 5 bpm
  - Baseline FHR variability as absent (undetectable), minimal (≤ 5 bpm), moderate (6–25 bpm) or marked (> 25 bpm)
  - Presence/absence of accelerations

  - Presence and type of decelerations
  - Frequency of contractions in a 10 minute period, averaged over 30 minutes, may also be estimated from the beginning of one contraction to the beginning of the next and described in minutes apart.
  - Duration of contraction by palpation in seconds – from beginning to end of a contraction
  - Contraction intensity by palpation as mild, moderate or strong
  - Resting tone by palpation as soft or firm
- Classify tracing as normal, atypical or abnormal
- Record
  - Maternal and fetal responses to interventions
  - Other maternal observations and assessment
  - Actions taken
- Communicate with PCP

Decision Support Tool:

Fetal Health Surveillance in Labour



Adapted from:
Feinstein NF, Sprague A, & Trepanier MJ. (2000). Fetal heart rate auscultation. AWHONN, Sprague, A. (1995). Auscultation of FHR – Decision-tree. PPPESO & Ottawa Hospital Maternal Newborn Program.
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Appendix 1

Antenatal And Intrapartum Conditions Associated With Increased Risk Of Adverse Fetal Outcome[1] Where Intrapartum Electronic Fetal Surveillance May Be Beneficial[2]

Antenatal	**Maternal**	• Hypertensive disorders of pregnancy • Pre-existing diabetes mellitus/gestational diabetes • Antepartum hemorrhage • Maternal medical disease: cardiac, anemia, hyperthyroidism, vascular disease and renal disease • Maternal MVA/trauma • Morbid obesity[3]
	Fetal	• Intrauterine growth restriction • Prematurity • Oligohydramnios • Abnormal umbilical artery doppler velocimetry • Isoimmunization • Multiple pregnancy • Breech presentation
Intrapartum	**Maternal**	• Vaginal bleeding in labour • Intrauterine infection/chorioamnionitis • Previous Caesarean section • Prolonged membrane rupture > 24 hours at term • Induced labour • Augmented labour • Hypertonic uterus • Preterm labour • Post-term pregnancy (> 42 weeks)
	Fetal	• Meconium staining of the amniotic fluid • Abnormal fetal heart rate on auscultation

Adapted from RCOG Evidence-based Clinical Guideline Number 8, May 2001. The use of electronic fetal monitoring.

1 Adverse fetal outcome: cerebral palsy, neonatal encephalopathy, and perinatal death.

2 Consult PCP regarding the use of EFM when risk factors are present and/or the severity of risk factors require discussion to individualize the woman's care.

3 Body Mass Index > 40 Kg/m^2 or 100 lb over ideal body weight

Appendix 2

Management of Abnormal Fetal Heart Rate or Intrauterine Resuscitation

Tachycardia • FHR > 160 bpm	• Reposition woman to increase uteroplacental perfusion or alleviate cord compression. • Rule out fever, dehydration, drug effect, prematurity • Correct maternal hypotension if present, by increasing IV fluid with a bolus of 250 mL normal saline over 10 min (unless contraindicated by maternal condition). Seek further order from PCP. • Check maternal pulse and blood pressure q 15 min until problem is resolved
Bradycardia • FHR < 110 bpm	• Reposition woman to increase uteroplacental perfusion or alleviate cord compression • Perform vaginal exam to assess for prolapsed cord or relieve cord compression • Correct maternal hypotension if present, by increasing IV fluid with a bolus of 250 mL normal saline over 10 min (unless contraindicated by maternal condition). Seek further order from PCP. • Check maternal pulse and blood pressure q 15 min until problem is resolved • Consider the administration of oxygen at 8 to 10 L/min
Decelerations • Late • Complicated variable • Prolonged	• Reposition woman e.g. lateral, wedged • Assess for passage of meconium • Correct maternal hypotension if present, by increasing IV fluid with a bolus of 250 mL normal saline over 10 min (unless contraindicated by maternal condition). Seek further order from PCP. • Perform vaginal exam to assess for prolapsed cord or relieve cord compression • Consider administration oxygen at 8 to 10 L/min
Additional measures	• Continue to auscultate FHR (if applicable) to clarify and document components of FHR • Consider initiation of electronic fetal monitoring (EFM) if applicable • If abnormal findings persist despite corrective measures, and ancillary tests are not available or desirable, anticipate immediate delivery

Adapted from (SOGC, 2007) Table 11

1 Maternal hypotension is defined as systolic BP falling more than 30 mmHg below resting systolic pressure or below 90 mmHg.

Appendix 3

Classification of Intrapartum EFM Tracings (SOGC, 2007)

	NORMAL TRACING Previously "Reassuring"	ATYPICAL TRACING Previously "Non-Reassuring"	ABNORMAL TRACING Previously "Non-Reassuring"
Baseline	110–160 bpm	Bradycardia 100–110 bpm Tachycardia > 160 for > 30 min to < 80 min Rising baseline	Bradycardia < 100 bpm Tachycardia > 160 for > 80 min Erratic Baseline
Variability	6–25 bpm ≤ 5 bpm for < 40 min	≤ 5 bpm for 40–80 min	≤ 5 bpm for > 80 min. ≥ 25 bpm for > 10 min Sinusoidal
Decelerations	None or occasional uncomplicated variables or early decelerations	Repetitive (≥ 3) uncomplicated variable decelerations Occasional late decelerations Single prolonged deceleration > 2 min but < 3 min	Repetitive (≥ 3) complicated variables: Deceleration to < 70 bpm for > 60 secs. Loss of variability in trough or baseline Biphasic decelerations Overshoots Slow return to baseline Baseline lower after deceleration Baseline tachycardia or bradycardia Late decelerations > 50% of contractions Single prolonged deceleration > 3 min but < 10 min
Accelerations	Spontaneous accelerations present (FHR increases ≥ 15 bpm lasting ≥ 15 seconds; < 32 weeks gestation increase in the FHR ≥ 10 bpm lasting ≥ 10 seconds) Accelerations present with fetal scalp stimulation.	Absence of acceleration with fetal scalp stimulation	Usually absent*
Action	EFM may be interrupted for periods up to 30 min if maternal-fetal condition stable and/or oxytocin infusion rate stable	Further vigilant assessment required, especially when combined features present.	ACTION REQUIRED Review overall clinical situation, obtain scalp pH if appropriate/ prepare for delivery.

*Usually absent, but if accelerations are present, this does not change the classification of tracing.

Reference: SOGC (2007) Table 15.

Registered Nurse Initiated Activities
Decision Support Tool No. 3:
Assessment and Immediate Management of Preterm Labour/Birth

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	For the assessment and immediate management of preterm labour/birth
Related Resources, Policies, and Standards:	**PSBC Obstetrics Guideline 2A** – Preterm Labour
Definitions and Abbreviations:	**Preterm Labour (PTL)** – Confirmed cervical dilation with uterine contractions between 20^{+0} and 36^{+6} weeks gestation

Assessment

- Confirm her EDD, review obstetrical history for PTL risk factors
- Signs and symptoms of preterm labour ***differ*** from term labour and may include:
  - Uterine contractions every 15 minutes or more frequently
  - Menstrual-like cramps felt in the lower abdomen that may come and go or be constant
  - Dull ache in the lower back; may be intermittent or constant
  - Pelvic pressure, often described as feeling like the baby is pushing down This pressure may be intermittent or constant
  - Bowel cramping with or without diarrhea
  - Increase or change in vaginal discharge. There may be more vaginal discharge than usual, or it may change into a mucousy or light bloody discharge
- Signs and symptoms of imminent preterm delivery may include:
  - Increased bloody show
  - Uncontrollable urge to push/bear down
  - Separation of the labia, bulging perineum and rectum
  - Presenting part is crowning
  - Woman states that birth is imminent

Nursing Diagnosis

- Suspected preterm labour/birth

Special Considerations and Precautions

- Symptoms of preterm labour may be subtle
- Women may experience uncertainty and confusion when deciding whether or not to seek help for preterm labour
- Validate the woman's concern and commend her for seeking help
- Uterine contractions may not register on the EFM; the diagnosis of preterm labour is difficult and in some cases may be uncertain which may result in undiagnosed preterm labour
- There is a risk of women delaying seeking help in subsequent episodes of preterm labour if they may believe they are perceived as "over-reactive"
- Avoid normalizing terms such as "tightenings" or "Braxton Hicks"
- Take care in validating the woman's experience of contractions if preterm labour is not confirmed, positively reinforce help-seeking behavior for further signs of preterm labour

Interventions

Suspected preterm labour, but no signs/ symptoms of imminent delivery

1. Do not perform a digital vaginal exam
   - Sterile speculum exam by the PCP should be done first
     - To rule out preterm rupture of membranes
     - To obtain a swab for fetal fibronectin (if available)
2. Perform initial assessment (see p. 7), notify the PCP as time allows
3. Confirm accurate dating
4. Palpate contractions – frequency, duration, intensity and resting tone
5. Have the woman empty her bladder and collect a mid-stream urine for culture and sensitivity. Pour off a small sample for dipstick and urinalysis
6. Begin electronic fetal monitoring to assess fetal response to contractions
   - Do not rely on contraction assessment with external electronic fetal monitor alone
7. Initiate intravenous access for e.g. antibiotics, hydration and other medications

Signs/symptoms of imminent delivery

1. Do a digital vaginal exam
   - To determine if birth is imminent
   - To confirm fetal presentation
2. If delivery is imminent, call for immediate assistance – PCP, another nurse and, depending on availability, pediatrician, neonatal team, respiratory technician, or anesthesiologist
3. Explain the situation to the woman and her family and gain their assistance as needed
4. Proceed to assist with the birth (see DST #6: Birth in the absence of a primary care provider)
5. Proceed with neonatal resuscitation as needed
6. Assist with the collection of cord pH and gases (clamp and cut a piece of cord)

Intended Outcomes

- Appropriate management of preterm labour/delivery until arrival of PCP
- Women who experience multiple episodes of preterm labour symptoms will be encouraged to seek help and assessment for each new episode

Education

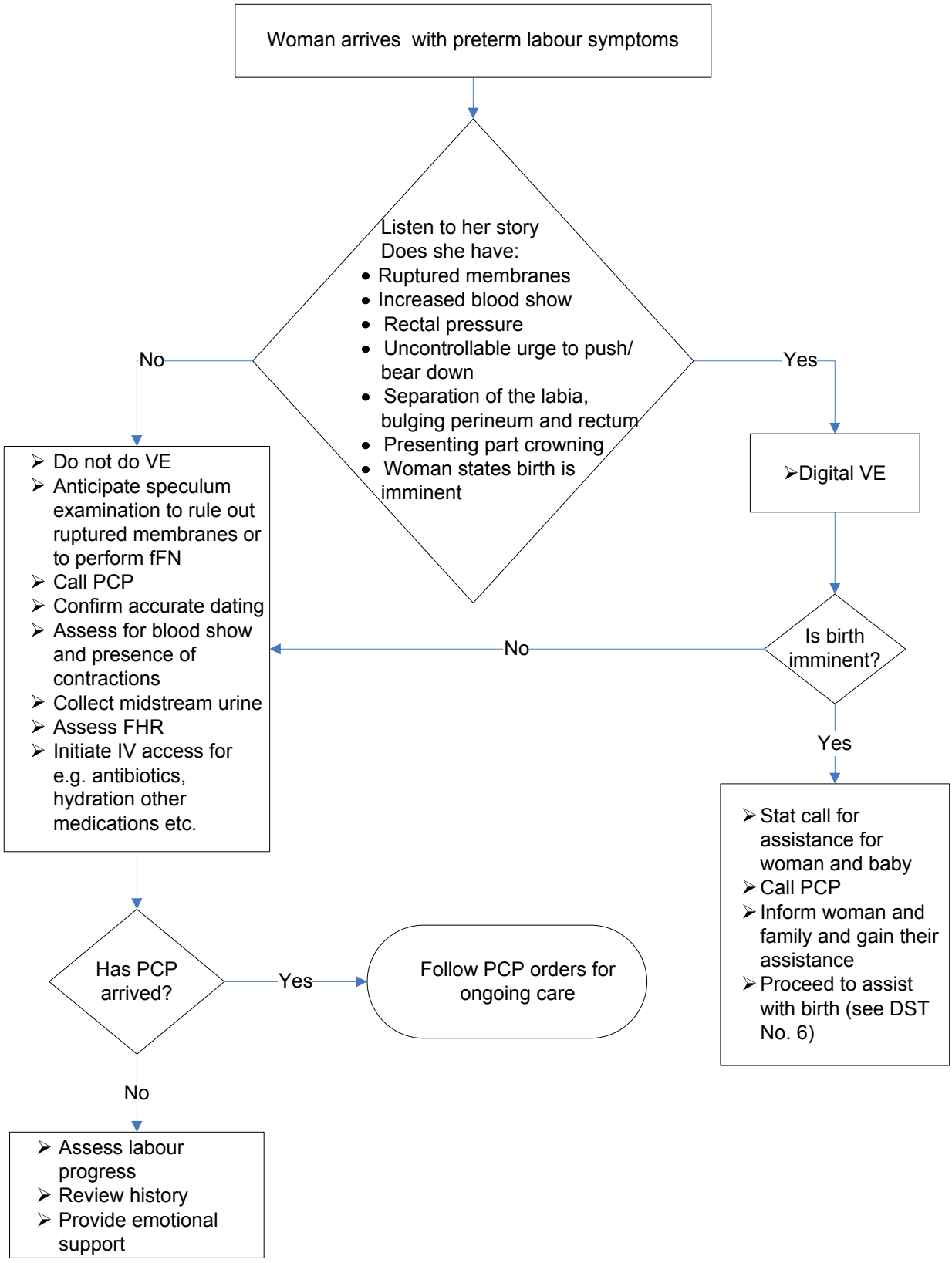
- Daily fetal movement count if > 26 weeks (see Joint SOGC-BCPHP Fetal Health Surveillance Guideline, 2007)
- Contraction assessment (alert the woman to seek help if there is a change in contraction intensity and frequency)
- Review signs of preterm labour
- Encourage reduction in factors that are specific to her situation that may aggravate symptoms
- Assess the woman's home situation and available support person(s)

Documentation

- Complete the BC Perinatal Triage and Assessment form (PSBC 1590)
- Indicate palpated contractions and/or contractions perceived by the woman on the electronic monitor tracing (when contractions are not registered)
- Document on BC Labour Partogram (PSBC 1583) when in active labour

Decision Support Tool:

Preterm Labour/Birth



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Registered Nurse Initiated Activities
Decision Support Tool No. 4:
Evaluation of Progress of Labour/Dystocia

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	For the purpose of monitoring maternal-fetal responses to delayed progress of labour
Related Resources, Policies, and Standards:	CRNBC Scope of Practice for Registered Nurses (CRNBC, 2010) CRNBC Practice Standard: Documentation (CRNBC, 2008)
Definitions and Abbreviations:	**Delayed Progress of Labour/Dystocia** – Dilatation in 1st stage (active phase) of < 0.5 cm/hr for > 4 hr in labouring women or 1 hr with no descent during active pushing in 2nd stage. **Prodromal Labour** – Irregular uterine contractions that subside with rest and relaxation. No significant cervical dilatation in response to uterine contractions. **Latent Phase of First Stage of Labour** – First phase of labour in the presence of uterine activity resulting in progressive effacement and dilatation of the cervix preceding the active phase; from 0 – 3 cm dilatation (nullip), 0 – 4/5 cm (parous). Cervix length < 1 cm. Onset difficult to define. **Active First Stage of Labour** – Regular, frequent uterine contractions accompanied by cervical changes (dilatation and effacement) from 3 – 4 cm to full dilatation and effacement of the cervix **Second Stage of Labour** – Stage of labour from full dilatation and effacement of the cervix to birth of the neonate. Can be divided into passive 2nd stage (fully dilated without pushing) and active 2nd stage (fully dilated with active pushing) **Active Pushing** – May be directed or non-directed. Directed pushing is breath-holding bearing down effort against a closed glottis. Non directed pushing is *instinctive, spontaneous pushing in response to* involuntary bearing down with contractions while exhaling (open glottis pushing). **Station** – Determined during a vaginal examination and is the degree of fetal descent. The relationship of the lower most portion of the presenting fetal part to an imaginary line drawn between the ischial spines of the pelvis. An approximate measurement where station 0 is at the ischial spine and above the spines can be from -1 to -5 cm and below the spines can be from +1 cm to +5 cm. **Nulliparous** – A woman who has never given birth to a viable infant (500 grams birth weight or 20 weeks gestation) in a previous pregnancy. **Parous** – A woman who have carried a previous pregnancy to a point of viability (500 grams birth weight or 20 weeks gestation) regardless of outcome.

Assessment

Ongoing Labour Assessment

- Review initial assessment and overall clinical picture (see Assessment in normal labour and birth)
- Assess woman's knowledge and expectations of care
- Discuss with the woman her wishes, concerns and questions regarding her birth plans
- Ensure the woman is in active labour
- Use a partogram to assess cervical dilatation and fetal descent
- Assess possible causes of delayed progress of labour/dystocia
- Check woman's previous birth history

1. ***Powers*** – Contractions and expulsive efforts
   - Assess uterine activities – hypotonic, hypertonic, incoordinate and resting tone
   - Ongoing assessment of contraction pattern – frequency, duration, intensity and resting tone
   - Assess maternal expulsive efforts in 2nd stage
   - Check for vaginal discharge – bleeding, meconium, odour
2. ***Passenger*** – Fetus
   - Determine fetal lie, presentation, position, attitude
   - Perform ongoing assessment of fetal responses to labour –IA, EFM (see DST #2: Intrapartum Fetal Health Surveillance)
3. ***Passage*** – Pelvic structure, soft tissue factors (e.g. tumors, bladder/rectum, vaginal septum)
   - Perform vaginal exam (dilatation, effacement, station); assess rate of cervical change
   - Assess bladder and bowel function
   - Ensure the availability for freedom of movement
   - Encourage ambulation, frequent maternal position changes
   - Promote rest between contractions
4. ***Psyche*** – Maternal response to pain, stress and anxiety, available support
   - Assess for stress and tension
   - Provide continuous labour support and positive encouragement
   - Provide emotional support, teaching, comfort measures [include support person(s)]
   - Assess fears and discomfort
   - Implement non-pharmacological comfort measures (as required)
   - Implement pharmacological comfort measures (as required)

Nursing Diagnosis

Delayed progress of labour/dystocia in first stage labour

The diagnosis needs to take into consideration all aspects of progress in labour including:

- Nulliparous women: cervical dilatation of less than 2 cm in 4 hours (< 0.5 cm/hr assessed over 4 hours) (SOGC, 1995)
- Parous women: cervical dilatation of less than 2 cm in 4 hours (< 0.5 cm/hr assessed over 4 hours) or a slowing in the progress of labour (NICE, 2007)
- Descent and rotation of the fetal head
- Changes in contraction duration, frequency, intensity and resting tone

Delayed progress of labour/dystocia in second stage labour

- Lack of descent after 1 hour of active pushing in 2nd stage

Special Considerations and Precautions

- The diagnosis of dystocia should not be made prior to the active phase of labour until the cervix in a nulliparous woman is at least 3 cm dilated, 80–90% effaced; 3–4 cm dilated and 70–80% effaced in parous woman (SOGC, 1995).
- Optimal support of normal labour processes and the appropriate management of dystocia, if it occurs, could potentially lead to a significant reduction in the caesarean section rate (SOGC, ALARM 2010)

Interventions

First Stage of Labour

Interventions

- Engage woman in informed decision making
- Present care options when possible
- Provide ongoing feedback and support to the woman and her support person(s)
- Reassure and value the woman and her support person(s)
- Use a variety of interventions and comfort measures to promote progress in labour (See DST # 5 Discomfort and Pain in Labour) including:
  - One-to-one supportive care in active labour
  - Freedom of movement
  - Upright positioning and position changes
  - Ambulation
- Offer oral intake during established labour unless the woman has received opioids or developed risk factors
- Identify and alleviate factors that may interfere with the progress of labour:
  - Safety and environment
  - Anxiety and fear
  - Hyperventilation
  - Supine position, flat on back
  - Fatigue
  - Dehydration
- Where delay in the established first stage is suspected, consider the following:
  - Parity
  - Cervical dilatation and rate of change
  - Quality of uterine contractions
  - Station and position of presenting part
  - The woman's emotional state, available support and appropriate comfort measures
  - Hydration status: oral intake, urine output, condition of skin and mucous membranes, NPO status

Notify PCP

ALERT

- Abnormal IA or atypical or abnormal FHR tracing
- Inability to obtain or assess FHR
- Abnormal maternal vital signs (see below)
- Abnormal uterine contraction pattern
- Vaginal bleeding
- Meconium

Maternal

- Cervical dilatation of less than 2 cm in 4 hours (< 0.5 cm/hr)
- Uterus
  - Abnormal uterine contraction pattern: tachysystole, defined as > 5 contractions in 10 minutes, averaged over a 30-minute window
  - Doubling or tripling of contractions
  - A contraction duration of greater than 90 seconds
  - Contractions of normal duration with less than 30 seconds soft resting tone or the uterus does not relax (hypertonus) between contractions
  - Uterine tenderness or pain
- Vaginal Discharge
  - Meconium
  - Blood (other than "show")
  - Odour
- Pain requiring pharmacologic comfort measures
- Dehydration – fatigue, dry skin or mucous membranes, nothing by mouth or negative balance of intake and output, urine output less than 30 mL/hr
- Psychosocial factors such as fear, anxiety and lack of support
- Other pathological factors
  - Temperature ≥ 38.0ºC over 2 hours (with hydration)
  - A diastolic BP of > 90 mmHg, based on the average of at least two measurements, taken using the same arm
  - Severe hypertension as systolic BP of ≥ 160 mmHg or diastolic BP of ≥ 110 mmHg
  - Proteinuria ≥ 2+ on dipstick

Fetal

- Malpresentation, malposition and abnormal attitude
- Failure to descend into the pelvis
- Abnormal IA or atypical or abnormal FHR tracing
- Inability to obtain or assess FHR

Second Stage of Labour

Interventions

- Support the woman in choosing a comfortable position for pushing
- Promote and encourage spontaneous, non directed pushing in upright positions
- Use of a variety of positions of comfort to encourage progress, avoid supine positions
- May require directed pushing if there is no progress with non directed, spontaneous pushing efforts
- General principles for pushing for both primaparous and multiparous women
  - Fetal and maternal well-being is established prior to any delay in pushing
  - Hourly vaginal assessment (by consistent examiner) in the second stage of labour to assess fetal station, position and descent
  - Regular bladder assessment
- Both nulliparous and parous women with epidural anaesthesia benefit from a policy of delayed pushing

Notify PCP

- At the time of full cervical dilatation
- When there is absent fetal descent in any one hour period during active pushing in 2nd stage

Recommended Practices in Second Stage
(after full cervical dilatation)
By Parity and Use of Epidural Analgesia

	Nulliparous		Parous	
	No Epidural	**Epidural**	**No Epidural**	**Epidural**
Total Duration *	3 hours	4 hours	2 hours	3 hours
Waiting Period ‡	May wait up to 2 hours before pushing, provided continued passive descent	May wait up to 2 hours before pushing, provided continued passive descent	May wait up to 1 hour	May wait up to 2 hours before pushing, provided continued passive descent
Commence Pushing	When urge to push present ***AND*** Station +2 ***AND*** Position OA §		When urge to push present	
Pushing By	Pushing by 2 completed hours after full dilatation			
Assessment	Hourly for descent and position			
Notification of PCP	If no descent after any 1 hour of active pushing			

* Continuing beyond the following time limits may not be appropriate if there is slow or no progress despite oxytocin augmentation; extending these time limits may be appropriate if progress is evident and birth is imminent. Consult PCP.

‡ Waiting for up to the time period indicated prior to the onset of pushing is appropriate in the presence of continued passive descent of the head and normal FHR assessment.

§ Nulliparous women with fetal head above +2 and malposition should be encouraged to allow passive descent.

Intended Clinical Outcomes

- Accurate diagnosis of active stage of labour
- Prompt diagnosis of delay in first stage or second stage labour
- Variances in maternal/fetal well being during labour are recognized, and appropriate interventions are carried out
- Timely and effective communication to PCP of variances/complications during any phase of labour
- Continuous labour support to the labouring woman and family

Education

- Inform woman of progress and explain possible reasons for delayed progress of labour/dystocia and present care options

Documentation

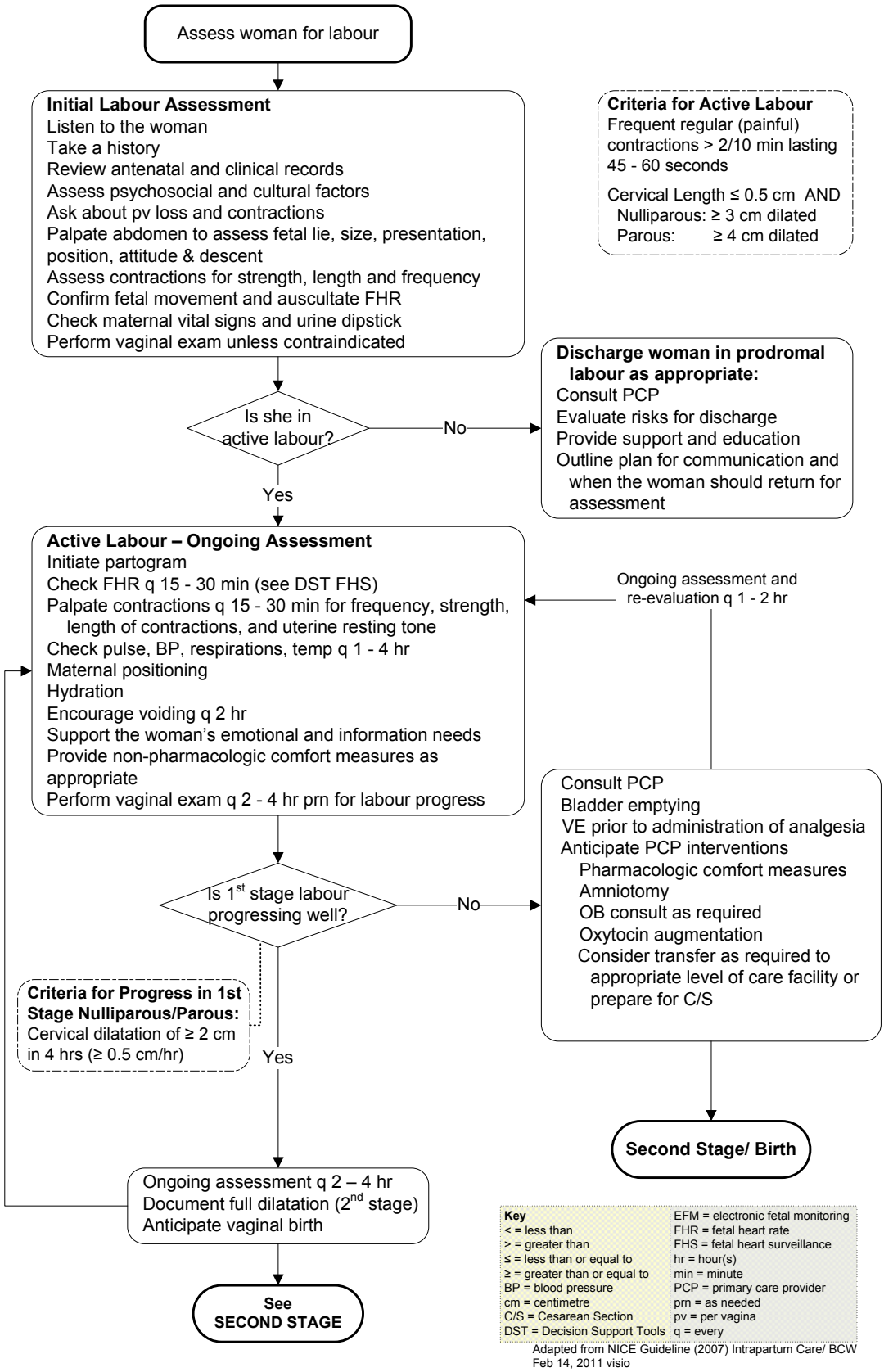
Document on the PSBC Forms – Perinatal Triage and Assessment Record (PSBC 1590), BC Labour Partogram (PSBC 1583), Labour and Birth Summary Record (PSBC 1588), Interprofessional Notes and/or institutional records.

Include the following:

- Maternal status
  - Contraction pattern
  - Vaginal discharge – bleeding, meconium, odour
  - Vaginal exams (dilatation, cervical length and fetal station)
  - Hydration
  - Vital signs
  - Discomfort – comfort measures, analgesia
  - Emotional status
  - Responses to care
- Fetal status
  - Type of fetal health surveillance (IA, EFM)
  - Fetal heart rate pattern and responses to labour
  - Fetal position, presentation, status of presenting part
  - Fetal descent-station
- Communication to PCP when there are variances in maternal and fetal responses to labour
  - Time of call to PCP
  - Time of orders/response from PCP
  - Orders/response received
- Arrival time of PCP

Decision Support Tool:

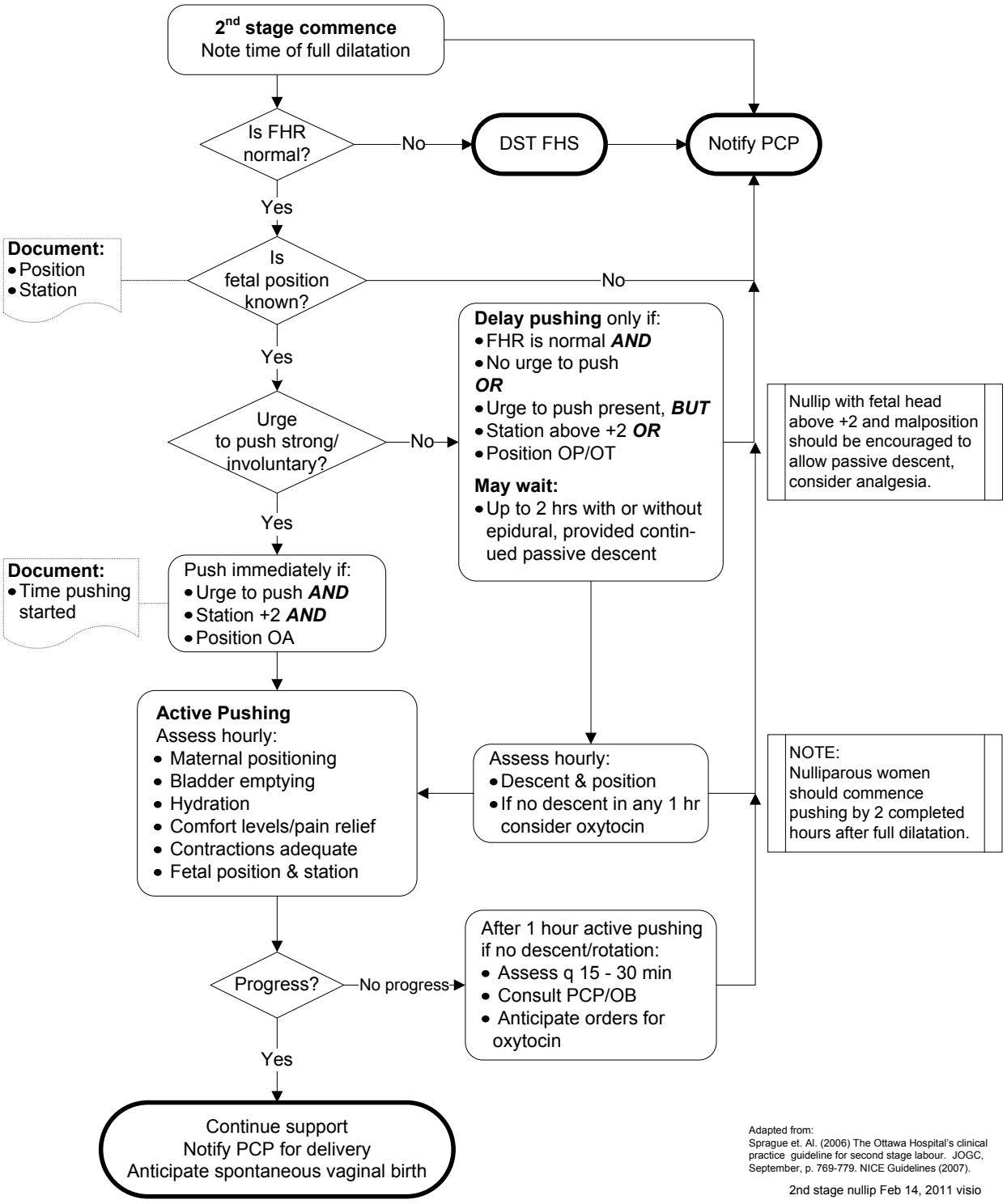
Evaluating Progress of Labour – First Stage



Adapted from NICE Guideline (2007) Intrapartum Care

Decision Support Tool:

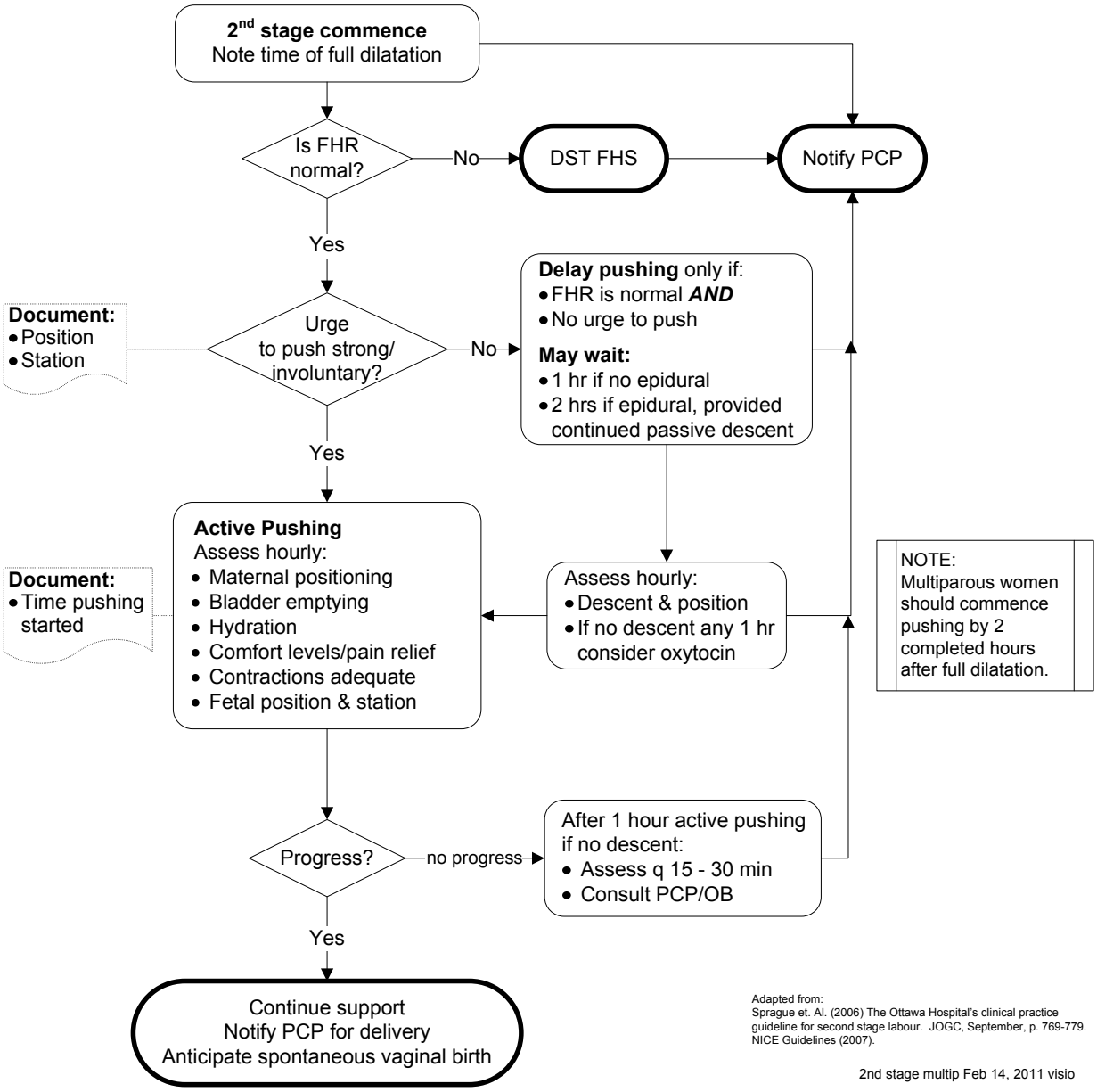
Evaluating Progress of Second Stage of Labour for NULLIPAROUS Woman with or without Epidural Analgesia



Adapted from: Sprague et al. (2006) The Ottawa Hospital's clinical practice guideline for second stage labour. JOGC, September, pp. 769-779.

Decision Support Tool:

Evaluating Progress of Second Stage of Labour for PAROUS Woman
with or without Epidural Analgesia



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Registered Nurse Initiated Activities
Decision Support Tool No. 5:
Discomfort and Pain in Labour

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	For the assessment and management of discomfort and pain in labour For RNs to supervise the self-administration of Nitrous Oxide in labouring women (see DST No. 5A)
Related Resources, Policies, and Standards:	**BCPHP (2007) Obstetric Guideline 4** – Pain Management Options During Labour Neonatal Resuscitation Program Adult CPR

Ongoing Assessment

- Review initial assessment of discomfort and pain in labour (See Assessment of normal labour and birth in *Core Competency* Document)
- Woman's strategies and confidence in managing pain
- Presence and support of support person
- Observation of a woman's normal response to labour
- Pain is normal in labour and may be expressed in many ways:
  - Physical cues – intense contraction pain, backache, nausea, vomiting, flushing, perspiration, increases in pulse, respiratory rate, and blood pressure, numbness in extremities
  - Behavioural cues (body language) - e.g. anxiety, panicked activity, guarding, facial expression, eye contact, rubbing a particular area of her body, crying, tremulous voice, thrashing in bed, ability to respond to supportive measures, ability to follow directions, responses to touch, maintaining sense of control
  - Verbal cues- response to questions, expression of needs, interactions with support person(s)/ nurse, making statements about characteristics of the pain and discomfort
- Assess the woman's perception of pain intensity using a scale of 1 to 10, 1 being the least and 10 being the most pain
- Woman's ongoing response to supportive activities, comfort measures and to changes in environment (e.g. lighting, voice,) (Baker, Ferguson, Roach, & Dawson, 2001; Mattson, 2004)

Nursing Diagnosis

- Woman's response to pain indicates need for comfort measures

Special Considerations and Precautions

- Impact of provider information/bias about labour interventions
- "Women who receive continuous labour support are less likely to experience analgesia or anesthesia (including epidurals and opioids), instrumental delivery; caesarean birth and are less likely to report dissatisfaction or a negative rating of their birth experience" (Simkin & Bolding, 2004)
- The effectiveness of comfort measures and relaxation techniques varies among women (Simkin, 1995; BCPHP, 2007)
- The severity and tolerance of pain is unique to each woman and cannot be predicted prior to its occurrence (SOGC, 2007)
- The nonpharmacologic approach to pain includes a wide variety of techniques to address not only the physical sensations of pain but also to prevent suffering by enhancing the emotional and spiritual components of care (Simkin & Bolding, 2004)
- When pharmacologic agents are used, guidelines that include method of action, average and maximum dose, possible maternal and fetal side effects, precautions, and resuscitation measures should be available for all staff (SOGC, MORE^{OB}, 2007)
- Meperidine (Demerol®) is not recommended for use as obstetrical analgesia – only used in the case of morphine allergy

Interventions

- Engage the woman and her support persons in providing non-pharmacologic comfort measures (see Appendix 1)
- Ask the woman if she has a Birth Plan and had access to *Baby's Best Chance* (M.O.H., 2010)
- Determine the need for and instruct the woman on Nitrous Oxide use if applicable (see DST #5A)
- Consult and refer to PCP if woman requests pharmacological pain relief options besides Nitrous Oxide
- Provide woman-centred care – reassure, guide, encourage, and accept woman's style and choices of comfort measures for managing labour

Intended Clinical Outcomes

- The woman understands the benefits and risks of non pharmacological and pharmacological pain relief options offered/chosen
- The woman's pain is manageable and appropriate comfort measures are provided
- The woman experience no or minimal adverse effects from the use of non-pharmacologic and/or pharmacologic comfort measures

Education

- Provide information on the benefits, risks and limitations of each nonpharmacological or pharmacological comfort measure chosen by the woman

Documentation

Document as appropriate on Labour Partogram (PSBC 1583), Labour and Birth Summary Record (PSBC 1588), Anesthesia Record, Fluid Balance Sheet, Interprofessional Notes:

- Woman's description of level of pain
- Woman's response to pain including request for comfort measure(s)
- Time of assessment prior to providing comfort measures
- Type of comfort measures provided
- Maternal BP, pulse, temperature, respirations and emotional status

- Maternal responses to comfort measure(s)
- Fetal response to comfort measure(s)
- Communication to PCP for orders for pharmacological comfort measures and to inform of variances in maternal and fetal responses to labour
  - Time of call to PCP
  - Time of PCP response/orders
  - Orders/response received

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Appendix 1

Non-Pharmacological Comfort Measures

Measures	Interventions
Communication	Welcome and encourage support person(s) (partner, doula) Encourage woman to verbalize her needs/concerns and be available to answer questions from woman and/or support person(s) Discuss woman's expectations, worries and concerns Ensure aspects of birth plan are observed – review with nursing colleagues, PCP and other medical staff as needed Explain to the woman and support person(s) the use of the chosen comfort measure (provide education/information pamphlet if available)
Labour Support	Stay in the room with the woman to provide 1:1 nursing care Continuous supportive presence of a trained person (e.g. doula) Attend to physical & emotional needs
Breathing	Various types of focused breathing techniques assist with relaxation and focusing First Stage – Slow and light breathing Second Stage – Encourage spontaneous pushing efforts, panting to assist with delivery of head
Positioning	Staying upright, relaxed and moving and changing positions as often as possible- Walking Standing-rocking or swaying, leaning forward and resting on something Squatting or support squat Sitting – Leaning against partner, on toilet Kneeling – Doing pelvic tilt, using chair/bed for hand support Hands and knees – Good for back pain and rotating to anterior position Semi-reclining or side-lying – Comfortable for birth Pelvic Rocking USE of: Birthing ball Birthing stool Birthing rope/sheet pull Squatting bar – 2nd stage Encourage non supine position in 2nd stage for pushing
Massage	Firm sacral counter pressure – Steady firm pressure applied with heel of hand at the sacral iliac joint, rolled towel or tennis ball-helps relieve back pain Effleurage – Light stroking of the abdomen in rhythm with breathing Massage – Smooth, rhythmic stroking or rubbing of shoulder, back, foot , face, hand Application of heat – Warm blankets, compresses, heated rice bags Application of cold – Cool cloths, ice packs to chest face, back or area of pain

Measures	Interventions
Hydrotherapy	Deep water immersion in tub Woman can maintain water temperature and bathing time (Geissbuehler, Eberhard, Lebrecht, 2002) Assess maternal temperature q 1h, to prevent hyperthermia. If maternal temperature exceeds 37.5°C, decrease water temperature or have the woman leave the tub for short periods and re-evaluate. There are no known contraindications to using the tub in the presence of ruptured membranes (BCPHP, 2007) Standing or sitting in the shower – Directing water to specific areas for comfort Spray bottles Ensure adequate oral intake
Psychoprophylaxis & Complementary Therapies	Examples include: Acupressure – Best applied over skin without lubricants-points, neck, shoulders, wrists, lower back, hips, below kneecaps, ankles, nails on small toes, soles of feet Focal Point Concentration – Focusing on something other than pain Visualization – Picturing safe and a special thing, place that assists in relaxation Biofeedback – Needs prior education; uses thinking and mental processes (focusing) on how to relax; use of verbal and touch feedback Music – Chant, song or prayer Patterned breathing
Environmental	Ensure the room is comfortable Provide privacy Allow space for freedom of movement Provide safety for the woman to be free to be herself Ask the woman's preference for: Lighting, noise level

Registered Nurse Initiated Activities
Decision Support Tool No. 5A:
Administration of Nitrous Oxide in Oxygen
Nitronox® or Entonox®

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	For RN supervision of self-administration of Nitrous Oxide in Oxygen (Nitronox®) in labouring women
Related Resources, Policies, and Standards:	DST #5 – Discomfort and Pain in Labour **BCPHP (2007) Obstetric Guideline 4** – Pain Management Options During Labour
Definitions and Abbreviations:	**Nitrous Oxide in Oxygen** (N_2O/O_2) – a colourless, odourless, non-irritating, self administered, inhaled anaesthetic used for labour analgesia that is available in a mixture that contains 50% oxygen and 50% nitrous oxide and is called Nitronox® or Entonox® (referred to as nitrous oxide in this document) **Scavenging Device** – a device that collects and removes exhaled nitrous oxide during the administration of nitrous oxide

Assessment

For complete assessment for providing comfort measures to the labouring woman please refer to DST #5 – Discomfort and Pain in Labour

Specifically for the administration of nitrous oxide

- The woman has been assessed according to DST #5 Discomfort and Pain in Labour and nitrous oxide for labour has been chosen for pain relief
- Assess effectiveness of pain relief
- Monitor maternal vital signs during analgesia use including the woman's level of consciousness
- Monitor fetal heart rate by auscultation or electronic fetal monitoring as per DST #2 Intrapartum Fetal Health Surveillance
- Observe for adverse effects of nitrous oxide use
  - Increased drowsiness
  - Maternal nausea and vomiting
  - Lethargy
  - Sleepiness
  - Poor recall of labour
  - Confusion
  - Perioral tingling
  - Throat irritation
  - Hyperventilation/hypoventilation sequences leading to hypoxia between contractions and

breathing in and out rapidly may predispose some women to hyperventilation
(Health Canada, 2000; BCPHP, 2007; Halpern & Douglas, 2005)

Nursing Diagnosis

- Woman's response to pain indicates need for comfort measures

Special Considerations and Precautions

- Note contraindication for nitrous oxide use e.g. compromised respiratory status, excessive maternal sedation or unable to do self-administration
- Appropriately administered nitrous oxide can be used safely for women in labour
  - With appropriate instructions to the woman on self-administration
  - With nurse in attendance initially to ensure proper administration
  - With no ill effects to newborn (rapidly excreted by placenta or eliminated when newborn starts breathing)
  - In the presence of a scavenging unit or well ventilated systems (Halpern & Douglas, 2005)
  - Safe in the presence of pregnant health care workers with respect to workplace safety (Rosen, 2002)
- To ensure stability (prevention of gas separation and partial liquefaction) of nitrous oxide store in horizontal position and at temperatures above -7º Celsius (Birnbach, Gatt & Datta, 2000; EMA Licensing, BC Ministry of Health, 2007)
- If nitrous oxide has been stored in vertical position, follow **institution's guidelines** to enhance mixing (e.g. invert cylinder 3-4 times)
- Follow institution's guidelines for setup of nitrous oxide administration.
  - Check content of gases in tanks and pressure meter indicator is in the appropriate safety zone (e.g. in Green Zone at BCW, Woodward, 2008)
    - ◊ Oxygen 500 psi (Woodward, 2008) in green cylinder
    - ◊ Nitrous Oxide 600 psi (Woodward, 2008) in blue cylinder
- Nitrous oxide should be used with a scavenging device that eliminates exhaust gases and in well-ventilated rooms (to minimize occupational exposure to healthcare workers) (Halpern & Douglas, 2005)
- Single-use mouthpiece or mask is available. Mouthpiece may be less claustrophobic (BCPHP, 2007; Woodward, 2008)
- The side effects of nitrous oxide are non cumulative and are:
  - Reduced pain sensation
  - Tingling
  - Numbness
  - Dizziness
  - Drowsiness

  (Rosen, 2002, Woodward, 2008)
- The ***adverse*** effects of nitrous oxide may include:
  - Increased drowsiness
  - Maternal nausea and vomiting
  - Lethargy
  - Sleepiness
  - Poor recall of labour
  - Confusion
  - Perioral tingling
  - Throat irritation
  - Hyperventilation/hypoventilation sequences leading to hypoxia between contractions and breathing in and out rapidly may predispose some women to hyperventilation

    (Health Canada, 2000; BCPHP, 2007; Halpern & Douglas, 2005)

Interventions

- Ensure woman is closely observed and check her q 15 min during nitrous oxide use
- Instructions given to the woman:
  - Self administer the gas
  - Hold the mask over mouth and nose or insert mouthpiece into mouth
  - At the onset of contraction breathe in and out deeply and fairly rapidly into the mask or mouthpiece
    - ◊ Approximately 30 seconds is needed before any pain relief is perceived and 45-60 seconds before maximal effect is achieved
  - Continue to breathe deeply but less frequently throughout the remainder of the contraction
  - Stop inhalation at the end of the contraction

  (Woodward, 2008; BCW, 2001)
- The woman self administers the nitrous oxide only during her contractions as prolonged breathing could result in unconsciousness
- Nitrous oxide does not prolong labour (has no effect on uterine contractions) and can be used right up until the birth of the baby (Halpern & Douglas, 2005; BC Ministry of Health, 2005)
- Use of a pulse oximeter may be required if there is increased maternal sedation or drowsiness
- Discontinue nitrous oxide administration if adverse effects are observed

Intended Outcomes

- The woman's pain is assessed and appropriate comfort measures are provided
- Use of nitrous oxide has minimal adverse effects
- The woman understands the usage, equipment, risks, benefits and effects of nitrous oxide

Education

- Instruct usage, equipment, risks, benefits and effects
- Support people are not to use nitrous oxide nor hold the mask or mouth piece for the woman
- Inhalation must stop as soon as contraction ends (to avoid reaching excessively high blood levels of nitrous oxide) (Woodward, 2008)

Documentation

- Woman's description of pain and pain scale
- Maternal BP, pulse, temperature, respirations and emotional status
- Maternal responses to nitrous oxide administration
- Fetal response to nitrous oxide use

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Registered Nurse Initiated Activities
Decision Support Tool No. 6:
Birth in the Absence of a Primary Care Provider

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	When RNs are the most appropriate health care professional to assist at an imminent birth
Related Resources, Policies, and Standards:	NRP provider course
Definitions and Abbreviations:	**Crowning**–top of fetal head can be seen at vaginal orifice as the widest part of head distends the vulva

Assessment

A woman presents at the institutional setting in late second stage of labour exhibiting signs of imminent birth or when labour progresses rapidly and the PCP does not have sufficient time to attend the birth

Signs and symptoms of imminent birth may include:

- Increased bloody show
- Uncontrollable urge to push/bear down
- Separation of the labia, bulging perineum and rectum
- Presenting part is crowning
- Woman states that birth is imminent

Using the philosophy of protecting, promoting and supporting normal birth the RN will:

- Call for assistance and remain with the woman
- Assess cervical dilatation including presenting part, station
- Assess– (may require 2nd assistant to perform)
  - Contraction frequency, duration, intensity and resting tone
  - FHS by IA for women without risk factors or EFM when risk factors present
  - Maternal vital signs
- If time permits:
  - Perform abdominal palpation to determine lie, presentation, position and attitude of fetus
  - EDD
  - GTPAL (post vaginal or CS birth)
  - Ruptured of membranes and colour of fluid
  - GBS swab
  - Health concerns for woman and fetus

Nursing Diagnosis

- Delivery is imminent

Special Considerations and Precautions

- Provide safe care and guide woman and her support person(s) through the birth experience
- Support and debrief the woman regarding unexpected outcomes
- Potential complications may include:
  - Newborn
    - ◊ Compromised at birth and requires resuscitation
  - Woman
    - ◊ Perineal and or labial tears (greater than second degree)
    - ◊ Retained placenta
    - ◊ Post partum hemorrhage

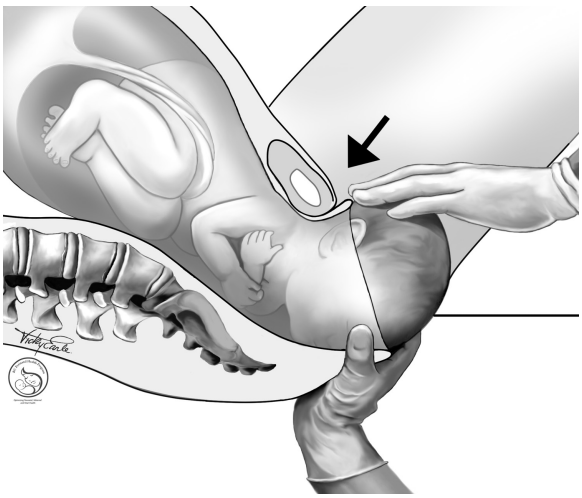
Interventions

1. Remain calm, stay with the woman, summon assistance and notify PCP as time allows
2. Assist the woman into a safe and comfortable position, there is no need to break the bed
3. Prepare equipment for delivery, do not leave the perineum unattended

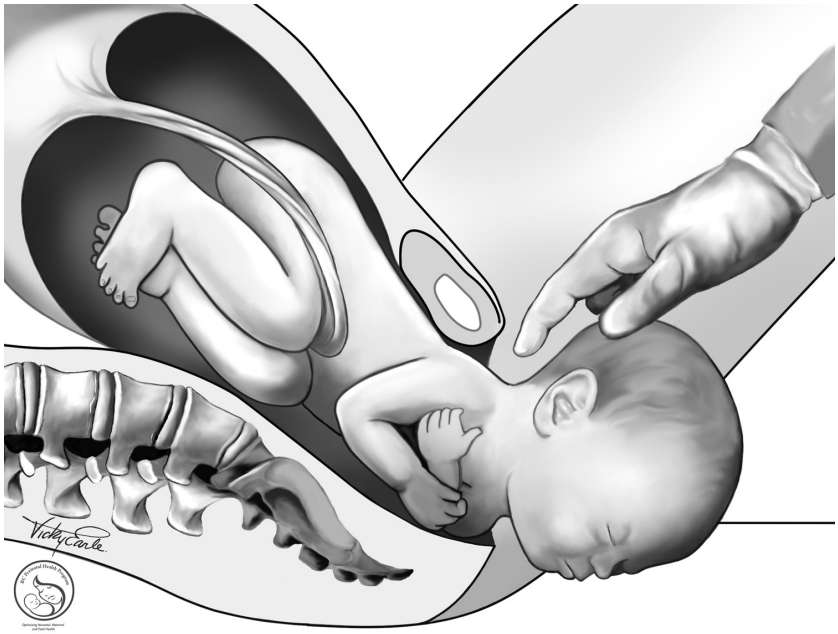
EMERGENCY DELIVERY KIT

Gloves, eye protection
4 Kelly clamps
1 pair of scissors
Towels
Basin for placenta
Oxytocin-syringe, needles
Sponges
Cord clamp
Cord blood tubes
Cord gas syringes
Blankets, baby hat

4. 2nd assistant (if available) prepare infant warmer including neonatal resuscitation equipment
5. With one hand, apply gentle downward pressure on the infant's head to guide its delivery,

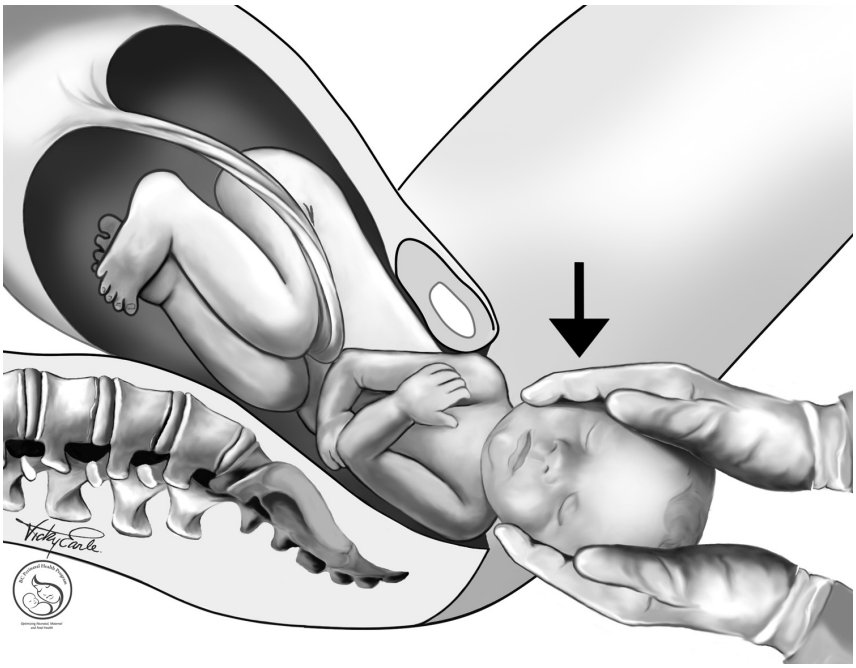


6. Support the perineum with your other hand
7. Ask the woman to pant or blow during contraction as the head is crowning
8. Move your hands to support the infant's head as it emerges
9. After birth of head, ask the woman to pant; check for the presence of loop(s) of cord around the neck



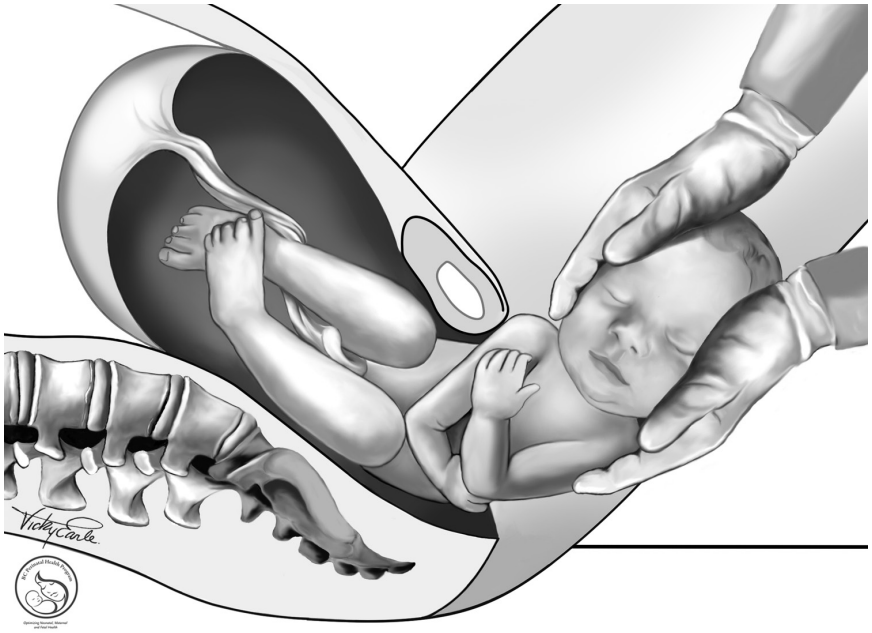
- If the cord is loose – gently slip it over the baby's head or shoulder
- If cord is tightly wrapped and the baby is unable to be delivered, carefully apply two clamps to the cord and cut between the clamps

10. Allow the head to restitute and rotate
11. Wipe mucous or secretions from infant's face prn – As per NRP (no suction required)
12. Once external rotation has occurred, place a hand on either side of head (fingers flat and keep hands away from the face) and apply GENTLE downward pressure with a contraction. Do not pull on fetal head.

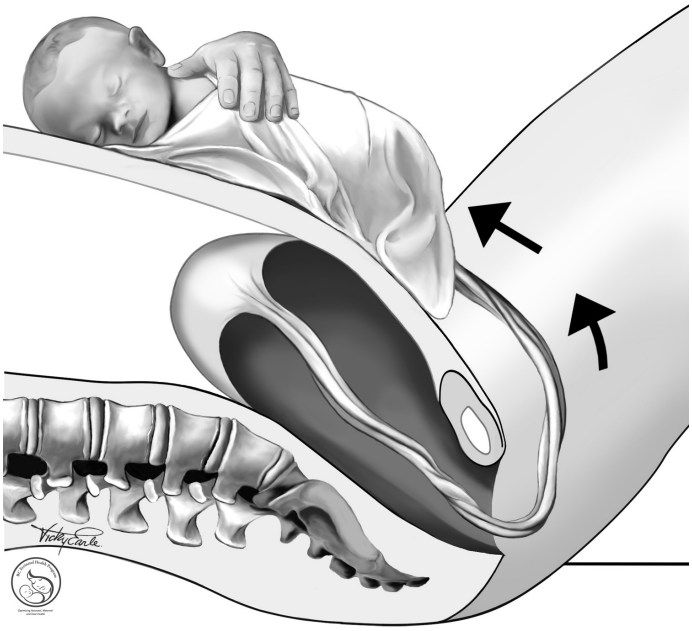


13. Encourage mother to give a gentle push to assist with delivery of the anterior shoulder

14. Keep hands in same position and in upward motion. As the posterior shoulder is being delivered, move hand downward to support the posterior shoulder and allow the body to deliver, and encourage the woman to pant.



15. Place the baby on the mother's abdomen skin to skin, cover with warm blankets



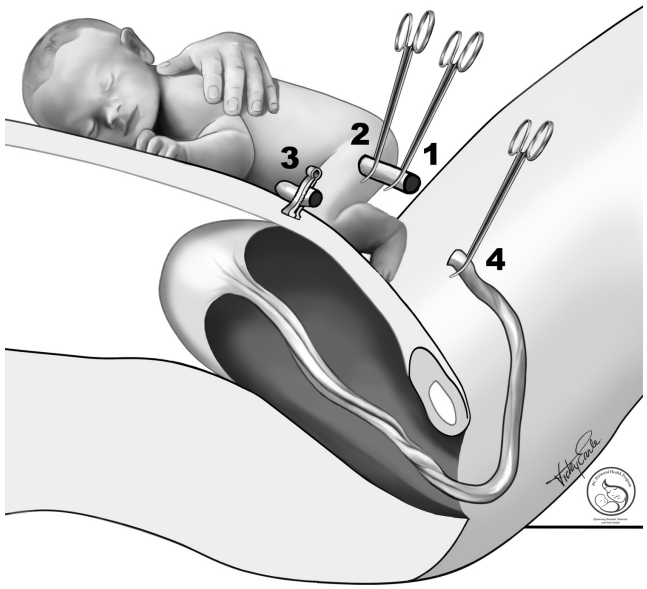
16. Note the time of birth

17. Perform initial steps of Neonatal Resuscitation

18. Timing of umbilical cord clamping

- For the vigorous neonate, delay cord clamping for at least 60 seconds if at term and at least 30 seconds if preterm.
- If the neonate is not vigorous, clamp the cord after assessment and provide the initial steps of neonatal resuscitation

19. Double clamp the umbilical cord at least 10 cm and again at 3–4 cm from the baby's abdominal wall. Cut the cord between the double clamps with sterile scissors. Collect cord blood gases from the isolated section immediately or set aside for later sampling.



20. Determine APGAR scores at 1 and 5 minutes, if 5 minute Apgar score is less than 7, additional scores should be assigned every 5 minutes for up to 20 minutes

21. Until the placenta delivers, avoid uterine massage or manipulation

22. Monitor for the signs of placental separation

- Gush of blood from vagina
- Lengthening of umbilical cord (do not pull on cord)
- Uterine fundus rising up in the abdomen
- Uterus becomes more firm

Note: Intramuscular oxytocin (10 IU) is the medication and route of choice for the prevention of PPH in low risk vaginal deliveries. If ordered and available, administer oxytocin as soon as possible after the delivery of the anterior shoulder. Before oxytocin is administered, caregivers must be certain that multiple birth is not present.

23. Ask the woman to bear down to deliver the placenta

- If oxytocin is given and uterine tone is present the PCP may assist placental delivery, while the woman is pushing, by gentle cord traction with one hand while applying uterine counter traction with the other hand.
- If oxytocin is not given **do not** apply any cord traction and wait until the woman spontaneously delivers the placenta.

24. After expulsion of placenta, visually inspect it for completeness and retain for the PCP's review

25. Check firmness of uterus; massage the fundus

26. Assess blood loss

27. Check perineum for tears (apply pressure if tear noted)

28. Clean mother as required, provide pericare

29. Ensure mother and newborn are comfortable and stable

30. Administer to mother analgesia prn (An order from a PCP required)

31. Administer Erythromycin and Vitamin K to newborn after skin-to-skin (An order from a PCP required)

32. Document

Please Note: Orders required from PCP

- Oxytocin
- Erythromycin
- Vitamin K
- Analgesic

Intended Outcomes

Mother and newborn will have a safe birth and experience no variances/complications during and following the nurse assisted birth

- Mother will have
  - Intact perineum, 1st or 2nd degree tear
  - Delivery of intact placenta
  - Minimal blood loss
- Newborn remains stable and is not separated from the mother and skin-to-skin is maintained to promote breastfeeding
- Woman and her support person(s) are included, empowered, and reassured throughout the birth to support a positive perception of the birth experience

Education

- Provide a debriefing opportunity for the woman and her support person(s)

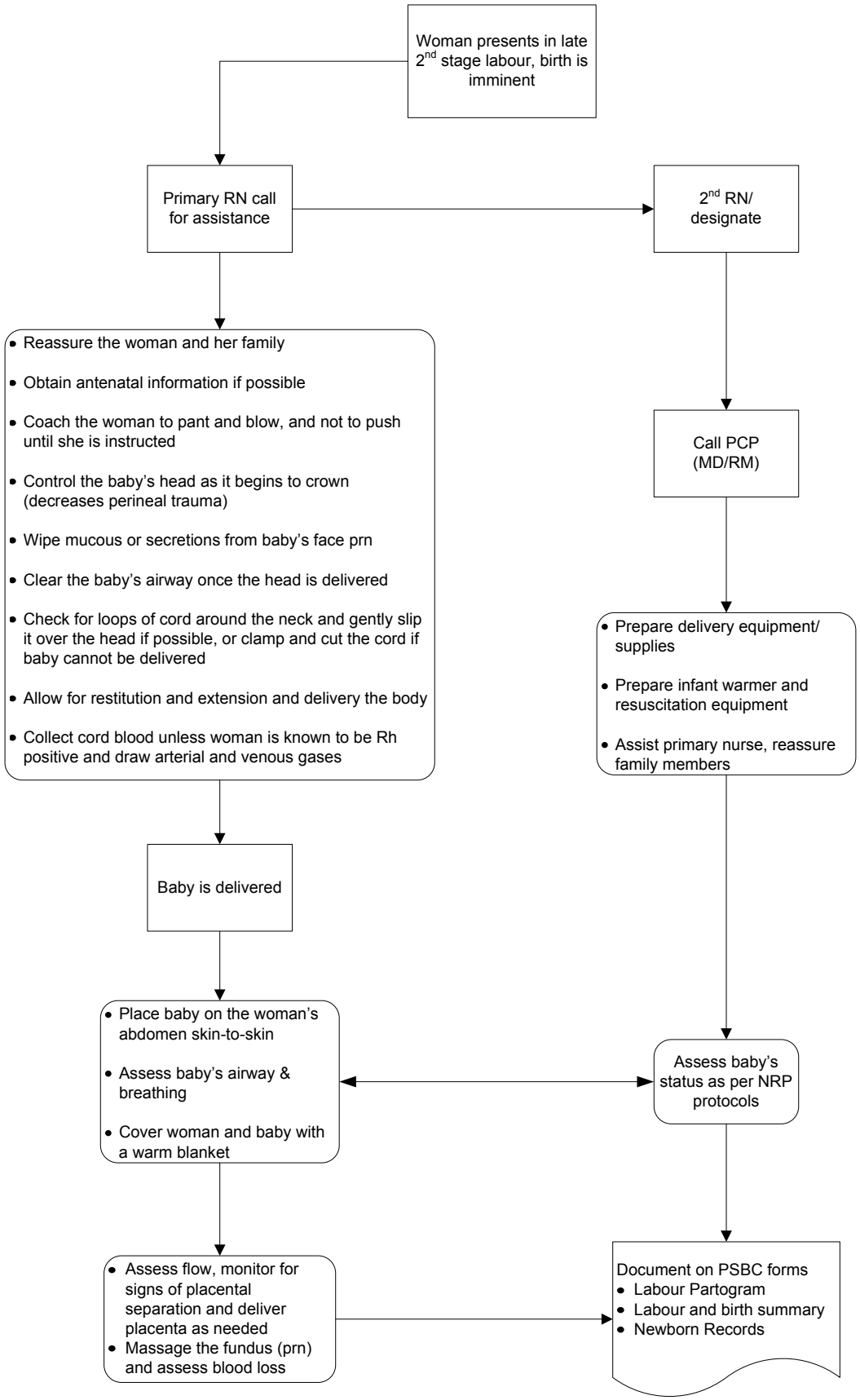
Documentation

Document on:

- Labour Partogram (PSBC 1583)
- Labour and Birth Summary Record (PSBC 1588)
- Newborn Record (PSBC 1585A) and
- Interprofessional notes as per facility protocol

Decision Support Tool:

Registered Nurse Assisted Birth in the Absence of the Primary Care Provider



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Registered Nurse Initiated Activities
Decision Support Tool No. 7:
Postpartum Hemorrhage

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	When RNs are caring for a woman experiencing postpartum hemorrhage
Related Resources, Policies, and Standards:	SOGC Clinical Practice Guideline 2000, Prevention and Management of Postpartum Hemorrhage; PSBC (1998/07) Form PSBC 1592. British Columbia Postpartum Clinical Path or institutional specific documents International Joint Policy Statement Management of 3rd Stage of Labour (November, 2003)
Definitions and Abbreviations:	**Postpartum Hemorrhage (PPH)** – Blood loss in excess of 500 mls in vaginal deliveries and 1000 mls in caesarean births or any blood loss that causes a major physiological change/produces hemodynamic instability as determined by pre-existing conditions of the woman (anemia or decreased blood volume) **Early PPH** – Typically occurs within 24 hours following birth. Uterine atony is the most common cause **Late PPH** – Occurs between 24 hrs and the sixth week postpartum. Retained placental tissue is one of the most common causes **Abdominal Bimanual Uterine Massage** – Massaging fundus with upper hand cupped over fundus and lower hand dipping in above symphysis pubis and supporting uterus **Active Management of the Third Stage of Labour** – The combination of administering oxytocin at delivery and providing controlled cord traction and counter tension on the uterus in assisting with the delivery of the placenta

Assessment

- Before birth, obtain an accurate history from the woman including previous obstetrical, prenatal and antepartum history
- Anticipate the problem, look for risk factors associated with postpartum hemorrhage (4 Ts=Tone, Trauma, Tissue, Thrombin – see Appendix 1)
- Ongoing frequent assessment, maternal vital signs, fundus and flow as determined by woman's signs and symptoms, q 15 min x 1 hour after birth and at 2 hrs
- Consider possible signs and symptoms of PPH, notify PCP if:
  - Fundus – Poor tone (normally firm, midline, at umbilicus)
  - Lochia – ↑ volume, colour, consistency and bleeding pattern (normally scant to moderate, rubra)

- Trauma/lacerations occurring during birth (constant lochia trickle with firm fundus)
- Vital signs
  - ◊ Tachycardia, weak or irregular pulse (normal pulse – 55–100 bpm, regular and strong)
  - ◊ Tachypnea (normal respirations 12–24 – not laboured)
  - ◊ Elevated or stable BP followed by hypotension (normal BP – systolic 90–140; diastolic 50–90)
- Decreased urine output (normally voiding sufficient quantity)
- Increasing abdominal girth – may be a sign of occult bleeding
- Signs of hypovolemic shock (restlessness, anxiety, cool, clammy, pale, or ashen skin)
- Increasing abdominal pain

(PSBC, 2011; AWHONN, Johnson & Johnson, 2006).

- Decreased level of consciousness

Nursing Diagnosis

- Excessive postpartum blood loss due to uterine atony, lacerations, retained placenta or coagulopathy (see Appendix 1)

Special Consideration and Precautions

- Primary goal for PPH is to identify and correct the source(s) of bleeding, restore blood volume, and stabilize maternal vital signs and level of consciousness (SOGC, MORE^{OB}; ALARM 2010)
- PPH is life threatening (a leading cause of maternal morbidity and mortality) and requires early recognition, prompt intervention and team work
- Time is of the essence as PPH emergencies often occur unexpectedly leading to hemorrhagic shock (AWHONN, Johnson & Johnson, 2006; SOGC, MORE^{OB}; ALARM, 2010)
- Management of ongoing PPH requires a multidisciplinary approach that involves maintaining hemodynamic stability while simultaneously identifying and treating the cause of blood loss (SOGC, MORE^{OB}, ALARM 2010)
- Active management of labour (combining oxytocin and controlled cord traction) reduces the incidence and severity of PPH
- Administration of oxytocin with delivery is most beneficial in prevention of PPH (effective protocols 10 units IM or 5 units IV push) (SOGC, 2000; SOGC, MORE^{OB}; ALARM 2010)
- The longer the 3rd stage the greater the risk of PPH
- Maternal vital signs may initially be normal because pregnant women can lose up to 40% of blood volume without showing signs of shock (Lowdermilk & Perry, 2012)
- A constant trickle of blood can be as serious as an obvious hemorrhage
- Every obstetrical unit should have a readily available tray with all the necessary equipment (SOGC, MORE^{OB}, ALARM 2010). Contents of the tray may include:

Postpartum Hemorrhage Tray

- Airway and breathing
  - Adult airways
  - Oxygen mask and tubing
- Drugs
  - oxytocics
  - Medication labels
- Sutures
- Intravenous
  - Large bore intravenous cannula
  - Intravenous tubings
  - Crystalloid intravenous solutions
  - Blood Transfusion set
  - Syringes and needles
  - Blood collection tubes and syringes
- Foley catheter
- Packing forceps Gauze, tape
- Uterine packing
- Pelvic speculum
- Intrauterine inflatable balloon

Interventions

1. Stay with the woman, call for help, notify PCP
2. Keep woman NPO
3. Establish venous access with large bore catheter – #18 gauge or larger (Normal Saline) – may need 2 large bore IV lines; monitor and record intake and output
4. Administer oxytocin
   - Prepare IV infusion of oxytocin, add 20 units of oxytocin to 1000 mL of Normal Saline
   - Infuse at 150–250 mL per hour to control bleeding until further order can be obtained from PCP
5. If fundus is not firm provide abdominal bimanual uterine massage
   - Note effects of massage (firming of fundus) and presence of clots
6. Perform maternal vital signs q 15 min (BP, P, R) including level of consciousness, fundal height and tone, amount of blood loss – until stable as per woman's condition
7. Administer oxygen at 8 -10 L/min prn – monitor oxygen saturation (≥ 95%) with pulse oximeter
8. Empty bladder – may require indwelling catheter- monitor output q 1 h
9. Measure and record amount and type of bleeding
   - weigh & count pads/linen (usually 1 g of weight = 1 mL of blood loss, however there is evidence that this method may still underestimate blood loss depending on the dryness and consistency of the clots)
10. Determine the onset and duration of blood loss
11. Assess possible sources of bleeding (4 Ts – Tone, Trauma, Tissue, Thrombin (see Appendix 1)
12. If placenta in, promote delivery of placenta by asking the woman to assume upright (squatting) position if she is able
13. If placenta out, prepare for operating room. Consult PCP to inform of progress, additional orders or interventions
14. Anticipate blood work e.g. type and screen, complete blood count – hemoglobin, platelet count, Prothrombin time (PT), International Normalized ration (INR), Partial Thromboplastin Time (PTT), Fibrinogen level
15. Anticipate orders for other medications e.g. hemabate, misoprostol, ergometrine (see Appendix 2)
16. Encourage the woman to breastfeed if she is able

Intended Clinical Outcomes

- There is an early recognition of the signs and symptoms of PPH
- Timely and effective communication of blood loss and variances/complications are given to the PCP
- Accurate blood loss is determined
- Absence of disseminated intravascular coagulation
- The woman will maintain normal vital signs and laboratory values and minimize complications related to excessive bleeding
- Woman feels supported and timely care has been provided
- Minimize maternal and newborn separation

Client Education

- Provide information to the woman and her support person(s) regarding PPH, plan of treatment, and implications (e.g. fatique, breastfeeding)
- Explain all treatment modalities and reasons for each
- Allow time for the woman and her support person(s) to communicate fears and concerns
- Provide debriefing as necessary

Documentation

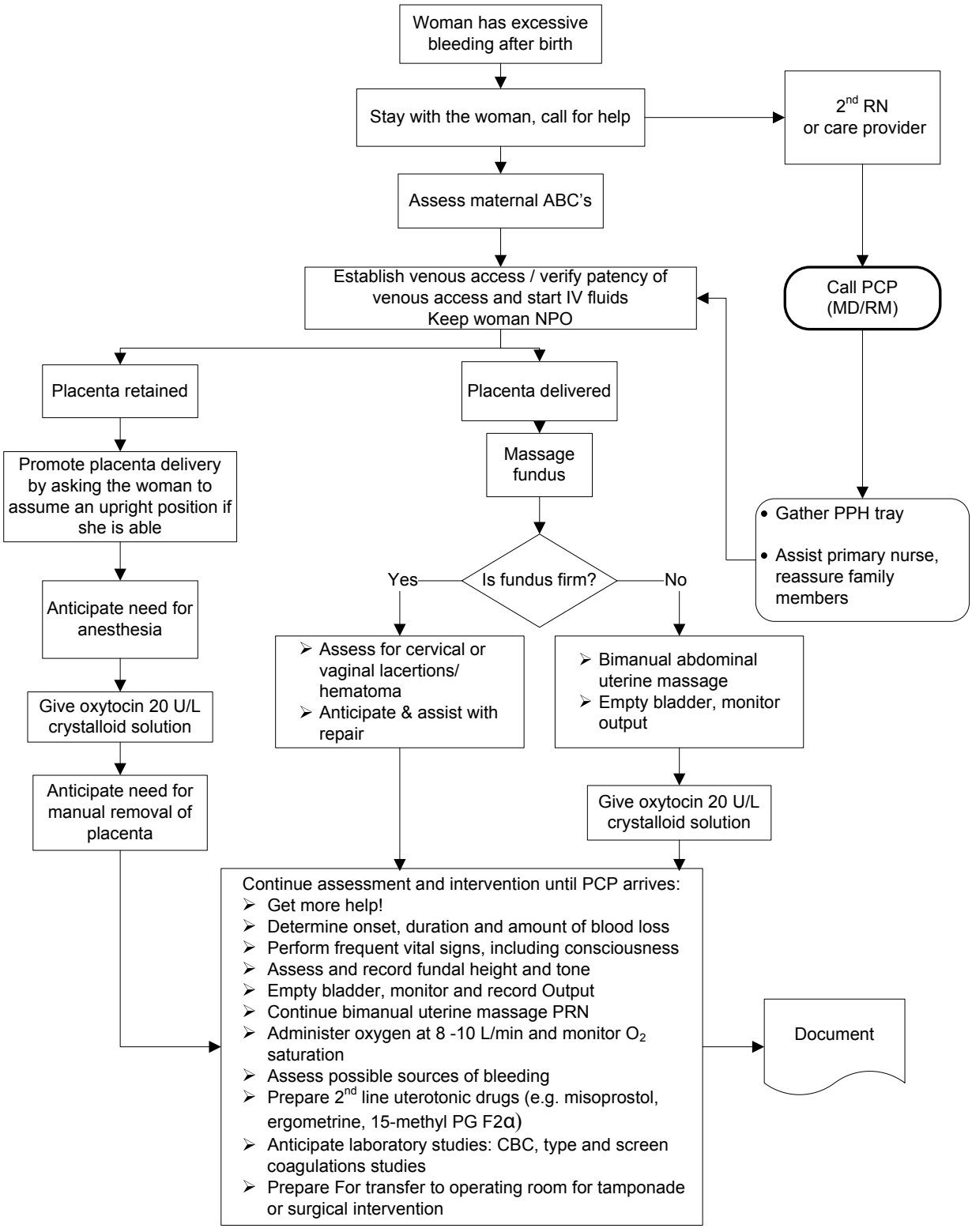
Documentation on the PSBC Forms - Labour Partogram (PSBC 1583), Labour and Birth Summary Record (PSBC 1588), British Columbia Postpartum Clinical Path (PSBC 1592), Interprofessional Notes, Fluid balance record, and/or specific institutional records

Documentation to include the following:

- Events leading up to PPH
- Time of delivery of placenta
  - Completeness of placenta
- Time of excessive bleeding identified
  - Amount, colour, consistency and pattern of bleeding
  - Source, type and duration of bleeding
- Ongoing Maternal status
  - Tone and position of fundus
  - Serial vital signs including level of consciousness
  - Any variances such as
    - ◊ Abnormalities of uterine contraction
    - ◊ Retained products of conception
    - ◊ Genital tract trauma
    - ◊ Abnormalities of coagulation
  - Emotional status
- Time and sequence of interventions
  - Venous access established – gauge of catheter, type, amount of fluid
    - ◊ Accurate documentation on fluid balance record
  - Medications and oxygen given
    - ◊ Dose, route, maternal response
  - Blood work drawn
  - Blood product replacement therapy
  - Urinary catheter inserted
  - Repair of lacerations and/or surgical interventions
- Responses to interventions
- Staff in attendance and the time they arrived

Decision Support Tool:

Postpartum Hemorrhage



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Appendix 1

Most Common Causes and Risk Factors of PPH in terms of the four T's

TONE Abnormalities of uterine contraction	TRAUMA Genital tract	TISSUE Retained products of conception	THROMBIN Abnormalities of coagulation

• Over distended uterus
• Polyhydramnios
• Multiple gestation
• Macrosomia
• Uterine muscle exhaustion
  ▪ Rapid labour
  ▪ Prolonged labour
  ▪ High parity
  ▪ Oxytocin use-induction
• Intra-amniotic infection
  ▪ Fever
  ▪ Prolonged ROM
• Functional/anatomic distortion of uterus
  ▪ Fibroid uterus
  ▪ Placenta previa
  ▪ Uterine anomalies
• Uterine-relaxing medications
  ▪ Halogenated anesthetics
  ▪ Nitroglycerin
• Distended bladder
	• Lacerations of cervix, vagina or perineum
	  ▪ Precipitous delivery
	  ▪ Operative delivery
	• Extensions, lacerations at C/S
	  ▪ Malposition
	  ▪ Deep engagement
	• Uterine rupture
	  ▪ Previous uterine surgery
	• Uterine inversion
	  ▪ High parity
	  ▪ Fundal placenta
		• Retained Products –abnormal placentation
		  ▪ Accreta, increta, percreta
		  ▪ Retained cotyledon or succinturiate lobe
		  ▪ Incomplete placenta at delivery
		• Previous uterine surgery
		• High parity
		• Abnormal placenta on ultrasound
		• Retained blood clots
		• Atonic uterus
			• Pre-existing states
			• Hemophilia A
			• Von Willebrand's Disease (vWD)
			• Idiopathic Thrombocytopenic purpura
			• History of liver disease
			• Disseminated Intravascular Coagulation (DIC)

(SOGC, 2009; SOGC, MORE^{OB}, ALARM, 2010)

Appendix 2

Medical Management of Postpartum Hemorrhage

Sources of Bleeding	Treatment of PPH
TONE – Soft Boggy Uterus	Uterine massage (bimanual) Empty bladder Insert IV Draw blood work – Cross match (packed cells), CBC (hemoglobin, platelet count) Prothrombin Time (PT), International Normalized Ratio (INR), Partial Thromboplastin Time (PTT), Fibrinogen level Uterotonic Medications: 1) Oxytocin □ 10 U IM □ 5 U IV bolus □ 20 U in 1000 mL N/S – Infuse at 150 – 250 mL per hour to control bleeding until further order from PCP 2) Misoprostol (Cytotec) □ 600–800 microgram (mcg) PO/SL/rectal **Note:** pyrexia is more common with doses over 600 mcg 3) 15-methyl F2α (Hemabate, Carboprost) □ 250 ug IM or intramyometrial (IMM) q 15 min maximum of 2 mg (8 doses) 4) Ergometrine □ 0.2 mg IM/IV q 5 min maximum of 1.5 mg (limited supply) 5) Carbetocin □ 100 mcg IM/IV over 1 min (↓ bleeding with C/S only) May Require Blood Component Replacement Therapy □ Fresh frozen plasma (FFP) □ Cryoprecipitate □ Platelets □ Packed Red Blood Cells (PRBC) □ Fresh Whole Blood May need to prepare woman for surgical intervention May require further emergency therapy for uterine atony e.g. Tamponade with catheter
TRAUMA – Genital Laceration, Hematoma Uterine Inversion	Inspect vagina and cervix for bleeding □ Repair of laceration(s) □ May require drainage of hematoma May use packing May need to prepare woman for surgical intervention
TISSUE – Retained Placenta	Inspect placenta for missing segments Manual removal of placenta may be required Curettage may be required
THROMBIN – clotting disorder	Draw blood work May Require Blood Component Replacement Therapy □ Fresh frozen plasma (FFP) □ Cryoprecipitate □ Platelets □ Packed Red Blood Cells (PRBC) □ Fresh Whole Blood

If bleeding continues despite the above interventions surgery may be required

- Ligation of uterine or iliac arteries
- Uterine artery embolization
- Hysterectomy
  (SOGC, 2009; ALARM, 2010)

Registered Nurse Initiated Activities
Decision Support Tool No. 8A:
Obstetrical Emergencies – Cord Prolapse

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	When RNs are managing labour of a woman who experiences a prolapse of the umbilical cord
Related Resources, Policies, and Standards:	Neonatal Resuscitation Program
Definitions and Abbreviations:	**Overt (Frank) Umbilical Cord Prolapse** – Following ROM visualizing the cord through the introitus or palpation in vagina **Occult (Hidden, Not Visible) Umbilical Cord Prolapse** – Occurs anytime during labour; suspected with bradycardia with variable decelerations during contractions seen on EFM

Assessment

- Cord prolapse occurs when the cord lies below or adjacent to the presenting part of the fetus. Cord prolapse may be overt or occult.
- Overt cord prolapse can be diagnosed either by seeing the cord presenting from the vagina, or unexpectedly palpated during a vaginal exam.
- Occult cord prolapsed can occur anytime during labour; it can be suspected with bradycardia, prolonged decelerations, and/or variable decelerations with EFM. Abnormal FHR pattern following ROM may be the first indication of cord prolapse.
- Occult cord prolapse cannot be diagnosed definitively until the time of cesarean section or unless the umbilical cord is seen in front of presenting part during an ultrasound.

Nursing Diagnosis

- Potential of injury (fetus) related to interruption of blood flow due to prolapsed cord

Special Considerations and Precautions

- Pressure of the presenting part on the cord may restrict umbilical cord blood flow resulting in acute fetal heart rate changes, which, if persistent hypoxia leads to asphyxia
- Artificial rupture of membranes (AROM) should be avoided in the following circumstances:
  - Unknown or noncephalic presentation
  - Unengaged presenting part
  - Cord presentation

  NOTE: The FHR should be auscultated immediately before and after AROM and after SROM.

It is helpful to be aware of the following risk factors associated with prolapsed cord:

General:

- Unengaged presenting part
- Malpresentation, unstable lie (transverse, oblique)
- Hydramnios
- Prematurity
- LBW < 2.5 Kg
- Grand multiparity (5 or greater)
- Fetal Congenital Anomalies
- Breech Presentation
- Second Twin
- Low lying placenta (or other abnormal placentation)

Procedure Related:

- AROM
- Vaginal manipulation of fetus with ROM
- Scalp electrode application
- IUPC insertion
- Attempted external cephalic version
- Decompression amniocentesis for hydramnios
- Expected management of preterm prelabour ROM
  (SOGC, 2007, RCOG, 2008)

Interventions

First RN:

1. If cord prolapse is suspected, perform a vaginal examination to determine
   - Cervical length/effacement/dilatation
   - Station of presenting part
   - If the cord is palpated, determine if pulsations are present (without unnecessary manipulation of the cord)
2. If cord prolapse is confirmed (cord palpated), call for assistance, stay with the woman
   - Position the woman head down with hips elevated (in knee-chest, modified Sims, or Trendelenburg)
   - Keep gloved hand in vagina (or insert gloved hand into vagina if not already performing digital vaginal exam) and exert upward pressure on the fetal presenting part to stop compression of the cord
   - Keep hand in position until delivery or orders received from PCP
3. Ask 2nd RN or designate to notify the PCP and necessary team members
4. If you can see cord protruding from the vagina
   - Do not attempt to replace cord above the presenting part (touching the cord may cause vasospasm)
   - Wrap cord loosely in sterile towel saturated with warm, sterile normal saline
5. Continue to effectively communicate with the woman and her support person(s)
6. If there will be a delay in arranging for immediate delivery by C/S
   - Ask 2nd RN to initiate EFM
   - Continue to keep the woman in head-down position with your gloved hand elevating the presenting part until delivery or otherwise ordered

7. If transport is required, consult with PCP regarding:
   - Filling bladder with 500 – 700 mL normal saline to elevate fetal head from pelvic brim (drain prior to C/S)
   - Tocolysis
   (SOGC, 2009; Lowdermilk & Perry, 2012)

2nd RN or designate:

1. Notify the PCP and necessary team members (Obstetrician, Pediatrician, Anesthesia, OR staff and other health team members)
2. Assist to position woman head down with hips elevated
   - Knee chest (on all fours with head low down on pillows and buttocks elevated)
   - Modified Sims position (lateral) with hips elevated as high as possible with pillows
   - Trendelenburg
3. Auscultate FHR and initiate EFM if immediate cesarean section is not possible
4. Administer O_2 by mask at 8 – 10 L/min (Simpson & James, 2005)
5. Initiate IV
6. Draw blood for CBC and group and screen if not already done
7. Prepare for vaginal (or assisted) birth if cervix is fully dilated (with head visible **or** station +2), or prepare for immediate C/S
8. Be prepared to perform neonatal resuscitation
9. Collect cord gases at delivery

Intended Outcomes

- Removing pressure from the presenting part on the umbilical cord may improve fetal perfusion
- Immediate delivery of the baby will enable resuscitation

Education

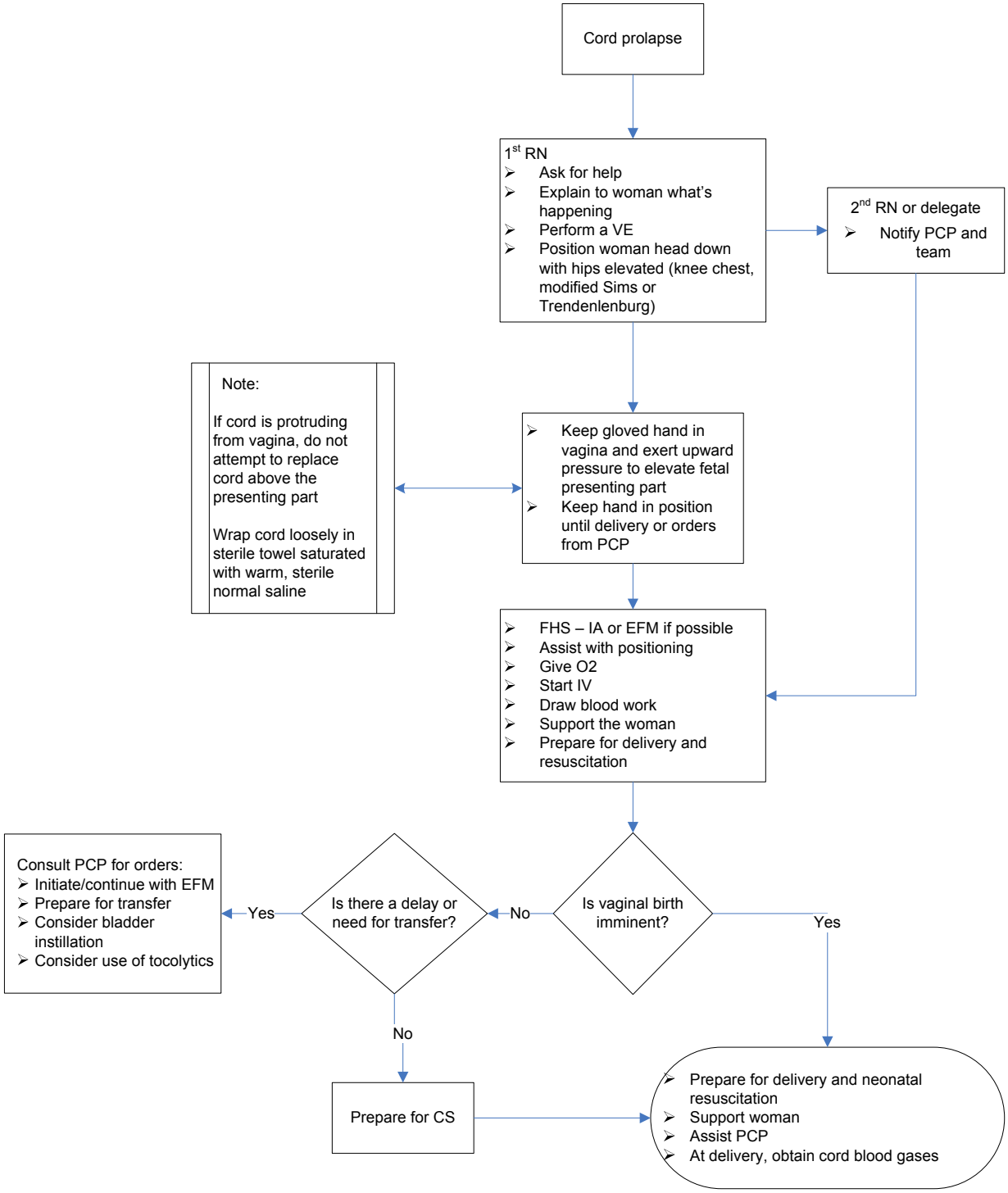
- Provide information about the urgency of the situation, and probable need for caesarean section
- Provide support to the woman and her support person(s) regarding cord prolapse, plan of treatment, implications and explain the treatment modalities as these are being applied
- Offer postpartum debriefing to the woman and her support person(s)

Documentation

1. FHS characteristics
   - Time of cord prolapse, time of notification to PCP
   - Note presence of cord pulsation
   - FHR characteristics
   - Vaginal exam findings
2. Interventions
   - Time, sequence and outcomes of interventions-re: maternal positioning, pressure relief from gloved hand, IV, O_2
   - Delivery method
   - Time of arrival of PCP, other personnel
3. Responses
   - Newborn condition (NRP required, APGAR Score)
   - Cord blood gas results
   - Maternal condition – physical, psychological

Decision Support Tool:

Suspected Cord Prolapse



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Registered Nurse Initiated Activities
Decision Support Tool No. 8B:
Obstetrical Emergencies – Shoulder Dystocia

Decision support tools are evidenced-based documents used to guide the assessment, diagnosis and treatment of client-specific clinical problems. When practice support tools are used to direct practice, they are used in conjunction with clinical judgment, available evidence, and following discussion with colleagues. Nurses also consider client needs and preferences when using decision support tools to make clinical decisions.

The Nurses (Registered) and Nurse Practitioners Regulation:	**Regulation: (6)(1)(h.1)** authorizes registered nurses to "manage labour in an institutional setting if the primary maternal care provider is absent."
Indications:	In an nurse-assisted birth there is inability of the baby's shoulders to deliver spontaneously
Related Resources, Policies, and Standards:	Neonatal Resuscitation Program Provider Course
Definitions and Abbreviations:	**Shoulder Dystocia** – When the head emerges, it retracts against the perineum (turtle sign) and external rotation does not occur thus the anterior shoulder cannot pass under the pubic arch. The delivery requires additional obstetric maneuvers as there is an inability of the shoulders to deliver spontaneously or with supportive maneuvers, i.e. maternal expulsive effort and gentle downward pressure on the head **McRobert's Maneuver** – Supine position, head of bed flat – The woman's hips and knees are flexed against her abdomen. **Suprapubic Pressure** – With the heel of the clasped hands, apply firm, continuous downward or lateral suprapubic pressure to disimpact the anterior shoulder **Rubin Maneuver–Vaginal** – pressure is applied to the scapula of the anterior shoulder to rotate it 180 degrees **Woods Screw Maneuver** – To rotate the posterior shoulder by 180 degrees anteriorly in a screw like maneuver – where pressure is applied to anterior aspect of posterior shoulder

Assessment

Initial Assessment:

- Assess maternal height, pre-pregnant weight, current weight, BMI and other relevant pelvic assessment during prenatal care
- Assess for maternal history for shoulder dystocia risk factors (see Appendix 1)
- Perform abdominal palpation to assess fetal position, weight and measure fundal height

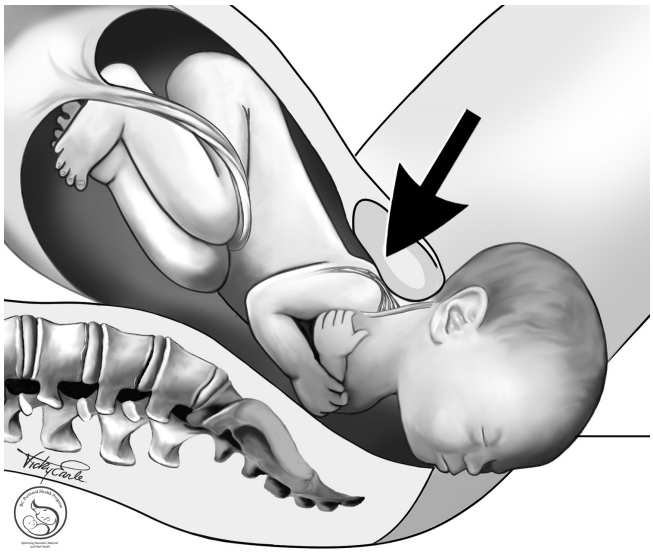
During birth:

- After the birth of the head, be vigilant for signs of shoulder dystocia and be prepared to act
  Signs may include:
  - Slow crowning of the fetal head
  - Difficulty with the delivery of face or chin

- The head recoils against the perineum (turtle sign)
- There is no spontaneous external rotation and restitution
- Failure of the shoulders to descend
- Failure to deliver with maternal expulsive efforts
- Inability to continue the birth of the fetal shoulders with gentle pressure alone

Nursing Diagnosis

- Potential risk of shoulder dystocia
- Shoulder dystocia is diagnosed after the birth of the head with an inability for the shoulders to deliver spontaneously



Special Considerations and Precautions

- A standardized approach to responding to shoulder dystocia should be reviewed and regularly rehearsed by all staff members
- McRobert's Maneuver – is the most effective intervention for shoulder dystocia and should be employed first (RCOG, 2005)
- Avoid fundal pressure or undue traction on the head. The brachial plexus is already under stretch and further traction may result in neurological damage. Fundal pressure can only increase impaction of the shoulder against the pubic bone (RCOG, 2005; Gilbert, 2007)

Interventions

Anticipatory:

- Provide anticipatory guidance to the woman about techniques to stop pushing until the maneuvers to relieve the obstruction are carried out
- Ensure resuscitation personnel is aware of possible complicated delivery
- Check that resuscitation equipment is ready and operational; have ready a step stool or chair for (suprapubic) maneuver
- Communicate plans with other nurses, PCP etc.
- Support and observe labour progress closely. Promote frequent bladder emptying and position changes
- Notify PCP of delayed progress of dilatation and descent in labour (DST No. 4 Evaluation of Progress in Labour/Dystocia)

Once shoulder dystocia is evident:

- The **ALARMER** mnemonic is recommended as a standard approach when a shoulder dystocia is diagnosed (SOGC, ALARM; MORE^{OB}, 2010).

Ask for help

If the PCP is not in attendance, he/she must be summoned immediately, including pediatrician, anesthesiologist, and extra nursing personnel if available. Follow institutional policy to access emergency assistance (e.g. Code Pink)

Provide simple and clear explanation to the woman about actions you are about to undertake

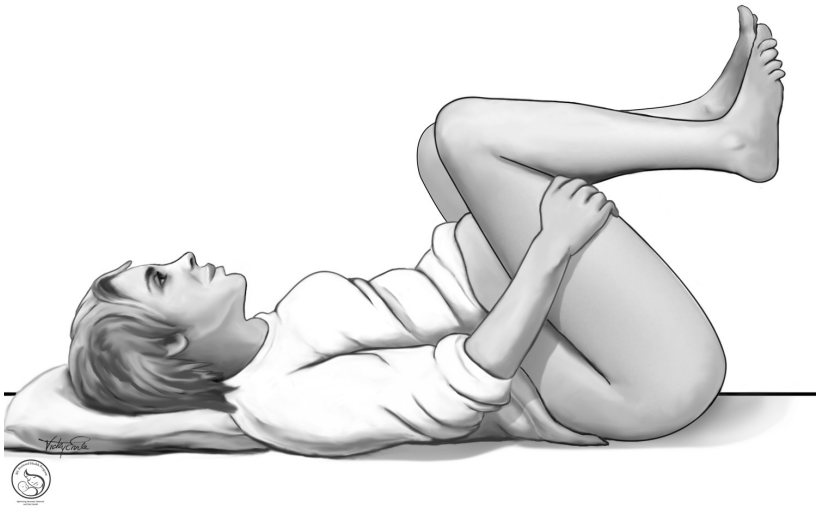
Ask for cooperation from the woman and her partner

Lift/hyperflex woman's Legs

Flatten head of bed, remove extra pillows from under the woman's head

Drop the foot or break the bed

Hyperflex both legs (McRobert's Maneuver), with knees bent to chest, and the head of bed down usually involving two assistants, each of whom grasps a maternal leg



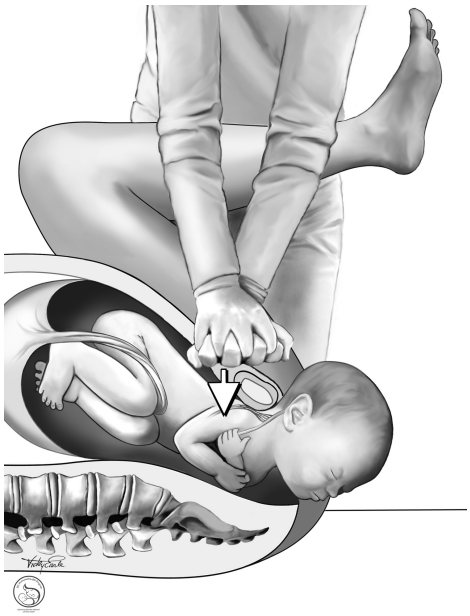
McRobert's Maneuver

*Note: Often resolved by this maneuver alone (SOGC, 2007), with a reported success rate of 90% (RCOG, 2005)

Anterior shoulder disimpaction

Suprapubic Pressure - Abdominal Approach

- With the woman in McRobert's positioning
- assume position similar to CPR (may need to use step stool or chair to attain a position above the woman)
- using both hands, apply the heel of clasped hands just above the pubic bone
- With straight arm, use your body to apply pressure downward from the posterior aspect of the anterior shoulder to dislodge it
- DO NOT APPLY FUNDAL PRESSURE



Suprapubic Pressure

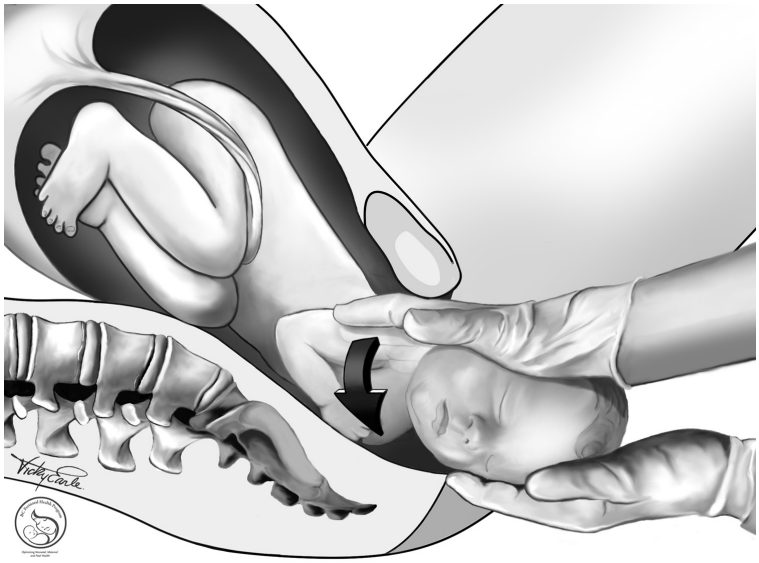
Rotation of the posterior shoulder

Rubin Maneuver – Vaginal Approach (performed by PCP)

This maneuver involves applying pressure to the most accessible part of the fetal shoulder (i.e. either the anterior or posterior shoulder) to effect shoulder adduction.

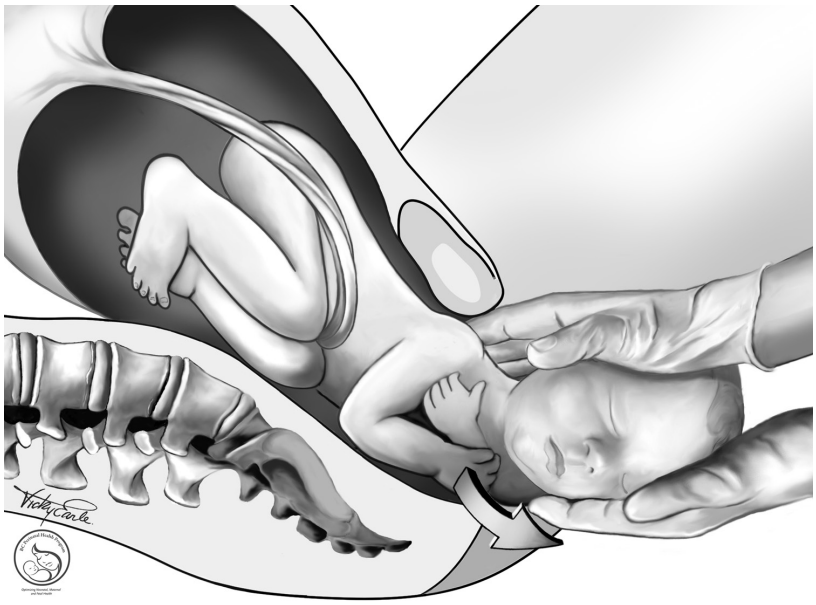
Ask the woman not to push while you

- Push the shoulders from behind the scapula toward the face of the baby; this will rotate the shoulders into oblique diameter



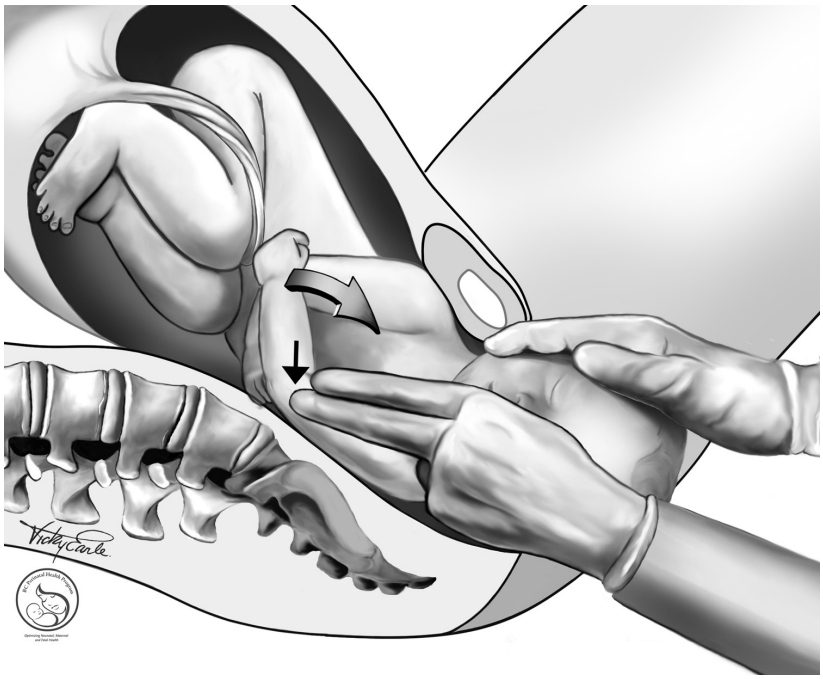
Rotation of the posterior shoulder (Performed by PCP)

Turn the baby using the Wood's Screw Maneuver. This is a screw-like maneuver. Pressure is applied to the anterior aspect of the posterior shoulder and an attempt is made to rotate the posterior shoulder to anterior position. Curved arrow shows rotation. Success of this manuever allows easy delivery of that shoulder once it is past the symphysis pubis. In practice, the anterior shoulder disimpaction maneuver and Wood's manuever may be done simultaneously and repetitively to achieve disimpaction of the anterior shoulder (ALARM, 2009).



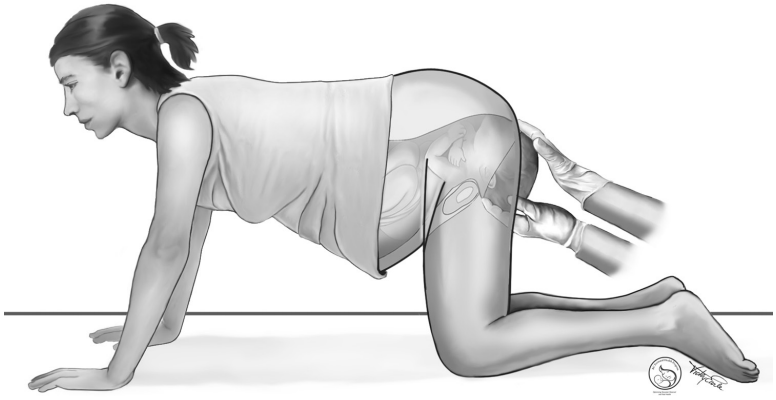
Manual removal of posterior arm (Performed by PCP)

Hand is grasped swept across chest and delivered (if arm is not flexed, flex it by applying pressure at the antecubital fossa)



Episiotomy (Performed by PCP) — Anticipate that episiotomy is only considered if there is not enough room for hand maneuvers as shoulder dystocia is not a soft tissue problem

Roll woman over onto "all fours" — Hands and knees – appears to increase pelvic dimensions, allowing the fetal position to shift – may disimpact the shoulders. The baby will be born with posterior shoulders first (Gaskin, 1998)



*Adapted from ALARM, 2009, and MORE^{OB}, 2007

1. Be prepared to perform neonatal resuscitation following delivery of the baby
2. Assess the newborn for complications (see Potential Complications)
3. Assess the woman for complications (see Potential Complications)
4. Provide comfort and support to the woman and her support person(s)
5. Collect cord gas specimen

Intended Outcomes

- The woman delivers the baby safely
- The interventions to disimpact shoulders are effective
- There are no adverse maternal and neonatal outcomes

Potential Complications

Maternal

- Postpartum Hemorrhage (most common)
  - Uterine atony
  - 3rd or 4th degree perineal lacerations
  - Vaginal cervical lacerations
- Trauma
  - Uterine Rupture
  - Rectovaginal fistula
  - Vaginal hematoma
  - Bladder injury
  - Pubic symphysis separation with femoral neuropathy
- Infection
  - Endometritis
- Emotional and psychological stress
- Impaired parent-infant attachment

Neonatal:

- Brachial plexus injury
  - Erb-Duchenne Palsy – Fifth and sixth cervical roots
  - Klumpke's Paralysis – Eighth cervical and first thoracic roots
- Fractures
  - Clavicle
  - Humerus
- Fetal asphyxia and sequelae
- Neurological damage
- Fetal demise

(Gilbert, 2007)

Education

- Provide information and support to the woman and her support person(s) regarding shoulder dystocia, plan of treatment, implications and explain the treatment modalities as these are being applied
- Offer postpartum debriefing to the woman and her support person(s)

Documentation

1. Signs and symptoms
   - Time head delivered and when the shoulder dystocia identified
   - Direction the head was facing or position after restitution (e.g. LOA, ROT)
2. Interventions
   - When PCP called and time arrived
   - Staff in attendance and time they arrived
   - Time, sequence, and description of each maneuver used
   - Time of episiotomy, if performed
   - Time of bladder catheterization, if performed
   - Time the baby delivered
3. Responses
   - Results with each maneuver used
   - The condition of the newborn (NRP required, APGAR Score)
   - Results of cord blood gases
   - The condition of the mother

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Appendix 1

Risk Factors for Shoulder Dystocia

- Anticipate the shoulder dystocia with every delivery as over 50% are not predictable, and have no risk factors (SGOC, MORE^{OB}, ALARM, 2009)
- There are no accurate methods to predict or prevent shoulder dystocia, and although there is a relationship between fetal size, and shoulder dystocia it is not a good predictor.
- Assess for risk factors as follows:

The Following Conditions Are Known To Carry A Higher Risk for Shoulder Dystocia

Prepregnancy	Antepartum	Intrapartum
• Previous shoulder dystocia • Prior macrosomia • Pre-existing diabetes • Maternal obesity • Multiparity • Prior gestational diabetes • Advanced maternal age	• Diabetes mellitus • Excessive maternal weight gain • Suspected macrosomia • Short stature • Post term - induction	• Oxytocin augmentation • Prolonged first stage of labour • Prolonged second stage • Secondary arrest in second stage • Protracted or failure of descent of head • Operative or assisted vaginal delivery

GUIDELINES FOR REGISTERED NURSES

Core Competencies and Decision Support Tools: Management of Labour In An Institutional Setting If the Primary Maternal Care Provider Is Absent

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