Pregnant Major Trauma Patient

Site Applicability

VGH:

- Burns Trauma High Acuity (BTHA)
- Emergency Department (ED)
- Operating Room (OR)
- Post Anesthetic Care Unit (PACU)
- Intensive Care Unit (ICU)

Practice Level

Collaborative between VGH RNs and BC Women's Hospital (BCWH) RNs.

VGH Emergency Department RNs: Specialized Skill

ED RN competencies include:

- Oxygen Therapy – click here for details
- Venipuncture to establish IV access (two large bore IVs)
- Venipuncture to collect blood samples

Performance of a Nurse Initiated Activity (NIA) & Nurse Initiated Protocol (NIP) are advanced skills requiring additional education.

- **The following NIA have been approved for use as noted in the site applicability above.** These medications/treatments can be administered independently:
  - IV Therapy – click here for details
- **The following NIPs have been agreed on by VCH for nurses to initiate/requisition and/or perform:**
  - Urine Pregnancy Test – click here for details
  - Laboratory Tests – click here for details

VGH RNs in the following areas: Specialized Skill

- Intensive Care Unit (ICU)
- Burns Trauma High Acuity (BTHA)
- OR
- PACU

BCWH High-Risk Perinatal RNs:

- Provide High-Risk Perinatal care in ED, ICU, BTHA, OR or Post Anesthetic Care Unit only (as per Memorandum of Understanding Concerning Provision of Maternal Fetal Care to Women and Neonatal Patients at VGH)

Purpose

The purpose of this policy is to guide the care of the pregnant major trauma patient in a cooperative effort between VGH and BCWH staff. Both facilities are committed to provide high quality care for both the patient and the unborn fetus

Policy Statement

Pregnant women that have sustained major traumatic injuries will be cared for in the most appropriate medical facility according to the severity of their injury and the viability of the fetus. Communication and cooperation between services and medical disciplines will be important in making quick and appropriate decisions for the care of pregnant trauma patients.

Once pregnancy is confirmed and consults have been initiated, BCWH will provide a Maternal Fetal Medicine (MFM) physician to guide perinatal care. If the patient is required to remain at VGH and requires ongoing fetal monitoring, the MFM physician will arrange for an RN from BCWH to come to VGH as soon as possible to provide ongoing obstetrical care.

- **Pregnant trauma patients admitted to VGH will be nursed in ICU or the BTHA.**
- **ED/OR/PACU will provide appropriate management of the pregnant trauma patient until transferred to the ICU or BTHA.**
- **All nursing assignments will be collaborative between VGH RNs and BCWH RNs**.
- **In the event of an immediate delivery, unit RN to call a Code Pink**.

Equipment & Supplies

Emergency Department

- Fetal Monitor is in Treatment Room 4
- Neonatal Resuscitation Cart (Fetal Warmer) is in Trauma/Resuscitation Room
- Obstetrics Cart is in the Trauma/Resuscitation Room

Burns Trauma High Acuity Unit (BTHA)

- Fetal Monitor is located in Storage Room #2717
- Neonatal Resuscitation Cart (Fetal Warmer) is located in Storage Room #2717

Practice Guideline

Emergency Department

1. **Trauma Team Activation (TTA) protocol**
   a. Pre-hospital activation for pregnant patients meeting mechanism criteria by paramedic pre-hospital report.
   b. Hospital activation for pregnant patients meeting mechanism criteria on arrival at VGH Emergency Department (ED).
   c. VGH Trauma Surgeon will contact the on call MFM physician at BC Women's Hospital (BCWH) via switchboard at local 5-5000 as soon as notification received.

   *These points apply for ALL gestational ages.

2. **Trauma Consult**
   a. Pregnant patient with minor injury from minor mechanism
   b. Emergency Physician (EP) discretion

3. **MFM Consult - DO NOT CALL THE VGH GYNE RESIDENT ON CALL**
   a. Pregnant patients meeting TTA criteria
   b. Any pregnant patient with trauma admitted to hospital (all trimesters)
   c. Minor mechanism with none or minor injury in the 2nd/3rd trimesters
   d. EP discretion for any pregnant patient with possibility of injury

4. **EP Evaluation Only**
   a. Pregnant patient in 1st trimester with minor injury mechanism and minor or no injury.

NURSING CARE

Emergency Department

- **Urine Pregnancy Test** – to be completed on all female patients within reproductive age between 13 to 50 years on admission to the ED.
- **IV Therapy** – insert two large bore IVs per ATLS and TNCC principles (or equivalent - *in development*) and infuse Plasmalyte bolus and consult physician for ongoing fluid management.
  - If patient has sustained a burn injury resuscitate per Provincial Burn Guidelines.
- **Oxygen Therapy** – is paramount due to the increased maternal oxygen consumption, decreased maternal vital capacity, and high sensitivity of the fetus to maternal hypoxia.
  - Apply 100% O_2 via non-re-breather mask during the initial resuscitation phase and consult need for ongoing oxygen with physician.
  - Maintain maternal $SaO_2 \geq 95\%$ once initial resuscitation completed.
- **Laboratory Tests** – trauma labs and Kleihauer-Betke (KB) test if 2nd or 3rd trimester (>14 weeks)
- **Patient positioning/monitoring**
  - Position patient in the left lateral position (or manually displace uterus to the left) if pregnancy is over 20 weeks **and/or** patient is showing signs of shock
  - Bring fetal monitor to the Trauma Bay
  - Assist BCWH High-Risk Perinatal RN in obstetrical assessment as needed

ICU

- Assessment and management of daily obstetrical care performed by High-Risk Perinatal RNs from BCWH and MFM.
- ICU RN staff to complete ICU daily and ongoing assessment, management, and care of all non-obstetrical concerns.
- Collaborate with BCWH RN in ongoing care of the patient and ensure BCWH RN is not left providing care to the patient alone.

BTHA

- Assessment and management of daily obstetrical care performed by High-Risk Perinatal RNs from BCWH and MFM.
- BTHA staff to complete BTHA daily and ongoing assessment, management, and care of all non-obstetrical concerns.
- Collaborate with BCWH RN in ongoing care of the patient and ensure BCWH RN is not left providing care to the patient alone.

BCWH

A. RN Role in all patient care areas

- BCWH RN will chart in the VGH nursing notes unless the patient is in active labour or the patient has an induction/augmentation of labour.
- BCWH High-Risk Perinatal RN to complete assessment, management, and care of all obstetrical concerns in collaboration with VGH RN.
- Collaborate with VGH team conducting a head to toe maternal assessment.
- Fetal Health Surveillance as per BCWH protocol under the guidance of the MFM physician.
- When present at VGH, BCWH RN will provide a fetal Doppler assessment prior to discharge from the Post Anaesthetic Care Unit (PACU) and transfer to BTHA or ICU.

B. RN Role in Labour

- Monitor oxytocin inductions/augmentation administration as per BCWH protocol under the guidance of MFM.
  - Oxytocin Pre-Printed Order Set

- Provide labour support under the guidance of MFM physician in collaboration with the VGH team.
- Complete documentation during labour the British Columbia Labour Partogram
- In the event of a delivery, BCWH RN will complete their initial check on the Maternal Pathway to indicate obstetric condition. After the initial check, charting will go back to the VGH notes and pathways.
- Newborn charting will be completed on VGH nursing notes in the event of a delivery in emergent cases when the Infant Transport Team (ITT) is not immediately available.
- Assist the VGH team during the following emergent situations:
  - Code Blue
  - Antepartum Hemorrhage, Postpartum Hemorrhage
  - Neonatal Resuscitation until assistance arrives (Code Blue Team)

Maternal/Fetal Distress

In the event of Maternal or Fetal distress

- **Maternal Distress**
  - Stat page the trauma attending of the week
  - Stat page MFM via switchboard at 55000
  - Notify CCOT or call Code Blue as required
- **Fetal Distress**
  - Initiate Code Pink as required
  - Stat page the trauma attending of the week

Delivery Medications

In the event of emergent delivery, initiate Code Pink and access the **delivery medication kit** in your unit Omnicell and fridge which should include the following:

- **Oxytocin** - Supplied as 10 units/mL x 7 amps of 1 mL each
- **Magnesium Sulfate** - Start with 4g loading dose (**Note:** This is available as 2 gram/50 mL minibags x 5 minibags. Two bags to be used for the 4 gram loading dose, and the other 3 to continue the infusion under direction of MFM). Normal infusion rate is 1 gram per hour after the loading dose.
- **Ergometrine (ergonovine maleate)** – (0.25 mg/mL x 3 amps)
- **Carboprost** – 250 mcg/mL (1 mL amps) x 4
- **Betamethasone** – 6 mg/mL (1 mL vials) x 2

Delivery

In the event of delivery, initiate Code Pink and management as per MFM:

- Gestational age **less than 23 weeks stable mother, live fetus**
  - STAT call to MFM if new obstetrical problem and assess need for Laparotomy or C-section / hysterotomy
- Gestational age **less than 23 weeks, unstable mother live fetus**
  - Consider C-section/hysterotomy only if pregnancy contributing to problem
- Gestational age **greater than 23 weeks stable mother, live fetus**
  - STAT call to MFM if new obstetrical problem and assess need for Laparotomy/C-section
- Gestational age **greater than 23 weeks unstable mother, live fetus**
  - Consider C-section/hysterotomy if delivery would help mother
- **Any** gestational age**, stable or unstable mother, fetal demise**
  - C-section/hysterotomy if pregnancy contributing to the problem
- Gestational age **greater than 23 weeks, dead mother live fetus**
  - If CPR is in progress, consider STAT C-section within 4 minutes of no response in order to facilitate maternal resuscitation

Post-Operative Care for Mom

- BCWH RN complete post-partum assessments per clinical pathway from Perinatal Services BC).
- VGH RN staff complete maternal assessments, management, and care of all non-obstetrical concerns
- Co-management of patient by MFM and Trauma Service with daily assessment including post-operative care of patients requiring c-section/hysterotomy
- There will be no ongoing post-delivery obstetrical nursing care provided
- Once stable, appropriate transfer arrangements will be made to reunite mom and baby via PTN

Imminent Delivery and Post-Delivery Care for Baby

- Call **Code Pink**
- If baby stable and term gestation age, transfer baby to BCWH Fir Square Nursery
- If baby unstable, transfer baby to BCWH Neo-Natal Intensive Care Unit (NICU)
- ED charge nurse to register the infant at VGH and obtain a MRN

Fetal Demise

- See Perinatal Loss Summary for actions (Appendix A)

PATIENT TRANSFER

VGH ED:

- Pregnant major trauma patients require an RN escort to all procedures and investigations.
- Pregnant major trauma patients require an RN escort to the inpatient unit

ICU: Admitted pregnant major trauma patients require an RN escort to all procedures and investigations.

BTHA: Admitted pregnant major trauma patients require an RN escort to all procedures and investigations.

Interfacility Transfer:

- Arrangements for transfer to be made through the Patient Transfer Network (PTN) in consultation with MFM and Trauma Surgery to the most appropriate facility within VCH that has obstetrical capabilities as soon as patient condition permits.
- Trauma Surgery and MFM will arrange an appropriate transfer of post-partum patients from VGH to the most appropriate facility if a high risk patient has delivered a baby at VGH.

Expected Patient/Client/Resident Outcomes/Discharge

VGH Trauma Services and BCWH MFM strive to achieve the following outcomes in the care of the pregnant trauma patient:

- Ensuring that pregnant women are admitted to the most appropriate facility to care for their traumatic injuries.
- Appropriate transfer of postpartum women from VGH to the most appropriate facility if a high risk woman delivers a baby at VGH.
- Optimizing outcomes for VGH pregnant women and their newborns requiring specialized services at VGH.
- In the event that mother is discharged into the community, unit RN to complete Community Liaison Record (Form – PSBC 1591) **AND** notify Public Health in the area where client is being discharged to.

Patient/Client/Resident Education

Unit orientation will be provided by VGH unit specific staff.

Evaluation

- The Regional Trauma Council in collaboration with BCWH will conduct quality improvement or critical incident reviews under Section 51 of the Evidence Act, in relation to trauma care provided by Trauma Services and BCWH MFM. The participants will participate and share information as required by the Regional Trauma Council.
- The participants will appoint members to an ad-hoc committee which will conduct quality improvement or critical incident reviews in relation to non-trauma care, including neurosurgery, spinal cord injury, pelvic and liver tumors, provided under the MOU.

Documentation

VGH Documentation Forms:

Critical Care Flowsheet	VCH.VA.VGH.0468
Critical Care Nursing Assessment Record	VCH.0339
Special Care Nursing Assessment record	VCH.VA.VGH.0479

Maternal Obstetrical Documentation and Completion Guidelines

Antenatal Records Part 1 and 2	Guide for Completion of Antenatal Records Part 1 and 2
Labour Partogram	Guide for the Completion of the Labour Partogram
British Columbia Labour and Birth Summary Record	Guide for the Completion of the Labour and Birth Summary
British Columbia Postpartum Clinical Path	Guide for the Completion of the Postpartum Clinical Path
British Columbia Community Liaison Record-Newborn & Postpartum	Guide for completion of the BC Community Liaison Record – Postpartum & Newborn

Newborn Documentation and Completion Guidelines

Notice of Live Birth	Guide for Completion of a Live Birth or Stillbirth
BC Neonatal Transfer Record	Guide for Completion of the Neonatal Transfer Record

Guidelines for RNs

Birth In The Absence Of Primary Care Provider

Related Documents

- Pregnant Trauma Patient Supplemental Admission Orders (PPO 416)
- VGH Trauma Program: Trauma in Pregnancy
- P-382: Care of the Pregnant Patient in PACU

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Knudson, M. M, & Yeh, D.DJ. (2013). Trauma in pregnancy. In K.L. Mattox, E.E. Moore, & D.V. Feliciano, Trauma.

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Revised by

CPD Developer Lead(s):

Director Regional Clinical Services Planning/Strategic Dev Emergency/Trauma, VCH
Head Division of Maternal Fetal Medicine, BCWH
Manager Trauma Program, Trauma Services, VGH
Pharmacist Vancouver Acute (VGH, UBCH, GFS)
Trauma Program Coordinator, Trauma Services, VGH
Trauma Program Coordinator, Trauma Services, VGH
Trauma Surgeon/General Surgeon, Trauma Services, VGH

Other members:

Clinical Educator, Burn Plastic Trauma Unit, VGH
Clinical Educator, ICU 2, VGH
Head Nurse, Education, Operating Rooms, VGH
Nurse Clinician, Emergency Department, VGH
Patient Services Manager, Urgent Care Centre, UBCH
Perinatal Clinical Educator and UBC MSI Nurse Educator, BCWH

Endorsed by

VCH: *(Regional SharePoint 2nd Reading)*
Health Authority Professional Specific Advisory Council Chairs (HAPSAC)
Health Authority Interprofessional Advisory Council Chairs (HAIAC)
VCH Operations Directors
VCH Professional Practice Directors

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BC Women's Hospital Maternal Fetal Medicine
Operations Director, Critical Care, Emergency, Trauma Services, Vancouver Acute
Operations Director, Surgical Services, Vancouver Acute
Director, Professional Practice Nursing, Vancouver Acute

Final Sign-off & Approval for Posting by

Vice President Professional Practice & Chief Clinical Information Officer, VCH

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Appendix A: Perinatal Loss Summary (click here to view)

BC WOMEN'S HOSPITAL+ HEALTH CENTRE

PERINATAL LOSS SUMMARY FLOW MAP