Division of Acute Care Surgery Clinical Practice Policies, Guidelines, and Algorithms: 
Evaluation of Pregnant Trauma Patients
Clinical Practice Policy

Original Date: 06/2015
Last Review Date: 03/2019

Purpose: Optimize the care of pregnant trauma patients

All trauma patients ≥ 20 weeks gestation s/p high mechanism of injury (level 2 mechanism criteria) are level 1 trauma activations. All trauma patients ≥ 20 weeks gestation without mechanism criteria are made a level 2 trauma activation. Please refer to Trauma Team Activation for Adults guideline for level 1 and level 2 activation criteria.

The trauma team should be consulted for any trauma patient ≥ 20 weeks gestation with evidence of significant abdominal trauma (i.e. ecchymosis or significant abrasion from a seat belt or direct blow). Decisions about imaging must be made between the Trauma faculty, ED faculty, and mother. Please see section below on “Imaging the Pregnant Trauma Patient."

For all level 1 pregnant trauma patients, notify the OB-Gyn Attending (extension 47017) immediately after the Level 1 trauma page message.

-- The EC nurse will notify the OB/Gyn charge nurse (extension 47485)
-- The OB/Gyn charge nurse will call the NICU in route to the EC
-- The EC Attending will call the Pediatric EC Attending
-- The responding Pediatric EM Faculty to initiate Pedi Trauma consult on all viable neonates admitted to NICU after STAT ED C-section.

The OB Faculty (47017) is notified of level 2 trauma patients ≥ 20 weeks gestation immediately after evaluation by the ED physician. The trauma chief resident (47055) or trauma faculty (via published cell phone) will be notified of any level 2 pregnant trauma patient who requires a trauma consult.

OB-Gyn physician and nurse will respond to level 1 activations and perform the following tasks:
- Perform obstetric and fetal evaluation which may include ultrasound, continuous fetal monitoring (depending on gestational age and patient status) and contraction monitoring
- Perform C-section in conjunction with trauma service if necessary
- Any trauma questions from OB can be called to extension 47055

After standard trauma evaluation by the Trauma/ED team, Mother will be immediately cleared for possible C-section or other stat OB procedure by either the trauma faculty, trauma chief resident, or ER faculty (if trauma team is in OR and unavailable).

STAT C-section in ED will be performed via a midline laparotomy incision by OB-Gyn physicians in conjunction with trauma surgery.

C-sections performed in OR will be done in the TRAUMA OR via a midline laparotomy incision in conjunction with trauma surgery.
Patient Admission

Criteria for OB-Gyn service admission or observation:
-- No traumatic injuries identified by trauma service or ED
-- Hemodynamically stable
-- Spine cleared and collar removed by trauma service or ED

The patient will be admitted to the trauma service (floor, SIMU, or STICU according to admission criteria guidelines and severity of traumatic injuries) if any traumatic injuries are identified. Continuous fetal monitoring will be performed at the bedside for patients who meet monitoring criteria per the OB-Gyn service.

Exceptions to the above admission criteria will be discussed between OB-Gyn and Trauma faculty.

Alternate phone numbers: Neonatology-47911; OB-Gyn Chief-47911

Imaging the Pregnant Trauma Patient

Indications for CT abdomen and pelvis in pregnant trauma patients:
-- high mechanism of injury including MVC or MCC > 20 MPH, fall greater than 15 feet, death of occupant in same motor vehicle, and auto-pedestrian accident
-- positive abdominal FAST exam
-- complaint of abdominal pain or tenderness on exam
-- abdominal seat belt sign
-- intubated
-- pre-hospital blood transfusion

Background
Trauma is the leading cause of non-obstetric maternal mortality, and both major and minor trauma to the pregnant patient are associated with an increased risk of pregnancy loss. Serious abdominal injury is more common in pregnant patients than in patients who are not pregnant. In major trauma, the risks of radiation to the pregnant patient and fetus are small compared with the risk of missed or delayed diagnosis of maternal injury. IV iodinated CT contrast material is a Food and Drug Administration (FDA) category B agent with no known adverse effects during pregnancy.

The fetal dose from a typical CT of the abdomen and pelvis is 25 mGy, and with modern CT scans that use automated exposure control, the fetal dose is reduced even further (reported as low as 13 mGy). The risk of fetal abnormality is considered to be negligible at 50 mGy or less. Beginning in 2004 the American College of Obstetricians and Gynecologists issued statements that recommended women be informed that radiation exposure from a single diagnostic procedure does not result in harmful fetal effects. Specifically, exposure to less than 5 rad [50 mGy] has not been associated with an increase in fetal anomalies or pregnancy loss. Teratogenic effects, such as small head size, developmental disability, and organ malformations, are observed at high doses (typically greater than 100 mGy) delivered between 2 and 15 weeks after conception which is the period of organogenesis and rapid neuronal development and migration.

References
https://www.facs.org/~/media/files/quality%20programs/trauma/tqip/best_practices_in_imaging.ashx


