Trauma in Pregnancy

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Author: Dr. Christina Davidson
Editor: Dr. Sarah Tounsi

Background

Blunt abdominal trauma is the leading type of traumatic injury in pregnancy, with motor vehicle crashes, falls, and assault being the most common etiologies. Several adverse outcomes can occur in pregnancy, including placental abruption, preterm labor and preterm delivery, uterine rupture, and pelvic fracture. An algorithm for management of trauma in pregnancy should be used at all sites caring for pregnant women (**Figures 1 and Figure 2**). An alignment of policies within each system optimizes appropriate triage, integration of care, management, and monitoring of pregnant trauma patients and their fetuses.[1] Management of penetrating injuries (stabbing, gunshot wound, impaled by object) will depend largely on the entrance location of the wound and the gestational age. Visceral injuries are less likely when the entry site is anterior and below the uterine fundus. Penetrating injuries are more likely to affect the fetus, especially those anterior and below the uterine fundus.[2]

If there is penetrating trauma or major blunt trauma that results in injury of the patient greater than minor bruising, lacerations or contusions (such as gross injury or deformity, concern for head or spinal injury, loss of consciousness, or severe neck or back pain), the patient should be evaluated first in the Emergency Center for trauma survey and clearance; they should not be bedded initially in Ob triage.

- At TCH, the patient should be evaluated first in the West Tower Emergency Center (**Figure 3**, which can be found at http://connect2depts.texaschildrens.org/depts/1/Emergency%20Medicine%20Physicians/SitePages/Physicians.aspx). Following EC evaluation and clearance, the patient can be transferred to WAC for further evaluation and monitoring by the Obstetric team.
- At Ben Taub Hospital, the patient should be evaluated first in the Emergency Center (refer to Ben Taub Hospital Department Guideline No: T-12 on the pregnant trauma patient at https://apps.hchd.local/sites/dcc/Policy/Departmental/Women%20Infants%20and%20Children/T-12%20Pregnant%20Trauma%20Patient-BT.pdf). Following EC evaluation and clearance, the patient can be transferred to OBI for further evaluation and monitoring by the Obstetric team.
- The Obstetric team should evaluate the patient in the EC upon arrival and prior to transfer to WAC or OBI and initiate continuous fetal heart rate monitoring in pregnancies of at least 24 0/7 weeks gestation.
- Patients who suffered minor trauma (minor bruising, lacerations or contusions) will be evaluated and treated exclusively in WAC and OBI.

Figure 1. Evaluation and Management of Trauma in Pregnancy in *Viable* Gestations[1]

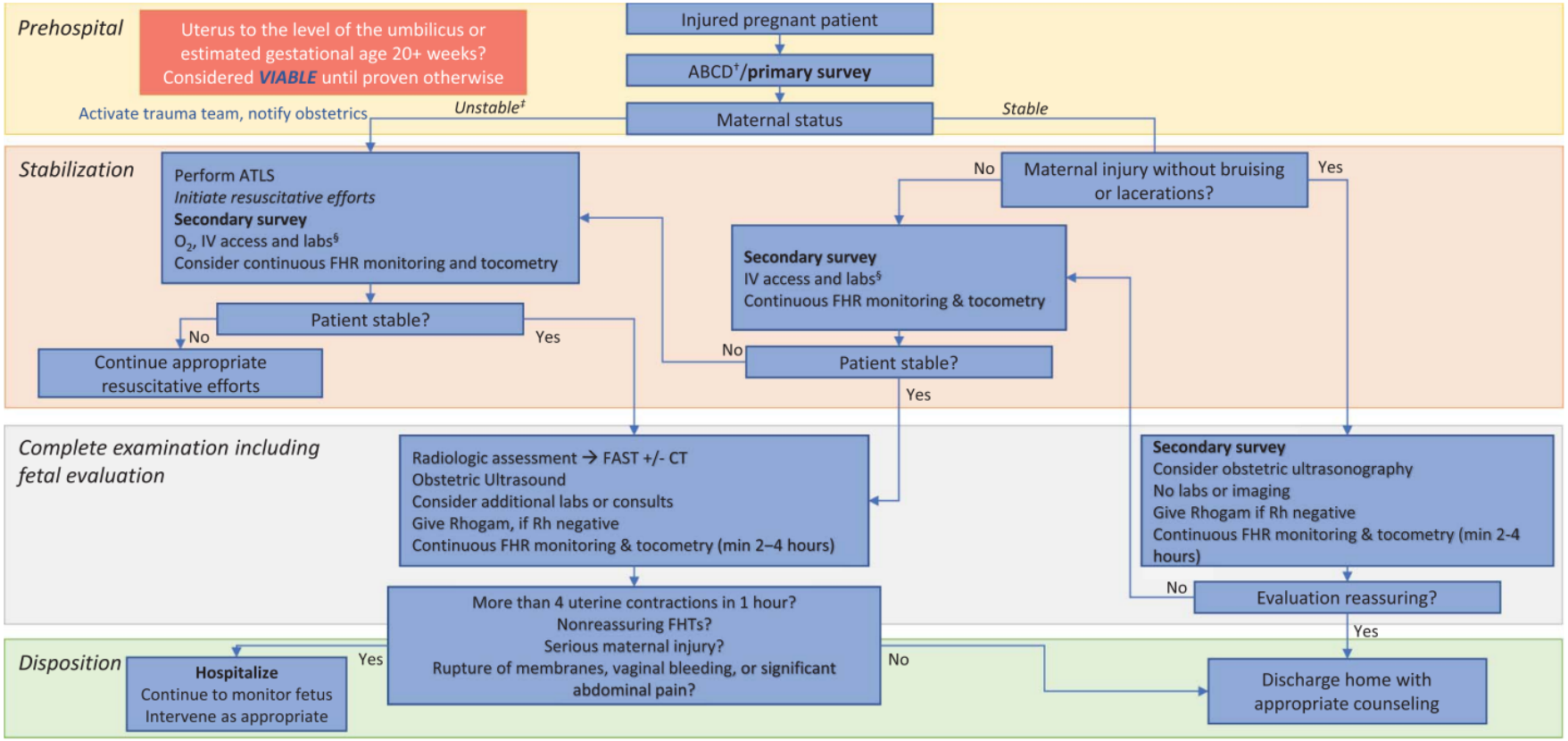

Fig. 1. Evaluation and management of trauma in pregnancy in viable* gestations. *Viable defined as 22–24 weeks of gestation; varies by region. †ABCD: airway, breathing, circulation, displacement (ensure left lateral tilt of patient). ‡Unstable: cardiac arrest, unresponsive, loss of airway or respiratory arrest, blood pressure less than 80/40 or heart rate less than 50 or greater than 140 beats per minute (bpm), viable fetus with fetal heart rate (FHR) less than 110 or greater than 160 bpm. §Laboratory values: if unstable: complete blood count, coagulation profile, fibrinogen, fetal maternal hemorrhage screen, type and screen, creatinine±arterial blood gas; if stable: complete blood count, coagulation profile, fibrinogen, fetal maternal hemorrhage screen, type and screen. ATLS, *Advanced Trauma Life Support*; IV, intravenous; FAST, focused abdominal sonography for trauma; CT, computed tomography; FHT, fetal heart tone.

Greco. Management of Abdominal Trauma in Pregnancy. Obstet Gynecol 2019.

Figure 2. Evaluation and Management of Trauma in Pregnancy in *Non-Viable* Gestations[1]

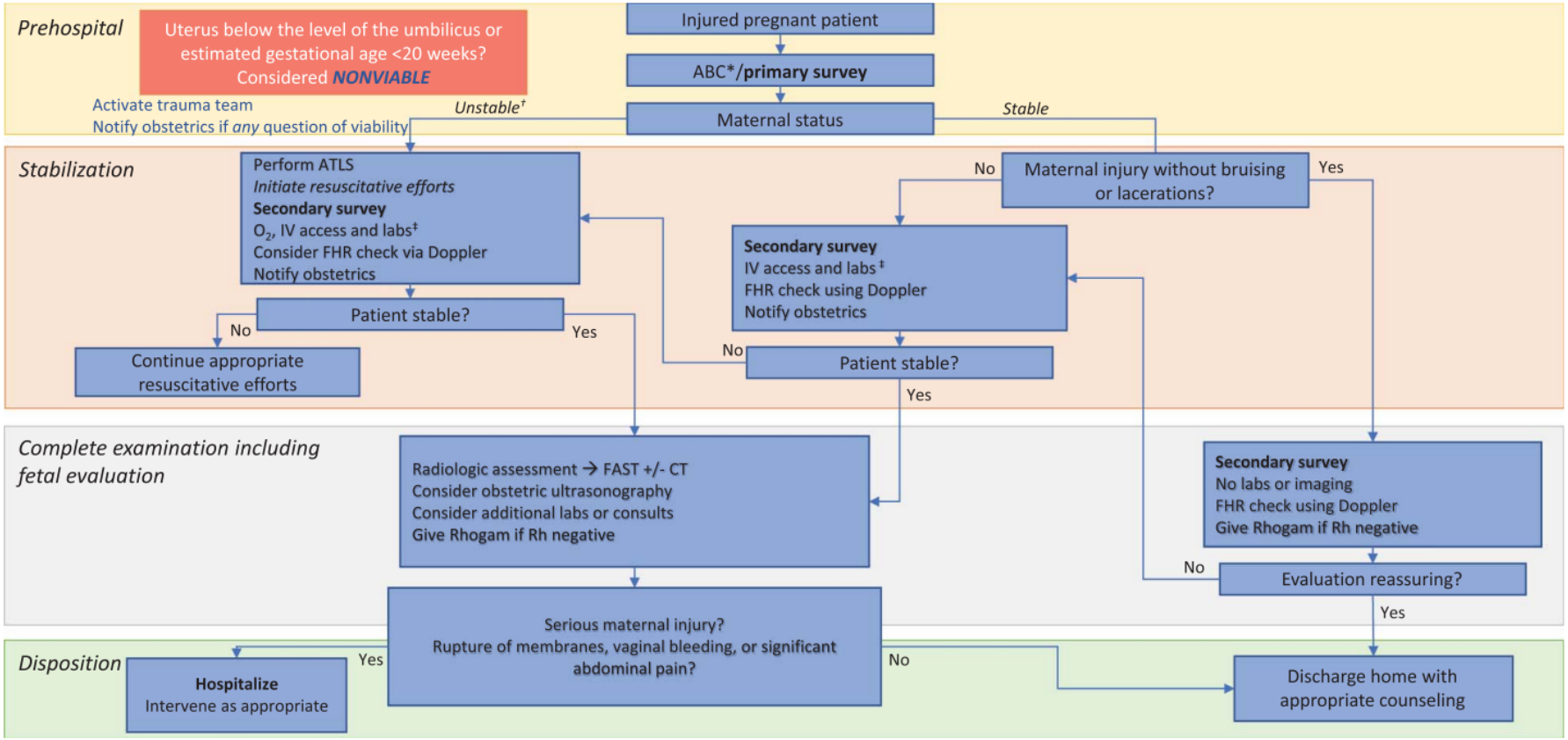

Fig. 2. Evaluation and management of trauma in pregnancy in nonviable gestations. *ABC: airway, breathing, circulation. †Unstable: cardiac arrest, unresponsive, loss of airway or respiratory arrest, blood pressure less than 80/40 or heart rate less than 50 or greater than 140 beats per minute (bpm), viable fetus with fetal heart rate (FHR) less than 110 or greater than 160 bpm. ‡Laboratory values: if unstable: complete blood count, coagulation profile, fibrinogen, fetal maternal hemorrhage screen, type and screen, creatinine±arterial blood gas; if stable: complete blood gas, coagulation profile, fibrinogen, fetal maternal hemorrhage screen, type and screen. ATLS, *Advanced Trauma Life Support*; IV, intravenous; FAST, focused abdominal sonography for trauma; CT, computed tomography.

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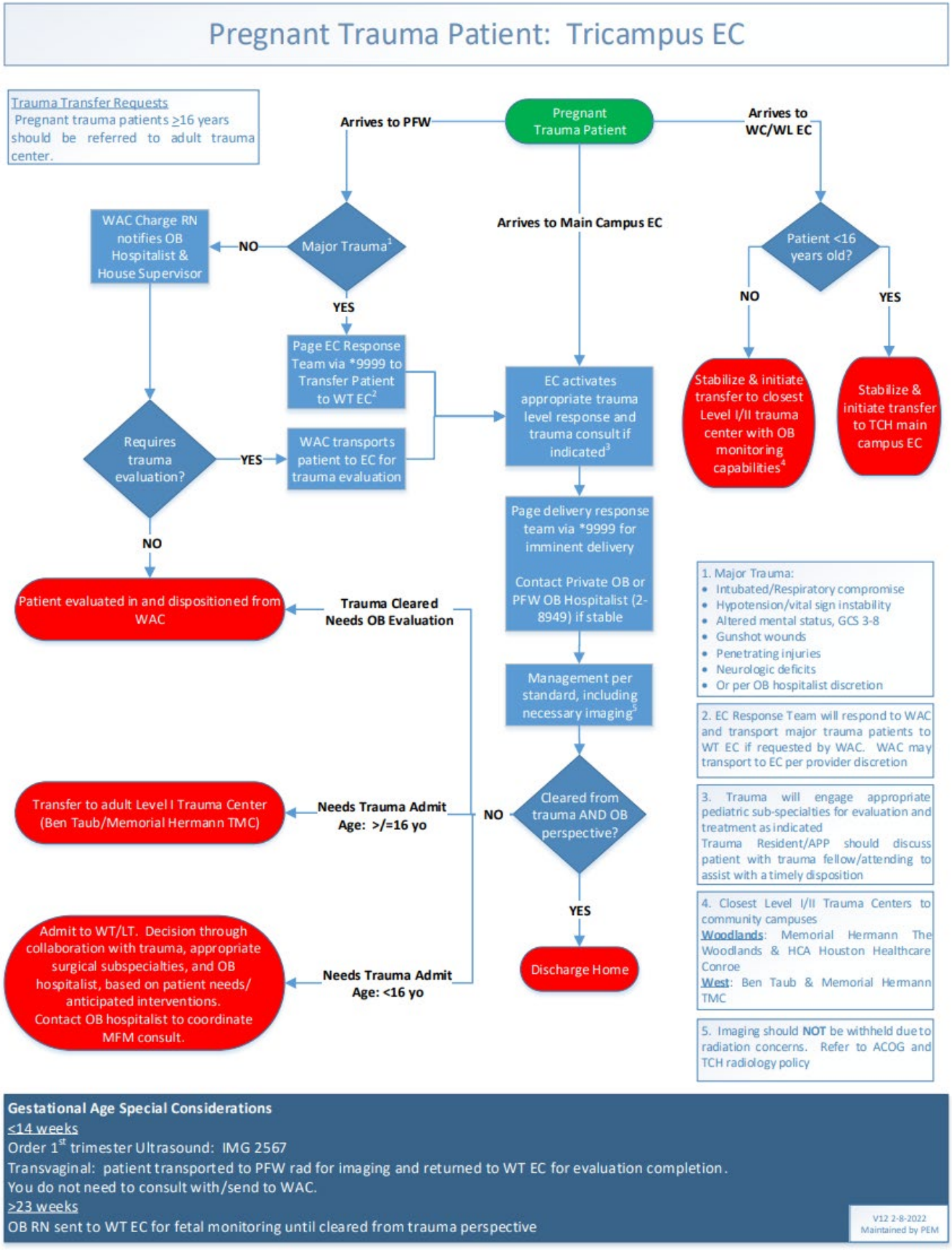
Figure 3. Management of the Pregnant Trauma Patient at Texas Children's Hospital



References

References

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2. Mendez-Figueroa H, Dahlke JD, Vrees RA, Rouse DJ. Trauma in pregnancy: an updated systematic review. *Am J Obstet Gynecol*. Jul 2013;209(1):1-10. doi:10.1016/j.ajog.2013.01.021