

Pre-simulation briefing

Establishing a safe container for learning in simulation



1

Clarify objectives, roles and expectations

- Introductions
- Learning objectives
- Assessment (formative vs summative)
- Facilitators and learners' roles
- Active participants vs observers

2

Maintain confidentiality and respect

- Transparency on who will observe
- Individual performances
- Maintain curiosity

3

Establish a fiction contract

Seek a voluntary commitment between the learner and facilitator:

- Ask for buy-in
- Acknowledge limitations

4

Conduct a familiarisation

- Manikin/simulated patient
- Simulated environment
- Calling for help

5

Address simulation safety

Identify risks:

- Medications and equipment
- Electrical or physical hazards
- Simulated and real patients



Note: Adjust the pre-simulation briefing to match the demands of the simulation event, contexts or the changing of participant composition.

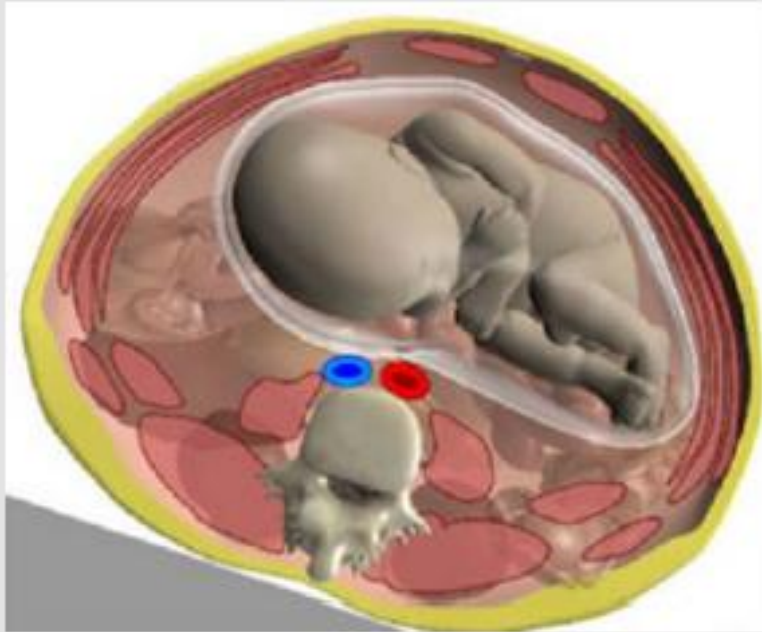
Specific management

Manual displacement

In the supine position the gravid uterus compresses the inferior vena cava and impairs venous return and reduces cardiac output.

Compression is relieved by either:

a) left lateral tilt



b) manual uterus displacement — preferred position for cardiac compressions.



*Images produced by: Clinical Multimedia Unit
Metro North Hospital and Health Service, Queensland.*

Principles of care for the pregnant trauma patient

- Follow ATLS guidelines
- First priority is to treat the woman
- Multidisciplinary team that includes an obstetrician is essential
 - Contact neonatal team early if viable gestation and birth imminent/likely
- Recognise anatomical and physiological changes of pregnancy
- Clear, coordinated and frequent communication essential
- Generally, medications, treatment and procedures as for non-pregnant patient
- Refer pregnant women with major trauma to a trauma centre
 - < 23 weeks gestation: to the nearest trauma centre
 - ≥ 23 weeks gestation: to a trauma centre with obstetric services
- Thoroughly assess all pregnant women – even after minor trauma

Initial stabilisation

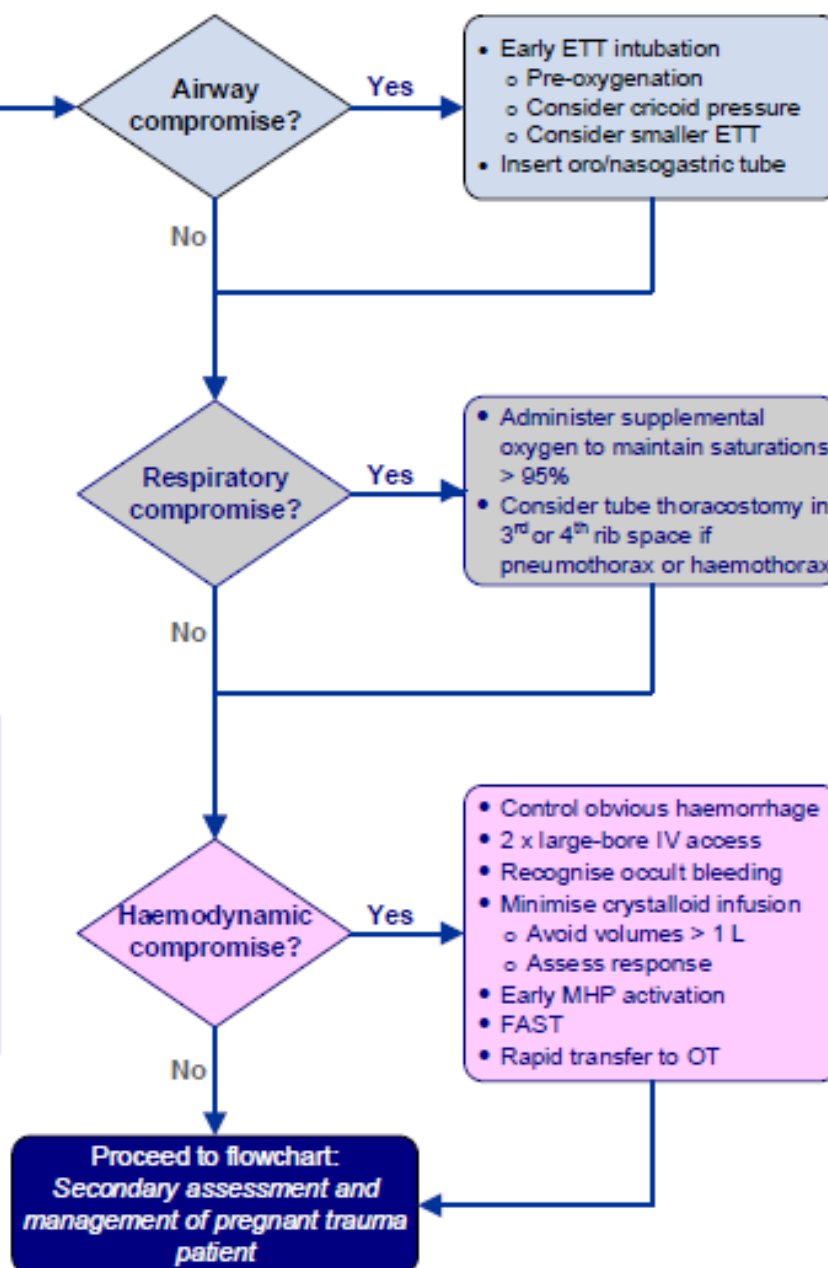
- As indicated for all trauma patients
- Follow ATLS guidelines
- Initiate early obstetric consultation
- Contact RSQ (1300 799 127) to expedite transport & identify receiving facility as required

Additionally for pregnancy

- Position (tilt or wedge):
 - Left lateral 15–30° (right side up) or
 - Manual displacement of uterus
 - Place wedge under spinal board if necessary
- Routinely administer oxygen therapy
- Large-bore IV access

Cardiac arrest

- Manually displace uterus
- If ≥ 20 weeks gestation, commence Resuscitative Hysterotomy (Perimortem CS) as soon as possible
- Follow ATLS guidelines
- Defibrillate as for non-pregnant patient
- Advanced cardiac life support drugs as indicated for non-pregnant patients



ATLS: Advanced Trauma Life Support, CPR: Cardiopulmonary Resuscitation, CS: Caesarean section, ETT: Endotracheal tube, FAST: Focused Abdominal Sonography for Trauma, IV: Intravenous, MHP: Massive Haemorrhage Protocol, OT: Operating Theatre, RSQ: Retrieval Services Queensland, >: greater than, ≥: greater than or equal to



TRAUMA IN PREGNANCY

Placental abruption

Structured assessment

1 Perform a primary survey

<https://bit.ly/35lpUtv>

Scan to view the Queensland Clinical Guideline >



2 Perform fetal assessment

Obtain
obstetric
history.



Obtain
estimation of
gestational age.



Perform FHR monitoring

- over 23 weeks, initiate CTG
- normal value 110-160 bpm.

3 Perform a secondary survey

<https://bit.ly/3tXwz7d>

Scan to view the Queensland Clinical Guideline >



TRAUMA IN PREGNANCY

Resuscitative hysterotomy considerations

About the procedure

Contraindications

- If it is deemed the mother will not benefit from it
- If the uterus is not large enough to cause aortocaval compression or with a fetus before viability
- If maternal cardiac arrest for >15 minutes

Risks

As with any caesarean section there may be damage to associated structures: to the fetus, maternal bowel or bladder, uterus and uterine blood vessels

Timing

If basic and advanced life support are unsuccessful, perform procedure as early as possible following maternal cardiac arrest.

Threshold for requirement is when the uterus is of a size to cause aortocaval compression. In singleton pregnancy, this is generally 20 weeks, it may be earlier with multiple pregnancies.

If the gestational age is less than 23-24 weeks this procedure will likely lead to sacrifice of the fetus, but if over 24 weeks this procedure is also the best chance of neonatal survival.

If the mother's condition is deemed un-survivable, the procedure may still be performed, with the primary aim of fetal survival.

Technique

1. Perform the procedure at the site where cardiac arrest has occurred, with continuation of BLS and ALS resuscitation.
2. Continue manual displacement of the patient's uterus towards the L side to reduce aortovocal compression.
3. Maintain basic asepsis by pouring antiseptic solution over the abdomen. Have assistant provide manual displacement throughout until the fetus has been delivered to aid resuscitation.
4. Open the uterus using either a midline or Pfannenstiel incision. Deliver the fetus and give to a second team for ongoing care.
5. Massage uterus to stimulate contraction. Close the uterus with long running locking absorbable suture. Close the abdomen until the patient is transferred to the operating theatre for formal closure, if not already there.
6. Consider uterotonic medications for their effect on haemorrhage control balancing against the potential to cause hypotension.
7. If resuscitation is successful: administer antibiotics to reduce infection risk and further uterotonic medications are often required to aid haemorrhage from the atonic uterus.

CXR



Pelvic Xray



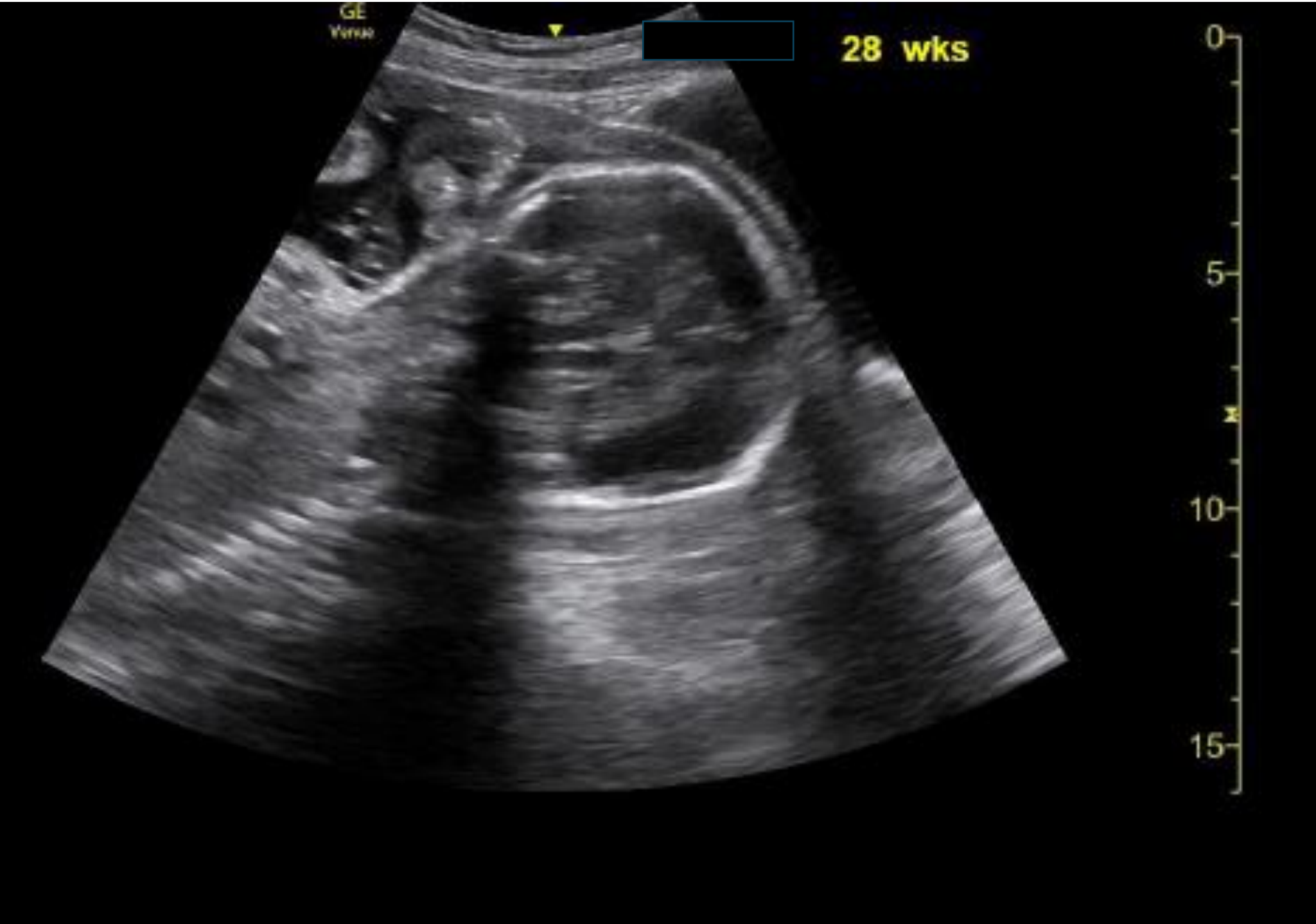


16.2 cm

EFAST LUQ/splenorenal



EFAST Bladder/Pelvic





23.0 cm