

Make early contact with ARV for advice from the major trauma services and to initiate retrieval.

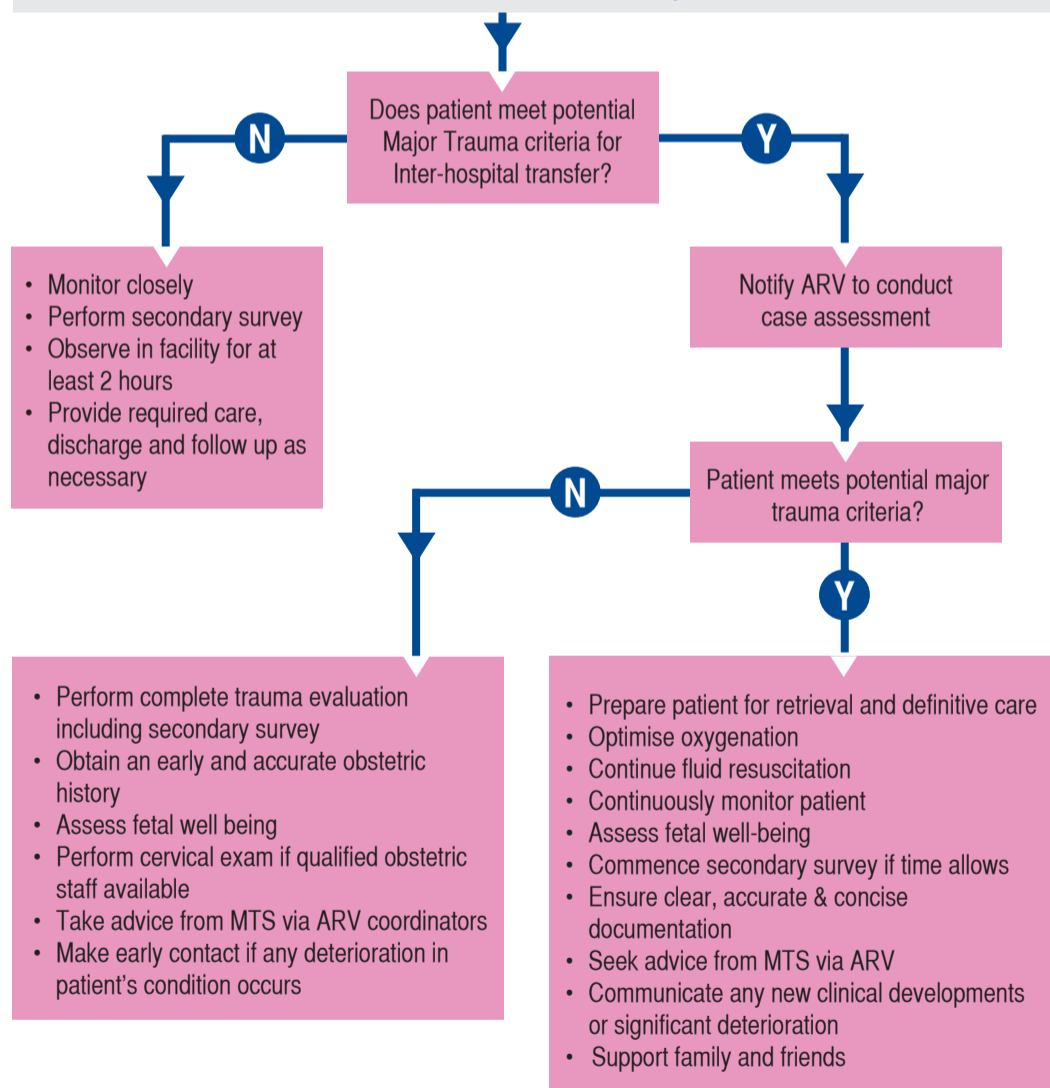
- Fetal survival depends on effective maternal resuscitation.
- Maternal position – 1 or 2 handed manual uterine displacement or left tilt 15-30°.
- Maternal hypovolaemia will significantly impact on fetal outcomes.

## Early Activation

- Gather vital information
- Activate Trauma Team
- Designate roles
- Set up to receive patient
- Ensure safety using PPE

## Primary Survey

CATASTROPHIC HAEMORRHAGE	AIRWAY / C-SPINE	BREATHING	CIRCULATION	DISABILITY	EXPOSURE / ENVIRONMENT	ADJUNCTS
<ul style="list-style-type: none"> <li>• Identify large volume external bloodloss</li> <li>• Provide immediate management</li> </ul>	<ul style="list-style-type: none"> <li>• Protect Airway</li> <li>• Be prepared for difficult intubation</li> <li>• Maintain full spinal precautions if indicated</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and treat any life threats</li> <li>• Assess RR, work of breathing, SpO<sub>2</sub> &amp; symmetry</li> <li>• Oxygen therapy to maintain SpO<sub>2</sub> 94% - 98%</li> <li>• ETCO<sub>2</sub> monitoring if ventilated</li> <li>• Intercostal Catheter should be inserted 1-2 rib spaces higher</li> </ul>	<ul style="list-style-type: none"> <li>• Position patient with manual left uterine displacement or tilt if &gt; 20 weeks gestation</li> <li>• Insert x 2 large bore IV cannulas &amp; commence fluid resuscitation if required</li> <li>• Assess HR/BP/Cap refill</li> </ul>	<ul style="list-style-type: none"> <li>• Assess level of consciousness</li> <li>• Check pupils</li> <li>• Check BSL</li> </ul>	<ul style="list-style-type: none"> <li>• Fully expose patient</li> <li>• Prevent heat loss</li> <li>• Log roll</li> </ul>	<ul style="list-style-type: none"> <li>• Ultrasound / CTG monitoring</li> <li>• X rays: Chest, Pelvis</li> <li>• Take blood: Hb, Group &amp; X-Match, coagulation studies</li> <li>• 12 lead ECG</li> <li>• Consider IDC</li> <li>• Orogastric tube if intubated</li> </ul>



## Key points

### Maternal Resuscitation

- Fetal survival is improved by optimizing maternal resuscitation and avoidance of hypovolaemia. Haemorrhage control may be impossible without emergent surgical intervention.

### Fluid resuscitation

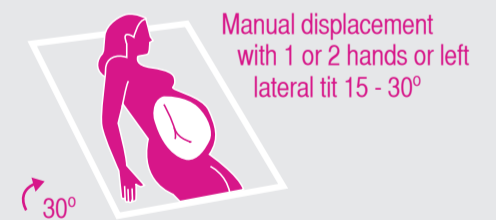
- Initiate if hypovolaemia is suspected to maintain both maternal and fetoplacental perfusion. Note that a pregnant patient may not display signs of haemorrhage until as much as 30% of her blood volume is lost.
- *Crystalloid fluids:* Initial treatment with Normal Saline is recommended up to 20 - 30 mL/kg.
- *Blood products:* if minimal response to fluids, administration of Rhesus negative packed red blood cells should be given.

### Maternal oxygenation

- Maternal hypoxia is associated with poor fetal outcomes. Maintain oxygenation >94%. Apply supplemental oxygen as required.

### Patient positioning

- Patients greater than 20 weeks gestation should be deliberately positioned to protect blood flow and venous return. This can be achieved by using 1 or 2 handed manual left uterine displacement or with a left sided tilt of 15 - 30° to facilitate blood flow and venous return.



## Obstetric Trauma Considerations

### Pregnancy Related Complications

- Placental abruption.
- Premature labour.
- Uterine rupture.
- Feto-maternal haemorrhage.

Obstetric assessment is important to identify signs of labour, fetal well-being, perineal injury and concealed or contained haemorrhage.

Cervical examination should only be performed by qualified obstetric staff.

**Fetal well-being:** CTG monitoring is important to institute where possible to assess fetal status. If not available, auscultate fetal heart sounds and / or ask the mother when she last felt fetal movement.

**PERIMORTEM CAESAREAN SECTION** is indicated where the mother is in cardiac arrest with a fetus of > 20 weeks gestation. In these cases, caesarean section is performed to help restore circulating volume to the mother and fetal survival is not the primary indication. Rarely, where complications of trauma indicate that maternal survival is unlikely and the fetus is > 24 weeks gestation, a caesarean section may be performed to rescue the fetus.