Emergency Obstetric Care
For MO





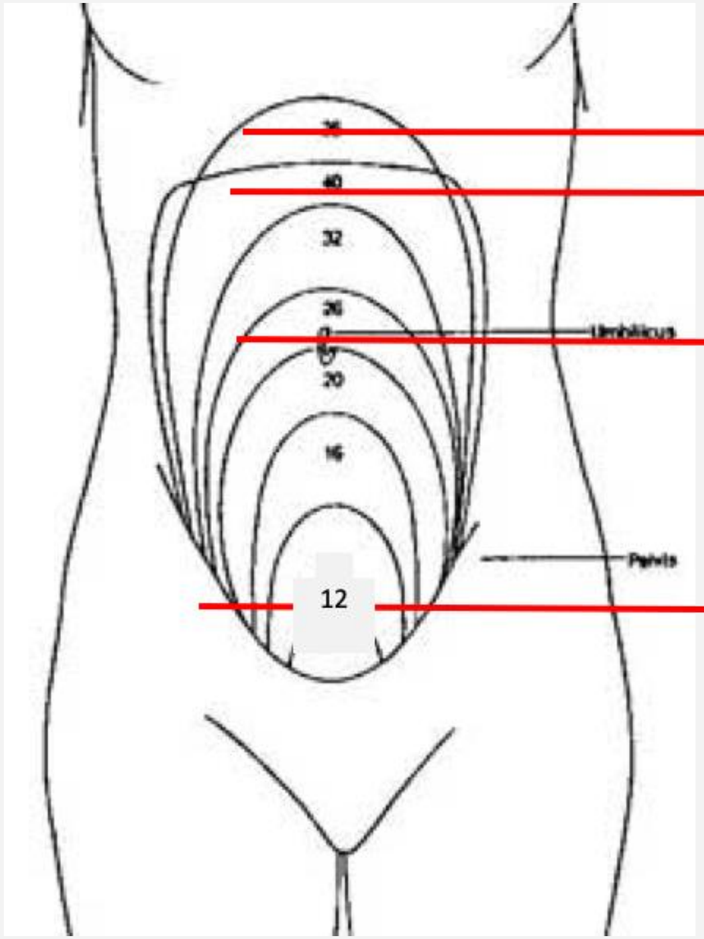

LEARNING OBJECTIVES

- Recognition of ante-natal, intra-partum and post-partum emergency conditions
- Become familiar with measures to stabilize obstetric emergencies
- Learn important considerations for safe transfer of the pregnant patient

OBSTETRIC EMERGENCIES

- Trauma in pregnancy
- Ante-partum, intra-partum and post -partum
  - **Hemorrhagic Shock**
  - **Septic Shock**
  - **Eclampsia**

TRAUMA IN PREGNANCY: ANATOMY



36 weeks:
Head engages pelvis

34 and again at 38 weeks:
At costal margin

20th week:
At umbilicus

12th week
Uterus becomes an abdominal organ: therefore susceptible to blunt force trauma

VITAL SIGNS CHANGE IN PREGNANCY

- 27 Y old 8 and half month pregnant women comes with mild abdominal pain, on and off. RR 13, P 70 and SBP is 114 mmHg. Is she stable?

- 32 Y old 5 month pregnant women comes with cough and fever. She has anosmia. She lives with her husband who was diagnosed with COVID recently. RR 14 AND SBP is 96 mmHg. Saturation is 94% on room air. Is she stable?

	Normally	Pregnancy
Respiration	~ 14 / min	~ 20 / min
Pulse	70-80	80-90 (3rd Trimester)
BP	120/80	90/60 in 2nd Trimester SBF upto 130 in 3rd Trimester

TRAUMA IN PREGNANCY

(H) ABCDE: same as non-pregnant trauma patient

Beware!

- Airway: Intubation difficult, especially in late pregnancy
- Breathing: Normally have a fast RR.
- Circulation: Maternal hypotension
  - Note: < 90 SBP à decrease in placental blood flow
  - Supine Hypotension Syndrome: Most common cause of ↓ BP

How do you manage this?

- **Must** refer to obstetrician for fetal monitoring after stabilization

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SEPTIC SHOCK (PUERPERAL SEPSIS)

When to Suspect?

If 2 of the 3 “T’s” present:

Temp >38.3° or <36.0°C

Tachypnea (RR >20)

Tachycardia (HR >90)

Follow ABC protocol

The First 1 hr Sepsis Bundle:

- Oxygen
- IVF 2-3 L (If needed: Vasopressors)
- Broad spectrum antibiotics
  - for aerobic and anaerobic infections
  - Cefotaxime + metronidazole

Signs of recovery:

Early Indicators

- SBP > 90mm Hg
- Pulse oximeter: > 90%
- Normal mental status

Later: Increase Urine OP > 30 ml

PRE-ECLAMPSIA / ECLAMPSIA

Mild: usually no symptoms

After 20 weeks gestation if:

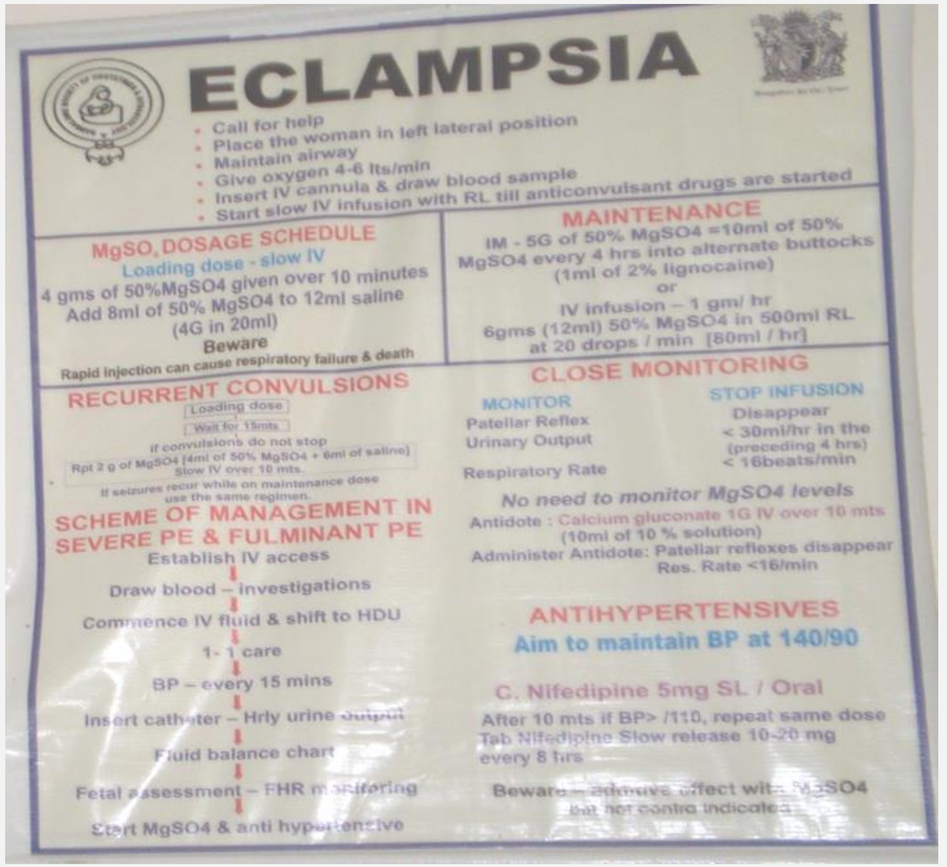
- If BP >140/90 mmHg
- >/= 1+Proteinuria
- Brisk reflexes

Severe / Fulminant pre-eclampsia

- Impending signs: headache, blurred vision, epigastric pain, pedal/facial edema, jittery, breathless
- BP >160/110 mmHg
- 3+ proteinuria

MANAGEMENT OF PET/ECLAMPSIA?

What do you do first?



ANY SEIZURES IN PREGNANCY = ECLAMPSIA UNTIL PROVEN OTHERWISE

- Call for help!
- ABC primary survey
  - **A:** Oral airway: prevents obstruction by tongue. Place in left lateral tilt position
  - **B:** Oxygen, BVM

- **C:** Circulation: 2 IV lines (16G-grey or 18G-green), maintenance fluids. NO BOLUS
  - Catheterize: Foley
  - Left lateral position: improves utero-placental perfusion and prevents aspiration
  - Blood for test: Pregnancy Induce Hypertension (PIH) profile if possible

- Raise the side rails and place soft pillows
- Drugs: Magnesium sulfate bolus, Anti hypertension medication

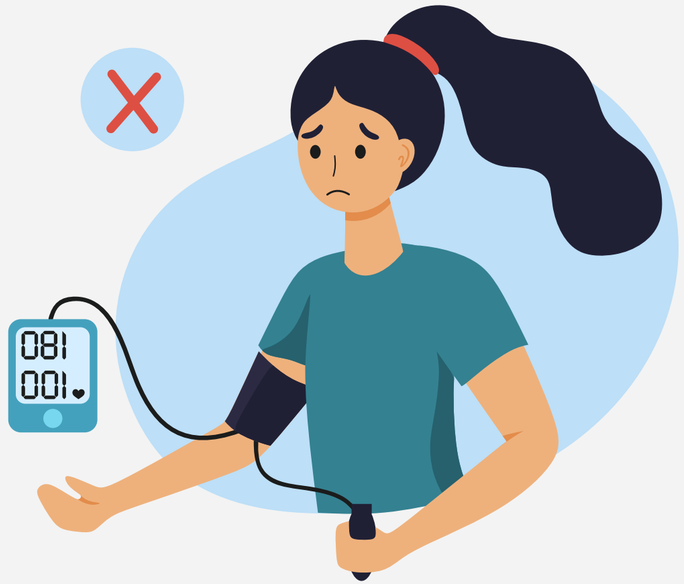
MAGNESIUM SULPHATE FOR PRE-ECLAMPSIA/ECLAMPSIA

		REPEAT
IV	4 gm (dilute with saline to a total of 20 mL) over 10 min AND	2 gm: can repeat ONE time only after 15 minutes, if convulsions recur
IM	10 gm of 50% MgSO4 (divided between 2 buttocks) - 5 gm (10 mL) in each buttock with 1 ml 2% lignocaine	

Before repeating dose check: RR >16/m;
Patellar reflexes present
Urine output >30mL/hr
Rapid injection → respiratory failure and death;
Antidote: Calcium gluconate 1 g IV over 10 minutes
*Note: 50% MgSo4 standard available dose

CONTROL OF HYPERTENSION

- Labetalol 10-20 mg IV
  - Double the dose and repeat every 10 m (max dose 240 mg)
- BP goal: SBP 140/100 mmHg
  - Ensure DBP is not dropping to <100
- If labetalol is not available, alternatively give
  - Nifedipine 10 mg orally
  - **DON’T give via sub-lingual route**



HAEMORRHAGIC SHOCK

Before 28 weeks:

- Missed period, pain abdomen, vaginal bleed & syncope: suspect **ectopic pregnancy**

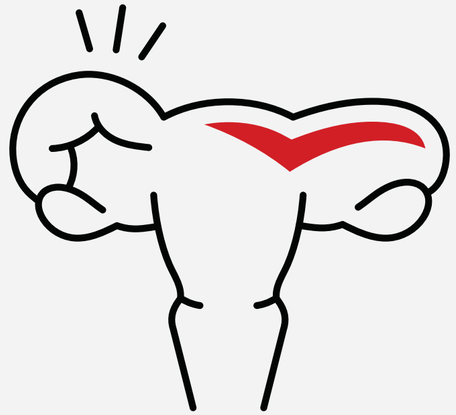
- Spontaneous abortion (incomplete)

- Molar pregnancy

HAEMORRHAGIC SHOCK

After 28 weeks:

- Painless bleeding & uterus relaxed: **placenta previa**
    - Placenta is near cervix: **avoid** vaginal examination
- Tense tender uterus with/without bleeding: **abruptio placentae**
- Sudden cessation of contractions, relief of pain & is unstable (shock): **suspect uterine rupture**
- ABC: early fluid boluses to manage shock
- **Rapid transfer to obstetrician**



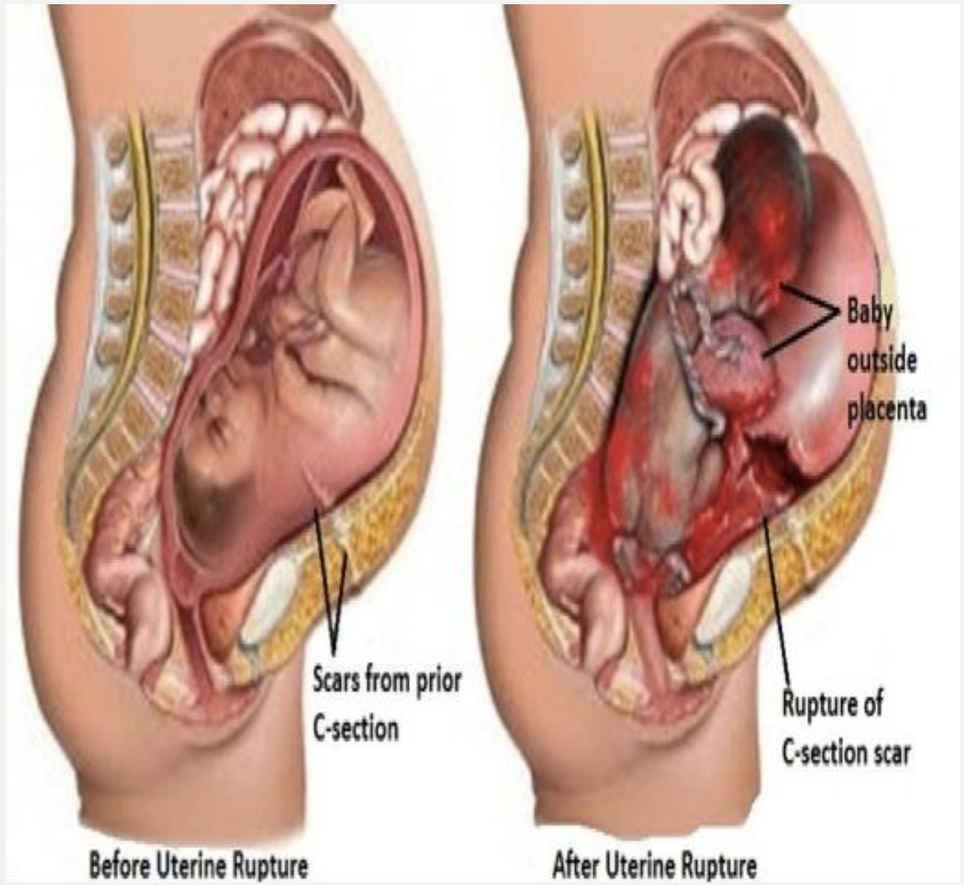
HAEMORRHAGIC SHOCK

- Avoid pelvic (vaginal) exam in ante-partum haemorrhage

- Beware of concealed haemorrhage
  - There may be **<u>NO EXTERNAL</u>** bleeding but patient will be showing signs of shock

HEMORRHAGIC SHOCK: INTRA-PARTUM UTERINE RUPTURE

- Impending signs: Low BP, cessation of labor pain)
  - Stop oxytocin and DO NOT attempt vaginal delivery
  - Rapid transfer for emergency surgery
- If already ruptured and in shock:
  - ABC
  - Treat for shock: O2, IVF bolus
  - Bladder catheterization
  - Rapid transfer for emergency surgery



POSTPARTUM HEMORRHAGE

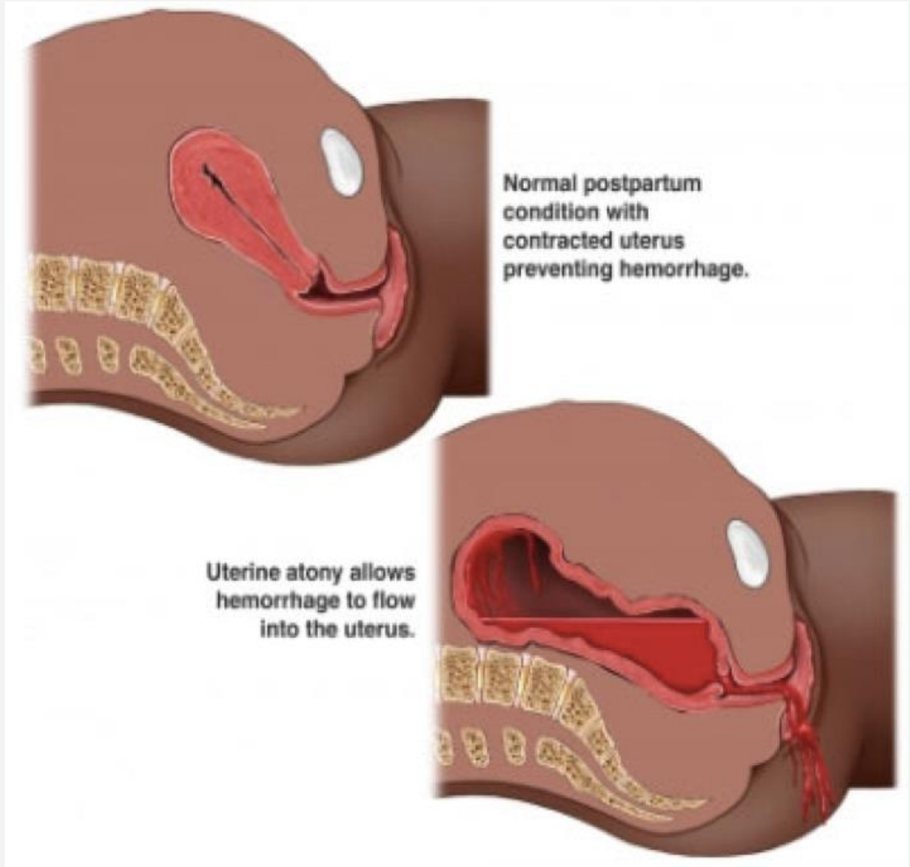
The First One Hour: “Golden Hour”

PPH = Predict **P**repare **H**andle

4 T's	Specific Cause	Relative Frequency
1. Tone	Atonic Uterus	70 %
2. Trauma	Lacerations: cervical, vaginal & perineal Hematoma: pelvis Inversion of uterus and rupture of uterus	20 %
3. Tissue	Retained tissue, invasive placenta	10 %
4. Thrombin	Coagulopathies	1 %

1. PPH DUE TO *TONE*: ATONIC UTERUS

- Heavy vaginal bleeding within 24 hours of child birth
- Abdominal palpation: flabby uterus or sub-involuted uterus



ATONIC UTERUS: PREVENTION

Predict

Active Management of Third Stage of Labor (AMTSL)

- for all deliveries because atonic PPH is not predictable
- AMTSL reduces PPH by 60%

AMTSL Protocol

- Oxytocin 10 units IM within a minute of birth of the baby
- Placental removal by controlled cord traction
- Uterine massage

PREPARE: THE EMERGENCY KIT

- Ready for childbirth and AMTSL
- Kit contains:
  1. Oxygen mask
  2. Gloves
  3. IV supplies / fluid
  4. Foley catheter/ bag
  5. Scissors / syringes
  6. Distilled water
  7. Oxytocin

PREPARE PREDICT: BASED ON HISTORY AND EXAM

Management

- Shout for help and assign tasks
- Rapid evaluation of vitals
- O2 by mask
- Two large bore IVs (18 gauge or larger)
- Bolus IVF ASAP: 1-2 liters NS/RL
    - Until patient stabilized

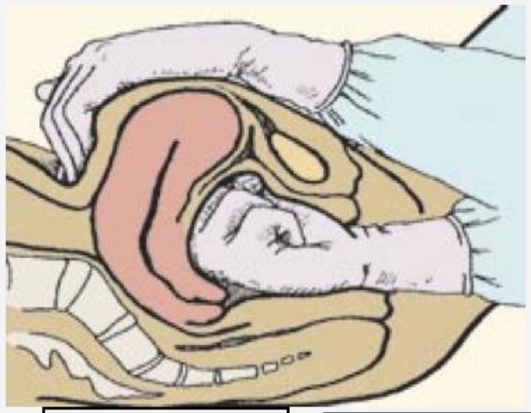
PREPARE PREDICT: BASED ON HISTORY AND EXAM

- Perform blood group/Rh test, catheterize the bladder
- Oxytocic's: order of administration
  - Oxytocin
  - Misoprostol
  - Methergine (Ergometrine)
  - Carboprost

MANAGEMENT

Left hand on the abdomen

Bladder empty



Uterus pressed between hands

Right hand in the vagina

Bimanual compression

NASG

Aortic compression

Condom tamponade

DOSE	DOSAGE, ROUTE	ACTION	SIDE EFFECTS	CAUTION
Oxytocin	10 units IM (AMTSL) or 10- 20 units in 500mL NS infusion @ 125ml/hr (PPH) If no IV	Onset: IV: 30secs IM: 2 – 3 minutes Lasts: <u>15 – 20 minutes</u>	No or minimal side effects Hypotension when given IV push	No contraindications
Misoprostol	800 mcg per rectal or oral	Onset: 3 – 5 minutes Peak: 20 – 30 minutes Lasts: up to 2-6hours	Shivering, slight rise of temperature	No contraindications
Ergometrine	0.2mg IM or IV	Onset: 2 – 7 minutes Lasts: 2 – 4 hours	May increase risk of retained placenta. Nausea, vomiting, headache, hypertension	Avoid: hypertension, heart disease
Carboprost	250mcg IM	Onset: 1 – 2 minutes Lasts: 15 – 20 minutes	Vomiting, diarrhea, bronchospasm	Avoid: bronchial asthma

Shout for Help

Monitor pulse, BP respiration and temperature

Start 2 - IV line
16-18g
Do blood group, cross match

Give IV fluids- NS/RL
1L+ 0.5L warm

Give oxygen
6-8 L

Catheterize and monitor urine output and fluid intake

Massage the uterus

Monitor vitals, blood loss (15 minutes)

Placenta delivered or not?

Follow protocol

MANAGEMENT OF SHOCK

- Principles of Rx: **Same as for shock in non-pregnant patients**
- Look for and anticipate impending shock
- Shout for help; Assess vital signs
- **Follow ABC's**
  - Ensure airway is open
  - Give oxygen
  - Keep her warm (do not overheat)
  - Left lateral position
  - **Prevents supine hypotension** (if baby not yet delivered)
  - Minimizes aspiration if she vomits

MANAGEMENT OF SHOCK

- Start two large bore IVs (18 gauge or larger)

  ➢***Test: Hgb, blood group/Rh, whole blood clotting test***

- Bolus normal saline (0.9% NaCl)

  ➢Rapid IV Bolus 1-2 liters

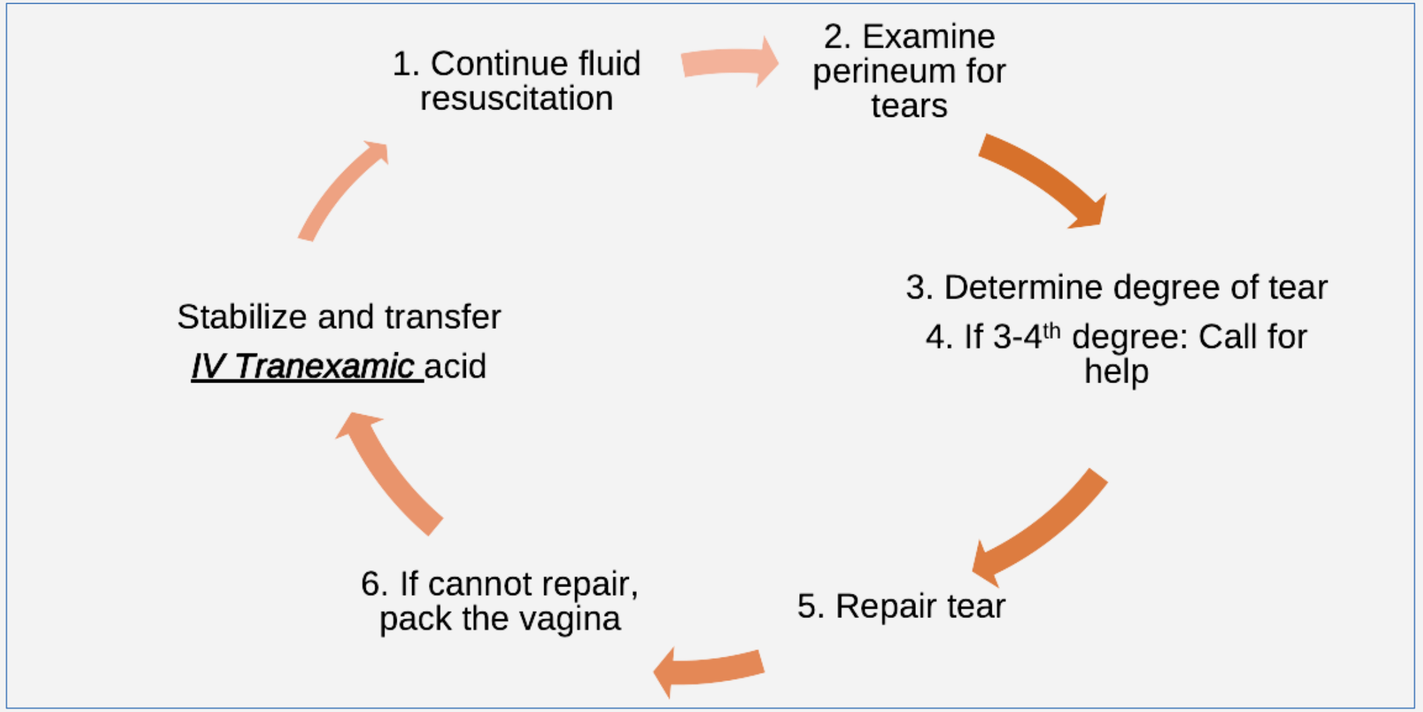
  ➢Replace 3 times the estimated loss

- Consider IV ***Traenexemic*** acid if bleeding continues
- Catheterize the bladder
- Monitor vital signs and blood loss every 15 minutes
- Transfer when stable

2. PPH DUE TO *TRAUMA*: INJURY DURING LABOR

When to Suspect trauma to cervix / vagina / perineum?

- Uterus well contracted/retracted but bleeding continues
- You have ruled out atonic uterus as cause of PPH



3. PPH DUE TO *TISSUE*: RETAINED PLACENTA

- Usually the placenta separates within 30 minutes
- If placenta delivery is delayed, or if placental tissue is retained, may cause persistent hemorrhage

Treatment

- Bladder catheterization
- IV oxytocin infusion or intra-umbilical vein injection of oxytocin (20 IU) with saline (20 ml)

When to Transfer?

- If no placental delivery or if patient continues to bleed after delivery

SEPTIC SHOCK (PUERPERAL SEPSIS)

Disseminated Intravascular Coagulation (DIC)

Risk Factors:

Excessive bleeding e.g. placental abruption

Intrauterine fetal (IUD) demise

Sepsis

Severe Pre-eclampsia

Amniotic fluid embolism

Suspect DIC

If clotting time > 7 min

If available give FFP

Rapidly transfer to higher care/center

CASE SCENARIO

25-year-old lady has lost 600ml of blood 1 hour after delivery. There are clinical signs of shock. Resuscitative measures should involve:

- Assess airway, breathing and circulation
- Insert 2 large bore IVs (16-18 gauge)
- Give oxygen by mask 10-15L/minute
- Give intravenous fluid replacement up to 3.5L as bolus until blood is available
- Uterus continues to be soft and relaxed.

What should be done to arrest bleeding?

CASE SCENARIO

- Give all these medications as first line
  - Oxytocin: no contraindication. Beware of low BP
  - Misoprostol: safe with no contraindications
  - Ergometrine: caution in hypertension
  - Massage the uterus
- Ensure bladder is empty
- Bimanual uterine compression

HEMORRHAGE: KEY MESSAGES

- PPH can be prevented by practicing AMTSL in all labor cases
- Observe and be alert for danger signs of PPH
- Management of PPH:
  - General principle of management of shock
  - Specific obstetric management

SUMMARY

- Trauma in pregnancy: adequate resuscitation of the mother provides the best support for the baby
- PPH is life-threatening
  - Best prevented by AMTSL for all deliveries
- Pre-eclampsia (PIH) and eclampsia
  - MgSo4 is the drug of choice
- Stabilization and safe transfer ASAP to obstetric care
- Phone consultation with an Ob-Gyn for assistance with the patient prior to transfer is required

Thank You