

FexNet Collated Questions:

Obstetrics + Gynaecology

1. Abdominal Pain
2. Abdominal Pain
3. Abdominal Pain
4. Abdominal Pain
5. Abdominal Pain
6. Complex Labour
7. Complex Labour
8. Delivery in Ambulance
9. Early Labour
10. Early Labour
11. Early Labour
12. Early Labour
13. Early Labour
14. Early Labour
15. Miscarriage
16. Post Partum Fever
17. Post Partum Seizure
18. PPH
19. PPH
20. PPH
21. PPH
22. Pregnant Arrest
23. Pregnant Collapse
24. Pregnant Headache
25. Pregnant Headache
26. Pregnant Headache
27. Pregnant Headache
28. Pregnant Headache
29. Pregnant Headache
30. Pregnant Trauma
31. PV Bleed
32. Unexpected Delivery
33. Unexpected Delivery

Question 1

1. Biliary – gallstones – cholecystitis/choledocolithiasis/ pancreatitis (1 mark)
Infectious – viral hepatitis (1 mark)
Toxic – Paracetamol or other hepatotoxic drugs (1 mark)
Sepsis from another focus
Intra-uterine foetal demise
Splenic artery aneurysm
2. Proteinuria >1+ on random (1 mark)
Peripheral oedema (1 mark)
Signs of impaired cerebral perfusion - any of Hyperreflexia/Visual Disturbance/Mental Status Changes/ clonus (1 mark)
Headaches
Vomiting (1 mark)
Acute Renal Failure with Oliguria (1 mark)
Elevated urate
Pulmonary Oedema
Evidence of Haemolysis (LDH, schistocytes, decreased haptoglobin) (1 mark)
3. Placental Abruption (1 mark)
Acute Renal Failure (1 mark)
Subcapsular Liver Haematoma (1 mark)
*****Seizures (1 mark) essential to score >= 0**
Intrauterine Fetal Demise (1 mark)
4. Left lateral position – IVC in pregnancy (1 mark)
Supportive care – O2 (1 mark)
Terminate Seizure – midazolam 2.5 - 5mg (1 mark)
Magnesium 4-6gm loading dose – end point seizure cessation (1 mark) essential
5. Priorities:
 - a) Prevent further seizures: Magnesium Infusion 1-2 gm/hr
 - b) Control Blood Pressure: Hydralazine 5-10mg IV or Labetalol 40mg IV best options
(avoid oral drugs ie nifedipine and avoid SNP as only 28 weeks)
 - c) Urgent Obstetric review for consideration of delivery
 - d) Betamethasone for lung maturation 12.4gm IMI

Question 2 7/12

1.

Vaginal Discharge

Prior PID

Multiple sexual partners

Unprotected sex

Presence of recently inserted IUD

Dyspareunia

2.

Urine PCR – sensitive for chlamydial and gonococcal infections,

High-vaginal swabs – allows culture for STI organisms

b-HCG – pregnancy for both differential diagnosis, and also altering antimicrobial prescribing

Pelvic USS – exclude tubo-ovarian abscess

3.

Antibiotics - eTG

Analgesia

Sexual health/ Infection Control follow up

Counselling re: safe sexual practice

Contact Tracing information

Question 3 (12/16)

1.

Assessment Aim	Supportive historical or examination features
<i>Labour established</i>	<i>Presence of pelvic pressure / low back pain Regular contractions / strength of contractions / palpable uterine activity on examination</i>
<i>Rupture membranes</i>	<i>Loss of fluid, blood or mucous PV – suggesting PROM Sterile speculum examination- state of cervix (dilatation) / membranes (?ruptured)</i>
<i>Stage of labour</i>	<i>Cervix length/effacement, dilatation on PV</i>
<i>Foetal well-being</i>	<i>Foetal surveillance – FHR / CTG</i>
<i>Mother well-being</i>	<i>Vital signs – BP – pre-eclampsia</i>
<i>Risk factors for pre-term labour</i>	<i>Previous pre-term labour - details History of pregnancy thus far – assisted reproduction, polyhydramnios / oligohydramnios, short cervical length (risks for pre-term labour) Medical history – recent / current UTI (risks for pre-term labour)</i>

Also accept one answer that assesses for non-pregnancy causes eg appendicitis

2.

Treatment and reason for treatment	Clinical indication
<i>Antenatal corticosteroids Betamethasone 11.4mg IMI</i>	<i>For foetal lung maturity if gestation <34/40</i>
<i>Nifedipine 20mg po</i>	<i>Tocolysis in pre-term labour where foetus at risk due to prematurity</i>
<i>Magnesium sulphate 4g IV over 20min / then 1g / hour</i>	<i>For foetal neuroprotection in pre-term babies</i>
<i>IV antibiotics – ampicillin, gentamicin, metronidazole</i>	<i>If chorio-amnionitis established</i>

Question 4 (12 marks)

A 22-year-old woman presents to your emergency department with right-sided lower abdominal pain. Her last menstrual period was two (2) weeks ago and her pregnancy test is negative.

Her vital signs are

Temp	37.5°C
HR	110 bpm
BP	130/ 80 mmHg
RR	20/min

a) List three (3) features on history that would favour a diagnosis of PID over acute appendicitis. (3 marks)

- Absence of pain migration
- Bilateral abdominal tenderness
- Absence of nausea or vomiting
- Purulent vaginal discharge

Ref - Dunn 6th edition Vol 2 Pg 689

b) List five (5) gynaecological causes for this patient's pain, other than PID (5 marks)

- Ovarian torsion
- Ruptured ovarian cyst
- Haemorrhagic cyst
- Mittelschmerz
- Fibroid complications (red degeneration, bleeding, torsion)
- Endometriosis
- Adenomyosis

Ref - Tables from Cameron and Tintinalli

- c) List two (2) findings each for the imaging modalities below that would be consistent with the diagnosis of PID in this patient. (4 marks)

USS	• Normal ultrasound • Fluid in the pouch of Douglas • Thickening (> 5 mm) or increased vascularity of the fallopian tubes • The presence of a tubo-ovarian abscess / complex adnexal mass
CT Abdomen	• Obscuration of pelvic fascial planes • Cervicitis • Oophoritis – fat stranding • Salpingitis – fat stranding • Thickening of uterosacral ligaments • Simple or complex pelvic fluid/ abscess collection

Reference: Tintinalli 7th edition Pg 718

Question 5 (13 Marks)

A 29 year old women presents to the ED with a 6 hour history of mild abdominal cramping and vaginal bleeding for which she has used 2 sanitary pads over the 6 hours. Her last menstrual period was 8 weeks ago and she usually has a 28 day cycle. She is sexually active with a single long term partner and not using contraception as they are trying to start a family. She is concerned she is having a miscarriage.

Her observations are:

HR: 78

BP 120/74

T 37C

RR 18

a) List 3 of the most important factors that would increase her risk of ectopic pregnancy (3 marks)

Assisted reproductive technology (IVF)

Previous ectopic pregnancy

History of PID/salpingitis

Abnormal uterine anatomy

NOT – IUD, OCP, tubal ligation (increased risk of ectopic if pregnancy occurs whilst using them, but overall decreases the risk of a pregnancy being ectopic) – she is also trying to get pregnant so would be unlikely to be using them.

b) Complete the table below detailing Vaginal examination findings in Miscarriage (5 Marks) (must have both on each line to score 1 mark)

Type of Miscarriage	Cervix	Products of conception passed
Threatened	Closed	None
Incomplete	Open	Partial
Complete	Closed or open	All
Inevitable	Open	None
Missed	Closed	None

c) List 3 criteria on pelvic US you would need to satisfy to safely exclude ectopic pregnancy as the cause for her symptoms. (3 marks)

IUP with fetal heart beat, yolk sac or fetal pole

No abnormal adnexal mass visualised

No increased pelvic free fluid

c) List 2 criteria on pelvic US that would characterise a pregnancy of uncertain location (2 marks)

Intrauterine sac without visible fetal heart beat, yolk sac or fetal pole

No abnormal adnexal mass visualised

Question 6

You are preparing a presentation on the management of patients who present to the emergency department in labor, and the delivery is imminent. Fill in the following table describing signs and management of common problems in labor.

Problem	Signs	managment
Nuchal Cord	Cord around baby's head	If loose, can pull over baby's head. If tight then place 2 clamps and cut between them.
Shoulder Dystocia	"turtle sign", head comes out but then goes back in Anterior shoulder impacted below pubic bone	Get help Drain Bladder Consider episiotomy Mc Robert's technique – flex knees to chest with pt on her back Suprapubic pressure Position mother on hands and knees with knees to chest Break clavicle if everything else fails (pinch midpoint of clavicle and snap it).
Cord Prolapse	Bluish gray cord of tissue in vagina	This can compress cord, causing decreased oxygen to baby when head engages. Needs surgical delivery. Tell mother to stop pushing, elevate hips, push head up. Give mother oxygen
Post Partum Haemorrhage	Bleeding after delivery	External massage of uterine fundus Inspect for tears Inspect placenta Bimanual compression oxytocin

Question 7

What is this condition called? (1 mark)

- Shoulder dystocia

What is the underlying anatomical issue in this situation? (1 mark)

- Bony impaction of anterior shoulder behind pubic symphysis
- NOT a soft tissue obstruction, bony

What is the most important complication of this condition and why does it occur? (2 marks)

- Hypoxic injury to newborn: Hypoxic-ischaemic encephalopathy / death
- Cord compression / lack of blood flow / hypoxia

Outline your stepwise management of this condition (6 marks)

- Call for help: Obstetric consultant / registrar
- McRoberts Manoeuvre / Legs up knees to nipples
- Suprapubic pressure
 - Constant
 - CPR-like / intermittent
- Internal manoeuvres
 - Rubins II
 - Woodscrew
 - Reverse Woodscrew
- Remove posterior arm
- Roll onto all 4s

Question 8

1. Space – resus areas for mother and child

Equipment: neonatal resus equipment

Personnel: Brief and prepare teams for mother (ED – doctor/nurse, outside ED – midwife) and baby (ED – Doctor/ nurse, +/-paediatrician)

- 2.

Establish IV access

Ensure singleton pregnancy – if not known from antenatal USS, palpate abdomen to exclude second fetus

Administer oxytocic agent – IM oxytocin 10mg or ergometrin 250mcg

Uterine massage

Apply gentle cord traction (down and back) whilst supporting uterus with other hand

Inspect delivered placenta for completeness to exclude RPOC

- 3.

Newborn Heart Rate	Management
<60/min	Start Compressions (3) to ventilations (1)
60-100/min	Ventilate with PPV (PEEP)
>100/min	No immediate action required; assess other components (tone, response)

Question 9 (12 marks)

A 34-year-old primigravida female, presents to your ED at 34/40 gestation. She has been having regular painful contractions for the past hour, occurring at 3-minute intervals. She reports ruptured membranes about 30 minutes ago and is feeling the need to push.

Your hospital does NOT have an obstetric or neonatal service. The nearest tertiary centre is 220 km away.

a). Complete the table below listing three (3) medications and three (3) pieces of equipment you will prepare to manage this patient in your ED. (6 marks)

Medications	Equipment
Oxytocin 10 Units IMI	Delivery pack with cord clamps
Betamethasone 11.4mg IMI OR Dexamethasone 10mg IV	Neonatal resuscitaire with Neopuff or similar positive pressure ventilation device
Tocolytic agents: Salbutamol nebs 5mg or IV infusion Nifedipine oral 20mg q30 minutely (up to total of 3 doses) OR Also accept Antibiotics, given PPRM Ampicillin 2g & Gentamycin 5mg/kg IV	Ultrasound to check fetal HR and position Towels, Suction etc.

A male infant is born shortly after arrival with an uneventful delivery. At 1 minute, his APGAR score is 6.

APGAR SCORE	
Appearance	Peripheral cyanosis only
Pulse rate	> 100
Reflex irritability	Grimace, weak cry when stimulated
Tone	Some flexion
Respiration	Slow irregular breathing

b). List 6 measures that will need to be instituted in the immediate post-delivery period for this neonate. (6 marks)

Dry and stimulate the infant
Warming (radiant heat +/- wrap in polyethylene bag)

Positive pressure ventilator support with Neopuff (or similar device) using room air
Maintain open airway
Suctioning secretions from oropharynx
Check BSL early and replace glucose if BSL < 3.0
Antibiotics – Ampicillin 50mg/kg and Gentamycin 5mg/kg IV (as most likely cause for preterm labour is infection)
Vitamin K

question 10 (16 marks)

Passmark = 11/16

Question 10 **1. Apart from pre-term labour, list 5 other differential diagnoses that needs to be considered in this patient. (5 marks)**

- Placental abruption
- Acute appendicitis
- Ovarian pathology - Cyst rupture, Torsion
- Cystitis/Urinary tract infection/Pyelonephritis
- Renal Colic
- Braxton Hicks contractions
- HELLP syndrome
- Round ligament pain
- Acute Gastroenteritis

2. List 6 risk factors that would increase her risk of pre-term labour with this pregnancy? (6 marks)

- Uterine abnormalities - Fibroids, Bicornuate uterus
- Cervical abnormalities - Cervical incompetence, Short cervix
- Premature rupture of membranes
- Infection - Significant infection from any source - Chorioamnionitis, UTI
- Antepartum haemorrhage
- Polyhydramnios
- Smoker
- Stimulant use
- Low socioeconomic status
- Ethnicity - African, Asian, Indigenous

3. You have diagnosed pre-term labour as a cause for this patient's pain. List 5 key steps in the management of this patient. (5 marks)

- Analgesia
- Continuous fetal monitoring - indicated if gestation >25/40
- Tocolytics - effective in delaying delivery by 24-48 hours in 80% of cases
 - NSAIDS - Indomethacin, Ketorolac
 - Salbutamol infusion 10mg/1L NaCl 0.9% - 10mls/hr
 - Nifedipine 20mg TDS PO
 - GTN
 - MgSO4
- Glucocorticoids - fetal lung maturity
 - Betamethasone 11.4mg IM x2 doses
- Prepare for delivery/Notify relevant specialties
- Transfer to/Admit under OBGYN

QUESTION 11

i) 3 marks:

1. Call for help – ‘O&G, paed’s’, either/or (**MUST SAY CALL FOR HELP)
2. Place patient in resus bed
3. Urgent assessment of patient (gather information, examination, USS)
4. Analgesia (Judicious)
5. Prepare for delivery - PPE, trolley, resus equipment

ii) 3 marks

Prematurity

- Uterine malformations
- Fibroids
- Polyhydramnios
- Placenta Praevia
- Foetal abnormalities
- Multiple gestations

iii) 2 marks

- Dry the baby - Provides stimulation to the baby to initiate respiratory effort
- Provide warmth to the baby
- Suction the baby’s mouth under direct vision, especially for meconium
- Provide positive pressure ventilation – avoid high concentrations of O₂ if possible
- Commence CPR if HR remains below 60

iv) 8 marks

Equipment Category	CANDIDATE SELECTION (2 marks per box)
Mother and Foetus – delivery	Episiotomy - LA, Scissors, cord clamps
Neonate resuscitation - General	• Firm, horizontal, padded resuscitation surface • Overhead warmer • Light for the area • Clock with timer in seconds • Warmed towels or similar covering • Polyethylene bag or sheet, big enough for a baby less than 1500g birth weight • Stethoscope, neonatal size preferred • Pulse oximeter plus neonatal probe
NEONATAL RESUS A Equipment for airway management	• Suction apparatus and suction catheters (6F, 8F, and either 10F or 12F) • Oropharyngeal airways (sizes 0 and 00) Intubation equipment: - o Laryngoscopes with infant blades (00, 0, 1) - o Spare bulbs, and batteries - o Endotracheal tubes (sizes 2.5, 3, 3.5, and 4 mm ID, uncuffed, no eye) - o Endotracheal stylet or introducer - o Supplies for fixing endotracheal tubes (e.g. scissors, tape) • End-tidal carbon dioxide detector (to confirm intubation) • Meconium suction device (to apply suction directly to endotracheal tube) • Magill forceps, neonatal size (optional) • Laryngeal Mask airway, size 1

NEONATAL RESUS B Equipment for supporting breathing	• Face masks (range of sizes suitable for premature and term infants) • Positive-pressure ventilation device, either: o T-piece device, or; o Flow-inflating bag with a pressure safety valve and manometer; and o Self-inflating bag (approximately 240 ml) with a removable oxygen reservoir • Medical gases: o Source of medical oxygen (reticulated and/or cylinder, allowing flow rate of up to 10 L/min) with flow meter and tubing o Source of medical air plus air/oxygen blender • Feeding tubes for gastric decompression (e.g. size 6 & 8F)
NEONATAL RESUS C Equipment for supporting the circulation	• Umbilical venous catheter (UVC) kit (including UVC size 5F) • Peripheral IV cannulation kit • Skin preparation solution suitable for newborn skin • Tapes/devices to secure UVC/IV cannula • Syringes and needles (assorted sizes) • Intraosseous needles
Drugs and fluids	oxytocinon/syntocin IM/IV • Adrenaline (epinephrine): 1:10 000 concentration (0.1 mg/mL) • Volume expanders · Dextrose • Normal saline

Question 12 : Double Question (Part 1)

1- Outline 4 key features of your assessment of this patient in the ED. (4 marks)

Vital signs
Abdominal examination – looking for fetal lie & engagement
Sterile speculum examination – looking for degree of cervical dilatation, PV bleeding or amniotic fluid leak
Bedside USS to confirm fetal HR & lie

2-List 4 medications (including doses) that you would consider giving to this patient in your ED. (4 marks)

Betamethasone 11.4mg IM
Salbutamol 5mg neb
Nifedipine 20mg orally x 3 in first hour
Mg sulphate 2mg (up to 6mg) IV
Analgesia – nitrous oxide

3- List 4 contraindications that would prevent you transporting this patient to the nearest obstetric centre. (4 marks)

Active labour with > 5cm cervical dilatation or fetal parts on view
Absent fetal HR/bradycardia
Haemodynamic instability of mother
Unable to provide safe escort with appropriately skilled staff
Cord prolapse

SAQ: - Double Question (Part 2)

1-What features on assessment would suggest the need for immediate resuscitation of this neonate? (5 marks)

(APGAR components)
Poor tone
Lack of response to stimulation
HR < 100/min

Respiratory distress or lack of spontaneous respirations

Poor colour (persistently cyanosed check with pulse ox, pallor might indicate acidosis, hypotension from poor CO or anaemia)

2- Complete the following table stating how the resuscitation requirements are different for a neonate in comparison to a child for the given parameters?

(5 marks)

Oxygenation	Room air initially then add 100% O2 for neonates that fail to respond to PPV
Ventilation	PPV with 5-8cm H2O via t-piece
CPR – trigger to initiate	HR < 60/min after 60 secs of effective PPV
CPR – rate of compressions	90 compressions/min
CPR – ratio	3:1 ratio of compressions:breaths

3- Complete the following table stating the appropriate equipment sizes & drug doses that you would use in the resuscitation of this neonate?

(5 marks)

ETT size	Size 2.5-3.5 uncuffed
ETT depth	Weight + 6cm depth of insertion
Vascular access device & size	Umbilical catheter Size 5 IV cannula size 24G
Adrenaline dose	10mcg/kg IV
Fluid type & volume	N/saline 10mL/kg

4. Is there a role for cooling in the post resuscitation cares for this neonate?

(2 marks)

Yes, in those who have hypoxic ischaemic encephalopathy- cooling may reduce the degree of brain injury. Commence within 6hrs after birth, 33-34deg for 72hrs and then rewarm gradually

ARC guidelines, section 13

Question 13 (7/12)

1.

Rupture of membranes – pooling amniotic fluid in vagina or history sudden gush fluid

Regular contractions- progressive intensity

Increasing low back/pelvic pain

Cervical dilatation/shortening

Fetal descent into pelvis

2.

CTG trace showing regular contractions

Ferning of amniotic fluid on microscopy

Vaginal fluid pH >6.5

Fetal Fibronectin level

3.

Tocolytics: Nifedipine PO 20mg /terbutaline s/c 0.25mg

Steroids: betamethasone IM 11.4mg

Antibiotics – Amp/Gent/Flagyl

Neuroprotection: MgSO4 4gm over 20min

Transfer to obstetric centre

Question 14 (13 marks)

Other than preterm labour, name one other obstetric condition that requires consideration (1 mark)

Placental abruption (concealed)

Name one investigation that can exclude the diagnosis of preterm labour. Explain the principle of its use (2 marks)

Fetal fibronectin

Vaginal swab, if FFN not detected, labour very unlikely in next 1-2 weeks

NPV > 99% (thus highly sensitive)

A cardiotocograph is performed (above), please interpret and provide summary (6 marks)

Summary = normal CTG

Baseline rate ~140bpm = normal

Normal variability ~15bpm

Accelerations present

No decelerations

Contractions present 3 every 10min

Outline the management of preterm labour in this woman (4 marks)

Tocolysis: Nifedipine oral 20mg q30min up to 60mg, then QID

Betamethasone 11.4mg IM x2 24hrs apart

IV Antibiotics: Benzylpenicillin 1.2g stat

Neuroprotection: MgSO₄ 4g over 30min, then 1g/hr infusion

Disposition = Retrieval to obstetric / paediatric facility

Candidate Name: _____

Question 15 (8 marks)

What is the diagnosis and viability of the pregnancy? (2 marks)

Non-viable

Missed Miscarriage / Anembryonic pregnancy / Blighted ovum

What are the 3 management options for this condition? (3 marks)

Expectant Mx

Medical Mx – misoprostol 800mg PV

Surgical Mx – suction evacuation

Regarding surgical management, name 2 absolute indications for its use (2 marks)

Severe bleeding / haemorrhagic shock

Septic miscarriage

The patient requires Rh immunoglobulin, what is the dose and route of this medication? (1 mark)

250iu IM

Candidate Name: _____

SAQ 16 (21 Marks)

Questions:

1. List 8 differential diagnoses for post-partum fevers. (8 marks)

Factors that increase risk of thromboembolism

Mastitis/Breast abscess
Perineal wound infection
C/section wound infection
Endometritis/Retained placenta
UTI/Pyelonephritis
Pneumonia
CNS infection – meningitis/encephalitis/spinal abscess
Toxic shock syndrome (Group A Strep)
Septic pelvic thrombosis (rare)
DVT/PE

2. List 4 key details of the recent delivery that you would seek in this patient & state the significance. (8 marks)

Key Details of Delivery	Significance
Mode of delivery (SCD vs C/section)	SVD increased risk of retained placenta
Use of epidural or spinal	Increased risk of CNS infection
Episiotomy or perineal tears	Increased chance of perineal wound infection
IDC insertion during labour	Increased risk of UTI
Prolonged rupture of membranes	Increased risk of endometritis
IV lines during labour	Increased risk of infection at site

3. Her vital signs further deteriorate whilst in the ED.

Temp 39C
HR 130
BP 75/45
RR 20
O2 sats 98% 2L/min NP
GCS 15/15

- List 5 key management priorities of this patient in the ED. (5 marks)

Factors that increase risk of thromboembolism

Early broad spectrum antibiotic cover within 1 hour. (Piptaz & Clindamycin)
Support circulation – N/saline 20mL/kg bolus and repeat if required to titrate to MAP > 60-65
Early use of inotropes if fails to respond to fluid therapy – Noradrenaline infusion 0.1mcg/kg/min titrated to MAP > 60-65
Seek & treat source of sepsis (eg USS for retained products, drainage of abscess)
Referral for ongoing management in ICU

Pass mark: 12/21

QUESTION 17 (16 marks)

A 40-year-old female who is Day 3 post-partum has been brought in following increasing confusion and agitation at home. In the ambulance she had a generalised tonic-clonic seizure which stopped with 5mg IMI midazolam.

When you arrive she is being nursed on a bed in the Resuscitation Room.

On examination:

Airway: snoring / partly obstructed

RR 40, O2 saturations 95%

HR 130, BP 180/100

Decreased LOC – drowsy, post-ictal, GCS 9

- i. Apart from eclampsia, list the causes of seizure you would consider in this patient (4 marks)

- **Cerebral venous sinus thrombosis**
- **Meningoencephalitis** e.g. post-epidural
- Primary epilepsy
- Hypoxia e.g. due to pulmonary embolus
- TTP
- Plus at least one not directly related to pregnancy / delivery: e.g., hypoglycaemia, toxic ingestion, structural intracranial e.g. bleed, ICH/SAH

ii. List 3 risk factors for pre-eclampsia/eclampsia (3 marks)

- Nulliparity
- Family history of preeclampsia, previous preeclampsia and eclampsia
- Poor outcome of previous pregnancy, including intrauterine growth retardation, abruptio placentae, or fetal death
- Multifetal gestations, hydatid mole, fetal hydrops, primigravida
- Teen pregnancy
- Primigravida
- Patient older than 35 years
- Lower socioeconomic status

iii. What examination features would increase your level of suspicion that this seizure is eclamptic in origin? (3 marks)

- Hypertension
- Peripheral oedema
- Hyper-reflexia → Clonus

- iv. Outline your initial management in each category below. Include drugs/dose/route (where appropriate) that you would administer (6 marks)

Category	Management
General management & resuscitation	• Form a team and assign roles • Address ABCs esp airway: simple adjuncts initially eg suction, NPA and lie on side ○ Breathing: high flow O2 and nasal CO2 monitor ○ Circulation: IV/IO access and send bloods / bedside BSL • Stop the fit Midazolam IV/IO/IM 5mg – other drugs – see below • Seek and treat a cause from the list above, esp eclampsia • Get help: ○ Obstetrics, renal / neurology, ICU
Pharmacotherapy of eclampsia/pre-eclampsia	• Midazolam 5mg IV/IO/IMI • Magnesium sulphate: officially 4G IV over 30 mins, but it comes in 10mmol amps. Closest is 20mmol (=5G). Safe enough to give over 20 mins provided you dilute it and watch the BP. Followed by IV infusion • Hydralazine: 5mg IV over 10 mins, can repeat

SAQ 18 Pregnancy – Massive Post Partum Haemorrhage [Management, massive transfusion, ROTEM]

33 year old female, G2P2 has been transferred from home by local ambulance services after a planned home birth of her second child at 41+5/40. The labour was prolonged, however, a healthy baby delivered by the midwife. It is nearly 3 hours after delivery of the baby, and the placenta has yet to be delivered. The midwife was concerned and convinced the patient to be transferred to the emergency department.

1. List the four most common causes of post partum haemorrhage in this patient:

- i. Uterine Atony
- ii. Retained placenta / placental fragments
- iii. Trauma (uterine rupture/laceration; lower genital tract laceration)
- iv. coagulopathy (hereditary or consumptive)

On arrival to the resus room it is noticed she is extremely pale and diaphoretic, there is a large amount of blood on the sheets. Her first observations are as follows:

Respiratory Rate 28 breaths per minute

SpO₂ 95% on 6L via Hudson mask

HR 146 beats per minute

BP 68/52 mmHg

E3V4M5 = 12/15

2. What are your management priorities and why (14 marks):

- i. establish definitive large bore IV access for fluid resuscitation → evidence of hypovolemic shock (hypotension, tachycardia)
- ii. early specialist, multi-disciplinary referral (gyne/obstetrics, theatres, gen surgery) → recognition of life threatening bleeding requiring definitive treatment
- iii. massive transfusion protocol → recognise hemorrhagic shock and need for potential large volume blood product quickly
- iv. attempt to deliver placenta → physically stop haemorrhage
- v. oxytocin 10-40mg → pharmacological stimulation for uterine atony
- vi. coagulation studies / ROTEM → titration of appropriate blood product for coagulopathy associated with massive haemorrhage and loss of endogenous clotting factors

3. What secondary treatments may be instituted, list five (5) (5marks):

- i. Ergometrine 200mcg IMI
- ii. Recombinant activated factor VII

- iii. Tranexamic acid (1g over 10mins)
- iv. Uterine compression / massage
- v. Balloon tamponade into uterine cavity
- vi. Interventional radiology for uterine artery embolization
- vii. Abdominal hysterectomy

SAQ 19

12 Marks

A 32 year old woman presents to the emergency department after giving birth in the car on the way to the hospital. She is G5P5 at 38 weeks gestation. The pregnancy was complicated by gestational diabetes that was managed by diet. Her most recent ultrasound showed a foetus that was large for gestational age. At arrival, she is pale and has persistent, brisk vaginal bleeding. Her vital signs are

BP	95/52 mmHg
Pulse	106 bpm
RR	18 /min
SpO ₂	98 % in room air
Temp	37.0 °C
GCS	15

1. What are the two most likely causes of post-partum haemorrhage in this patient? (2 Marks)

Uterine Atony

Retained tissue

Pass 2/2

2. Describe your management of the third stage of labour. (2 Marks)

Look for signs of placental separation - lengthening cord, gush of blood, fundus globular

Gentle traction backward and downward while supporting the uterus with one hand placed suprapubic

Pass 1/2

3. List 4 non-pharmacological and 4 pharmacological measures that could be used to control haemorrhage, in order of escalation. (8 Marks)

Non-Pharmacological	Pharmacological
Deliver the placenta	Oxytocin 5 units IV then 10units per hour
Fundal rub	Ergometrine 250mcg IM
Empty bladder	Misoprostol 800-1000mcg PR once
Bimanual uterine compression	Intramyometrial prostaglandin F2 500mcg alloquats up to 2grams
Surgical exploration of uterine cavity	
Uterine tamponade balloon	Tranexamic acid 1gram IV - anytime in escalation
Uterine artery ligation	
Hysterectomy	

MARKING SHEET Q 20

Cause Retained products of conception / placenta

Examination incomplete placenta, non-contracted uterus

Management OT for manual removal, oxytocin

Cause uterine atony

Examination non-contracted uterus

Management uterine massage, oxytocin, empty bladder

Cause trauma – vaginal/cervical laceration

Examination direct inspection / speculum examination shows laceration

Management surgical correction

Cause uterine rupture

Examination severe abdominal tenderness

Management surgical correction in OT

Cause uterine inversion

Examination visual inspection of perineum shows inverted uterus, fundus too low

Management uterine re-location - OT

Cause coagulopathy

Examination no other cause obvious, blood not clotting

Management correct coagulopathy with blood products

PASS 12/18 corrects to **6.5/10**

Question 21 :

A 30 yr old female who is 30 weeks pregnant, presents to the ED with PV bleeding for the previous 6 hours. It is her second pregnancy. Her observations are pulse 110 bpm, BP 100/50mmHg, and RR 24.

(1) What are the 2 common causes of vaginal bleeding in later pregnancy ? (1 marks)

- (i) Placenta praevia
- (ii) Placental abruption

(2) Give four clinical features which would help distinguish between the two causes you gave above (4 marks)

Placenta praevia : painless, non-tender uterus, no signs of foetal distress, shock in proportion to PV loss

Placental abruption: constant pelvic pain, tense tender uterus on exam, foetal distress, shock out of proportion to PV loss (bleeding is intrauterine).

(3) What examination must be avoided and why ? (1 mark)

Digital vaginal exam should be avoided as if placenta praevia is present then it may promote more bleeding.

(4) Give 4 important early management steps in the ED (4 marks).

- (i) 2 large bore IV cannulae, fluid resuscitation
- (ii) High flow oxygen
- (iii) Cross match 6 units, transfuse as necessary
- (iv) Urgent o&g consultation
- (v) Bloods for FBC, coags, G&H, UEC
- (vi) CTG monitoring of foetus

SAQ 22 Long Question (31 marks)

Questions:

1. List 6 steps in your preparation for this patient's arrival. (6 marks)

Two teams – mother & baby

Immediate call to O&G & Paediatrics

Ensure management of the rest of the department.

Prepare equipment for:

Maternal resuscitation (Airway trolley, Drugs, Wedge for L lateral position)

Neonatal resuscitation (Resuscitaire neonatal trolley, airway equipment, drugs)

Peri-mortem C section kit

Alert theatres, pathology (blood bank), radiology/ultrasonographer +/- ECHO

On arrival, CPR in ongoing. The ambulance crew report that the patient was found collapsed with no pulse. Husband commenced CPR & ambulance arrived within 10 minutes. Initial rhythm was VF with a single shock required for ROSC. Two further unsuccessful attempts at DCCV occurred enroute for recurrent VF but the current rhythm is asystole.

2. What are the key steps in the ongoing management of this patient in the ED, list five (5)? (5 marks)

Continue CPR ratio 15:2 at 100 beats/min

Provide oxygenation via BVM 15L/min, consider LMA or intubation

Adrenaline 1mg every 2nd cycle

Prepare for peri-mortem C/section (or resuscitative hysterotomy)

Seek and treat reversible causes

(As per ALS algorithm for asystole)

3. What are the indications for a resuscitative hysterotomy in the ED? (3 marks)

Maternal cardiac arrest

Indications: within 15 minutes of arrest (or detectable FHR if longer downtime)

Uterus palpable above umbilicus or known gestational age >20-24weeks

4. Briefly describe how a resuscitative hysterotomy is performed. (7 marks)

Prep skin with iodine (if time permitting).

Vertical incision from pubis to umbilicus.

Clip to peritoneum, use scissors to open peritoneum, from pubis to umbilicus.

Vertical incision in uterus (large), try to avoid the bladder.

Delivery of baby:

Place your hand through the incision into the uterine cavity.

Deliver baby's head

May require pressure on uterine fundus.

Clamp and cut umbilical cord.

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Delivery of placenta:

Scoop it out with your hand.

Ongoing gentle traction on cord.

Given Syntocin 30units

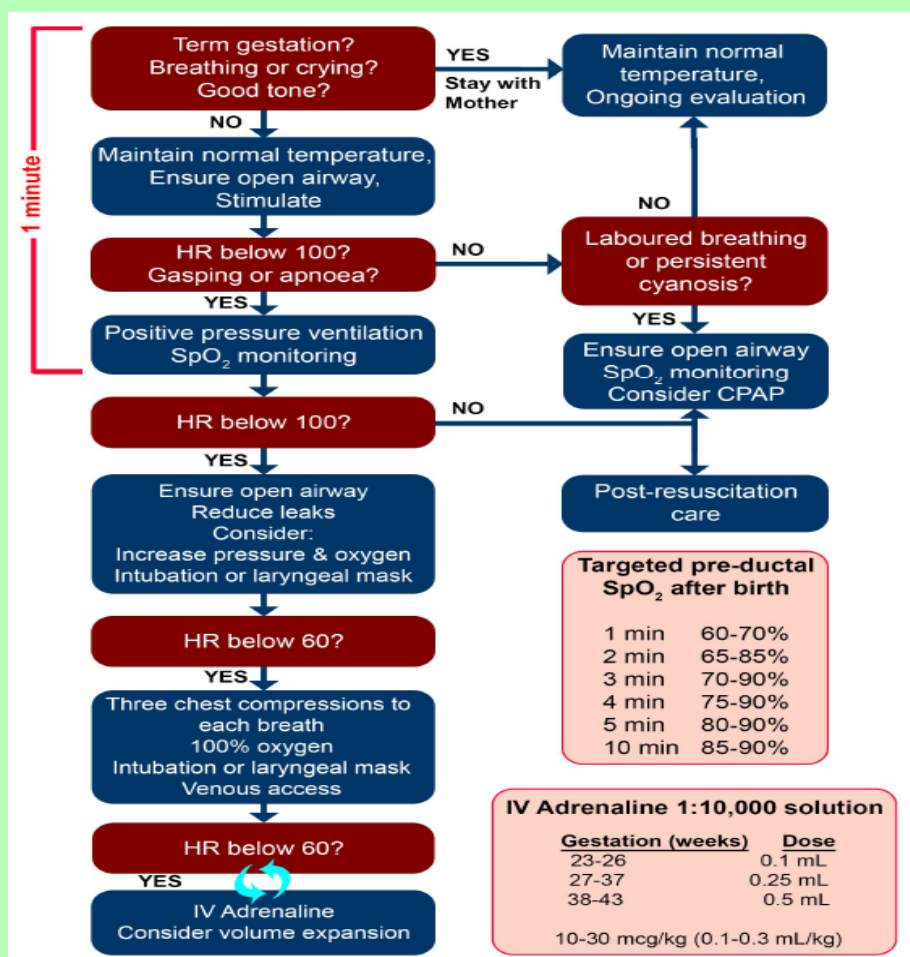
Uterine fundal massage.

Pack uterus (Keep note of number of packs used).

Ref: <http://stemlynblog.org/peri-mortem-c-section-at-st-emlyn/>
<http://www.ncbi.nlm.nih.gov/pubmed/%2021712662>

Following resuscitative hysterotomy, the mother has achieved ROSC almost immediately and is in the care of your obstetric colleagues. On delivery of the infant there are no signs of life. You have been asked to assist with the resuscitation of the neonate.

5. Outline your approach to the resuscitation of the neonate with respect to each of the following areas as listed in the following table.



(10 marks)

2 marks for each box.

Pass mark: 19/31

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SAQ 23 (9 Minutes)
(Total 18 marks)

Candidate name:

Passmark; 12

A 28 yr old female is brought to your emergency department following a collapse in the street. She is pale, diaphoretic and complaining of abdominal pain.

1. List the top three differentials for her presentation. (3 Marks)

Pregnancy related complication- ectopic
Intraabdominal sepsis- appendicitis, pyelonephritis
Gynaecological – ovarian torsion, DUB

2. On review her vital signs are:

GCS 15/15
HR 110
BP 90/60
sats 100% RA
RR 22

She is tender in her left iliac fossa with peritonism.

- List the investigations that should be performed immediately: (3 Marks)

Pregnancy test- bedside on urine/blood
X-match
Bedside USS for free intraperitoneal fluid
Other lab investigations- FBE, Chem20, VBG

3. You perform a bedside USS. List and interpret the main findings shown.

(3 Marks)

Free fluid in Morrisons space (Hypo echoic)
Free fluid in Splenorenal angle (Hypo echoic)

Interpretation:

Intraabdominal free fluid in young female of reproductive age. Likely ectopic pregnancy, confirm with bHCG
--

4. Outline 4 management priorities:

(4 Marks)

Urgent O&G involvement for surgical management
Haemostatic resuscitation/large bore iv access
Analgesia/symptomatic management
Provision of psychological support to patient/family
Anti-D if Rh negative

5. You have been tasked by your director to outline a local guideline for the use of bedside ultrasound in early pregnancy. What inclusion/exclusion criteria will be included.

(3 Marks, 0.5 for each box)

Inclusion	Exclusion
Known IUP	Pregnancy of unknown location
8-14/40 gestation	<6-8/40
HD stable	HD unstable

6. Outline the preferred technique for fetal wellbeing assessment using POCUS in the <14/40 population: (2 Mark)

Fetal heart rate assessment in <14/40:
M mode preferred as PWD likely to cause thermal injury to fetus from heating of tissues

SAQ 24: (6 minutes)
(Total marks 12)

Passmark: 8/12

You are the ED consultant on duty in an urban district hospital with obstetric and paediatric services available.

A 29 year old pregnant female who is 32 weeks pregnant (G1 P0) presents to your department with a 2 day history of headache, blurry vision, lethargy and upper abdominal pain.

She has so far had an uncomplicated pregnancy and has been receiving antenatal care in your hospital.

The patient's vital signs on arrival are as follows

HR 105 per minute

BP 150 / 95 mmHg

RR 20 per minute

Oxygen Sats 97% on room air

One of your registrars has already picked up the patient and arranged for some bloods and the patient's early blood results are as follow:

Parameter	Patient Value	Normal Adult Value
Hb	76 G/L	(115 – 160)
Platelets	65 x 10 ⁹ / L	(140 – 400)
INR	2.1	(0.9 – 1.3)
APTT	62 seconds	(25 -38)
LDH	704 U/L	(110 – 250)
Total Bilirubin	58 micromol/L	(< 20)
Urea	28 mmol/L	(3 – 8)
Creatinine	324 micromol/L	(70 – 120)
Potassium	5.0 mmol/L	(3.2 – 4.5)

I. List four (4) most likely differential diagnoses.

(4 Marks)

Model answers:

- Pre-eclampsia
- HELLP Syndrome
- Sepsis with DIC
- HUS – TTP

- Acute fatty liver of pregnancy

II. List four (4) more investigations you think are warranted for this patient and state the clinical reasoning. (4 marks)

Model Answer

Investigation (0.5 mark for each)	Clinical Reasoning (0.5 Mark for each)
Urinalysis	Proteinuria, WBC, WCC, Casts
Full set LFTs	Assessment of HELLP syndrome
Peripheral Blood Smear	Evidence of haemolysis
Haemolysis Screen	Reticulocyte Count, Haptoglobins, Conjugated / Unconjugated Bilirubin for causes of haemolysis and anaemia
Full Septic Screen	Sepsis as potential cause for DIC: Blood cultures / Urine mcs / Sputum / Vaginal swabs
USS Liver	Seeking haematoma / rupture

After you have reviewed the blood results with your registrar you head promptly to review the patient and to inform her of the blood results.

As you enter the cubicle the patient has a witnessed generalised tonic clonic seizure. The patient is moved to resus cubicle for full non-invasive monitoring during this process:

III. List four (4) immediate clinical response to this situation. (4 Marks)

Model answers:

Prevent maternal hypoxia, left lateral position to prevent aortocaval compression + O₂ as required to maintain sats > 92%

Seizure termination: MgSO₄ 4g over 5 minutes followed by infusion 1g/hr for 24 hours.

Management of maternal hypertension

- Hydralazine 10 – 20 mg IV slowly
- Beta blockers: Labetolol 5 – 10 mg IV slowly (also accept metoprolol, esomolol)
- GTN / SNP also accepted

Escalation for prompt delivery of baby: Urgent obstetric attendance and arrangement for prompt delivery.

Steroid therapy for fetal lung maturation: Betamethasone 12mg IM

- References: Tintinalli 7th Edition: Chapter 104 Emergencies after 20 weeks of pregnancy and postpartum period, Page 696 - 698

SAQ 25:

Answers:

1. List 5 key differential diagnoses for this patient (5 marks)3/5

- Pre-eclampsia
- Hypertension in pregnancy
- Migraine
- SAH
- CVA
- Meningo-encephalitis
- Tension headache

2. List and justify the key elements of your early ED assessment of this patient. (14 marks) 10/14

Examination	Justification
Reflexes	Presence of clonus
Neurological exam	Focal deficit
Investigation	Justification
FBC	Low platelets (HELLP), haemolysis
ELFTs	HELLP, elevated creatinine
WTU	Proteinuria
Uric acid	Elevated in pre-eclampsia
CT brain	If features of SAH or focal deficit
CTG monitoring	Foetal well-being

Shortly after you begin seeing her, she has a generalised tonic-clonic seizure.

3. List and justify your immediate emergency department management priorities (excluding investigations) for this patient. Include doses where appropriate (10 marks)8/10

(accept 5 of the following 6...)

Management	Justification
Airway control	Prevention of hypoxia, prevent aspiration
Magnesium sulphate 4-6g over 20min, 1g/h infusion	Seizure termination
Midazolam 2.5mg boluses	Seizure termination
Hydralazine 5-10mg IV	BP control
Early O+G input	Facilitate emergent delivery
Assessment of foetal well-being	Ensure ongoing viability, detect fetal distress

Passmark: 21/29 Adjust to ../10 please

Q26 9/13

1

Hypertension >140/or >90mmHg

RUQ tenderness

Papilloedema

Hyper-reflexia

Peripheral oedema

2

Raised uric acid

Acute renal failure

Haemolysis – low HB, raised LDH

Raised LFTs

Low platelets

Proteinuria

3

Terminate seizure midazolam IV 2.5 – 5mg

Left lateral position

IV MgSO4 20mmol infusion

Urgent Obstetric attendance for delivery

BP management – eg hydralazine 5mg IV boluses

SAQ 27 Answers

1.

Hypertension >140/90 mmHg or rise >30/15 mmHg from baseline

Significant peripheral oedema

Hyper-reflexia

Tender hepatomegaly

Papilloedema

2.

Urate – elevated

Urea/creat – acute renal failure

Platelets – low in HELLP

LFTS – raised in HELLP

Coags – DIC

CTG monitoring – all patients to determine fetal distress / viability

Hb – low in haemolysis in HELLP

Urine protein

3.

Seizure management – O2, positioning etc

Magnesium 20mmol slow push then 5mmol/hr – end point hypo-reflexia

Seizure termination with midazolam/diazepam 2.5 – 5mg

BP management – Mg as above – then other – hydralazine 5-10mg IV, aim BP <140/90

Arrange Obstetric review for delivery

QUESTION 28 (12 marks)

A 32 year old female G1P0 at 30 weeks gestation presents to ED with constant epigastric pain and headache.

Vital signs GCS 14
 P 100 bpm
 BP 170/100 mmHg
 Temp 36.8 deg C

i. List your differential diagnosis (4 marks)

- Pre-eclampsia
- Pancreatitis
- Acute cholecystitis
- Gastritis
- Others

ii. She then has a generalised seizure. List your treatment priorities (5 marks)

- Urgent O&G attendance
- Ensure airway patency/O₂
- Left lateral/wedge
- IV access
- Seizure control – Midazolam 2.5 mg IV stat, repeat in 5 minutes if required and MgSO₄: 4g IV over 10 minutes then 1g/hr infusion
- Seek and treat hypoglycaemia

Candidate number _____

- BP control: Hydralazine 5-10mg IV over 10 minutes – repeat in 20min or Labetalol 10-20mg IV over 5 minutes q 5min
- Steroids: Betamethasone (2 doses) 12mg IM, 24 hours apart

iii. Name the labelled parts of the CTG (3 marks)

A CTG IS SHOWN IN THE PROPS BOOKLET, PAGE 8

A

B

C

- A Baseline heart rate – 138
- B Late deceleration
- C Uterine contraction

QUESTION 29 (14 marks)

A 26 year old primigravida presents at 36 weeks gestation with jaundice, blurred vision and hypertension (180/100 mmHg). The antenatal period was otherwise unremarkable. The following are her blood results:

Hb	80g/L	(115 – 160)
Platelets	52 x 10 ⁹ /L	(140 – 400)
INR	1.8	(0.9 – 1.3)
APTT	55 seconds	(25 – 38)
LDH	654 U/L	(110 – 250)
Fibrinogen	1.0 G/L	(1.5 – 4.0)
Total bilirubin	51 micromol/L	(< 20)

- i. List the four most likely diagnoses for this clinical presentation (4 marks)

- **Pre-eclampsia**
- **HELLP Syndrome**
- HUS – TTP
- Biliary disease
- Acute fatty liver of pregnancy

- ii. Outline 4 priorities in your management (4 marks)

- IV access and resus
- Contact O&G, anaesthetics, paediatrics – may require immediate delivery of baby
- Treat hypertension – IV hydralazine 5mg every 5 - 10 minutes, aim SBP <150, DBP <105
- Prevention of seizures – MgSO₄ 4g IV
- Consider correction coagulopathy

iii. She starts to have a generalised seizure. List 2 medications with doses that you might administer (2 marks)

- 4g Magnesium followed by 1g/hour magnesium infusion, Mg can be repeated every 5 minutes 2g
- BZD – midazolam 5mg IV, not first line

iv. List the findings on a cardiotocograph (CTG) trace that would indicate foetal distress (4 marks)

CTG Feature	Non-reassuring or Abnormal values
Baseline rate	
Decelerations	

- Normal baseline is 100-160. 161-180 is “non-reassuring” Above 180 or below 100 is bad
- Normal trace has no decelerations or only early decelerations. Abnormal decelerations are variable or late (after contractions) and take longer to recover

SAQ 30

Long question 18 Marks

You are in charge at the emergency department of a tertiary centre when the ambulance service notifies you of the imminent arrival of a 28yr old female who is 30 weeks pregnant who has been involved in a motor vehicle collision.

You are informed that her vital signs are:

GCS 15 (E4,V5,M6)

HR 120

BP 100/80

O2 sats 95% RA

RR 24

Temp 37.

BSL 5.6.

You prepare for her arrival with your trauma team.

1. Complete the table, listing 3 changes to her cardiovascular and 3 changes to her respiratory system in pregnancy and their implication that make interpretation of her vital signs or management challenging (6 marks)

Cardiovascular	Change in pregnancy	Implication
Plasma volume	Increased by 50%	Dilutional anaemia, reduced O2 carrying capacity, signs of shock appear late
Heart rate	Inc 15-20bpm	Inc CPR demands
Uterine blood flow	10% CO	Potential for massive haemorrhage
Respiratory	Change in pregnancy	Implication
RR	Inc	Dec buffering capacity, acidosis more likely
Laryngeal oedema	Inc	Difficult intubation
Upper airway blood supply	Inc	Friable mucosa- inc bleeding and difficult airway visualisation

2. List the relevant specific maternal obstetric history to obtain: (4 marks)

Confirm gestation in weeks and current pregnancy complications
Fetal lie/ placental location
Blood type/Rh status
Previous pregnancy/birth complications

On your primary survey you confirm her vital signs are

HR 120
BP 100/80
RR 24
O2 sats 95%
Afebrile
GCS 15.

She has equal breath sounds, no evidence of a chest injury and her airway is patent with no cervical tenderness. She is warm and well perfused with dual heart sounds. She has a seatbelt mark across her abdomen with tenderness in the left upper quadrant.

3. List 3 diagnostic imaging options of her abdomen and their justification for use: (3 marks)

Imaging modality	Justification
FAST scan	Similar sensitivity in non-pregnant patient, will identify free fluid in the abdomen
Formal USS	Confirm gestational age, solid organ injury, FHR, fetal activity/presentation, placental locations, amniotic fluid volume
CT abdo	Risk of radiation is small compared to delayed diagnosis of trauma, fetal vulnerability most <15 weeks gestation, will define injury and grading

4. She is known to be Rh negative. What is the role for a Kleihauer test? (1 mark)

To confirm the dose of Anti-D required post sensitising event. i.e if she needs more than 625IU (if kleihauer >6ml will need inc dose anti-D)

5. List 4 clinical examination findings you expect if placental abruption occurs: (4 marks)

Abdominal tenderness
Vaginal bleeding
Uterine tenderness/woody feel
Uterine contractions

Also: fetal compromise and maternal haemodynamic instability

Q31 Answers

Q1

DUB – absence of any other cause, age perimenopausal

Cervical cancer – lesion seen on speculum

Trauma – Hx of trauma, laceration on examination

Endometrial cancer - USS showing endometrial mass, bulky uterus on bimanual (accept fibroids for same reasons)

Coagulopathy – Hx coagulopathy, abnormal coags

Hypothyroidism – abnormal TFTs

PID - cervical motion tenderness / purulent dc / recent instrumentation

Q2

Tranexamic acid – 500mg tds

NSAIDs – eg ibuprofen 400mg tds, mefenemic acid

Norethisterone 5mg tds

QUESTION 32 (14 marks)

A 24 year-old multiparous woman who is 36 weeks pregnant presents to triage in labour. She is transferred to the resuscitation room and the nurse tells you the head is on show. The maternity ward is located in a separate building to the ED.

i. Outline 4 of your immediate actions (4 marks)

- Prepare for delivery in ED
- Prepare neonatal resuscitaire
- Prepare team and allocate roles (delivery, baby, mother)
- Call for help (midwife, O&G, paed, SW)
- Prepare and check neonatal equipment (suction, BVM)
- Prepare drugs, IVC (syntocinon)

The baby is delivered within minutes. The cord is clamped and cut.

ii. Outline 3 features of your routine initial management of the newborn infant (3 marks)

- Temperature control (warm, rub, dry)
- Airway (anticipate cry, stimulate if required)
- Breathing/Circulation
- APGAR

The cord has been clamped and cut and the placenta is still in-situ. The midwife is yet to arrive.

iii. Describe 3 principles of management of the third stage of this labour (3 marks)

- Check no twin
- Administer syntocinon 10 units IV
- Deliver placenta (controlled cord traction, inspect for completeness)
- Uterine massage
- Observe for PV loss
- Examine perineum for tears

The placenta is delivered. It appears incomplete and the patient has very heavy PV bleeding.

iv. List 4 of your immediate actions (4 marks)

- Ensure O&G assistance/presence
- Uterine massage
- Resuscitate (IV access, transfusion – possible MTP)
- IDC and empty bladder
- Visual inspection (check for trauma/uterine inversion)
- Further oxytocic (syntocinon, ergometrine)
- Bimanual uterine compression

QUESTION 33 (13 marks)

You are at a peripheral hospital with no maternity facilities when a 16 year old obese girl presents in the second stage of labour. Up until this presentation she was unaware that she was pregnant.

- i. List 5 steps you would take to prepare for her deliver (5 marks)

- Any 5 of the below
- Resuscitation room, get help, staff with midwifery/obstetric experience, 2 teams mother and baby,
- Baby resuscitation equipment and staff, resuscitaire, heater, blankets, bag valve mask-on air, dose of adrenaline, correct sized airway, breathing equipment. Umbilical line
- Mother - monitoring, delivery pack, pain relief, iv access bloods, syntocinon for post-delivery, ultrasound to exclude multiple birth?

Within minutes of arrival the baby's head is delivered. However, on the next contraction you are unable to deliver the shoulders despite gentle axial traction.

- ii. Name this condition and in what period of time should the baby be delivered to avoid serious foetal hypoxia (2 marks)

- Shoulder dystocia
- 5 minutes (<10)

iii. Describe 3 manoeuvres that may enable the safe delivery of the child (6 marks)

- Answer any 3 of the following
- MacRobert's manoeuvre - Lie mother flat 2 staff members flex and abduct the hips until the thighs are on the abdomen (opens up and straightens the birth canal)
- Suprapubic pressure; to adduct the foetus' shoulder and thus narrow the width and to rotate the shoulders into the oblique axis (assistant presses from the foetus back in a downward and lateral manner)
- Internal rotation; "vaginal access should be gained posteriorly, into the sacral hollow. The whole hand should be entered posteriorly to perform internal rotation or delivery of the posterior arm. The woman should be brought to the end of the bed, or the end of the bed should be removed, to make vaginal access easier. Delivery can then be facilitated by rotation into an oblique diameter or when possible by a full 180 degree rotation of the fetal trunk"
- Delivery of the posterior arm: "The fetal wrist should be grasped and the posterior arm should be gently withdrawn from the vagina in a straight line"
- Episiotomy - mainly to allow for getting the hand in
- Putting mother in "all fours" position (on hands and knees)
- Cleidotomy - division of symphysis pubis
- Zavanelli manoeuvre - pushing the head back in and doing a caesarean