**1 – Normal Labour and Admission Management**

**Context : Normal Labour and Admission Management**

**Doctor:** Doctor, I have a woman in labour who just arrived in the delivery suite. What should be my first steps?  
**Chatbot:** Begin with a calm and systematic assessment. Greet the patient, confirm her identity, and assess her general condition—consciousness, colour, breathing, and pain level. Then check vital signs: blood pressure, pulse, temperature, and oxygen saturation.

**Doctor:** What about the obstetric assessment?  
**Chatbot:** Start with a brief focused history—gravidity, parity, gestational age, onset of contractions, rupture of membranes, vaginal bleeding, and any risk factors such as hypertension, diabetes, or previous caesarean section.

**Doctor:** Should I perform an abdominal examination immediately?  
**Chatbot:** Yes. Palpate gently to determine the fundal height, fetal lie, presentation, and position. Assess the strength and frequency of contractions. Then auscultate the fetal heart rate for one full minute immediately after a contraction to detect decelerations.

**Doctor:** When should I perform a vaginal examination?  
**Chatbot:** Only after ensuring membranes are intact and there is no contraindication such as placenta previa. Use aseptic technique. Determine cervical dilation, effacement, station, membrane status, and presenting part. Document the findings carefully.

**Doctor:** Once I complete the assessment, what are the next steps?  
**Chatbot:** Establish an intravenous line with crystalloid fluids, obtain baseline investigations (CBC, blood group, and cross-match if risk factors exist). Record all findings on the partograph and commence continuous monitoring of both mother and fetus.

**Doctor:** How often should I monitor her progress?  
**Chatbot:** In the latent phase, monitor every four hours for progress and maternal vitals. Once in the active phase (cervix ≥4 cm with regular contractions), record progress every 30 minutes for fetal heart, hourly for maternal pulse, and every four hours for temperature and blood pressure. Vaginal examination is repeated every four hours or earlier if there are concerns.

**Doctor:** How do I know if the labour is progressing normally?  
**Chatbot:** On the partograph, the cervical dilation line should remain to the left of the alert line. Descent of the head should correspond with increasing dilation. Contractions should be regular, 3–4 every 10 minutes, each lasting 40–60 seconds, and the fetal heart rate should remain between 110–160 bpm.

**Doctor:** What if progress becomes slow?  
**Chatbot:** Re-evaluate possible causes—inefficient contractions, malposition, or full bladder. Encourage ambulation, hydration, and emptying of the bladder. If contractions are weak, you may start **Oxytocin augmentation** but only after ruling out cephalopelvic disproportion and obtaining senior approval. Always use an infusion pump and continuous fetal monitoring.

**Doctor:** What about pain management during labour?  
**Chatbot:** Pain relief is essential. Begin with non-pharmacologic methods—reassurance, continuous support, relaxation breathing, massage, and frequent position changes. If the patient desires medication, offer **Entonox (nitrous oxide/oxygen mixture)** during contractions, or **opioid analgesia** such as **Pethidine 50–100 mg IM every 4 hours** (avoid if delivery is imminent or in respiratory depression).

**Doctor:** When should I consider epidural analgesia?  
**Chatbot:** Epidural is the most effective form of pain relief in labour. Offer it once the patient is in established labour and there are no contraindications such as coagulopathy, thrombocytopenia (<100,000), infection at the site, or patient refusal. It should be administered only by an anaesthetist under sterile conditions with continuous monitoring.

**Doctor:** How should I monitor after starting an epidural?  
**Chatbot:** Check blood pressure every 5 minutes for the first 15 minutes, then every 15 minutes thereafter. Monitor fetal heart continuously. Watch for hypotension—if it occurs, give 500 ml of warmed crystalloid and consider ephedrine 5–10 mg IV.

**Doctor:** What if labour becomes prolonged despite good contractions?  
**Chatbot:** Evaluate for obstruction or malposition. If the partograph crosses the alert line, inform the senior obstetrician. If it reaches the action line, plan intervention—either augmentation, assisted vaginal delivery, or caesarean section, depending on the case.

**Doctor:** How should I prepare for delivery when she reaches full dilation?  
**Chatbot:** Confirm full dilation, vertex at +2 or lower, intact reflexes, and good contractions. Prepare sterile delivery equipment, neonatal resuscitation area, and necessary medications for the third stage. Inform the midwife, paediatrician, and anaesthetist if high-risk.

**Doctor:** What should I remember for documentation?  
**Chatbot:** Record every observation—maternal vitals, fetal heart rate, contractions, drugs administered, and progress on the partograph. Accurate documentation is essential for both safety and audit purposes.

**Doctor:** When should I call for senior help?  
**Chatbot:** Always call for senior assistance if there are non-reassuring fetal heart patterns, slow progress, maternal complications, or any uncertainty in decision-making. Early escalation saves lives.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Consistent observation, communication, and timely intervention are the key elements of safe labour management.

## ****Section 2 – Postpartum Hemorrhage (PPH)****

## ****Context: Postpartum Hemorrhage (PPH)****

**Doctor:** Doctor, my patient is bleeding heavily after delivery. What should I do first?  
**Chatbot:** This is a case of postpartum hemorrhage. Stay calm and act immediately. Call for help and activate the institutional PPH protocol. Assign clear roles to the team — one member monitors vital signs, another documents events, and a third prepares medications and equipment.

**Doctor:** Who should I inform right away?  
**Chatbot:** Inform the senior obstetrician, anesthetist, and blood bank. Alert the theatre team in case surgical intervention becomes necessary. Communication should be clear and concise: announce “Postpartum hemorrhage — active bleeding, estimated loss >500 ml.”

**Doctor:** What initial actions should I take while help is coming?  
**Chatbot:** Begin uterine massage to stimulate contraction. Insert two large-bore (14–16G) IV cannulas. Draw blood for **CBC, coagulation profile, fibrinogen, and cross-match at least six units of blood**. Start **warm crystalloids** while awaiting blood. Ensure oxygen at 10 L/min via face mask.

**Doctor:** What is the first-line uterotonic I should give?  
**Chatbot:** Administer **Oxytocin 5 IU IV slowly**, followed by an infusion of **40 IU Oxytocin in 500 ml of normal saline** at 125 ml/hour. Avoid giving a bolus faster than 5 IU to prevent hypotension.

**Doctor:** If bleeding continues after Oxytocin, what is next?  
**Chatbot:** Give **Tranexamic Acid 1 gram IV** over 10 minutes, ideally within 3 hours of delivery, to promote clot stability. It may be repeated once after 30 minutes if bleeding continues.

**Doctor:** Suppose the uterus remains atonic despite these measures — what should I do?  
**Chatbot:** Proceed stepwise. Administer **Methylergometrine 0.2 mg IM** if the patient is not hypertensive. If she has hypertension, skip to **Carboprost 250 mcg IM every 15–20 minutes**, up to a maximum of eight doses. Be cautious: avoid Carboprost in asthmatic patients due to risk of bronchospasm.

**Doctor:** And if bleeding persists even after those medications?  
**Chatbot:** Insert a **Bakri balloon** to tamponade the uterus if available. Inflate gradually with 300–500 ml of saline until bleeding slows. Monitor the amount in the drainage bag to detect ongoing loss. If bleeding continues despite the balloon, prepare for surgical intervention.

**Doctor:** When should I decide to go to the operating theatre?  
**Chatbot:** If there is **no improvement within 15 minutes** or if the patient becomes **hemodynamically unstable**, proceed immediately to the operating room. Delay increases mortality. In theatre, start with conservative surgical techniques.

**Doctor:** What surgical options should I consider?  
**Chatbot:** Begin with a **B-Lynch compression suture** if the uterus remains flabby. If bleeding continues, proceed to **uterine artery ligation** or **internal iliac artery ligation** if expertise is available. If all measures fail and the patient’s life is at risk, perform a **subtotal or total hysterectomy**. Always involve the senior obstetrician in this decision.

**Doctor:** What about transfusion and replacement?  
**Chatbot:** Activate the **massive transfusion protocol** if blood loss exceeds 1500 ml. The recommended ratio is 1:1:1 for **packed red blood cells, plasma, and platelets**. Transfuse **cryoprecipitate** if fibrinogen <2 g/L. Maintain **calcium supplementation (10 ml of 10% calcium gluconate per 4 units of blood)** to prevent citrate toxicity.

**Doctor:** What should the anesthetist do during this process?  
**Chatbot:** The anesthetist maintains airway, oxygenation, and hemodynamic stability. They administer fluids, blood products, and vasopressors if required. Continuous communication with anesthesia is essential to guide transfusion and resuscitation.

**Doctor:** What other causes should I consider apart from uterine atony?  
**Chatbot:** Always think of the “**4 Ts**”:

* **Tone** — uterine atony (most common).
* **Tissue** — retained placental tissue or membranes.
* **Trauma** — cervical, vaginal, or perineal tears, or uterine rupture.
* **Thrombin** — coagulopathy or DIC.  
  Inspect the perineum and cervix carefully, and ensure placenta is complete.

**Doctor:** How do I manage trauma-related bleeding?  
**Chatbot:** Identify the tear, visualize it under good light, and repair it in layers using absorbable sutures. If the uterus is ruptured, immediate laparotomy and surgical repair are required.

**Doctor:** What if retained tissue is suspected?  
**Chatbot:** If ultrasound or examination suggests retained placenta, perform **manual removal under anesthesia**. Give prophylactic antibiotics to prevent infection.

**Doctor:** How should I monitor the patient after bleeding is controlled?  
**Chatbot:** Continue close observation. Monitor **vital signs every 15 minutes for the first hour**, then hourly for six hours. Measure **urine output hourly**; maintain at least 0.5 ml/kg/hour. Repeat hemoglobin and coagulation studies. Administer broad-spectrum antibiotics, and continue uterotonics for 24 hours.

**Doctor:** What about documentation and debriefing?  
**Chatbot:** Document every event — estimated blood loss, medications, doses, procedures, and team members involved. Conduct a **team debrief** once the patient is stable. Discuss contributing factors and preventive strategies for future cases.

**Doctor:** Is there anything specific to counsel the patient about later?  
**Chatbot:** Yes. Explain the cause of the hemorrhage, what interventions were done, and discuss risks in future pregnancies. Advise delivery in a tertiary center with blood bank access for any subsequent pregnancy.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Remember, prompt recognition, coordinated teamwork, and early escalation are the most effective tools in preventing maternal mortality from PPH.

## ****Section 3 – Eclampsia and Severe Preeclampsia****

## ****Context: Eclampsia and Severe Preeclampsia****

**Doctor:** Doctor, the patient is convulsing during labour, and she has a history of high blood pressure. What should I do first?  
**Chatbot:** This is an obstetric emergency — most likely **eclampsia**. Remain calm and act quickly. Call for help immediately. Inform the **senior obstetrician, anesthetist, and neonatal team**. Ensure patient safety by protecting the airway and preventing aspiration.

**Doctor:** How should I position her?  
**Chatbot:** Place her in the **left lateral position** to prevent aortocaval compression and improve venous return. Loosen tight clothing, remove sharp objects from around her, and never insert anything into her mouth during the seizure.

**Doctor:** What should I do once the seizure stops?  
**Chatbot:** Quickly assess airway, breathing, and circulation. Administer **oxygen at 10 L/min** by face mask. Check vital signs, and establish IV access with a large-bore cannula. Avoid giving large fluid boluses until you assess urine output and blood pressure.

**Doctor:** What medication should I start immediately?  
**Chatbot:** Begin **Magnesium Sulphate therapy** — it’s the drug of choice for seizure control and prevention.

* Give a **loading dose of 4 grams IV** over **15 minutes**, followed by a **maintenance infusion of 1 gram/hour IV** for **24 hours after the last seizure or after delivery**, whichever is later.  
  If IV route isn’t available, use **10 grams IM** (5 g in each buttock) with **1 ml of 2% lidocaine** to reduce pain.

**Doctor:** What if she has another seizure despite magnesium therapy?  
**Chatbot:** Give a **2 gram IV bolus of magnesium sulphate** over 5–10 minutes. If seizures persist, administer **Diazepam 10 mg IV slowly**, but only as a second-line option since it can depress respiration. Always ensure airway patency and monitor saturation.

**Doctor:** How should I monitor magnesium therapy?  
**Chatbot:** Monitor **deep tendon reflexes**, **respiratory rate**, and **urine output** hourly.

* If reflexes are lost, respiratory rate <12/min, or urine output <30 ml/hour, stop magnesium immediately — this indicates possible toxicity.
* Administer **Calcium Gluconate 10 ml of 10% solution IV slowly over 10 minutes** as an antidote.

**Doctor:** What are the blood pressure management targets?  
**Chatbot:** The goal is to maintain systolic BP between **140–150 mmHg** and diastolic between **90–100 mmHg**.  
For acute severe hypertension (≥160/110 mmHg), use any of the following options:

* **Labetalol 20 mg IV over 2 minutes**, repeat with 40 mg after 10 minutes, then 80 mg every 10 minutes (maximum 220 mg total).
* If ineffective, switch to **Hydralazine 5–10 mg IV** every 20–30 minutes.
* Oral **Nifedipine 10 mg** may be given if IV agents are unavailable.

**Doctor:** How should I manage fluids in eclampsia?  
**Chatbot:** Fluids must be restricted to avoid pulmonary edema. Maintain **total fluids ≤80 ml/hour** unless there’s active blood loss. Insert a Foley catheter and monitor **hourly urine output** — this helps detect renal impairment and guides fluid replacement.

**Doctor:** What investigations should I order?  
**Chatbot:** Send **CBC, platelet count, liver and renal function tests, urine protein, coagulation profile, and electrolytes**. If HELLP syndrome is suspected, monitor AST, ALT, LDH, and platelets closely.

**Doctor:** Once she stabilizes, what should be my next step?  
**Chatbot:** Plan for **delivery** — it’s the definitive treatment for eclampsia.

* If the patient is stable and in labour, allow **vaginal delivery** under close monitoring.
* If cervix is unfavourable or the condition worsens, proceed to **caesarean section** once maternal condition allows and with anesthesia support.

**Doctor:** Should I use epidural or general anesthesia for caesarean section?  
**Chatbot:** Epidural can be used if the patient is stable, reflexes are present, and coagulation is normal. If not, proceed with general anesthesia using rapid-sequence induction and airway precautions.

**Doctor:** How should I monitor her after delivery?  
**Chatbot:** Continue magnesium infusion for 24 hours after the last seizure or delivery. Monitor **BP, reflexes, respiration, and urine output hourly**. Maintain the patient in a high-dependency area. Continue antihypertensives as needed and avoid NSAIDs, which may worsen renal function.

**Doctor:** What complications should I watch for?  
**Chatbot:** Watch for **pulmonary edema**, **renal failure**, **DIC**, **cerebral hemorrhage**, and **postpartum seizures**. Any sudden deterioration in consciousness warrants immediate senior review and possibly a CT brain to exclude stroke.

**Doctor:** How should I counsel the patient afterward?  
**Chatbot:** Explain the diagnosis, treatment provided, and risk of recurrence in future pregnancies. Advise early booking and close antenatal follow-up in subsequent pregnancies. Encourage lifestyle modification and regular blood pressure monitoring.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Remember: in eclampsia, the priorities are **airway, magnesium, blood pressure control, and timely delivery**. Coordination between obstetrics, anesthesia, and critical care teams ensures maternal safety.

## ****Section 4 – Shoulder Dystocia****

## ****Context: Shoulder Dystocia****

**Doctor:** Doctor, the baby’s head has delivered, but the shoulders are not coming with gentle traction. What should I do first?  
**Chatbot:** This is **shoulder dystocia**, an obstetric emergency caused by impaction of the fetal anterior shoulder behind the maternal symphysis pubis. Stay calm, call for immediate help, and announce “Shoulder Dystocia” clearly to the team.

**Doctor:** Who should I call for help?  
**Chatbot:** Call the senior obstetrician, anesthetist, pediatrician, and experienced midwives. Assign clear roles: one to document, one to assist with maneuvers, and another to support the patient and maintain communication with the neonatal team.

**Doctor:** Should I ask the mother to continue pushing?  
**Chatbot:** No, stop maternal pushing immediately to prevent further impaction. Keep the head flexed and apply gentle traction in line with the fetal axis — do not pull excessively as this may cause **brachial plexus injury**.

**Doctor:** What are the first maneuvers I should attempt?  
**Chatbot:** The first step is the **McRoberts’ maneuver** — hyperflex the mother’s hips tightly onto her abdomen. This flattens the lumbar lordosis and rotates the symphysis pubis upward, freeing the impacted shoulder in about 40% of cases. Simultaneously, instruct an assistant to apply **suprapubic pressure** in a downward and lateral direction behind the anterior shoulder.

**Doctor:** How long should I maintain McRoberts’ and suprapubic pressure?  
**Chatbot:** Maintain for 30–60 seconds. If the shoulder remains impacted, move on promptly — do not waste time repeating ineffective maneuvers. Every minute of delay increases the risk of **fetal hypoxia and permanent injury**.

**Doctor:** What is the next maneuver if this fails?  
**Chatbot:** Proceed to internal rotational maneuvers. Insert your hand along the sacral curve to reach the posterior shoulder. Attempt the **Rubin II maneuver** — push the posterior aspect of the anterior shoulder toward the fetal chest to reduce the bisacromial diameter. If that fails, use the **Woods screw maneuver** — apply pressure to the anterior aspect of the posterior shoulder to rotate the fetus in a corkscrew fashion.

**Doctor:** Should I attempt both Rubin and Woods if one fails?  
**Chatbot:** Yes, they are complementary. You can apply Rubin II first, then rotate in the opposite direction using the Woods screw if needed. Use steady, controlled pressure; avoid forceful twisting that could cause humeral or clavicular fracture.

**Doctor:** What should I do if internal maneuvers do not work?  
**Chatbot:** Deliver the **posterior arm** next. Slide your hand along the baby’s back to locate the posterior elbow, flex it, and sweep the forearm and hand across the baby’s chest and face to deliver the posterior arm. This reduces the diameter of the shoulders and usually resolves the dystocia.

**Doctor:** Suppose the posterior arm also fails — what next?  
**Chatbot:** Consider repositioning the mother to the **all-fours (Gaskin) position** if feasible — it can alter pelvic dimensions and help dislodge the shoulder. If this fails, prepare for **last-resort measures**: **cleidotomy (intentional fracture of the clavicle)**, **Zavanelli maneuver (cephalic replacement for cesarean)**, or **symphysiotomy** if the operator is experienced. These are rare but lifesaving steps in extreme cases.

**Doctor:** What if I can’t remember the sequence under pressure?  
**Chatbot:** Use the **HELPERR mnemonic**:

* **H** – Call for Help.
* **E** – Evaluate for Episiotomy (may assist access, though not always required).
* **L** – Legs (McRoberts’ maneuver).
* **P** – Pressure (suprapubic, not fundal).
* **E** – Enter (Rubin or Woods).
* **R** – Remove posterior arm.
* **R** – Roll patient (all-fours position).

**Doctor:** You mentioned episiotomy — should I do it early?  
**Chatbot:** Episiotomy does not directly relieve the impaction but provides more room for internal maneuvers. It’s useful if access is limited, especially in first-time mothers or when the perineum is tight.

**Doctor:** What should I avoid during this emergency?  
**Chatbot:** Never apply **fundal pressure** — it worsens the impaction and increases fetal injury risk. Also, avoid excessive traction on the head; keep all movements controlled and within the fetal axis.

**Doctor:** How should I document the event afterward?  
**Chatbot:** Document the exact time of head delivery and total head-to-body interval. Record each maneuver attempted and its duration, the personnel involved, estimated blood loss, and neonatal condition at birth. Documentation must be objective, detailed, and time-stamped.

**Doctor:** What immediate care does the newborn need after delivery?  
**Chatbot:** Hand the baby immediately to the neonatal team for assessment. They should check for **Apgar scores, movement of both arms, and signs of brachial plexus injury or fractures**. Initiate neonatal resuscitation if the baby is not crying or cyanosed.

**Doctor:** How should I manage the mother afterward?  
**Chatbot:** Examine the birth canal for trauma or bleeding, repair tears if present, and monitor vital signs. Debrief the mother and her family once she is stable. Provide clear counseling regarding what occurred, any neonatal complications, and the plan for future pregnancies.

**Doctor:** What should I advise about future deliveries?  
**Chatbot:** Document the history of shoulder dystocia clearly in the patient’s record. In subsequent pregnancies, assess fetal size and risk factors carefully. If estimated fetal weight is ≥4.5 kg in diabetic mothers or ≥5 kg in non-diabetic mothers, consider elective cesarean section.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Shoulder dystocia requires composure, teamwork, and prompt action. Remember — early recognition, clear communication, and a structured approach save both lives and prevent injury.

## ****Section 5 – Cord Prolapse****

## ****Context: Cord Prolapse****

**Doctor:** Doctor, I’ve just examined the patient after her membranes ruptured, and I can feel the umbilical cord in the vagina. What should I do immediately?  
**Chatbot:** This is **cord prolapse** — an obstetric emergency. Stay calm and act instantly. Keep your examining hand in place to relieve pressure from the presenting part, and call for **immediate help**.

**Doctor:** Who should I call first?  
**Chatbot:** Call the **senior obstetrician**, **anesthetist**, and **neonatal team** at once. Ask the midwife to press the emergency bell and prepare for **immediate delivery**. Inform the **operating theatre** that a Category 1 caesarean section is required.

**Doctor:** What should I do while waiting for help to arrive?  
**Chatbot:** Maintain **manual elevation** of the presenting part using two fingers or the whole hand through the vagina to prevent cord compression. Do not remove your hand until a definitive measure (such as bladder filling or caesarean section) is ready.

**Doctor:** How should I position the patient?  
**Chatbot:** Place her in a **steep Trendelenburg** or **knee-chest position** with hips elevated and chest down. This allows gravity to reduce pressure on the cord. If that’s not feasible, use the **left lateral position with pillow under the hip**.

**Doctor:** Can I handle the cord directly?  
**Chatbot:** Avoid handling the cord unnecessarily because manipulation causes vasospasm. If the cord is protruding outside the vagina, **cover it with warm sterile saline-soaked gauze** to prevent drying and maintain warmth.

**Doctor:** Should I fill the bladder?  
**Chatbot:** Yes. If help is delayed or transfer to theatre will take more than a few minutes, instill **500–700 ml of warm normal saline** into the bladder through a Foley catheter and clamp it. This pushes the fetal head upward and relieves cord compression.

**Doctor:** What about tocolytics — should I use them?  
**Chatbot:** You may give a short-acting tocolytic to reduce contractions while preparing for delivery. **Terbutaline 0.25 mg subcutaneously** or **Nitroglycerin 50–100 µg IV bolus** can be used. However, these should never delay transfer to the theatre.

**Doctor:** How should I monitor the fetus during this time?  
**Chatbot:** Continuous electronic fetal monitoring if possible. Expect variable or prolonged decelerations. Reassess fetal heart rate after every maneuver to evaluate improvement.

**Doctor:** What is the mode of delivery?  
**Chatbot:** **Emergency caesarean section** is the preferred method for most viable fetuses. Aim for a **decision-to-delivery interval under 30 minutes** — sooner if fetal heart tones are non-reassuring.

**Doctor:** What if the cervix is fully dilated and the fetal head is low?  
**Chatbot:** If full dilation and the head is at +2 station or lower, consider **instrumental vaginal delivery** (vacuum or forceps) **only if** an experienced obstetrician is present and delivery can be achieved safely within minutes. Otherwise, proceed directly to caesarean section.

**Doctor:** What should the anesthetist do while we prepare?  
**Chatbot:** The anesthetist secures the airway, ensures maternal oxygenation, and prepares for rapid-sequence induction. Continue manual elevation until the uterine incision is made and delivery is imminent.

**Doctor:** How do I manage after the baby is delivered?  
**Chatbot:** Hand the neonate immediately to the pediatric team for resuscitation. Expect possible hypoxia; the baby may require positive-pressure ventilation or advanced neonatal care. After delivery, give the mother uterotonics as per routine third-stage management and monitor for postpartum hemorrhage.

**Doctor:** What should I document about this emergency?  
**Chatbot:** Record the **time of diagnosis**, **fetal heart rate pattern**, **positions used**, **drugs given**, and **time of delivery**. Note all personnel present and interventions performed. Documentation must be detailed — this case has medicolegal importance.

**Doctor:** How should I counsel the patient afterward?  
**Chatbot:** Explain clearly that cord prolapse is unpredictable and unrelated to any action she took. Discuss that the rapid response was lifesaving. Advise that future pregnancies should be delivered in a facility with surgical capability and continuous fetal monitoring, particularly if similar risk factors exist (malpresentation, polyhydramnios, multiple pregnancy).

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Remember, **time is critical** in cord prolapse — immediate manual elevation, proper positioning, and prompt decision for delivery make the difference between a healthy baby and a tragic outcome.

## ****Section 6 – Uterine Rupture****

## ****Context: Uterine Rupture****

**Doctor:** Doctor, my patient was in active labour after a previous caesarean section, and suddenly she’s complaining of severe abdominal pain. The contractions have stopped, and I can’t feel the fetal head easily. What should I do?  
**Chatbot:** These are classic signs of a **uterine rupture** — an obstetric catastrophe requiring immediate action. Stop any oxytocin infusion if running, call for **senior obstetrician, anesthetist, and theatre team**, and prepare for **emergency laparotomy**.

**Doctor:** What other signs should alert me to uterine rupture?  
**Chatbot:** Watch for **sudden cessation of contractions**, **abnormal fetal heart tracing (bradycardia or decelerations)**, **loss of fetal station**, **abdominal tenderness**, and **vaginal bleeding**. Sometimes you may palpate fetal parts easily through the abdomen or note **maternal tachycardia and hypotension** indicating concealed hemorrhage.

**Doctor:** Are there specific risk factors I should keep in mind?  
**Chatbot:** Yes. The major risk factors include:

* Previous classical or low-vertical caesarean scar
* Induction or augmentation with prostaglandins or oxytocin
* Obstructed labour
* Grand multiparity
* Uterine trauma or previous myomectomy
* Overdistension of the uterus (multiple pregnancy or polyhydramnios)

**Doctor:** What should I do immediately while the team is coming?  
**Chatbot:** Ensure **oxygen at 10 L/min** via face mask. Insert **two large-bore IV lines**, send blood for **CBC, cross-match at least 6 units, coagulation profile**, and start **warm crystalloids**. Keep the patient nil per mouth and insert a **Foley catheter** to monitor urine output. If there is evidence of shock, begin resuscitation with fluids and request urgent blood products.

**Doctor:** Should I perform a vaginal examination?  
**Chatbot:** No. Once rupture is suspected, avoid further vaginal examination — it can worsen bleeding and delay life-saving surgery. Focus on stabilizing the patient and arranging immediate transfer to the operating theatre.

**Doctor:** What should I communicate to the team and family?  
**Chatbot:** Briefly but clearly explain the gravity of the situation: “There is a strong suspicion of uterine rupture, which is life-threatening for both mother and baby. We need to proceed urgently to surgery.” Obtain **verbal consent** if possible, but never delay for written consent when the patient’s life is at risk.

**Doctor:** What should be prepared in theatre?  
**Chatbot:** Prepare for **exploratory laparotomy under general anesthesia**. Ensure **blood, suction, diathermy, and appropriate surgical instruments** are available. Have **senior obstetric and anesthesia support** present. The pediatric team should be ready for neonatal resuscitation.

**Doctor:** What are the key surgical findings to expect?  
**Chatbot:** You may find a complete tear in the lower uterine segment extending into the broad ligament, cervix, or vagina. Sometimes, the fetus and placenta may be partly or completely expelled into the abdominal cavity. Hemoperitoneum is often significant.

**Doctor:** How do I manage during surgery?  
**Chatbot:** After delivering the baby and placenta, control active bleeding by clamping uterine and internal iliac arteries if necessary. Assess the extent of the tear. If the edges are clean and repairable, perform **two-layer uterine repair with absorbable sutures**. However, if the tear is extensive, ragged, or the patient is hemodynamically unstable, proceed to **subtotal or total hysterectomy**. Always prioritize saving the mother’s life.

**Doctor:** Should I attempt to conserve the uterus in all cases?  
**Chatbot:** Only if bleeding can be controlled and the patient is stable. In grand multiparas, extensive rupture, or failed previous repair, hysterectomy is the safer option. The decision should be taken by the senior obstetrician based on intraoperative findings.

**Doctor:** How do we manage blood loss intraoperatively?  
**Chatbot:** Activate the **massive transfusion protocol** if necessary. Replace blood and components in a **1:1:1 ratio (packed cells, plasma, platelets)**. Correct coagulopathy promptly with **cryoprecipitate if fibrinogen <2 g/L**. Maintain urine output at least **0.5 ml/kg/hr**, and monitor for DIC.

**Doctor:** What about the baby?  
**Chatbot:** Unfortunately, perinatal mortality is high in complete rupture. Hand the neonate immediately to the pediatric team for resuscitation. Document Apgar scores, cord pH, and any complications.

**Doctor:** How should I manage the mother postoperatively?  
**Chatbot:** Keep her in a **high-dependency unit**. Continue close monitoring of **vital signs, urine output, bleeding, and hemoglobin**. Give **broad-spectrum antibiotics** for at least 5 days, **uterotonics** if the uterus was preserved, and **thromboprophylaxis** when stable.

**Doctor:** What complications should I watch for?  
**Chatbot:** Postoperative complications include **hemorrhagic shock, sepsis, coagulopathy, wound infection, bladder or ureteric injury**, and **psychological trauma**. Watch also for **renal failure** due to hypoperfusion.

**Doctor:** How do I counsel the patient later?  
**Chatbot:** Once she recovers, explain clearly what happened — that a uterine rupture occurred, the reasons for surgical management, and implications for future pregnancies. Advise that any future conception should occur only in a **tertiary hospital**, with **elective caesarean section at 36–37 weeks** before labour begins. Strongly advise against trial of labour in the future.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. Uterine rupture demands **immediate recognition, rapid resuscitation, and surgical expertise**. The key to prevention is **careful selection for VBAC**, **judicious use of uterotonics**, and **constant vigilance during labour.**

## ****Section 7 – Amniotic Fluid Embolism (AFE)****

## ****Context: Amniotic Fluid Embolism (AFE)****

**Doctor:** Doctor, a term patient suddenly became acutely short of breath and hypotensive during labour. She is anxious, cyanosed, and her oxygen saturation dropped to 80% despite oxygen. What should I suspect?  
**Chatbot:** Suspect **amniotic fluid embolism (AFE)**—an abrupt, anaphylactoid reaction to amniotic fluid or fetal material entering the maternal circulation, classically presenting with **sudden hypoxia, hypotension, and coagulopathy/DIC**. Treat this as a **Category 1 obstetric emergency**.

**Doctor:** What are the immediate priorities?  
**Chatbot:** **Airway, breathing, circulation.** Call a **code** and summon **senior obstetrician, anesthetist, ICU/critical care, hematology, and neonatal team**. Place the patient on **100% oxygen** via a non-rebreather while preparing for **advanced airway**. Start **two large-bore IV lines**, place her in **left uterine displacement** (or 15–30° left tilt), and apply continuous monitoring (ECG, pulse oximetry, NIBP). Send urgent bloods: **ABG, CBC/platelets, PT/aPTT, fibrinogen, lactate, type and cross-match**.

**Doctor:** She’s deteriorating—oxygen saturation 70% and she’s confused. Do I intubate now?  
**Chatbot:** Yes. Proceed to **rapid-sequence intubation** with an experienced anesthetist. Use pre-oxygenation, cricoid pressure if indicated, and be prepared for difficult airway due to edema. After intubation, initiate **lung-protective ventilation** (tidal volume ~6 ml/kg predicted body weight) with **PEEP** titrated to maintain oxygenation while avoiding barotrauma.

**Doctor:** Her blood pressure is 70/40 mmHg and heart rate 140 bpm. How do I stabilize circulation?  
**Chatbot:** Give a **fluid bolus** of 250–500 ml balanced crystalloid while closely watching for pulmonary edema. Start a **vasopressor** promptly—**norepinephrine** (for MAP ≥65 mmHg) via peripheral large-bore line initially, then central line as soon as feasible. If there is myocardial depression (low cardiac output despite adequate MAP), add an **inotrope** such as **dobutamine** or **epinephrine** guided by clinical response and, if available, **point-of-care echocardiography**.

**Doctor:** Should I consider other causes at the same time?  
**Chatbot:** Yes—think **differential**: pulmonary embolism, anaphylaxis, massive hemorrhage, myocardial infarction, tension pneumothorax, sepsis. AFE remains a **clinical diagnosis**; do not delay resuscitation while investigating.

**Doctor:** Bleeding has started from IV and perineum, and the uterus is hypotonic. Could this be DIC?  
**Chatbot:** Correct—**coagulopathy/DIC** is a hallmark of AFE. Immediately alert the **blood bank** and **activate the Massive Transfusion Protocol (MTP)**. Draw **ROTEM/TEG** if available, but **do not wait** to replace products. Give balanced components (approx. **1:1:1** PRBC:FFP:platelets). If **fibrinogen <2 g/L**, transfuse **cryoprecipitate** or **fibrinogen concentrate** promptly. Replace **calcium** (e.g., **10 ml of 10% calcium gluconate** per 4 units PRBC) and maintain normothermia.

**Doctor:** Should I give tranexamic acid here?  
**Chatbot:** In AFE the dominant issue is **consumptive coagulopathy/DIC**; prioritize **plasma, platelets, and fibrinogen** correction. Use TXA **only if the clinical picture suggests hyperfibrinolysis** and not at the expense of correcting fibrinogen and platelets first. Coordinate closely with hematology and ROTEM/TEG if available.

**Doctor:** The fetus is viable and CTG is severely abnormal. When should I deliver?  
**Chatbot:** If the mother is **cardiovascularly unstable** or in **arrest**, and the fetus is viable, **expedite delivery immediately** to improve maternal venous return and fetal outcome. If the patient arrests and **ROSC is not achieved within 4–5 minutes**, perform a **perimortem caesarean (resuscitative hysterotomy)** at the bedside while CPR continues.

**Doctor:** If she is intubated and we have partial stabilization, how do we proceed with delivery?  
**Chatbot:** In a viable fetus with non-reassuring status, proceed to **Category 1 caesarean section** once anesthesia confirms she is optimized for transfer. Maintain vasopressor/inotrope infusions through transfer. Have **neonatal resuscitation** ready at delivery.

**Doctor:** How do I manage the uterus and postpartum hemorrhage after delivery?  
**Chatbot:** Give **uterotonics** (oxytocin infusion first; additional agents per standard sequence, mindful of hemodynamics and contraindications). Expect significant bleeding due to DIC; continue **MTP**, frequent labs (PT/aPTT, **fibrinogen**, platelets, ABG/lactate), and temperature control. Consider **uterine tamponade (Bakri)** and **surgical hemostasis** if atony and oozing persist; escalate early to **interventional radiology** or surgical ligation as resources allow.

**Doctor:** What ongoing ICU care is required?  
**Chatbot:** Admit to **ICU/HDU**. Continue **lung-protective ventilation** (watch for **ARDS**), titrate **vasopressors/inotropes** to perfusion goals, maintain **urine output ≥0.5 ml/kg/hr**, correct electrolytes and acid–base balance, and conduct **neurologic assessments**. Daily **echocardiography** can guide weaning of vasoactive drugs if myocardial stunning occurred. Start **VTE prophylaxis** once coagulopathy resolves and bleeding risk is acceptable.

**Doctor:** What investigations help support the diagnosis?  
**Chatbot:** AFE is primarily clinical. Labs often show **sudden coagulopathy** with low fibrinogen and platelets; ABG shows **hypoxemia** and **metabolic/lactic acidosis**. Chest imaging may reveal **pulmonary edema** or ARDS-like changes. **Echocardiography** may show right- or left-ventricular dysfunction from acute pulmonary hypertension or myocardial depression. Histologic detection of fetal squames in the lung is **not required** for diagnosis.

**Doctor:** What should I communicate to the family?  
**Chatbot:** Provide a **clear, compassionate briefing**: explain that AFE is a sudden, unpredictable reaction leading to respiratory failure, shock, and a bleeding disorder, and that the team is providing maximal life-support measures and rapid delivery if indicated. Continue updates at key milestones (intubation, transfer to theatre/ICU, delivery).

**Doctor:** How do I organize documentation and debrief?  
**Chatbot:** Document **timeline of onset**, **vital signs**, **interventions** (intubation, drugs with doses and times, vasopressors/inotropes), **blood products** (type and volumes), **lab trends** (especially fibrinogen), decisions around **delivery timing**, and all team members present. Arrange a **formal multidisciplinary debrief** and complete incident reporting. Offer **psychological support** to the patient and family post-event.

**Doctor:** Are there preventive strategies?  
**Chatbot:** AFE is **not predictable or preventable** in most cases. Emphasize **readiness**: trained response teams, **MTP protocols**, immediate airway capability, ROTEM/TEG access where possible, and rehearsed drills for **perimortem caesarean**.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. In AFE, outcomes depend on **seconds and systems**—rapid airway control, aggressive hemodynamic support, early treatment of coagulopathy, and decisive delivery planning.

## ****Section 8 – Maternal Collapse & Advanced Life Support in Pregnancy (including Perimortem Caesarean)****

## ****Context: Maternal Collapse & Advanced Life Support in Pregnancy (including Perimortem Caesarean)****

**Doctor:** Doctor, a 36-week pregnant patient has suddenly collapsed in the labour room. She is unresponsive. What are my immediate priorities?  
**Chatbot:** Treat this as **maternal cardiac arrest** until proven otherwise. Shout for help, pull the emergency bell, and activate the arrest team. Begin **high-quality CPR immediately** with pregnancy modifications. Ensure someone establishes time-keeping and documentation from the first minute.

**Doctor:** How is CPR modified in pregnancy?  
**Chatbot:** Start **chest compressions at 100–120/min** with **a slightly higher hand position on the sternum** because the gravid uterus elevates the diaphragm. Depth remains 5–6 cm, allow full recoil, and minimize interruptions. Apply **manual left uterine displacement (LUD)** continuously to relieve aortocaval compression; if a second rescuer isn’t available for manual LUD, tilt the patient 15–30° to the left using a wedge, but manual displacement is preferred because it preserves compression efficacy.

**Doctor:** Who should do what when the team arrives?  
**Chatbot:** Assign roles immediately. One rescuer performs compressions and calls out rhythm checks. A second provides **LUD**. A third manages the **airway and ventilation**. A fourth establishes **IV/IO access** and administers drugs. The team leader coordinates cycles, defibrillation, and the **perimortem caesarean** decision. Ensure the neonatal team is en route if gestation is potentially viable.

**Doctor:** What about airway and breathing during CPR?  
**Chatbot:** Give **100% oxygen** and begin **bag-mask ventilation** with a good seal; two-person technique is best. Anticipate a **difficult airway** due to edema and reduced functional residual capacity. Proceed to **early advanced airway** by the most experienced provider—**endotracheal intubation** is preferred; use rapid-sequence induction if the patient has a pulse, otherwise intubate during compressions, pausing <10 seconds for tube placement confirmation. If intubation fails, use a **supraglottic airway** promptly rather than repeated attempts. Ventilate at **10 breaths/min** once an advanced airway is in place and avoid hyperventilation.

**Doctor:** How should I defibrillate if the rhythm is shockable?  
**Chatbot:** Defibrillate **as per standard ACLS energy settings**—there is **no dose reduction in pregnancy**. Ensure no one is touching the patient or the metal bedrails, and announce “stand clear.” Remove fetal monitors and ensure the pads do not contact the uterus. Resume compressions immediately after each shock.

**Doctor:** What drugs and doses should we give during arrest?  
**Chatbot:** Use **standard ACLS doses**. For non-shockable rhythms or after the second shock in shockable rhythms, give **adrenaline 1 mg IV/IO every 3–5 minutes**. For refractory VF/pVT after the third shock, give **amiodarone 300 mg IV bolus**, then 150 mg if needed. Treat reversible causes concurrently; drug choices and doses are the same as in non-pregnant adults.

**Doctor:** What are the reversible causes specific to pregnancy that I should consider?  
**Chatbot:** Think **“obstetric 4Hs & 4Ts” plus obstetricials**. Hypoxia, hypovolemia (PPH), hydrogen ion (acidosis), hypo/hyperkalemia and metabolic causes; tension pneumothorax, tamponade, toxins; and in obstetrics add **massive thromboembolism**, **eclampsia**, **amniotic fluid embolism**, **local anesthetic systemic toxicity**, and **uterine rupture**. Correct what you can immediately while CPR continues.

**Doctor:** When should we proceed to perimortem caesarean section?  
**Chatbot:** If there is **no return of spontaneous circulation (ROSC) by 4 minutes** of effective CPR **and the uterus is at or above the umbilicus** (≈20+ weeks), **begin resuscitative hysterotomy (perimortem caesarean)** **by 5 minutes** from the time of arrest. This is primarily a **maternal resuscitation procedure**—it decompresses the aortocaval vessels, improves venous return, and increases the chance of ROSC. Fetal survival is a secondary but important benefit.

**Doctor:** Where should we perform the perimortem caesarean?  
**Chatbot:** **At the bedside, immediately.** Do not transfer to theatre; moving wastes critical minutes. Keep CPR running while preparing. Use **skin antisepsis if available**, but do not delay if it’s not at hand.

**Doctor:** What incision and technique are recommended?  
**Chatbot:** Make a **midline vertical skin incision** from below the xiphoid to the pubis to maximize exposure and speed. Enter the peritoneal cavity, incise the uterus vertically in the lower segment or where accessible, open the membranes, deliver the fetus and placenta swiftly, and pass the neonate to the pediatric team. Clamp and cut the cord quickly. Pack the uterus if necessary and control bleeding with direct pressure while resuscitation continues.

**Doctor:** Should we stop compressions during the hysterotomy?  
**Chatbot:** Keep **compressions ongoing throughout**, pausing only for a few seconds at critical moments like uterine incision if absolutely necessary. Coordinate with the compressor to maintain the **<10-second** interruption rule.

**Doctor:** What if ROSC occurs before we start the incision?  
**Chatbot:** Reassess hemodynamics. If the mother remains unstable with a distended uterus impeding ventilation and venous return, delivery may still improve physiology. If she stabilizes and fetal status is reassuring, proceed according to obstetric indications and senior judgment.

**Doctor:** How do we manage massive hemorrhage during or after perimortem CS?  
**Chatbot:** Activate the **massive transfusion protocol** early. Give **balanced blood components** (approximate 1:1:1 PRBC:FFP:platelets), correct **fibrinogen** to ≥2 g/L with cryoprecipitate or fibrinogen concentrate, and replace **calcium** regularly. Consider **uterotonics** (oxytocin infusion first; methylergometrine unless hypertensive; carboprost unless asthmatic; misoprostol as adjunct) and **uterine tamponade** or **surgical hemostasis** as required. Maintain **normothermia** and correct acidosis.

**Doctor:** If the rhythm is pulseless electrical activity and we suspect pulmonary embolism, what actions are appropriate?  
**Chatbot:** Continue high-quality CPR, administer adrenaline per protocol, and consider **thrombolysis** if PE is strongly suspected and ROSC is not achieved—thrombolysis is **not contraindicated** in pregnancy during cardiac arrest when life-saving. If thrombolysis is given, proceed with delivery decisions based on maternal response and bleeding risk; in arrest, **maternal survival takes priority**.

**Doctor:** What post-ROSC care should we provide if we achieve circulation?  
**Chatbot:** Stabilize airway and ventilation with **target SpO₂ 94–98%**, maintain **MAP ≥65 mmHg** using vasopressors as needed, start **targeted temperature management** if appropriate and resources permit, treat the underlying cause (e.g., control hemorrhage, manage eclampsia with magnesium, treat AFE or sepsis), monitor **glucose**, correct electrolytes, and admit to **ICU/HDU**. Begin **VTE prophylaxis** once bleeding risk allows.

**Doctor:** How should we coordinate with the neonatal team during these events?  
**Chatbot:** Give them early warning at the moment perimortem delivery is contemplated. On delivery, ensure immediate **neonatal resuscitation** with warmth, airway, breathing support, and advanced measures as required. Communicate **time from maternal arrest to delivery** and any drugs administered that may affect the newborn.

**Doctor:** What should be documented during and after the event?  
**Chatbot:** Record **timeline events minute-by-minute**: collapse time, CPR start, rhythm analyses and shocks with energies, drugs with doses and times, airway attempts, LUD start, decision and time of perimortem caesarean, delivery time, ROSC time, estimated blood loss, and all clinicians present. Complete a **structured debrief** and incident report once the mother is stabilized or the event concludes. Offer **psychological support** to staff and family.

**Doctor:** How do we counsel the family if the outcome is uncertain or unfavorable?  
**Chatbot:** Provide **clear, compassionate, factual updates**: explain the sequence—sudden collapse, immediate resuscitation, continuous chest compressions, life-saving delivery to improve maternal circulation, and ongoing critical care. Avoid speculation, invite questions, and schedule regular updates with a senior representative present.

**Doctor:** Are there prevention strategies we can implement in our unit?  
**Chatbot:** Yes—**readiness and rehearsal**. Maintain arrest trolleys with pregnancy-sized airway equipment, ensure **perimortem caesarean kits** are immediately available, practice **multidisciplinary simulations**, post visual prompts for **4-minute/5-minute rule**, and standardize **massive hemorrhage protocols** and **eclampsia bundles**. Early recognition and decisive action save lives.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You are welcome. In maternal collapse, remember the sequence: **call for help, start pregnancy-modified CPR with LUD, defibrillate and medicate per ACLS, and if no ROSC by 4 minutes with a gravid uterus—perform perimortem caesarean by 5 minutes**. This approach offers the best chance for both mother and baby.

## ****Section 9 – Sepsis & Septic Shock in Labour and Postpartum****

## ****Context: Sepsis & Septic Shock in Labour and Postpartum****

**Doctor:** Doctor, I’m concerned my patient might be septic. She’s febrile at 38.9°C, tachycardic 125/min, and feels unwell. What should I do first?  
**Chatbot:** Treat this as **suspected maternal sepsis**. Escalate immediately—call the senior obstetrician, anesthetist, and inform the neonatal team if the fetus is viable. Begin the **Sepsis 1-hour bundle**: obtain cultures, start broad-spectrum antibiotics, measure serum **lactate**, begin **early fluids** if hypotensive or lactate ≥2 mmol/L, and arrange **continuous monitoring**.

**Doctor:** How do I recognize sepsis formally in obstetrics?  
**Chatbot:** Use **physiologic red flags** and obstetric early warning scores (MEOWS/NEWS2): temperature ≥38°C or <36°C, heart rate >110/min, respiratory rate >24/min, systolic BP <90 mmHg or MAP <65, altered mental status, oxygen saturation <94%, oliguria <0.5 ml/kg/hr, rigors, or severe abdominal/pelvic pain. In pregnancy/postpartum, a **normal white count does not exclude sepsis**; clinical judgment is paramount.

**Doctor:** What is my immediate sequence at the bedside?  
**Chatbot:**

1. **Airway & Breathing:** Give **oxygen** to maintain SpO₂ 94–98%.
2. **Circulation:** Establish **two large-bore IV lines**; attach cardiac monitor and non-invasive BP at 5–15-min intervals.
3. **Laboratory work-up:** Draw **two sets of blood cultures** (different sites) **before antibiotics** if this does not delay treatment; send **CBC, CRP, electrolytes, creatinine, LFTs, coagulation, venous/arterial blood gas with lactate**, and type & screen. Obtain **urine sample** (dip/culture), **high vaginal/endocervical swab**, and **wound/line cultures** if relevant. Consider **CXR** if respiratory symptoms.
4. **Fetal assessment:** If undelivered and viable, commence **continuous CTG**.
5. **Antibiotics:** **Start within 60 minutes** of recognition—do not delay for imaging.
6. **Fluids:** If hypotensive (SBP <90/MAP <65) or lactate ≥2, give **30 ml/kg balanced crystalloid**, reassessing every 250–500 ml, especially if preeclampsia or cardiomyopathy is suspected.

**Doctor:** Which empiric antibiotics should I start if the source is unclear?  
**Chatbot:** Use broad coverage for **gram-positives, gram-negatives, and anaerobes**, tailored to local policy. Reasonable empiric regimens include:

* **Piperacillin–tazobactam 4.5 g IV every 6 hours**, or
* **Ceftriaxone 2 g IV daily + Metronidazole 500 mg IV every 8 hours**.  
  Add **Vancomycin IV** if **MRSA risk** or severe soft-tissue/line infection. Adjust once culture results return and with microbiology advice.

**Doctor:** If I suspect **chorioamnionitis** in labour, what is preferred?  
**Chatbot:** Start **Ampicillin 2 g IV every 6 hours + Gentamicin 5 mg/kg IV daily**. If delivery will be by caesarean or anaerobic coverage is desired, add **Clindamycin 900 mg IV every 8 hours** or **Metronidazole**. In severe penicillin allergy, consider **Clindamycin + Gentamicin**.

**Doctor:** And **postpartum endometritis**?  
**Chatbot:** **Clindamycin 900 mg IV every 8 hours + Gentamicin 5 mg/kg IV daily** is standard. Continue until afebrile and clinically improved for 24–48 hours, then step down to appropriate oral therapy.

**Doctor:** What about **UTI/pyelonephritis** in pregnancy or postpartum?  
**Chatbot:** **Ceftriaxone 1–2 g IV daily** (or **Cefotaxime 1 g IV every 8 hours**) is appropriate; in β-lactam allergy consider **Aztreonam**. Once afebrile 24–48 hours and clinically improved, step down to oral **Cephalexin** or another culture-guided agent to complete **10–14 days** in pyelonephritis.

**Doctor:** We gave the first antibiotic dose. She’s hypotensive at 85/50 with lactate 3.2 mmol/L. How should I resuscitate?  
**Chatbot:** Proceed with **early goal-directed resuscitation**. Give **30 ml/kg balanced crystalloid** total, titrating in **250–500 ml boluses** with frequent reassessment: mental status, capillary refill, BP/MAP, heart rate, lung exam, and urine output. In preeclampsia or cardiac disease, use **smaller boluses with ultrasound-guided assessment** if available.

**Doctor:** She remains hypotensive despite 2 liters of fluid.  
**Chatbot:** Start a **vasopressor**—**Norepinephrine** is first-line to target **MAP ≥65 mmHg**. You may begin peripherally through a large-bore IV while arranging a **central line**. If MAP remains low despite adequate fluid and norepinephrine, consider adding **Vasopressin** (0.03 units/min) or **Epinephrine** per ICU guidance. Insert an **arterial line** for beat-to-beat monitoring when feasible.

**Doctor:** What are the targets for organ perfusion?  
**Chatbot:** **MAP ≥65 mmHg**, **urine output ≥0.5 ml/kg/hour**, decreasing **lactate** trend, warm peripheries, normalizing mental status. Repeat **lactate** in 2–4 hours to assess response.

**Doctor:** Beyond antibiotics and hemodynamics, what about **source control**?  
**Chatbot:** Essential. Identify and treat the source **early**:

* **Retained products** → **Evacuation** in theatre with antibiotics.
* **Infected CS wound/hematoma** → **Drainage, debridement**, wound cultures.
* **Pelvic abscess** → **IR drainage** or surgery.
* **Infected cannula/line** → **Remove and culture tip**.
* **Pyelonephritis with obstruction** → **Urology** for stent/nephrostomy.  
  Do not delay definitive source control once resuscitation is underway.

**Doctor:** How should I manage fluids in **preeclampsia** or suspected pulmonary edema risk?  
**Chatbot:** Use **conservative boluses** (250 ml) with frequent reassessment; consider bedside **lung ultrasound** for B-lines and **IVC assessment**. If respiratory distress or hypoxemia worsens, escalate to **high-flow nasal oxygen** or **non-invasive ventilation**, and involve anesthesia/ICU early.

**Doctor:** What ongoing monitoring is required?  
**Chatbot:** Place the patient in **HDU/ICU** if shock or organ dysfunction. Monitor **vitals at least every 15 minutes initially**, urine output via Foley hourly, continuous SpO₂ and ECG, and **bloods** (CBC, U&E, LFTs, coagulation) **every 6–12 hours** or per severity. Maintain **glucose 140–180 mg/dL**, correct electrolytes, and avoid nephrotoxins. Start **VTE prophylaxis** (LMWH) once bleeding risk is acceptable.

**Doctor:** Should I continue fetal monitoring if she’s undelivered and viable?  
**Chatbot:** Yes, **continuous CTG** while maternal resuscitation proceeds. If there is **refractory maternal instability** or **non-reassuring fetal status** despite optimal care, discuss **expedited delivery** with the senior team—timing depends on gestation, maternal response, and source of infection (e.g., chorioamnionitis).

**Doctor:** How long should antibiotic therapy continue?  
**Chatbot:** Typically **7–10 days** for bacteremia or deep pelvic infection, shorter (3–5 days) for uncomplicated lower UTI once clinically improved, and **10–14 days** for pyelonephritis or endometritis with complications. Always **de-escalate** based on culture results and clinical response.

**Doctor:** Are there situations where **tranexamic acid** is indicated in septic patients?  
**Chatbot:** TXA is **not routinely indicated** in sepsis-related coagulopathy. Prioritize fixing the **source**, **antibiotics**, **hemodynamic stabilization**, and **appropriate blood components** if DIC with bleeding. Use TXA only for **concurrent obstetric hemorrhage** when clinically appropriate.

**Doctor:** What maternal complications should I anticipate and prevent?  
**Chatbot:** **ARDS**, **acute kidney injury**, **DIC**, **cardiomyopathy**, **stroke**, and **post-sepsis syndrome**. Prevent with meticulous **oxygenation**, **hemodynamic support**, **early source control**, **lung-protective ventilation** if intubated, and **early mobilization** during recovery.

**Doctor:** How should I communicate with the family?  
**Chatbot:** Provide **clear, honest updates**: diagnosis of suspected sepsis, actions taken (antibiotics within the hour, fluids, vasopressors), need for ICU, and fetal monitoring or delivery planning. Encourage questions, appoint a single senior spokesperson, and document all discussions with times.

**Doctor:** What exactly must I document for audit and safety?  
**Chatbot:** Time of **sepsis recognition**, **vitals and MEOWS/NEWS2 triggers**, **cultures taken**, **first antibiotic time and agents**, **lactate values**, **fluid volumes**, **vasopressor start/time/doses**, **source control procedures**, **fetal status**, and **team members** involved. Record response to therapy and any complications.

**Doctor:** Thank you, Doctor.  
**Chatbot:** You’re welcome. In obstetric sepsis, **time is tissue**. Prompt **antibiotics**, **fluid-guided resuscitation**, **vasopressors as needed**, and **early source control**—all coordinated by a **multidisciplinary team**—are the pillars of maternal and fetal survival.

Section 10 – Retained Placenta & Uterine Inversion

context: Retained Placenta

Doctor: Doctor, 30 minutes have passed since delivery and the placenta has not delivered. What should I do?

Chatbot: This meets the definition of retained placenta. Remain calm and act systematically. Call for senior assistance, ensure IV access, and start a PPH preparedness approach in case bleeding escalates. Confirm vitals, palpate the uterus for tone, and assess bleeding.

Doctor: What immediate bedside measures should I take?

Chatbot: Ensure the bladder is empty—insert or drain a Foley catheter if needed. Apply controlled cord traction only if the uterus is firm and contracted and counter-traction is applied above the pubic symphysis. Do not pull on the cord if the uterus is atonic or there is resistance, as this risks uterine inversion.

Doctor: Should I give any medication at this stage?

Chatbot: If the uterus is atonic, give a uterotonic to improve tone: Oxytocin 5 IU IV slowly then 40 IU in 500 ml infusion. If there is ongoing bleeding, give Tranexamic acid 1 g IV over 10 minutes, may repeat once after 30 minutes. If tone improves and the placenta separates, controlled cord traction may succeed.

Doctor: What if the placenta still does not separate?

Chatbot: Consider placenta adherens (incomplete separation) versus placenta accreta spectrum (abnormally adherent). If there is no separation and bleeding is minimal, prepare for manual removal of placenta (MROP) in the operating theatre under adequate analgesia/anesthesia.

Doctor: How do I proceed with manual removal safely?

Chatbot: Move to the theatre. Inform anesthesia, prepare broad-spectrum antibiotics (e.g., Cefazolin 1–2 g IV; in penicillin allergy use Clindamycin 900 mg IV), position the patient, and ensure good lighting. With a sterile gloved hand, follow the umbilical cord to the placental bed, find the cleavage plane, and gently peel the placenta off the uterine wall using the edge of your hand, supporting the fundus externally with the other hand. Remove membranes completely.

Doctor: What if there is placenta accreta suspected during MROP?

Chatbot: Stop attempts at forcible separation. Persistent adherence without a clear plane, heavy bleeding with minimal separation, or previous scar should raise suspicion. Call the senior obstetrician and escalate to conservative hemostatic measures (balloon tamponade) or surgical options. If bleeding is life-threatening and conservative measures fail, proceed to hysterectomy. Arrange interventional radiology if available (balloon occlusion / embolization) and activate massive transfusion protocol.

Doctor: How do I manage bleeding during and after removal?

Chatbot: Continue uterotonics (oxytocin infusion; consider Methylergometrine 0.2 mg IM unless hypertensive; Carboprost 250 mcg IM q15–20 min up to 8 doses—avoid in asthma; Misoprostol 800–1000 mcg PR as adjunct). If atony persists, insert a Bakri balloon (inflate 300–500 ml) and monitor drainage. Maintain warmed fluids and blood products as indicated by labs (aim fibrinogen ≥2 g/L).

Doctor: What should I document and communicate?

Chatbot: Record the time since birth, measures attempted, medications (dose and time), decision for MROP, intraoperative findings (degree of adherence), blood loss, products transfused, and postoperative plan. Communicate with the patient and family once stable, explaining the cause, procedures performed, and implications for future pregnancies.

Doctor: What is the postoperative care?

Chatbot: Observe in a high-acuity area initially. Monitor vitals, urine output, uterine tone, and vaginal bleeding. Continue antibiotics for 24 hours (longer if contamination or extensive manipulation). Provide thromboprophylaxis when bleeding risk allows. Arrange follow-up for anemia treatment and counselling.

Section 11 – Retained Placenta & Uterine Inversion

Context: Uterine Inversion

Doctor: During third stage, I felt a sudden severe pain reported by the patient, the uterus disappeared from the abdomen, and there is heavy bleeding with shock. What should I suspect?

Chatbot: Suspect an acute uterine inversion—a rare but catastrophic emergency. It presents with hemorrhage, vagal shock, and absence of a palpable fundus. Announce the emergency, call the senior obstetrician and anesthetist, and prepare the theatre.

Doctor: What are the first critical actions?

Chatbot: Two immediate principles: Do not remove the placenta if still attached, and stop all uterotonics (oxytocin, methylergometrine, carboprost). Begin aggressive resuscitation—two large-bore IV cannulas, bloods for CBC, coagulation, fibrinogen, cross-match, start warmed crystalloids, and give oxygen. Consider Tranexamic acid 1 g IV if significant bleeding.

Doctor: How do I correct the inversion?

Chatbot: Attempt the Johnson maneuver immediately at the bedside: grasp the inverted fundus with the palm and fingers and push it upward through the cervix along the long axis toward the umbilicus, using steady pressure. Maintain continuous pressure until the uterus passes the constriction ring and returns to its anatomical position.

Doctor: What if the cervix is constricted and I cannot replace the fundus?

Chatbot: Ask anesthesia to provide tocolysis or deep anesthesia to relax the uterus and cervix:

Nitroglycerin 50–100 µg IV boluses (can repeat) or Terbutaline 0.25 mg SC.

Alternatively, halogenated inhalational agents under GA can facilitate relaxation.

Once relaxation is achieved, retry the Johnson maneuver immediately.

Doctor: Should I consider any other technique if Johnson fails?

Chatbot: If manual replacement fails, move to theatre for the Hydrostatic (O’Sullivan) method: instill warm saline into the vagina using a sealed system with the patient in Trendelenburg; hydrostatic pressure may reverse the inversion. If unsuccessful and the cervix is constricted, surgical correction is required—Huntington (traction on round ligaments) or Haultain (posterior cervical ring incision) procedures under laparotomy.

Doctor: When do I give uterotonics again?

Chatbot: Only after the uterus has been successfully repositioned. Then give Oxytocin infusion immediately to maintain tone and prevent re-inversion, and consider Methylergometrine (unless hypertensive) or Carboprost (avoid in asthma) as needed. Maintain bimanual compression temporarily.

Doctor: How do I manage hemorrhage during an inversion?

Chatbot: Treat as major PPH: activate MTP, transfuse components in balanced ratios guided by labs/ROTEM, correct fibrinogen to ≥2 g/L with cryo/fibrinogen concentrate, and replace calcium. If atony persists after repositioning and uterotonics, insert a Bakri balloon. Maintain active warming and correct acidosis.

Doctor: Do I remove the placenta before or after reposition?

Chatbot: After. If the placenta is still attached, do not attempt removal until the uterus has been repositioned and is contracting—removal beforehand worsens bleeding and impedes replacement.

Doctor: What anaesthetic considerations should I keep in mind?

Chatbot: Anticipate hemodynamic instability and rapid blood loss. Anesthesia should secure the airway, support circulation with fluids/vasopressors, and provide the uterine relaxation needed for reduction. Communicate every step and prepare for rapid transition from relaxation to uterotonic maintenance post-reduction.

Doctor: What should I document?

Chatbot: Record the time of inversion, vital signs, resuscitative measures, drugs given with doses, reduction maneuvers used (Johnson/hydrostatic/surgical), timing of successful reposition, bleeding estimates, transfusion volumes, and postoperative plan. Note whether the placenta was attached and the time of its removal.

Doctor: How do I counsel the patient after recovery?

Chatbot: Explain clearly that an acute uterine inversion occurred, the steps taken to reverse it, and any transfusions or surgery performed. Discuss the risk of recurrence in future deliveries (low but present), emphasize active management of the third stage, avoidance of excessive cord traction, and the need for delivery in a hospital with experienced staff. Provide psychological support and schedule follow-up.

Doctor: Thank you, Doctor.

Chatbot: You’re welcome. In retained placenta and uterine inversion, time-critical decisions, coordinated anesthesia support, and precise technique determine outcomes. Think systematically—resuscitate, correct the underlying mechanism, and secure hemostasis.