

Diagnosis of Labour

First stage:

Latent phase

- Cervix less than 4 cm dilated.

Active phase

- Cervix between 4 cm and 10 cm dilated
- Rate of cervical dilatation at least 1 cm/hour
- Effacement is usually complete
- Fetal descent through birth canal begins.

Second stage:

Early phase (non-expulsive)

- Cervix fully dilated (10 cm)
- Fetal descent continues
- No urge to push.

Late phase (expulsive)

- Fetal presenting part reaches the pelvic floor and the woman has the urge to push
- Typically lasts <1 hour in primigravida and <30 minutes in multigravida.

- Carry out vaginal examinations at least once every 4 hours in the first stage of labour and plot the findings on the partograph.
- The partograph is very helpful in monitoring the progress of labour and in the early detection of abnormal labour patterns.

Diagnosis of Vaginal bleeding in Early Pregnancy

Presenting symptoms and other symptoms and signs typically present	Symptoms and signs sometimes present	Probable diagnosis
<ul style="list-style-type: none"> • Light¹ bleeding • Closed cervix • Uterus corresponds to dates 	<ul style="list-style-type: none"> • Cramping/lower abdominal pain • Uterus softer than normal 	<ul style="list-style-type: none"> • Threatened abortion
<ul style="list-style-type: none"> • Light bleeding • Abdominal pain • Closed cervix • Uterus slightly larger than normal • Uterus softer than normal 	<ul style="list-style-type: none"> • Fainting • Tender adnexal mass • Amenorrhoea • Cervical motion tenderness 	<ul style="list-style-type: none"> • Ectopic pregnancy
<ul style="list-style-type: none"> • Light bleeding • Closed cervix • Uterus smaller than dates • Uterus softer than normal 	<ul style="list-style-type: none"> • Light cramping/lower abdominal pain • History of expulsion of products of conception 	<ul style="list-style-type: none"> • Complete abortion
<ul style="list-style-type: none"> • Heavy² bleeding • Dilated cervix • Uterus corresponds to dates 	<ul style="list-style-type: none"> • Cramping/lower abdominal pain • Tender uterus • No expulsion of products of conception 	<ul style="list-style-type: none"> • Inevitable abortion
<ul style="list-style-type: none"> • Heavy bleeding • Dilated cervix • Uterus smaller than dates 	<ul style="list-style-type: none"> • Cramping/lower abdominal pain • Partial expulsion of products of conception 	<ul style="list-style-type: none"> • Incomplete abortion
<ul style="list-style-type: none"> • Heavy bleeding • Dilated cervix • Uterus larger than dates • Uterus softer than normal • Partial expulsion of products of conception which resemble grapes 	<ul style="list-style-type: none"> • Nausea/vomiting • Spontaneous abortion • Cramping/lower abdominal pain • Ovarian cysts (easily ruptured) • Early onset pre-eclampsia • No evidence of a fetus 	<ul style="list-style-type: none"> • Molar pregnancy

¹ Light bleeding: takes longer than 5 minutes for a clean pad or cloth to be soaked

² Heavy bleeding: takes less than 5 minutes for a clean pad or cloth to be soaked

Diagnosis of Vaginal bleeding in Late Pregnancy

Presenting symptoms and other symptoms and signs typically present	Symptoms and signs sometimes present	Probable diagnosis
<ul style="list-style-type: none"> • Bleeding after 22 weeks gestation (may be retained in the uterus) • Intermittent or constant abdominal pain 	<ul style="list-style-type: none"> • Shock • Tense/tender uterus • Decreased/absent fetal sounds • Fetal distress or absent fetal heart sounds 	<ul style="list-style-type: none"> • Abruptio placentae
<ul style="list-style-type: none"> • Bleeding (intra-abdominal and/or vaginal) • Severe abdominal pain (may decrease after rupture) 	<ul style="list-style-type: none"> • Shock • Abdominal distension/free fluid • Abnormal uterine contour • Tender abdomen • Easily palpable fetal parts • Absent fetal movements and fetal heart sounds • Rapid maternal pulse 	<ul style="list-style-type: none"> • Ruptured uterus
<ul style="list-style-type: none"> • Bleeding after 22 weeks gestation 	<ul style="list-style-type: none"> • Shock • Bleeding may be precipitated by intercourse • Relaxed uterus • Fetal presentation not in pelvis/lower uterine pole feels empty • Normal fetal position 	<ul style="list-style-type: none"> • Placenta previa

Management of bleeding in Late pregnancy, and labour and postpartum haemorrhage

1. Monitor blood loss, vital signs and urine output and treat appropriately. Remember bleeding can recur.
2. After bleeding is controlled (24 hours after bleeding stops), determine haemoglobin or haematocrit to check for anaemia and treat appropriately.
3. Record details of problems and procedures carried out.
4. Inform the woman about these and provide her with a written summary. Provide counselling and advise on prognosis for fertility and childbirth.
5. Schedule a follow-up visit at 4 weeks.

Diagnosis and Management of abortion complications

Symptoms and Signs	Complication	Management
<ul style="list-style-type: none"> • Lower abdominal pain • Rebound tenderness • Tender uterus • Prolonged bleeding • Malaise • Fever • Foul-smelling vaginal discharge • Purulent cervical discharge • Cervical motion tenderness 	<ul style="list-style-type: none"> • Infection • Sepsis 	<ul style="list-style-type: none"> • Begin antibiotics¹ as soon as possible before attempting manual vacuum aspiration.
<ul style="list-style-type: none"> • Cramping abdominal pain • Rebound tenderness • Abdominal distension • Rigid (hard and tense) abdomen • Shoulder pain • Nausea/vomiting • Fever 	<ul style="list-style-type: none"> • Uterine, vagina, or bowel injuries 	<ul style="list-style-type: none"> • Perform a laparotomy to repair the injury and perform manual vacuum aspiration simultaneously. Seek assistance, if required.

¹Give antibiotics until the woman is fever-free for 48 hours

- Ampicillin 2g IV every 6 hours
- *Plus* gentamicin 5mg/kg body weight IV every 24 hours
- *Plus* metronidazole 500mg IV every 8 hours

Severe Pre-Eclampsia and Eclampsia

	Mild pre-eclampsia	Severe pre-eclampsia
Diastolic blood pressure	<110	110
Proteinuria	Up to 2+	3+ or more
Headache	No	One or more of these conditions may be present
Visual disturbances	No	
Hyperreflexia	No	
Urine output <400 ml	No	
Epigastric or right upper quadrant pain	No	
Pulmonary oedema	No	

Severe pre-eclampsia and eclampsia are managed similarly, with the exception that delivery must occur within 12 hours of the onset of convulsions in eclampsia.

All cases of severe pre-eclampsia should be managed actively. Symptoms and signs of “impending eclampsia” (blurred vision, hyperreflexia) are unreliable and expectant management is not recommended.

Eclampsia Management

Immediate management of a pregnant woman or a recently delivered woman who complains of severe headache or blurred vision, or if a pregnant woman or a recently delivered woman is found unconscious or having convulsions:

SHOUT FOR HELP

1. Make a quick assessment of the general condition of the woman, including vital signs (pulse, blood pressure, respiration) while simultaneously finding out the history of her present and past illnesses from her or her relatives:
 - Check airway and breathing,
 - Position her on her side,
 - Check for neck rigidity and temperature.

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Eclampsia Management (continued)

2. If she is not breathing or her breathing is shallow:
 - Open airway and intubate, if required;
 - Assist ventilation using an Ambu bag and mask;
 - Give oxygen at 4–6 litres per minute.
3. If she is breathing, give oxygen at 4–6 litres per minute by mask or nasal cannulae.
4. If she is convulsing:
 - Protect her from injury, but do not actively restrain her;
 - Position her on her side to reduce the risk of aspiration of secretions, vomit and blood;
 - After the convulsion, aspirate the mouth and throat as necessary. Look in the mouth for a bitten tongue: it may swell.
5. Give magnesium sulfate. If a convulsion continues in spite of magnesium sulfate, consider diazepam 10 mg IV.
6. If diastolic blood pressure remains above 110 mmHg, give antihypertensive drugs. Reduce the diastolic pressure to less than 100 mmHg, but not below 90 mmHg.
7. Fluids:
 - Start an IV infusion,
 - Maintain a strict fluid balance chart and monitor the volume of fluids, administered and urine output to ensure that there is no fluid overload,
 - Catheterize the bladder to monitor urine output and proteinuria.

If urine output is less than 30 ml per hour:

 - Withhold magnesium sulfate until urine output improves;
 - Infuse a maintenance dose of IV fluids (normal saline or Ringer's lactate) at 1 litres in 8 hours;
 - Monitor for the development of pulmonary oedema.
 - Never leave the woman alone. A convulsion followed by aspiration of vomit may cause death of the woman and fetus.
8. Observe vital signs, reflexes and fetal heart rate hourly.
9. Auscultate the lung bases hourly for rales indicating pulmonary oedema. If rales are heard, withhold fluids and give frusemide 40 mg IV once.
10. Assess clotting status.

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Eclampsia Management (continued)

Anticonvulsant drugs

- Adequate administration of anticonvulsive drugs is a key factor in anticonvulsive therapy.
- Magnesium sulfate is the drug of first choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia.

Magnesium sulfate schedules for severe pre-eclampsia and eclampsia

Loading dose

- Magnesium sulfate 20% solution 4 g IV over 5 minutes
- Follow promptly with 10 g of 50% magnesium sulfate solution, 5 g in each buttock, as deep IM injection with 1.0 ml of 2% lidocaine in the same syringe
- Ensure that aseptic technique is practiced when giving magnesium sulfate deep IM injection; warn the woman that a feeling of warmth will be felt when magnesium sulfate is given
- If convulsions recur after 15 minutes, give 2 g magnesium sulfate (50% solution) IV over 5 minutes

Maintenance dose

- 5 g magnesium sulfate (50% solution) + 1 ml lidocaine 2% IM every 4 hours into alternate buttocks
- Continue treatment with magnesium sulfate for 24 hours after delivery or the last convulsion, whichever occurs last.
- Before repeat administration, ensure that
 - Respiratory rate is at least 16 per minute
 - Patellar reflexes are present
 - Urinary output is at least 30 ml per hour over the last 4 hours
- Withhold or delay drug if:
 - Respiratory rate falls below 16 per minute
 - Patellar reflexes are absent
 - Urinary output falls below 30 ml per hour over preceding 4 hours
- In case of respiratory arrest:
 - Assist ventilation (mask and bag; anaesthesia apparatus; intubation)
 - Give calcium gluconate 1 gm (10 ml of 10% solution) IV slowly until the drug antagonizes the effects of magnesium sulfate and respiration begins.

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Eclampsia Management (continued)

IV Diazepam schedules for severe pre-eclampsia and eclampsia

Loading dose

- Diazepam 10 mg IV (intravenous) slowly over 2 minutes
- If convulsions recur, repeat loading dose

Maintenance dose

- Diazepam 40 mg in 500 ml IV fluids (normal saline or Ringer's lactate) titrated to keep the patient sedated but rousable
- Do not give more than 100 mg in 24 hours

Use diazepam only if magnesium sulfate is not available.

Antihypertensive drugs

- If the diastolic pressure is 110 mmHg or more, give antihypertensive drugs.
- Goal is to keep the diastolic pressure between 90 mmHg and 100 mmHg to prevent cerebral haemorrhage. Avoid hypotension.
- Hydralazine is the drug of choice:
 1. Give hydralazine 5 mg IV slowly every 5 minutes until blood pressure is lowered. Repeat hourly as needed or give hydralazine 12.5 mg IM every 2 hours as needed.
 2. If hydralazine is not available:
Give labetalol 10 mg IV:
 - If response is inadequate (diastolic blood pressure remains above 110 mmHg) after 10 minutes, give labetalol 20 mg IV
 - Increase dose to 40 mg and then 80 mg if satisfactory response is not obtained within 10 minutes of each dose

Or Nifedipine 5 mg chewed and swallowed or injected into the oropharynx; may be repeated at 10-minute intervals

Or Nicardipine 1–2 mg at one minute intervals until control is obtained, then 1–2 mg every hour.

Rectal administration of drugs

1. Give diazepam rectally when IV access is not possible. The loading dose of 20 mg is taken in a 10 ml syringe.
2. Remove the needle, lubricate the barrel and insert the syringe into the rectum to half its length. Discharge the contents and leave the syringe in place, holding the buttocks together for 10 minutes to prevent expulsion of the drug. Alternatively, instill the drug in the rectum through a urinary catheter. If convulsions are not controlled within 10 minutes, inject an additional 10 mg per hour or more, depending on the size of the woman and her clinical response.

Caesarean Section

Preparation Steps

1. Review indications. Check fetal presentation and ensure that vaginal delivery is not possible.
2. Obtain consent from the patient after explaining the procedure and the reason for it.
3. Check the patient's haemoglobin concentration, but do not wait for the result if there is fetal or maternal distress or danger. Send the blood sample for type and screen. If the patient is severely anaemic, plan to give two units of blood.
4. Start an IV infusion.
5. Give sodium citrate 30 ml 0.3 molar and/or ranitidine 150 mg orally or 50 mg IV to reduce stomach acidity. Sodium citrate works for 20 minutes only so should be given immediately before induction of anaesthesia if a general anaesthetic is given.
6. Catheterize the bladder and keep a catheter in place during the operation.
7. If the baby's head is deep down into the pelvis, as in obstructed labour, prepare the vagina for assistance at caesarean delivery.
8. Roll the patient 15° to her left or place a pillow under her right hip to decrease supine hypotension.
9. Listen to the fetal heart rate before beginning surgery.

Aftercare of obstetric emergencies

Abortion

- Reassure the woman that the chances for a subsequent successful pregnancy are good unless there has been sepsis or a cause of the abortion is identified that may have an adverse effect on future pregnancies (this is rare).
- The woman should be encouraged to delay the next pregnancy until she is completely recovered.
- If pregnancy is not desired, certain methods of family planning can be started immediately (within 7 days) provided there are no severe complications requiring further treatment.
- Also identify any other reproductive health services that a woman may need:
 - Tetanus prophylaxis or tetanus booster
 - Treatment for sexually transmitted diseases (STDs)
 - Cervical cancer screening

Ectopic pregnancy

- Prior to discharge, provide counselling, a family planning method, if desired and advice on prognosis for fertility.
- Correct anaemia with oral iron.
- Schedule a follow-up visit at 4 weeks.

Molar pregnancy

- Recommend a hormonal family planning method for at least 1 year to prevent pregnancy. Voluntary tubal ligation may be offered if the woman has completed her family.
- Follow up every 8 weeks for at least 1 year with urine pregnancy tests because of the risk of persistent trophoblastic disease or choriocarcinoma.
 - If the urine test becomes positive, refer the woman to a tertiary care centre for further follow-up and management.