Treating Postpartum Haemorrhage

Initial early recognition and action

Call for help and consider involving other clinicians early

- Allocate roles.
  - Include care of baby, partner and whānau (including interpreting services and appropriate cultural support).

Assess and arrest bleeding

- Lie the woman/person flat.
- Massage fundus to expel clots.
- Deliver placenta.
- Place baby skin to skin.
- Administer oxytocin 10 units IM or 5 units IV, or Syntometrine® 1 mL IM (total Syntometrine® dose should not exceed 3 mL in 24 hours).
- Empty bladder.
- Measure cumulative blood loss and assess condition.

Identify cause

- Consider the 4 Ts:
  - **tone** – uterine atony
  - **trauma** – lacerations or rupture
  - **tissue** – retained placenta
  - **thrombin** – coagulopathy.

Minimise impact of blood loss

- Insert large bore IV cannula (16 g or 18 g).
- Take blood for FBC, group and hold, coagulation.
- Consult with specialist obstetrician.
- Start rapid IV fluid replacement with crystalloids (eg, sodium chloride 0.9%, Hartmann's).
- Consider tranexamic acid (1 g/10 mL IV at 1 mL per minute) for all PPH.

Maternal observations and clinical assessment*

- Use MEWS to assess and document:
  - blood pressure, pulse, respiratory rate, temperature, cumulative blood loss, fluid balance.

Blood loss stops and condition of woman/person is stable

- Continue observations and clinical assessments using MEWS.
- Document plan for ongoing care (including care location).
- Ensure adequate level of observation by health practitioner, or by partner or whānau with access to health practitioner or emergency services.
- Watch for further blood loss.
- Check haemoglobin via FBC.
- After the event, consider a culturally safe opportunity to discuss, reflect and debrief.

* Health professionals consistently underestimate blood loss; healthy people compensate: tachycardia and hypotension are late signs; agitation or restlessness indicates hypovolaemia.

Note:
FBC = full blood count;
IM = intramuscular;
IV = intravenous;
MEWS = Maternal Early Warning Score;
PPH = postpartum haemorrhage.

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Ongoing significant bleeding

Don't delay transfer to secondary/tertiary obstetric service

- Allocate care of baby and support for partner and whānau to suitable people.
- Start oxytocin infusion (40 units in sodium chloride 0.9% 500 mL over 4 hours).
- Reconsider the 4 Ts and apply bimanual compression to stop blood loss.
- Ask senior obstetric and midwifery team to attend immediately or be immediately available on arrival if transferring woman/person to a secondary/tertiary obstetric service.

Call for additional support

- Consult with obstetric and anaesthetic teams.
- Prepare theatre.
- Inform laboratory of major PPH.
  - Send blood to lab on arrival: FBC, cross-match, APTT and fibrinogen.
  - Point-of-care testing of haemoglobin and coagulation, where available
  - Request blood for transfusion.

Assess and arrest bleeding:

- Reconsider the 4 Ts and AFE.
- Measure cumulative blood loss and assess condition of woman/person.
- Insert second large-bore IV cannula (16 g or 18 g).
- Massage the fundus to expel clots and consider further bimanual compression (if needed).
- Insert indwelling catheter.
- Administer Syntometrine® 1 mL IM if not given already.
- Consider additional tranexamic acid (1 g/10 mL IV at 1 mL per minute) if ongoing bleeding after 30 minutes and if tranexamic acid has not already been administered.
- Administer carboprost* 250 micrograms IM or intrauterine every 15 minutes (maximum of 8 doses).
- Consider examination under anaesthetic for:
  - removal of retained placenta/products
  - repair of tears
  - intrauterine tamponade balloon or packing.

Resuscitation

- Give crystalloids (maximum 2–3 L).
- Give red cell transfusion as soon as possible (may require O negative blood until type-specific blood is available).

Maternal observations and clinical assessment

- Use MEWS to assess and document blood pressure, pulse, respiratory rate, temperature, cumulative blood loss, fluid balance.

Blood loss stops and condition of woman/person is stable

- Continue observations and clinical assessments using MEWS and monitor blood loss.
- Document plan for ongoing care (including care location).
- Ensure 1:1 care.
- Check haemoglobin via FBC.
- Consider IV iron replacement promptly, applying a low threshold for prescribing.
- After the event, ensure a culturally safe opportunity to discuss, reflect and debrief.

* Carboprost can cause severe bronchospasm: avoid use if woman/person has a history of asthma or bronchospasm.

Note:

AFE = amniotic fluid embolism
APTT = activated partial thromboplastin time
FBC = full blood count
IM = intramuscular
IV = intravenous
MEWS = Maternal Early Warning Score
PPH = postpartum haemorrhage

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Treating Postpartum Haemorrhage

Ongoing uncontrolled bleeding

Call for additional help

- Transfer clinical responsibility for care to senior obstetrician and senior anaesthetist.
- Consult with haematologist/transfusion medicine specialist.
- Transfer to operating theatre.
- Ensure support for partner and whānau.

Assess and arrest bleeding

- Reconsider the 4 Ts and AFE.
- Consider other options if appropriate:
  - uterine compression suture (with or without tamponade balloon/packing)
  - uterine artery ligation
  - internal iliac embolisation
  - aortic compression.
- Consider laparotomy.
- Consider early recourse to hysterectomy.

Resuscitation

- Initiate massive transfusion protocol where available.*
- Assess coagulation status including fibrinogen.
- Administer blood and blood products guided by laboratory and point-of-care tests of haemoglobin and coagulation (aim for APTT <40 s, PR <1.5, platelets >75 x 109/L, fibrinogen >2 g/L).
- Avoid hypothermia, hypocalcaemia and acidosis by keeping patient warm and warming all fluids and blood products (if warming facilities are available).
- Consider cell salvage.

Maternal observations and clinical assessment

- Consider arterial line or central venous line.
- Use MEWS to assess and document blood pressure, pulse, respiratory rate, temperature, oxygen saturation:
  - document cumulative blood loss and accurate fluid balance (hourly urine output).
  - FBC and coagulation studies at least hourly until blood loss stops.

Blood loss stops and condition of woman/person is stable

- Make plan for ongoing care.
- Consider transfer to intensive care unit, high dependency unit or acute observation unit.
- Consider IV iron replacement promptly, applying a low threshold for prescribing.
- After the event, ensure a culturally safe opportunity to discuss, reflect and debrief.

Ongoing culturally safe communication

- Communicate with woman/person, partner and whānau to ensure informed consent.
- Explain what is happening.
- Answer questions about risks/benefits of treatment, escalation, etc.
- Provide for appropriate cultural practices where possible.

* Many units use an MTP. The underlying principle of all MTPs is early recognition and prevention of worsening coagulation.

Note:
AFE = amniotic fluid embolism; **APTT** = activated partial thromboplastin time; **FBC** = full blood count; **IV** = intravenous; **MEWS** = Maternal Early Warning Score; **MTP** = massive transfusion protocol; **PR** = prothrombin ratio.

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