



## Summary Document

# POSTPARTUM HEMORRHAGE: AN AOM CLINICAL PRACTICE GUIDELINE

This summary provides easy access to some of the most essential content of **AOM CPG No. 17 – Postpartum Hemorrhage**, and it is intended for use in conjunction with the full-length CPG. For a complete analysis of the research relevant to the midwife’s management of atonic postpartum hemorrhage (PPH), along with all citations, refer to the full CPG.

## DEFINITION OF PPH

PPH has historically been defined as blood loss  $\geq 500$  mL following vaginal birth and  $\geq 1000$  mL following caesarean birth. Using a higher threshold to define PPH may reduce the tendency to categorize blood loss that is higher than these standard thresholds but does not lead to signs and symptoms of hypovolemic shock, as hemorrhage. This could result in less pathologization of normal blood loss and reduce unnecessary intervention. Clinically, any amount of blood loss that results in signs and symptoms of hypovolemic shock or hemodynamic instability should be considered PPH. (1)

### Good Practice Statement:

1. Midwives should consider a postpartum hemorrhage to be:
  - Postpartum blood loss  $\geq 1000$  mL;
  - Any postpartum blood loss that causes signs and symptoms of hypovolemic shock or hemodynamic instability. **[new 2024]**

#### Good practice statement

*This good practice statement recognizes that blood loss and its physiologic consequences vary across individuals. Midwives use various clinical indicators and account for community standards and hospital protocols to guide timely decision-making. They are skilled at responding to emergency situations in all birthplace settings.*

## INCIDENCE OF PPH

Primary PPH is estimated to occur in 2% to 6% of all births worldwide. (18,19) Between 2020 and 2022, the rate of PPH was 3% in Ontario. (2) In Janssen et al.’s study of outcomes of births attended by midwives in British Columbia, PPH occurred in 3.8% of planned home births and 6% of planned hospital births. (3) In Hutton et al.’s study of Ontario midwifery births, PPH was documented in 2.5% of home births and 3.0% of hospital births. (4)

# CAUSES AND COMPLICATIONS OF PPH

The pathophysiology of PPH can be conceptualized by the Four Ts: tone, tissue, trauma and thrombin. Birthing parent deaths and severe adverse outcomes due to PPH are rare. (5,6) Potential complications of PPH include organ dysfunction, coagulopathy, sepsis and pituitary infarction (Sheehan’s syndrome). (1,7,8) Less severe clinical outcomes include iron deficiency anemia, fatigue and delayed lactogenesis. (9,10)

# RISK FACTORS ASSOCIATED WITH PPH

Most factors are not strongly predictive of PPH, which often occurs in the absence of risk factors. It is unclear how multiple risk factors affect overall risk of PPH. Black birthing parents experience inequitable rates of PPH, higher risks of severe morbidity and inequities in levels of care. (11–13) Though many researchers incorrectly attribute inequities to biological differences, midwives should recognize systemic racism as a root cause of harm. In addition to the factors presented in the table below, anemia, assisted reproductive therapy, induction or augmentation of labour and duration of labour also increase the risk of PPH.

## SELECTED RISK FACTORS FOR ATONIC POSTPARTUM HEMORRHAGE

Stronger risk factors	Moderate risk factors	Weaker risk factors
<b>Known before birth</b>		
Placenta previa	<ul style="list-style-type: none"> <li>• Multifetal gestation</li> <li>• Uterine fibroids</li> <li>• Chorioamnionitis</li> <li>• Previous PPH</li> <li>• Hypertensive disorders of pregnancy</li> <li>• Parity &gt; 5</li> <li>• Previous CS</li> </ul>	<ul style="list-style-type: none"> <li>• BMI ≥ 30 kg/m2</li> <li>• Age &lt; 20</li> <li>• SSRI exposure</li> <li>• 32-36 weeks’ GA</li> <li>• Polyhydramnios</li> <li>• Parity = 0</li> <li>• Age ≥ 40</li> </ul>
<b>Known after birth</b>		
	<ul style="list-style-type: none"> <li>• CS with labour</li> <li>• Birthweight &gt; 4500 g</li> <li>• CS</li> <li>• Instrumental delivery (forceps or vacuum)</li> <li>• CS without labour</li> </ul>	

### Good Practice Statement:

- Midwives should recognize and address systemic racism and colonialism as causes of inequitable PPH outcomes for racialized clients. Midwives should engage in ongoing self-reflection, provide equitable access and advocacy, and support racially concordant client care. [new 2024]

#### Good practice statement

*This good practice statement recognizes that racism, not biological difference, impacts inequitable rates of PPH for racialized clients. Acknowledging and addressing one’s own implicit biases, as well as structural racism embedded in the health-care system, works toward closing gaps in the quality and safety of care for Indigenous, Black and racialized clients, and other equity-denied birthing communities.*

### Good Practice Statement:

3. Identification of risk factors for PPH should occur in an ongoing manner throughout the course of antenatal and intrapartum care. Midwives should consider their clients' risk factors, preferences, values and risk tolerance, in informed choice discussions about options for management of the third stage of labour and choice of birthplace. [2024]

#### Good practice statement

*This good practice statement recognizes continuity of care and midwives' abilities to identify emerging risk factors for PPH, as well as the client as the primary decision-maker.*

## APPROACHES TO MANAGEMENT OF THE THIRD STAGE

### DEFINING THIRD-STAGE MANAGEMENT APPROACHES

#### Expectant management

Expectant third-stage management has been characterized as a hands-off approach:

- A uterotonic agent is not administered prophylactically;
- Placental separation is awaited without intervention;
- Cord clamping is delayed;
- The placenta is born spontaneously through birthing parent effort or gravity alone.

#### Physiologic management

Physiologic management encompasses many of the same components as expectant management (e.g., absence of uterotonic, no controlled cord traction, delivery of optimal cord clamping). However, it also includes actions to promote the physiologic processes of the third stage, stimulating parasympathetic processes and producing a cascade of hormones that stimulate the endogenous physiologic processes of the third stage of labour. (14–16) The following factors are often included:

- Facilitating a comfortable, warm environment;
- Encouraging an upright position to facilitate birth of placenta;
- Refraining from fundal massage;
- Occasionally “lifting” or “easing” the cord to bring out the placenta once separation has occurred;
- Facilitating immediate skin-to-skin contact with the newborn and early chest/breastfeeding.

#### Active management

Historically, an active management package included the administration of uterotonic agents, controlled cord traction (CCT) and uterine massage after delivery of the placenta as ways to prevent PPH. Today active management is increasingly defined as the use of a prophylactic uterotonic alone (8,83). No guideline groups recommend uterine massage.

### THIRD-STAGE MANAGEMENT: ACTIVE VS. EXPECTANT

Results from meta-analyses of four RCTs (n = 4829) show that when compared with expectant management, active management probably reduces blood loss  $\geq 500$  mL, blood transfusion and use of therapeutic uterotonics, while likely increasing afterpains for **low-risk participants**. It may also increase postnatal vomiting and return to hospital for this population. (19) For participants at both low and high risk of PPH, the findings are similar, although the evidence suggests that active management may also reduce rates of blood loss  $\geq 1000$  mL.

Results from these studies should be interpreted with caution due to their design, implementation and limited applicability to Ontario midwifery. In these studies, active management packages included uterotonics that are no longer in routine use; early cord clamping, which is no longer recommended; and CCT. Expectant management packages do not reflect actions taken by midwives when active management is not chosen.

## THIRD-STAGE MANAGEMENT: ACTIVE VS. PHYSIOLOGIC

Results from three large observational studies (n = 53 398) show that optimal physiologic management by midwives may be more effective at reducing rates of blood loss  $\geq 500$  mL and  $\geq 1000$  mL, compared with active management. (16, 20, 54)

## THIRD-STAGE MANAGEMENT: ADDITIONAL CONSIDERATIONS

**Cultural safety:** It is critical that cultural ceremonies be honoured, and that midwives provide culturally safe care to support and advocate for Indigenous clients in all health-care settings.

**Choice of birthplace:** In all birth settings, research shows that active management is associated with an increased risk of blood loss  $\geq 1000$  mL compared with physiologic management. (20)

**Delayed cord clamping:** This method has become the standard of care across Ontario, regardless of third-stage management approach, due to its substantive benefits.

**Chest/breastfeeding and skin-to-skin contact:** Chest/breastfeeding and skin-to-skin contact can stimulate the release of oxytocin, which can help with uterine contraction, thus potentially reducing the risk of PPH.

**Herbal and homeopathic remedies:** Midwives who support clients in the use of natural health products must have the appropriate knowledge, skills and judgment to do so.

### Recommendations and Good Practice Statement:

4. Midwives should discuss the risks and benefits of physiologic management and active management with clients as part of an informed choice discussion. This discussion should address:

- How risk factors, if present, may increase a client's risk of PPH and impact considerations about choice of birthplace;
- The client's preferences, values and risk tolerance;
- The client's cultural practices associated with the third stage.

This discussion, including the client's choice, should be appropriately documented. [2024]

#### **Strong recommendation: low certainty of evidence**

*This recommendation recognizes multiple reasonable approaches to third-stage management, including evidence that supports physiologic management by midwives. It also recognizes that the presence of one or more risk factors is not necessarily predictive of PPH, and that the client is the primary decision-maker.*

5. Regardless of the third-stage management approach chosen, midwives should:

- Offer delayed cord clamping;
- Encourage immediate skin-to-skin contact, early chest/breastfeeding and other measures that may encourage the release and uptake of oxytocin;
- Support the client's cultural practices and preferences associated with the third stage;
- Await signs of placental separation and monitor for excessive blood loss. [new 2024]

#### **Good practice statement**

*This good practice statement recognizes the benefits of delayed cord clamping and physiologic processes that encourage the release and uptake of oxytocin. It also recognizes midwives' ability to assess and monitor clients for signs of PPH and respond to emergency situations as they emerge.*

6. When physiologic management is chosen, midwives should:

- Await signs of placental separation;
- Allow the placenta to be born spontaneously with birthing parent effort or gravity;
- Consider guiding out the placenta after separation;
- Support other hormonal, psychological and physiologic processes that encourage endogenous oxytocin production, such as maintaining a calm, warm environment and upright positioning. [2024]

#### **Strong recommendation: low certainty of evidence**

*This recommendation supports physiologic birth, recognizing observational literature that demonstrates the benefits of physiologic management packages provided by midwives.*

## COMPONENTS OF THE ACTIVE MANAGEMENT PACKAGE

### TYPE OF UTEROTONIC

Results from a network meta-analysis that included 196 RCTs (n = 135 559) demonstrate that oxytocin is more effective than misoprostol, injectable prostaglandins or ergometrine, with fewer side effects for active management of the third stage in vaginal births. (21) Carbetocin appears to be similar in efficacy to oxytocin, if not more effective for individuals who have vaginal births. However, its effect on blood loss  $\geq 1000$  mL and hypertension is unclear, and further research is required.

#### Route of administration

Systematic review evidence shows that IV oxytocin reduces the rate of blood transfusion and the risk of blood loss  $\geq 500$  mL, and it probably reduces rates of blood loss  $\geq 1000$  mL and serious birthing parent morbidity compared with IM administration. (22) It may also reduce the need for additional uterotonics. Though research suggests that IV administration may be more effective for the prevention of PPH, both IV and IM administration of oxytocin are reasonable options.

#### Timing of administration

One small RCT (n = 600) found that there may be little to no difference in the risk of blood loss  $\geq 600$  mL when oxytocin is administered either one minute after delivery of anterior shoulder or after birth. (23) Waiting until after birth to administer a prophylactic uterotonic in clients without prenatal ultrasounds reduces the risk of theoretically entrapping an undiagnosed twin. (24)

#### Controlled cord traction

A meta-analysis of four RCTs found that CCT, as part of active management, slightly reduces the risk of blood loss  $\geq 500$  mL, and it reduces rates of manual removal of the placenta and levels of pain. (25,26) Effective counterpressure is critical to avoid uterine prolapse and/or inversion. (27)

#### Recommendation:

7. When active management is chosen for the prevention of PPH, midwives should:
  - Use oxytocin as the uterotonic (IV or IM);
  - Consider carbetocin, where available, as a reasonable alternative to oxytocin;
  - Consider CCT, while guarding the uterus, after the placenta has separated. [new 2024]

#### **Strong recommendation: moderate certainty of evidence**

*This recommendation recognizes a large body of research in support of oxytocin as an effective strategy to prevent blood loss with minimal side effects compared with other uterotonics. It also recognizes the small body of evidence supporting the use of CCT as part of an active management package.*

### ADJUNCTS TO OXYTOCIN

#### Uterotonics

Concurrent administration of misoprostol plus oxytocin and ergometrine plus oxytocin may both result in fewer cases of blood loss  $\geq 500$  mL compared with prophylactic use of oxytocin alone. However, these combinations also have significant side effects, including vomiting and fever. Ergometrine is vasoconstrictive and may increase the risk of retained placenta. (15,28)

#### Tranexamic acid

Systematic review evidence found simultaneous administration of TXA with oxytocin prophylactically reduces the need for blood transfusions and additional uterotonics, and it probably reduces rates of blood loss  $\geq 500$  mL and  $\geq 1000$  mL compared with oxytocin with placebo or no treatment. TXA increases rates of nausea or vomiting, but it likely does not increase thromboembolic events.

### Recommendation:

8. Midwives may consider concurrent administration of an additional uterotonic with oxytocin for active management of the third stage of labour, according to the clinical picture. [new 2024]

**Weak recommendation: low certainty of evidence**

*This recommendation recognizes that midwives use knowledge, skills and judgment to determine if adjuncts are required, alongside a consideration of risks and benefits, client risk factors, client preferences and values and birthplace setting.*

## Uterine massage

Three RCTs found that routine use of uterine massage in an active management package may make little to no difference to blood loss, use of additional uterotonics, blood transfusion or other hemostatic procedures. (29–31) However, one-third of participants reported pain or discomfort with uterine massage.

### Recommendation:

9. Uterine massage is not recommended as a routine component of active management of the third stage. [2024]

**Strong recommendation: low certainty of evidence**

*This recommendation recognizes that the available research does not support the routine use of uterine massage after prophylactic oxytocin has been administered, as it introduces potential harm to clients with no clear benefit. There is no evidence available on the use of routine uterine massage where no prophylactic uterotonic has been administered.*

## ASSESSING UTERINE TONE AND BLOOD LOSS

### FUNDAL TONE ASSESSMENT

After delivery of the placenta, fundal checks allow for confirmation of uterine tone. No studies were found on their effectiveness, despite routine use. (13)

#### Summary statement

- Fundal tone assessment is an important part of how midwives assess uterine atony and monitor for possible complications. Fundal tone assessments do not include routine rubbing or massaging of the uterus and should be conducted with minimal disruption of the parent-infant dyad.

## MEASUREMENT OF BLOOD LOSS

### Calibrated drapes

One RCT (n = 5561) found that calibrated drapes, compared with visual estimation, may slightly reduce severe morbidity, blood transfusions and use of therapeutic uterotonics, and they may slightly increase rates of manual removal of the placenta. (32) Compared with gravimetric methods, use of calibrated drapes resulted in an increase in reported blood  $\geq 500$  mL and a reduction in rates of operative procedures and manual removal of the placenta. (32)

### Gravimetric methods

Three retrospective studies showed that visual methods may underestimate blood loss compared with gravimetric methods. They may also result in a longer length of stay (2.6 vs. 3.2 days). (33–35) We are very uncertain of these results.

Though visual estimation can be used regardless of birthplace, calibrated drapes and gravimetric methods may not be accessible, practical or preferred by clients in all settings.

### Recommendation:

10. Midwives should routinely estimate blood loss visually. Quantitative methods may be used where feasible. [new 2024]

**Weak recommendation: low certainty of evidence**

*This recommendation recognizes the limits of the research evidence on methods of blood loss estimation. It also recognizes the limited feasibility of implementing quantitative blood loss measurement outside of hospital settings and settings with limited care providers.*

## PHARMACOLOGICAL TREATMENT OF PPH

### FIRST-LINE TREATMENT

Compared with oxytocin, misoprostol appears to be less effective in first-line treatment of PPH, and it introduces significant side effects. A network meta-analysis of low certainty of evidence found that for every 1000 clients, administration of misoprostol vs. oxytocin may result in 54 more cases of additional blood loss  $\geq 500$  mL, 26 more cases of additional uterotonic use, 11 more cases of additional blood loss  $\geq 1000$  mL and 34 more cases of fever. Misoprostol also likely increases the risk of blood transfusion and vomiting. (36)

### Recommendation:

11. Midwives should use oxytocin as the first-line uterotonic for the treatment of PPH due to uterine atony. [2024]

**Strong recommendation: moderate certainty of evidence**

*This recommendation acknowledges the effectiveness of oxytocin as a first-line treatment. Further research on the efficacy of carbetocin compared with oxytocin is required.*

### ADJUNCTS TO FIRST-LINE TREATMENT

#### Additional uterotonics

A network meta-analysis found that misoprostol plus oxytocin is likely more effective than oxytocin alone, resulting in 34 fewer cases of blood loss  $\geq 500$  mL and four fewer cases of blood loss  $\geq 1000$  mL per 1000 clients. However, the addition of misoprostol likely increases the number of individuals who experience fever (312 more per 1000) and vomiting (29 more per 1000). With adjuncts, midwives must balance the benefits against the increased risk of side effects.

### Recommendation:

12. Midwives may consider concurrent administration of an additional uterotonic with oxytocin for the treatment of PPH, considering client risk factors and the clinical picture. [new 2024]

**Weak recommendation: moderate certainty of evidence**

*This recommendation recognizes the limited evidence on adjuncts, with current evidence demonstrating that the addition of misoprostol may improve some PPH outcomes but with significant side effects. Midwives must balance benefits and harms and consider client preferences, values and risk tolerance.*

#### Tranexamic acid

A systematic review, including two RCTs ( $n = 14\,363$ ), found that TXA as an adjunct to oxytocin reduces rates of hysterectomy (three fewer per 1000). (37) TXA also probably reduces rates of death due to bleeding, and it may reduce rates of blood transfusion and admission to ICU.

### Recommendation:

13. Midwives may consider TXA as an adjunct PPH treatment, if available. [new 2024]

#### Weak recommendation: low certainty of evidence

*This recommendation recognizes the literature that suggests that TXA may be a beneficial addition in PPH treatment. TXA is not currently available in all communities.*

## SECOND-LINE TREATMENT

There is no consensus on the most effective second-line uterotonic for the treatment of primary PPH due to uterine atony when oxytocin has failed to stop bleeding. Because of this lack of evidence, there is little to guide midwives in balancing the risks and benefits of each uterotonic while considering the client's specific clinical context.

### Good practice statement:

14. Available research does not clearly support the use of one particular uterotonic over another for second-line treatment of primary PPH due to uterine atony (ergot alkaloids, prostaglandins or carbetocin). Midwives should choose a second-line uterotonic based on clinical context. [2024]

#### Good practice statement

*This good practice statement recognizes that in the absence of clear evidence, midwives should use their clinical experience, community standards, drug availability and the clinical context of the client and birth to guide second-line uterotonic use.*

## NON-PHARMACOLOGICAL TREATMENT OF PPH

### UTERINE MASSAGE

Uterine massage is suggested in the AOM's Emergency Skills Workshop Manual as a first step in treatment for atonic PPH, as long as the placenta has been delivered. (3) There is no research on uterine massage for treatment of PPH.

### Good practice statement:

15. In cases of uterine atony, midwives should consider performing uterine massage to stimulate a contraction following delivery of the placenta. Midwives should expel blood clots when clinically indicated. [new 2024]

#### Good practice statement

*This good practice statement recognizes midwives' clinical judgment and skills in managing atonic PPH.*

## EMPTYING THE BLADDER

A full bladder may prevent the uterus from contracting effectively; encouraging the client to void or catheterizing the bladder may be helpful. This step is typically undertaken after the administration of first-line treatment and/or uterine massage.

### Summary statement

- Emptying the bladder is one common response midwives may use to manage PPH.

## BIMANUAL COMPRESSION

A simulation study found that bimanual compression by one provider could not produce adequate compression of the uterus for more than 150 seconds continuously. (38) A two-person approach reduces provider fatigue and enables effective compression of the uterus for five minutes. (38) Despite limited evidence, bimanual compression is considered a useful and potentially life-saving method to temporarily control acute bleeding that is unresponsive to pharmacological management.



### Recommendation:

16. When bleeding caused by uterine atony is unresponsive to pharmacological treatment methods, midwives should consider bimanual compression as a useful and potentially life-saving method. [new 2024]

**Strong recommendation: very low certainty of evidence**

*This good practice statement recognizes that bimanual compression (internal or external) is one of a series of actions midwives may take to manage atonic PPH. A two-person approach may be more effective.*

## UTERINE BALLOON TAMPONADE

There is a paucity of well-designed, well-controlled studies to examine the effectiveness of UBT on controlling bleeding in high-resource settings. However, evidence from case reports and case series continues to demonstrate its effectiveness in controlling PPH, which is of particular importance for community settings. Systematic review evidence shows the pooled success rate of UBT to be 85.9% (95% CI 83.9-87.9%), and 87% when limited to vaginal deliveries. (39) Results from two non-randomized studies in high-income settings that examined institutional protocols for Bakri UBT found that they may lower rates of surgical intervention and/or death, with relative risks ranging from 0.33 to 0.95 (*low certainty of evidence*). (40,41)

### Recommendation:

17. Midwives should consider the use of UBT for atonic PPH that is unresponsive to other treatment methods, and where transport to hospital is necessary or when delays in accessing hospital-based care are anticipated. [2024]

**Weak recommendation: very low certainty of evidence**

*This recommendation recognizes the growing body of literature supporting the use of UBT at all care levels and for all obstetric providers. It acknowledges that midwives attend births in the community and that use of UBT for intractable uterine atony is a potentially life-saving measure.*

## EXTERNAL AORTIC COMPRESSION

In the presence of PPH unresponsive to uterotonics and interventions, external aortic compression, whether manual or with a non-pneumatic anti-shock garment (NASG), has been used to reduce blood loss and promote stabilization of the client until further treatment is available. Results from the one RCT found that an NASG, compared with standard care, probably reduces birthing parent mortality and severe birthing parent morbidity and death. Results from the five observational studies show similar results. (42)

### Recommendation:

18. In the presence of unresponsive PPH, midwives may use external aortic compression to reduce blood loss and promote stabilization of a client until further treatment is available. External aortic compression may include:

- Manual external aortic compression;
- The use of an NASG, where available. [new 2024]

**Weak recommendation: very low certainty of evidence**

*This recommendation acknowledges that midwives attend births in the community and that use of external aortic compression is a potentially life-saving measure for PPH unresponsive to other interventions when transport to hospital is necessary and delays in accessing hospital care are anticipated.*

## CLIENTS WHO DECLINE BLOOD PRODUCTS

Because individuals vary in their choices regarding use of blood products, and because availability of bloodless alternatives may vary in different communities, a care plan is warranted in the event of severe PPH. (43)

### Recommendation:

19. For clients who decline blood and blood products, midwives should discuss possible increased risks of morbidity and mortality following severe PPH. Midwives should develop or facilitate a care plan in the event of severe PPH, when blood or blood products would usually be recommended. [2024]

#### Good practice statement

*This good practice statement values the importance of respectful care and interprofessional collaboration to provide client access to options available in the community.*

## RECOVERY AND CARE FOLLOWING PPH

### BLEEDING IN THE POSTPARTUM PERIOD

There is a paucity of research to determine normal postpartum bleeding vs. bleeding patterns that indicate medical intervention. Midwives must use their clinical judgment to determine when follow-up care is needed. Individuals with a history of secondary PPH, vaginal bleeding < 24 weeks' gestation, third-trimester hospital admission for a variety of reasons, smoking, prolonged or incomplete third stage, or primary PPH  $\geq$  500 mL may be at increased risk of excessive bleeding in the postpartum period.

### Good practice statement:

20. Midwives should review with all clients:
  - Typical postpartum blood loss in the immediate postpartum period;
  - How to recognize atypical blood loss and signs and symptoms that may indicate shock or hemodynamic instability;
  - How to contact the midwife and access urgent care when necessary. [2024]

#### Good practice statement

*This good practice statement recognizes the skill of midwives in providing health information to clients and normalizes care provided in the community setting.*

## CHEST/BREASTFEEDING FOLLOWING PPH

Four observational studies found that individuals who experienced PPH chest/breastfed for a shorter duration, or were less likely to chest/breastfeed. (9,44–46) PPH  $\geq$  1500 mL was associated with dyad separation within one hour of birth, and fewer than one-third of babies were in their birthing parent's arms within one hour of birth, which may have had an impact on chest/breastfeeding. (9)

### Summary statement

- Lactation support, provided by midwives as a standard of care, may be an important part of recovery after PPH for individuals who plan to chest/breastfeed.

## IRON DEFICIENCY ANEMIA

When PPH occurs, monitoring and treating iron deficiency anemia may improve both hematologic status and clinically relevant outcomes such as fatigue and quality of life for the client. Pooled results from thirteen RCTs found that oral iron compared with IV iron therapy may increase gastrointestinal symptoms and rates of red blood cell transfusions. (47–50) Both treatments may decrease fatigue and depression scores at 12 weeks, with lower scores for those who receive IV iron. (51) Midwives should consider clients

in their wider social and cultural context. For more information on iron deficiency anemia, see the AOM resource [Iron deficiency anemia in the childbearing year](#).

### Recommendation:

21. For clients who experience PPH and/or have signs and symptoms of iron deficiency anemia, midwives should recommend oral iron supplementation or IV iron supplementation, as clinically indicated. [new 2024]

**Strong recommendation: very low certainty of evidence**

*This recommendation recognizes continuity of care and midwives' ability to effectively assess clients in the postpartum period. It also recognizes client preferences and values, as well as inequitable access to IV iron.*

## CLIENT EXPERIENCES

### PRACTICE POINTS FOR COMMUNICATION DURING AND FOLLOWING PPH

The best practices listed in Figure 1 have the potential to lessen the negative emotional and psychological impacts of PPH. (52–54)

**FIGURE 1: Practice points for communication during and after PPH**

During PPH	<ul style="list-style-type: none"><li>• Include client and family members or support people in decision-making during an emergency, supporting an informed choice process;</li><li>• Help clients and families understand what is happening;</li><li>• Manage emergency situations in a calm, skilled manner;</li><li>• Ensure good communication with all involved health-care professionals during the emergency;</li><li>• Ensure that health-care professionals, the client and support people are clear about who will assume the role of most responsible provider (MRP);</li><li>• Provide information to reassure support people if they are waiting anxiously.</li></ul>
Hospital transfer	<ul style="list-style-type: none"><li>• Provide continuity of care, if possible, during transfers, e.g., midwives riding in the ambulance or starting IVs;</li><li>• Advocate for clients' emotional and physical needs, e.g., have a private room away from other new families;</li><li>• Facilitate access to baby for clients who require intensive care (or vice versa);</li><li>• Facilitate regular updates with clients on their baby's progress if they cannot be with them;</li><li>• Support chest/breastfeeding or milk expression, even if clients are in intensive care;</li><li>• Keep baby skin-to-skin, if possible, during the management of PPH.</li></ul>
Follow-up	<ul style="list-style-type: none"><li>• Offer the client and support people the opportunity to discuss the events of the birth and review the charts and clinical notes. Flexible timing for these meetings is important—some clients may be ready before others;</li><li>• Ensure good communication afterwards to help clients make sense of the experience.</li></ul>
Postnatal support	<ul style="list-style-type: none"><li>• Advocate for support, if available, from the client's primary care team after discharge. The ability to debrief and check in is important as clients recover and get back to normal life;</li><li>• Offer or refer clients for counselling to address long-term mental health impacts.</li></ul>

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