

National Consensus Guideline for Treatment of Postpartum Haemorrhage

Aratohu Tūtohu ā-Motu mō te Tumahu Ikura Whakawhānau Pēpi

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Introduction

Purpose

This *National Consensus Guideline for Treatment of Postpartum Haemorrhage* (consensus guideline) is an evidence-based summary of best practice for the safe and effective treatment of postpartum haemorrhage (PPH). It aims to:

- ensure that PPH is identified early, so that health practitioners take action to treat it as soon as possible
- support early, open and effective communication between health practitioners and the woman/person, their partner and whānau
- reduce morbidity and mortality associated with PPH
- give effect to Te Tiriti o Waitangi (Te Tiriti), including by meeting the interests and needs of tangata whenua.

The consensus guideline sits alongside other relevant clinical guidelines. It should be read together with Ngā paerewa Health and disability services standard 8134:2021 (*Ngā paerewa*), the *Guidelines for Consultation with Obstetric and Medical Services* and Health and Disability Commissioner (*Code of Health and Disability Services Consumer Rights*) Regulations 1996.

Need for this consensus guideline

PPH is a significant cause of perinatal morbidity and accounts for a large proportion of admissions and extended postpartum inpatient hospital stays. This consensus guideline supports the development of a consistent and shared multidisciplinary understanding of PPH and its effective management to optimise care and outcomes for women/people who experience abnormal bleeding after giving birth.

This consensus guideline should underpin clinical judgement and decision-making to guide treatment. This includes:

- giving effect to our obligations under Te Tiriti principles, including meeting the needs and interests of Māori
- ensuring safe, effective and whānau-centred services that are equitable, efficient and timely
- ensuring nationally consistent advice is available to health practitioners.

Prevention of PPH and active management of the third stage of labour are outside of the scope of this guideline.

Users of this consensus guideline

This consensus guideline is written for health practitioners involved in birth and postpartum care in Aotearoa New Zealand. Health practitioners should use it to support clinical judgement, knowledge and expertise and provide for a timely, consistent and effective approach to treating PPH. Recipients of care and their whānau can use this consensus guideline to understand the treatment of PPH.

Te Tiriti o Waitangi

Health practitioners can demonstrate that they are giving effect to Te Tiriti by practically applying the principles as articulated by the courts and the Waitangi Tribunal.¹ Applying the principles to maternity service delivery is vital to enabling Māori to express their mana² and ensures they receive high-quality, culturally safe care and achieve equitable health outcomes. Using the principles to work effectively and respectfully with Māori requires maternity services and health practitioners to demonstrate the principles of Te Tiriti in their day-to-day practice with Māori.

The principles of Te Tiriti provide the framework for maternity providers and health practitioners providing maternity services to Māori. How these principles apply to maternity services is supported by *Ngā paerewa* and, in particular, **1.1 Pae ora healthy futures**.

The Waitangi Tribunal concluded that persistent health inequities that Māori experience were the consequence of the failure to apply the principles of Te Tiriti at structural, organisational and health practitioner levels of the health and disability sector. Giving effect to Te Tiriti requires health practitioners to know the principles of Te Tiriti and to capably apply these in partnership with Māori in their day-to-day maternity clinical practice.

For the health and disability sector, the **principles of Te Tiriti** are as follows.

- **Tino rangatiratanga:** Health practitioners support the right of Māori to receive effective maternity care, conceptualising the decisions of the woman/person as a continuation of a much older, Māori collective-endorsed practice of self-determining one's own health and wellbeing and that of the whānau.

¹ In: Waitangi Tribunal. 2019. *Hauora: Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry*. Wellington: Waitangi Tribunal. URL:

https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_152801817/Hauora%20W.pdf (accessed 2 February 2022).

² See Ministry of Health's Te Tiriti o Waitangi Framework for the Ministry's four goals, each expressed in terms of mana. URL: <https://www.health.govt.nz/system/files/documents/pages/whakamaua-tiriti-o-waitangi-framework-a3-aug20.pdf> (accessed 2 February 2022).

- **Equity:** Health practitioners can contribute to equitable maternity health outcomes for Māori by ensuring that at a minimum maternity outcomes match those of other New Zealanders. Equitable maternity outcomes will be achieved when health practitioners implement the consensus guideline recommendations in ways that give effect to the principles of Te Tiriti, relevant professional competencies and *Ngā paerewa*.
- **Active protection:** Health practitioners share evidence-based information about maternity outcomes so that Māori can make decisions and prepare themselves to uphold their tikanga or cultural practice (for example, karakia, rongoā, support people). Health practitioners actively support Māori to make decisions that are best for them.
- **Options:** Health practitioners ensure Māori have maternity care that enables them to uphold their tikanga or cultural practice regardless of where birth takes place. Processes must complement a Māori person's mana or inherent authority and dignity, support their tikanga or cultural practice and be culturally safe as defined by Māori.
- **Partnership:** Health practitioners work in partnership with Māori, including a person's whānau if requested. A partnered approach to the process and decision-making ensures Māori can enact their rangatiratanga or self-determine their futures while exercising mana motuhake or authority over their bodies and reproductive health.

Equity

In Aotearoa New Zealand, people have differences in health outcomes that are not only avoidable but unfair and unjust.³ Differences in the structural determinants of health and wellbeing – for example, disadvantages in income, employment, education and housing as well as multiple forms of discrimination – negatively impact people's health but people have little control over these. Health inequities – like inequitable maternity outcomes – are not about people; instead they are the result of avoidable structural determinants in our communities.⁴ When health practitioners understand the structures that create inequitable maternity outcomes, they can use different approaches and resources to achieve equitable maternity outcomes.

Achieving equitable maternity outcomes for Māori happens when service providers and health practitioners:

- understand the structures that create Māori disadvantage
- are supported to implement the consensus guideline recommendations in ways that give effect to the principles of Te Tiriti, as well as meeting professional competencies and *Ngā paerewa*.

³ Ministry of Health. 2019. *Achieving Equity*. URL: <https://www.health.govt.nz/about-ministry/what-we-do/work-programme-2019-20/achieving-equity> (accessed 2 February 2022).

⁴ Toi Te Ora Public Health. 2021. *Determinants of Health and Health Equity*. URL: <https://toiteora.govt.nz/public/determinants-of-health-and-health-equity/> (accessed 2 February 2022).

Other population groups in Aotearoa New Zealand also experience inequities that are unfair and unjust. Achieving equitable maternity outcomes for all happens when maternity service providers and health practitioners:

- understand the structures that create disadvantage for those groups
- are supported to implement the consensus guideline in ways that give effect to the rights of those groups while also meeting professional competencies and *Ngā paerewa*.

Last, health practitioners should be aware that many peoples in Aotearoa New Zealand conceptualise anatomy, pregnancy, gender, sexuality, reproduction, contraception and birth in different ways according to their worldviews. Therefore, health practitioners should use proven health literacy practices⁵ to communicate effectively with everyone using their services (for sector guidance, see *Ngā paerewa* Standard **1.4 E whakautetia ana ahau | I am treated with respect** and criteria 1.4.2).

Recommendations

- Health practitioners should be aware that different cultures and religions conceptualise anatomy, pregnancy, sex, birth and the postpartum period in different ways and should adapt their language and approach accordingly.
- Maternity service providers should ensure that women/people with PPH, their partners and whānau have culturally safe opportunities for discussion, reflection and debriefing where necessary after the event or antenatally in the next pregnancy as set out in the *Guidelines for Consultation with Obstetric and Medical Services*.
- Maternity service providers should monitor PPH by severity and ethnicity so that they can monitor equity, identify variations in outcome and then identify and implement areas for quality improvement based on this analysis.

⁵ Ministry of Health. 2015. A framework for health literacy. URL: <https://www.health.govt.nz/publication/framework-health-literacy> (accessed 2 February 2022).

Definition of PPH

Postpartum haemorrhage or PPH (any): Blood loss of 500 mL or more following vaginal birth or 1,000 mL following caesarean section birth.

- **Moderate PPH:** blood loss of 1,001–2,000 mL.
- **Severe PPH:** blood loss of more than 2,000 mL.
- **Primary PPH:** a PPH that occurs in the first 24 hours after birth.
- **Secondary PPH:** a PPH that occurs 24 hours to 6 weeks after birth.

The clinical condition of the woman/person experiencing the PPH is an important indicator of the effect of blood loss. Visual estimation of blood loss, while useful, is largely inaccurate and requires frequent refresher education. Accuracy is increased when the visual estimate is followed by weighing items that have collected the blood (linens, gauzes, drapes and pads).

Health practitioners should consider clinical symptoms and signs when monitoring blood loss:

- feeling unwell, anxious, light-headed or dizzy
- concerning changes in vital signs (eg, increased respiratory rate, tachycardia, narrowed pulse pressure, or hypotension)
- weakness or fainting; restlessness
- pallor, and/or
- oliguria or anuria.

Postpartum women/people can compensate for significant PPH with minimal physiological signs. Health practitioners should continue to assess and monitor the condition of the woman/person where small blood loss is ongoing so that PPH is recognised in a timely manner.

Summary of guidance

PPH is a significant cause of perinatal morbidity and mortality. Early recognition and action is essential for effective treatment.

This guidance should be read together with the PPH management poster.

Treating PPH

Early, open and ongoing communication is critical to treating PPH effectively. Communication channels include those between health practitioners as well as with the woman/person and their partner and whānau.

During PPH treatment, allocate a responsible person to the role of caring for the baby, partner and whānau. Consider whether interpretation services are required.

Take action as soon as abnormal ongoing blood loss is suspected – and before blood loss of 500 mL for vaginal birth or 1,000 mL following caesarean section birth. In any case of PPH:

- Call for help
- Measure, assess and arrest the bleeding
- Minimise the impact of blood loss and resuscitation
- Document the clinical events and interventions.

In all cases of PPH, consider the condition of the woman/person in relation to known blood loss, and if their condition worsens with no visible blood loss, assess the cause as early as possible.

In any assessment, effective treatment requires identification of cause. More than one cause may be contributing to the overall blood loss. Health practitioners should consider the 4 Ts:

- 1 tone
- 2 trauma
- 3 tissue
- 4 thrombin.

Tranexamic acid increases overall survival from primary PPH and decreases the likelihood of hysterectomy. Early administration of tranexamic acid is advised because effectiveness decreases over time following the PPH event. No benefit is gained if administration is delayed beyond three hours after the onset of the PPH event.

Saturation of oxytocin receptors in a dose-dependent manner may occur in those who have had augmented or induced labour. Those who have had augmented or induced labour may be at higher risk of PPH and usual protocols for treatment of PPH may not be as effective. Quickly advancing to other uterotonics may be appropriate.

In cases of significant blood loss, transfuse early with red blood cells to maintain tissue oxygenation. Consider transfusion support guided by conventional laboratory and point-of-care tests of coagulation and haemoglobin, where available. In urgent situations where cross-matched blood is unavailable, transfuse with O negative blood. Once blood loss stops and condition is stable, consider oral or intravenous iron replacement (0.5 mg iron per 1 mL blood loss).

Measure and document cumulative blood loss as well as the treatment provided.

It is critical that careful monitor and documentation occurs during the immediate treatment of PPH and over the next 24–48 hours. Following a PPH, complete observation of vital signs, uterine tone and blood loss frequently and record results using the Maternal Early Warning Score (MEWS) chart.

Regardless of setting, health practitioners and other employees within facilities providing labour, birthing and postnatal care should understand how to organise transfer if PPH occurs. Clear transfer protocols should be in place, along with treatment plans, to enable timely intervention and access to additional and specialist assistance when required.

Education

Multidisciplinary emergency education that includes PPH scenarios improves care in PPH events and makes participants more confident about responding when emergencies occur.

Incorporate cultural safety into the continuing education of health practitioners. This should include an awareness of Māori health across four domains (hinengaro – mental, tinana – physical, wairua – spiritual and whānau – family), and how these apply to pregnancy, birth and postpartum tikanga, kaupapa and kawa. Health practitioners should be able to reflect on their own cultural assumptions and how these might influence their capacity to provide manaakitanga (support).

Health practitioners should encourage women/people to share their preferred pronouns.

Communications

A PPH experience can be traumatic for the woman/person, their partner and whānau, and health practitioners. During the event, have a health practitioner available to support partners and whānau by explaining what is happening and answering any questions.

After the event, provide all those involved with the opportunity for discussion, reflection and debriefing. During the next pregnancy of the woman/person, provide them with the opportunity to discuss the previous PPH. Previous PPH is a risk factor for subsequent PPH.

Undertake an institutional case review for severe events.

Medicines used to treat PPH

Knowing the basic pharmacological effects of medicines used to treat PPH can be useful to ensure their safe and effective use. The table below outlines the onset and duration of action, common adverse effects and precautions to take when using the medicines to treat PPH. When administering these medicines, it is important to allow sufficient time to support the expected pharmacologic response before additional management.

Medicine	Dose	Onset and duration	Adverse effects and precautions of medicine when used to treat PPH*
Oxytocin	After delivery of the placenta: IV: 5 units IM: 10 units	IV: acts within 1 minute, effect lasts 15–30 minutes IM: acts within 2–4 minutes, effects last 30–60 minutes	Nausea and vomiting Caution if used during labour as saturation of oxytocin receptors can occur
Syntometrine® (oxytocin 5 units/mL + ergometrine 500 micrograms/mL)	After delivery of the placenta: IM: 1 mL Can repeat 1 mL dose at intervals of no less than 2 hours, up to 3 mL in 24 hours	IM: acts within 2–3 minutes, effects last 2–4 hours	Nausea, vomiting, headaches and hypertension; increased risk of retained placenta Do not use if: <ul style="list-style-type: none"> used in active management of the third stage of labour the woman/person has hypertension, heart disease, pre-eclampsia, eclampsia the woman/person has a retained placenta medicine is cloudy or has changed colour.
Tranexamic acid	1 g undiluted IV over 10 minutes (eg, 1 g/10 mL IV at 1 mL per minute) Repeat if ongoing bleeding after 30 minutes; do not use beyond 3 hours after the onset of the PPH event	IV: acts within 5–15 minutes, effects last 3 hours	Nausea, vomiting and diarrhoea are common Do not use if the woman/person has: <ul style="list-style-type: none"> a known thromboembolic event during pregnancy a history of coagulopathy active intravascular clotting a known hypersensitivity to tranexamic acid.

Medicine	Dose	Onset and duration	Adverse effects and precautions of medicine when used to treat PPH*
Carboprost	IM: 250 micrograms/mL IV: Do not administer	Peak serum concentration between 15–60 minutes, effects last 24 hours Can be given every 15 minutes up to 8 doses	Nausea, vomiting, diarrhoea and increased temperature are very common Do not use if the woman/person has: <ul style="list-style-type: none"> • acute pelvic inflammatory disease • active cardiac, pulmonary, renal or hepatic disease • asthma.
Misoprostol	Sublingual: 800 micrograms Rectal: 1,000 micrograms	Peak serum concentration between 18–34 minutes, acts within 3–5 minutes, effect lasts 75 minutes	Shivering and transient elevated temperature are common No known contraindications for postpartum use
Ergometrine <i>Note: Ergometrine is a section 29 medicine</i>	After delivery of the placenta and possibility of twin pregnancy excluded: IM: 200 micrograms	IM: acts within 2–5 minutes IM: effects last 3 hours or longer	Severe adverse effects: IV administration should be limited to patients with severe PPH due to the risks of hypertension Do not use if the woman/person has: <ul style="list-style-type: none"> • cardiac disease • hypertension • pre-eclampsia • eclampsia • impaired renal or hepatic function • sepsis. It has significant interactions with other medicines including antibiotics and general anaesthetics

Note: * See the New Zealand Formulary for a comprehensive list of contraindications, adverse effects and cautions (www.nzf.org.nz). Health practitioners should evaluate each woman/person for sensitivity related to and appropriateness of any medicine before using it.

IM = intramuscular; IV = intravenous.

Implementation and monitoring

Maternity services are responsible for funding and operationalising the agreed recommendations within this consensus guideline. In implementing this guideline, they must consider their commitments to deliver equitable services and meet obligations under Te Tiriti. It is expected that maternity service providers will undertake data collection and monitoring of PPH locally. They should submit minimum data (as described by the Ministry of Health) to the National Minimum Dataset.

Further advice on Te Tiriti

Health practitioners may find their professional association offers helpful support with giving effect to the principles of Te Tiriti. Such support may include:

- Medical Council of New Zealand: **Statement on cultural safety**
- Medical Council of New Zealand: **He ara hauora Māori: A pathway to Māori health equity**
- Midwifery Council of New Zealand: **Statement on cultural competence for midwives**
- Turanga Kaupapa, principles that give life and meaning to the midwifery profession's recognition of Māori as tangata whenua and the profession's obligations under Te Tiriti, in the *Midwives' Handbook for Practice*
- The Royal Australasian College of Physicians: **Guideline commentary on consulting with Māori and their whānau.**

Health practitioners may also find it valuable to familiarise themselves with:

- Māuri Ora Associates: **Best health outcomes for Māori: Practice implications**
- Pitama S et al: **Improving Māori health through clinical assessment: Waikare o te Waka o Meihana**
- University of Otago MIHI 501 Health Professionals Course: **Application of Hui Process and Meihana Model to Clinical Practice.**

Cultural safety

Practising in a culturally safe way is important and a requirement of Te Tiriti, particularly in giving effect to the principles of *Active protection, Options* and *Partnership*. It is important that health practitioners know that tikanga or correct protocols and practices are often specific to whānau, hapū and iwi and that observing tikanga does not involve a 'one size fits all' approach. Similarly, mātauranga Māori or Māori knowledge is not a single entity; rather there is both traditional and contemporary mātauranga Māori, as well as mātauranga Māori that is specific to hapū and iwi environment, including land, seas, waterways, weather systems, the stars, flora and fauna, and things seen and unseen. Older forms of mātauranga Māori have been

somewhat protected from colonisation because they were composed or narrated in te reo Māori.

Rangatiratanga or self-determining rights over tikanga and mātauranga Māori is crucial to its safety and survival. For this reason, health practitioners should be very careful to avoid imposing their understanding of tikanga or mātauranga Māori on Māori through maternity care. In addition, they should not assume that all Māori are familiar with terms such as tikanga, mātauranga and Te Tiriti. Māori who are unfamiliar with such terms can experience such an assumption as diminishing their mana⁶ as expressed by Te Tiriti, which would be an outcome that is the opposite of the intent of Te Tiriti, this consensus guideline and *Ngā paerewa*.

⁶ Te Tiriti o Waitangi framework as set out in: Ministry of Health. 2020. *Whakamaua: Māori Health Action Plan 2020–2025*. Wellington: Ministry of Health.

Development process

The Ministry of Health contracted Allen + Clarke to update the 2013 *National Consensus Guideline for Treatment of Postpartum Haemorrhage*. Our project team (Anna Gribble, Professor Frank Bloomfield, Dr Michelle Wise and Norma Campbell) is grateful for the advice and guidance received from the sector in response to draft documents. Two literature reviews addressing five research questions were completed to inform the update of this consensus guideline. Recommendations were developed by expert consensus, considering the evidence from the reviews of relevant clinical literature.

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- Dr Angela Beard (Co-Chair, He Hono Wahine)
- Sue Bree (Co-Chair, Midwifery Leaders' Group)
- Claire MacDonald (NZ College of Midwives)
- Dr Karaponi Okesene Gafa (Royal Australian and New Zealand College of Obstetricians and Gynaecologists, RANZCOG)
- Dr Lesley Dixon (NZ College of Midwives)
- Liz Lewis-Hills (New Zealand Society for the Study of Diabetes)
- Dr Mariam Buksh (Royal Australasian College of Physicians)
- Dr Matthew Drake (Australian and New Zealand College of Anaesthetists)
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Estimating blood loss

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Stepwise devascularisation of the uterus / B-Lynch / brace sutures

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Minimising impact of blood loss and resuscitation

Crystalloids and colloids

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Aortic compression

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