



Placenta Accreta

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in [Appendix B](#).

Disclosure statements have been received from all members of this committee.

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: November 2003
Current: March 2014, Amended November 2015
Review due: November 2018

Objectives: To provide advice on the management of placenta accreta.

Outcomes: To reduce morbidity and mortality in women diagnosed with placenta accreta.

Target audience: All health practitioners providing maternity care and patients.

Evidence: Medline was searched for studies relating to management of placenta accreta.

Values: The evidence was reviewed by the Women's Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Background: This statement was first developed by Women's Health Committee in November 2003 and reviewed in March 2013. Amendments were made in November 2015.

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1. Patient Summary

Placenta accreta is a serious but rare complication in pregnancy. It occurs when the placenta invades more deeply than normal into the muscle in the wall of the uterus (womb), and sometimes even growing through the full thickness of the wall to the outside of the uterus. In some cases, placenta accreta is suspected before birth occurs, but in other cases it is not known about. Because of the very high risk of heavy bleeding, women known or suspected to have placenta accreta should only be managed by teams that are very experienced and knowledgeable about the condition. This guideline provides information and assistance for the doctors and maternity carers when dealing with this rare but very important complication of pregnancy.

2. Introduction

Morbid adherence of the placenta to the uterine wall is a potentially life threatening obstetric complication that frequently requires interventions such as caesarean hysterectomy and high volume blood transfusion. With the rising caesarean delivery rate and increasing maternal age, the incidence of placenta accreta has significantly increased.¹

3. Discussion and recommendations

Morbidly adherent placentation may be suspected when there is a placenta praevia in a woman with a history of caesarean section or other uterine surgery.^{1,2} Diagnosis can be difficult³, though accurate diagnosis antenatally allows for appropriate planning of delivery to minimise morbidity.⁴ A number of studies have identified the efficacy of transvaginal ultrasound in the diagnosis of placenta accreta.^{3,4,5} The ultrasound features of this condition have been described by Comstock.³ Recent studies looking at the use of MRI have not demonstrated superiority of this modality over transvaginal ultrasound.^{3,5}

3.1 What are the management considerations where there is suspected or known placenta accreta?

Placenta accreta can be difficult to diagnose with certainty. For this reason, in pregnancies where there is either a risk, or clinical suspicion, management should be planned on the assumption that placenta accreta is present. Well in advance of planned delivery attention must be given to optimisation of maternal haemoglobin and iron stores. It is important to be cognisant of the risk of placental growth to the serosa of the uterus, and into adjacent organs such as the bladder in extreme circumstances. Planned delivery must occur in a setting with the necessary medical facilities and expertise prepared to manage immediate, potentially complex hysterectomy and massive blood transfusion. The patient should be prepared and consented for the potential need to move rapidly to hysterectomy and transfusion of blood products. The surgical team should have arrangements in place for rapid escalation and when necessary to obtain a further timely opinion regarding the need for, and the undertaking of, immediate hysterectomy.

3.2 What protocol should be in place for facilities caring for women with placenta accreta?

It is critical that facilities providing obstetric care have, and adhere to, a massive transfusion protocol with which all staff are familiar. Many larger hospitals will already have such a protocol in place, but a template can be found in Appendix A. Such facilities would include: access to "cell saver", an ability to cope with high volume blood transfusion, availability of other blood products (e.g. platelets, clotting factors) and appropriate specialised expertise (e.g. neonatal, senior obstetric and anaesthetic, haematological and intensive care). A multidisciplinary approach is required, including possible prior consultation with other medical specialists such as, urologists, gynaecological oncologists, vascular surgeon, intensivists, and interventional radiologists.

As with all women at risk of major obstetric haemorrhage, those with suspected placenta accreta should be encouraged to remain close to the planned hospital of confinement for the duration of the third trimester of pregnancy. An emergency contingency plan is strongly recommended.

The timing of the caesarean section should consider the desirability of performing it as an elective rather than an emergency procedure. The caesarean section should therefore usually be undertaken at an earlier gestation than that for uncomplicated elective caesarean births or uncomplicated placenta praevia.

3.3 What are the surgical management should be considered for management of placenta accrete?

Three surgical management choices may be considered according to available expertise, geographical and individual circumstances:

1. Delivery of the baby and attempted delivery of the placenta. This is associated with a high likelihood of hysterectomy but not invariably so. If this option is chosen, the surgeon must be prepared to proceed promptly to hysterectomy if needed and the anaesthetist prepared for massive transfusion as bleeding may be considerable whilst the hysterectomy is being undertaken.
2. Delivery of the baby via a uterine incision distant from the placenta, quick repair of the uterus and en bloc hysterectomy. OR
3. Delivery of the baby via a uterine incision distant from the placenta, trimming of the cord close to insertion site, full repair of the uterus and conservative management. About two thirds of women will avoid a hysterectomy, one third will still require a hysterectomy because of uncontrollable bleeding, which may be delayed up to several weeks, and this approach also has a significant risk of infectious morbidity. In addition, uncertainty as to the time of onset of secondary bleeding can tax available resources. This has serious implications if the patient is returning to a remote area with little facility to cope with sudden severe haemorrhage.¹²

3.4 What are the fertility rates and pregnancy outcomes following conservative management of placenta accreta?

Retrospective studies of pregnancy following conservative management of placenta accreta have reported reasonably good fertility rates and pregnancy outcomes but with an increased rate of recurrent placenta accreta (17-29%).^{8,9}

3.5 Should ureteric stenting be undertaken for placenta accreta?

Consideration of ureteric stenting should be made particularly when there is a suspicion of placenta percreta.

3.6 What is the role of interventional radiology for the treatment of massive post-partum haemorrhage?

Interventional radiology can be lifesaving and uterine sparing for the treatment of massive post-partum haemorrhage. It can be useful in the management of haemorrhage from abnormal placentation after delivery.

3.7 What is the role of balloon catheters prior to delivery in placenta accreta?

The role of radiological placement of balloon catheters prior to delivery in placenta accreta requires further evaluation.⁶

4. References

1. Miller DA, Chollet JA, Goodwin TM. Clinical risk factors for placenta previa-placenta accreta. *Am J Obstet Gynecol* 1997 Jul; 177 (1): 210-4.
2. Armstrong CA, Harding S, Matthews T, Dickinson JE. Is placenta accreta catching up with us? *ANZJOG* 2004; 77 (3); 210-231.
3. Dwyer BK, Belogolovkin V, Tran L, Rao A, Carroll I, Barth R, Chitkara UJ. Prenatal Diagnosis of Placenta Accreta: Sonography or Magnetic Resonance Imaging. *J Ultrasound Med* 2008; 27 (9): 1275-1281.
4. Comstock CH. Antenatal diagnosis of placenta accreta: a review. *Ultrasound Obstet Gynecol* 2005; 26; 98-96.
5. McLean LA, Heilbrun ME, Eller AG, Kennedy AM, Woodward PJ. Assessing the role of Magnetic Resonance Imaging in the Management of Gravid Patients at Risk for Placenta Accreta. *Acad Radiol* 2011; 18: 1175-1180.
6. RCOG Green-top Guideline No.27 Jan 2011. Placenta praevia, placenta praevia accreta and vas praevia: diagnosis and management.
7. Jyoti R, Robertson M. Imaging placenta accreta. *O&G Magazine*. 2010 Winter Edition; v.12 n2.
8. Sentilhes L, Kayem G, Ambroselli C et al. Fertility and pregnancy outcomes following conservative treatment for placenta accreta. *Human Reproduction*, Vol.25, No.11 pp.2803-2810, 2010.
9. Alanis M, Hurst BS, Marshburn PB et al. Conservative Management of placenta increta with selective arterialisation preserves future fertility and results in favourable outcome in subsequent pregnancies. *Fertility and Sterility* Vol.86, No.5, November 2006, 1514.e3-7.
10. National Blood Authority. Patient Blood Management Guidelines: Module 1 – Critical Bleeding /Massive Transfusion. 2011.
11. National Health and Medical Research Council. NHMRC additional levels of evidence and grades for recommendations for developers of guidelines. Canberra; 2009.
12. Pather S. *et al.*, Maternal outcome after conservative management of placenta percreta at caesarean section: A report of three cases and a review of the literature. *ANZJOG* 2014; 54, 84-87

5. Other suggested reading

Marshall NE, Fu R, Guise J-M. Impact of multiple cesarean deliveries on maternal morbidity: a systematic review. *Am J Obstet Gynecol* 2011;205:262.e1-8.

6. Links to other College statements

Consent and provision of information to patients in Australia regarding proposed treatment (C-Gen 02)

[https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Consent-and-provision-of-information-to-patients-in-Australia-\(C-Gen-2a\)-Review-July-2016.pdf?ext=.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Consent-and-provision-of-information-to-patients-in-Australia-(C-Gen-2a)-Review-July-2016.pdf?ext=.pdf)

Consent and provision of information to patients in New Zealand regarding proposed treatment (C-Gen 2b)

[https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Consent-and-provision-of-information-NZ-\(C-Gen-2b\)-Review-March-2016.pdf?ext=.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Consent-and-provision-of-information-NZ-(C-Gen-2b)-Review-March-2016.pdf?ext=.pdf)

Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)

[https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Evidence-based-medicine,-Obstetrics-and-Gynaecology-\(C-Gen-15\)-Review-March-2016.pdf?ext=.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Evidence-based-medicine,-Obstetrics-and-Gynaecology-(C-Gen-15)-Review-March-2016.pdf?ext=.pdf)

7. Patient information

A range of RANZCOG Patient Information Pamphlets can be ordered via:

<https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets>

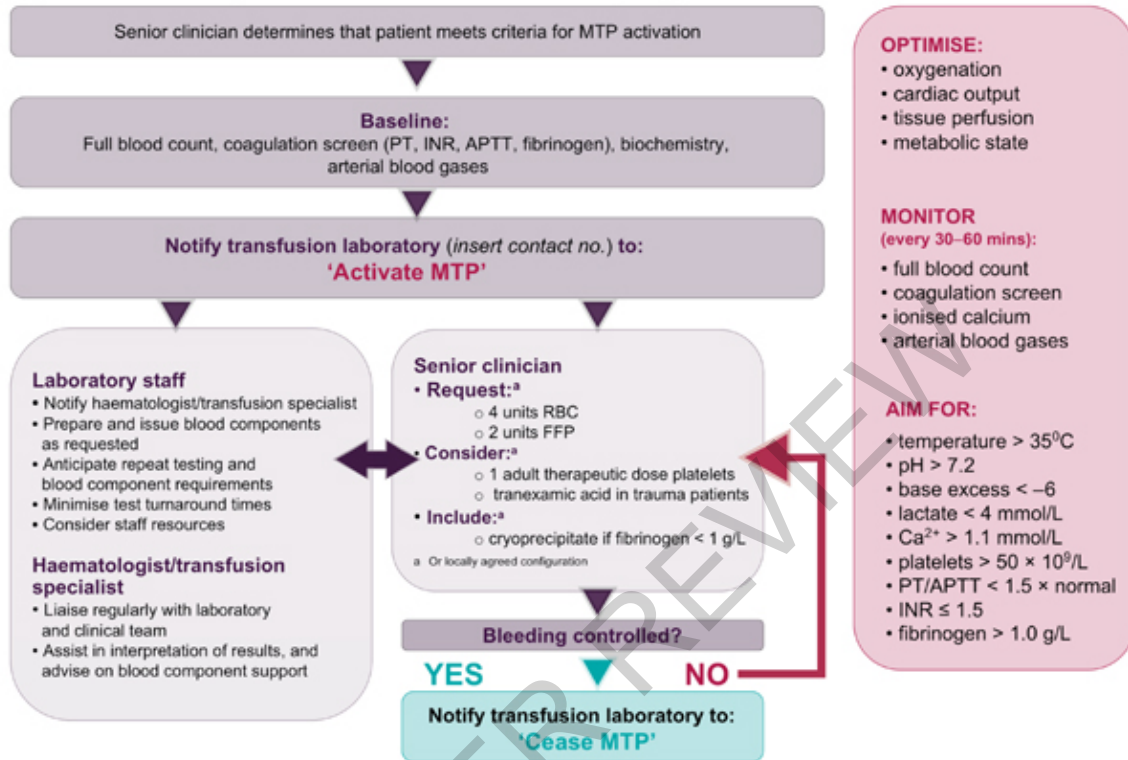
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Appendices

Appendix A - Patient Blood Management Guidelines: Module 1, Massive transfusion protocol template

Massive transfusion protocol (MTP) template

The information below, developed by consensus, broadly covers areas that should be included in a local MTP. This template can be used to develop an MTP to meet the needs of the local institution's patient population and resources



Suggested criteria for activation of MTP

- Actual or anticipated 4 units RBC in < 4 hrs, + haemodynamically unstable, +/- anticipated ongoing bleeding
- Severe thoracic, abdominal, pelvic or multiple long bone trauma
- Major obstetric, gastrointestinal or surgical bleeding

Initial management of bleeding

- Identify cause
- Initial measures:
 - compression
 - tourniquet
 - packing
- Surgical assessment:
 - early surgery or angiography to stop bleeding

Specific surgical considerations

- If significant physiological derangement, consider damage control surgery or angiography

Cell salvage

- Consider use of cell salvage where appropriate

Dosage

Platelet count < 50 × 10 ⁹ /L	1 adult therapeutic dose
INR > 1.5	FFP 15 mL/kg ^a
Fibrinogen < 1.0 g/L	cryoprecipitate 3–4 g ^a
Tranexamic acid	loading dose 1 g over 10 min, then infusion of 1 g over 8 hrs

^a Local transfusion laboratory to advise on number of units needed to provide this dose

Resuscitation

- Avoid hypothermia, institute active warming
- Avoid excessive crystalloid
- Tolerate permissive hypotension (BP 80–100 mmHg systolic) until active bleeding controlled
- Do not use haemoglobin alone as a transfusion trigger

Special clinical situations

- Warfarin:
 - add vitamin K, prothrombinex/FFP
- Obstetric haemorrhage:
 - early DIC often present; consider cryoprecipitate
- Head injury:
 - aim for platelet count > 100 × 10⁹/L
 - permissive hypotension contraindicated

Considerations for use of rFVIIa^b

The routine use of rFVIIa in trauma patients is not recommended due to its lack of effect on mortality (Grade B) and variable effect on morbidity (Grade C). Institutions may choose to develop a process for the use of rFVIIa where there is:

- uncontrolled haemorrhage in salvageable patient, and
- failed surgical or radiological measures to control bleeding, and
- adequate blood component replacement, and
- pH > 7.2, temperature > 34°C.

Discuss dose with haematologist/transfusion specialist

^brFVIIa is not licensed for use in this situation; all use must be part of practice review.

ABG	arterial blood gas	FFP	fresh frozen plasma	APTT	activated partial thromboplastin time
INR	international normalised ratio	BP	blood pressure	MTP	massive transfusion protocol
DIC	disseminated intravascular coagulation	PT	prothrombin time	FBC	full blood count
RBC	red blood cell	rFVIIa	activated recombinant factor VII		

Appendix B Women's Health Committee Membership

Name	Position on Committee
Associate Professor Stephen Robson	Chair
Professor Susan Walker	Deputy Chair - Obstetrics
Dr Gino Pecoraro	Deputy Chair - Gynaecology
Professor Yee Leung	Member
Associate Professor Anuschirawan Yazdani	Member
Dr Simon Craig	Member
Associate Professor Paul Duggan	Member
Dr Vijay Roach	Member
Dr Stephen Lyons	Member
Dr Ian Page	Member
Dr Donald Clark	Member
Dr Amber Moore	Member
Dr Martin Ritossa	Member
Dr Benjamin Bopp	Member
Dr James Harvey	Member
Dr John Tait	Member
Dr Anthony Frumar	Member
Associate Professor Kirsten Black	Member
Dr Jacqueline Boyle	Chair of IWHC
Dr Louise Sterling	GPOAC representative
Ms Catherine Whitby	Council Consumer representative
Ms Susan Hughes	Consumer representative
Ms Sherryn Elworthy	Midwifery representative
Dr Scott White	Trainee representative
Dr Agnes Wilson	RANZCOG Guideline developer

Appendix C Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in November 2003 and was most recently reviewed in March 2014. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the March 2014 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix C part iii)

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines (2009).¹¹ Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category	Description	
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based	Recommendation based on clinical opinion and expertise as insufficient evidence available	
Good Practice Note	Practical advice and information based on clinical opinion and expertise	

Appendix D Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.

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