

Maternity – Management of Pregnancy Beyond 41 Weeks Gestation

Summary The purpose of this document is to provide guidance for the clinical management and provision of evidence based information to women with low risk, singleton pregnancies that extend beyond 41+0 weeks gestation. It is important to assess each woman individually and base the management plan for pregnancy beyond 41+0 weeks on her specific circumstances and preferences.

Document type Guideline

Document number GL2014_015

Publication date 23 July 2014

Author branch Agency for Clinical Innovation

Branch contact (02) 9464 4711

Review date 01 August 2023

Policy manual Patient Matters

File number 13/2274

Previous reference N/A

Status Review

Functional group Clinical/Patient Services - Maternity

Applies to Local Health Districts, Specialty Network Governed Statutory Health Corporations, Public Health Units, Public Hospitals

Distributed to Public Health System, Divisions of General Practice, NSW Ambulance Service, Ministry of Health, Private Hospitals and Day Procedure Centres, Tertiary Education Institutes

Audience All Clinicians in Maternity Services

MATERNITY - MANAGEMENT OF PREGNANCY BEYOND 41 WEEKS GESTATION

PURPOSE

The purpose of this document is to provide guidance for the clinical management and provision of evidence based information to women with low risk, singleton pregnancies that extend beyond 41⁺⁰ weeks gestation. It is important to assess each woman individually and base the management plan for pregnancy beyond 41⁺⁰ weeks on her specific circumstances and preferences.

KEY PRINCIPLES

Effective communication between health care professionals and women is essential. Information should be offered regarding the risks associated with prolonged pregnancies, and the options available. This will help women to make an informed choice, based on her individual preferences and circumstances for either a scheduled induction for a pregnancy beyond 41⁺⁰ weeks or expectant management.

Women should be informed that most women will go into labour spontaneously by 42⁺⁰ weeks gestation. The use of early gestational scans to calculate the estimated date of birth can lower the rate of pregnancy beyond 41⁺⁰ weeks in women. If pregnancy is prolonged, additional fetal surveillance and management plans should be discussed with the woman and clearly documented in the woman's antenatal record.

The information discussed should include:

- The risks and benefits of membrane sweeping during a vaginal examination, as described in Section 2.2.1 of this document
- The risks and benefits of expectant management, as described in Section 2.3.1 of this document
- The need for increased fetal surveillance from 41⁺⁰ weeks, as described in Section 2.4 of this document
- The risks and benefits of induction of labour, as described in Section 2.5.1.

USE OF THE GUIDELINE

This guideline will describe clinical management of pregnancies beyond 41⁺⁰ weeks gestation for otherwise low risk women with singleton pregnancies. The terms postdates, post term and overdue will not be used in this document as these terms are often used interchangeably and can be misleading.

REVISION HISTORY

Version	Approved by	Amendment notes
July 2014 (GL2014_015)	Deputy Secretary Population Health	New Guideline

ATTACHMENTS

1. Maternity – Management of Pregnancy Beyond 41 Weeks Gestation - Guideline

MATERNITY
MANAGEMENT OF
PREGNANCY BEYOND
41 WEEKS GESTATION
NSW Health Guideline

CONTENTS

1. BACKGROUND.....	1
1.1 Purpose.....	1
1.2 Context.....	1
1.3 About this document.....	1
1.4 Key definitions.....	1
1.5 Tiered Maternity Networks.....	2
1.6 Calculating the estimated date of birth.....	2
1.7 Considerations for women living in rural and remote areas	3
2. MANAGEMENT OF PREGNANCY BEYOND 41⁺⁰ WEEKS GESTATION.....	3
2.1 Non-medical options to stimulate labour.....	3
2.2 Membrane sweeping.....	4
2.2.1 Risks and benefits of membrane sweeping.....	4
2.3 Expectant management pregnancy beyond 41 ⁺⁰ weeks	4
2.3.1 Risks and benefits of expectant management	5
2.4 Fetal surveillance from 41 ⁺⁰ weeks gestation.....	5
All pregnant women should be routinely provided with verbal and written information regarding normal fetal movements at each point of contact during the antenatal period. This information should be reinforced for the management of potential prolonged pregnancies ³⁹ . 6	
2.5 Induction of labour between 41 ⁺⁰ and 42 ⁺⁰ weeks gestation	6
2.5.1 Risks and benefits of induction of labour	7
2.5.2 Service capability for induction of labour	7
3. WOMAN CENTRED CARE.....	8
3.1 Information and decision making.....	8
3.2 Documentation	8
4. REFERENCES.....	9
5. ATTACHMENT 1	11

1. BACKGROUND

1.1 Purpose

The purpose of this document is to provide guidance for the clinical management and provision of evidence based information to women with low risk, singleton pregnancies that extend beyond 41⁺⁰ weeks gestation. It is important to assess each woman individually and base the management plan for pregnancy beyond 41⁺⁰ weeks on her specific circumstances and preferences.

This guideline should be read in conjunction with the following NSW Policy Directives and Guidelines:

- *Policy Directive 2010_045 Maternity - Towards Normal Birth in NSW*
- *Guideline GL2011_012 Maternity - Decreased Fetal Movements in the Third Trimester*
- *Policy Directive 2011_075 Maternity - Oxytocin for the Induction of Labour at or Beyond Term*
- *Guideline GL2014_004 Maternity - Supporting women in their next birth after caesarean section (NBAC)*

1.2 Context

In Australia in 2010, 91.7% of women who gave birth did so at 37⁺⁰ – 41⁺⁰ weeks of gestation and 0.8% gave birth at 42⁺⁰ or more weeks gestation (this includes spontaneous or induced labour and births by caesarean section)¹.

Evidence suggests that the overall perinatal mortality rate increases with increasing maternal² and gestational age in late term pregnancies. However, the absolute risks of adverse events associated with the increase of gestational age are small³.

The reduction in these adverse perinatal outcomes can be achieved if birth occurs prior to 42⁺⁰ weeks gestation. However, there is clinical debate with regards to the risks and benefits of awaiting spontaneous labour compared to induction of labour and at what gestational age induction should occur⁴.

1.3 About this document

This guideline will describe clinical management of pregnancies beyond 41⁺⁰ weeks gestation for otherwise low risk women with singleton pregnancies. The terms 'postdates', 'post term' and 'overdue' will not be used in this document as these terms are often used interchangeably and can be misleading. The term 'completed weeks' will not be used as it can also be misleading.

A review of the literature found a range of research papers, systematic reviews, evidence-based clinical practice guidelines and expert consensus describing international best practice for management of pregnancy beyond 41⁺⁰ weeks gestation. This literature has been used to inform this guideline. Relevant references are provided at the end of this guideline.

This Guideline has been endorsed by the Maternal and Perinatal Health Priority Taskforce.

1.4 Key definitions

Pregnancy beyond 41⁺⁰ weeks - pregnancy that extends beyond 41⁺⁰ weeks gestation (i.e. at least 1 week past the estimated date of birth).

Should – indicates actions that are to be followed unless there are justifiable and documented reasons for taking a different course of action.

1.5 Tiered Maternity Networks

Management of pregnancy beyond 41⁺⁰ weeks gestation should be undertaken within a maternity service with the appropriate service capability. Consultation and referral pathways should be in place to facilitate the woman's movement between services within their Tiered Maternity Network.

1.6 Calculating the estimated date of birth

For the purposes of this guideline pregnancy gestation will be calculated using 40 calendar weeks from date of last menstrual period (LMP).

The ability to estimate the range of dates during which birth may occur is influenced by: the regularity and length of a woman's menstrual cycle, whether the date of ovulation (rather than that of intercourse) is known and the timing of any ultrasound assessment (see Table 1).

It should be noted that the estimated date of birth (EDB) is only an estimate and therefore should not indicate one particular day that a baby can be born. Evidence suggests only 5% of babies are born on their due date, with a further 66% born 7 days either side of this date⁶. It is recommended that as soon as the pregnancy is dated, and throughout the pregnancy, that the discussion with the woman confirms the 2-week period during which their baby may be born and that the woman is aware there is only a 35% chance that they will actually go into labour during the week of their EDB (+/-3 days)⁵.

For in-vitro fertilisation (IVF) pregnancies, the age and date of embryo transfer should guide the EDB; subsequent ultrasound scans should not be used.

Accurate pregnancy dating is based on the information at Table 1, outlined in the National Clinical Practice Guidelines: Antenatal Care-Module 1 (such algorithms are generally incorporated into most databases)^{6,7,8,9}:

Table 1 LMP vs Ultrasound as a predictor for EDB based on known LMP and regular menstruation (21-35 days)

Known LMP and regular menstruation (21-35 days)					Unknown LMP, irregular menstruation
Gestation at ultrasound (U/S)	LMP and U/S dates differ by ≤ 5 days	LMP and U/S dates differ by >5 days	LMP and U/S dates differ by ≤10 days	LMP and U/S dates differ by >10 days	U/S date
6-13/40 weeks	LMP	U/S date	Not applicable	Not applicable	
13-24/40 weeks	Not applicable	Not applicable	LMP	U/S date	
≥24/40 weeks	LMP	LMP	LMP	LMP	

Note: If no LMP dates or ultrasound dating is available, the decision regarding pregnancy dating should be made by the most experienced clinician providing the woman's antenatal care.

Recommendation:

Expectant mothers should be informed that there is only a 35% chance that they will actually go into labour during the week of their estimated date of birth (+/-3 days). Maternal anxiety may be alleviated if a range of dates (for example 38⁺⁰ - 42⁺⁰ weeks) is substituted for a specific date of delivery, with the optimal time for birth being approximately 40⁺⁰ weeks gestation.

1.7 Considerations for women living in rural and remote areas

In remote regions, it may be difficult for women to access ultrasound examination early in pregnancy. This may be due to limited availability of adequate equipment or ultrasound, a lack of accredited and trained professionals, and the costs involved for the woman in travelling for the assessment. Health professionals should therefore ensure that initial history taking is comprehensive and detailed and that ongoing assessment of fetal growth and wellbeing is undertaken.

The agreed due date should not be changed without advice from a senior maternity clinician. Any changes should be clearly documented in the woman's antenatal record.

Accurately assessing gestational age is particularly important for women living in rural and remote areas and for Aboriginal and Torres Strait Islander women as:

- many women live in rural and remote areas and move to a larger centre to give birth, requiring logistical arrangements to be made around the estimated date of birth (The Isolated Patients Travel and Accommodation Assistance Scheme [IPTAAS] may be able to subsidise travel and accommodation for women in rural and remote areas to access maternity care and services in some circumstances)¹⁰;
- Aboriginal and Torres Strait Island women have higher rates of preterm birth and intrauterine growth restriction⁶.

2. MANAGEMENT OF PREGNANCY BEYOND 41⁺⁰ WEEKS GESTATION

2.1 Non-medical options to stimulate labour

There are some non-medical/complementary options that women may explore to stimulate labour^{11,12,13,14,15,16}. Although evidence is limited to support most of these options clinicians will need to be familiar with these options so that they are able to advise women appropriately. The interventions are outlined in the table below.

Table 2 Non-medical options to stimulate labour – the evidence and risks

Non-medical intervention	Evidence	Risks
Date Fruit ¹¹	Insufficient evidence	Diarrhoea
Castor Oil ¹⁶	Insufficient evidence to make any conclusion regarding the effectiveness as an induction agent	Nausea, diarrhoea
Sexual Intercourse ¹⁵	Insufficient evidence to make any conclusion regarding the effectiveness as an induction agent	
Breast Stimulation ¹⁴	Beneficial in terms of: <ul style="list-style-type: none"> • Reduction in the number of women not in labour after 72 hours with a favourable cervix. • Reduction in postpartum haemorrhage 	Should not be used in high-risk women
Acupuncture ¹²	Insufficient evidence describing the efficacy as an induction of labour agent. However some evidence of change in cervical ripening	
Homoeopathy ¹³	Insufficient evidence to recommend as a method of induction of labour	

2.2 Membrane sweeping

Procedures for cervical ripening, such as membrane sweeping, may be of benefit in preventing pregnancy beyond 41⁺⁰ weeks, particularly in first pregnancies¹⁷. Membrane sweeping involves the health professional introducing a finger into the cervical os and 'sweeping' it around the circumference of the cervix during a vaginal examination, with the aim of separating the fetal membranes from the cervix and triggering the release of prostaglandins³. This can lead to softening of the cervix and augmenting oxytocin-induced uterine contractions⁴.

One-off routine sweeping of the membranes has not been shown to reduce the number of women requiring induction of labour for pregnancy beyond 41⁺⁰ weeks⁴. A Cochrane review concluded there is little justification for performing routine sweeping of membranes for women near term (37 to 40 weeks of gestation) in an uncomplicated pregnancy¹⁸. Another study recommends sweeping of the membranes to commence from 41⁺⁰ weeks gestation every 48 hours until spontaneous labour occurs, or until the woman reaches 42⁺⁰ weeks gestation¹⁹. In this study, serial sweeping of the membranes decreased the risk of pregnancy reaching 42⁺⁰ weeks gestation.

2.2.1 Risks and benefits of membrane sweeping

Membrane sweeping does not appear to increase the risk of maternal or fetal complications (e.g. infection)^{18,19,20}. Before formal induction of labour, women should be offered membrane sweeping, following a discussion of risks and benefits³.

Risks	Benefits of regular membrane sweeping
May not be successful and some women may find it painful: however, women describe the procedure as more acceptable than induction of labour ¹⁹	May result in the woman going into spontaneous labour ¹⁸
Uncomplicated vaginal bleeding or irregular contractions may occur following the procedure ¹⁹ .	Softens the cervix and may reduce the need for induction of labour ¹⁸ .

Recommendation:

- Membrane sweeping should be discussed with women from 40⁺⁰ and offered from 41⁺⁰ weeks gestation. It can be repeated regularly (based on individual clinical need and local protocols) until spontaneous labour occurs, or induction of labour is indicated.
- Where a woman requests membrane sweeping earlier than 41⁺⁰ weeks, she should be advised of the risks and benefits (as above) and the reason for the procedure documented in the woman's clinical record by her care provider¹⁹.

2.3 Expectant management pregnancy beyond 41⁺⁰ weeks

Following discussion with their maternity carer, women may choose expectant management for a potential pregnancy beyond 41⁺⁰ weeks. Women should be counselled regarding the need for increased surveillance beyond 41⁺⁰ weeks for mother and baby (see Section 2.4) as well as the associated risks as described in Section 2.3.1 of this document. The discussion with the woman along with any agreed management plans should be documented in the woman's clinical record.

2.3.1 Risks and benefits of expectant management

The benefits of expectant management are associated with the woman going into spontaneous labour and achieving a normal birth. These include:

- Increased maternal satisfaction when there is a support of maternal choice
- Skin to skin contact which can enhance mother-infant bonding and wellbeing ²¹
- Increased potential for an uncomplicated birth in future pregnancies
- Less likelihood of interventions such as forceps or vacuum assisted birth ²²
- Shorter recovery time and hospital stay.

The risks of expectant management are associated with the woman not going into spontaneous labour, extending the pregnancy further towards 42⁺⁰ weeks gestation and therefore increasing the risk of interventions such as induction of labour and/or caesarean section. The risks include increased:

- Maternal anxiety, particularly if the woman perceives her pregnancy beyond 41⁺⁰ weeks as high risk ^{23, 24}
- Risk of potential harm from unnecessary interventions resulting from false-positive test results associated with increased fetal surveillance ²⁵
- Increased risk of prolonged labour
- Incidence of trauma to the pelvic floor, vagina and perineum due to fetal macrosomia ^{23, 26}
- Risk of caesarean section ^{26, 27, 28, 29}
- Incidence of postpartum haemorrhage ^{27, 28, 29}
- Perinatal mortality. The perinatal mortality rate at 40 weeks gestation approximately doubles by 42⁺⁰ weeks (2–3 deaths versus 4–7 deaths per 1,000 births) and increases by 6-fold and higher at 43 weeks and beyond ¹⁹. Perinatal mortality rates also appear to increase with advancing maternal age ².
- Risk of other complications has also been reported ^{30, 31, 32}, including:
 - meconium aspiration syndrome
 - oligohydramnios
 - central nervous system damage
 - macrosomia and associated complications (cephalopelvic disproportion, shoulder dystocia and birth injury).

2.4 Fetal surveillance from 41⁺⁰ weeks gestation

Increased fetal and maternal surveillance aims to reduce the risk of adverse outcomes and ensure timely induction of labour if indicated (eg fetal compromise or oligohydramnios). Assessments for fetal surveillance to detect potential placental insufficiency may include cardiotocography and ultrasound to examine amniotic fluid index (AFI), Doppler studies and/or biophysical profile ^{33, 34, 35, 36, 37}.

Whilst the literature suggests cardiotocography and Doppler have no significant benefit in predicting outcomes for pregnancies beyond 41⁺⁰ weeks ³⁵, international guidelines recommend increased antenatal surveillance from 41⁺⁰ weeks ^{3, 23}. Consensus and expert opinion cited in these guidelines recommended twice weekly ⁴ assessment of fetal welfare from 41⁺⁰ weeks gestation including as a minimum:

- The estimation of amniotic fluid volume to provide valuable information regarding the placental function over the preceding week ²⁶ and
- The evaluation of the antenatal fetal heart rate pattern to provide information on the fetal condition at the point of time of testing ²⁶

- A specialist referral or consultation is required once the woman reaches 42⁺⁰ weeks gestation³⁸.

All pregnant women should be routinely provided with verbal and written information regarding normal fetal movements at each point of contact during the antenatal period. This information should be reinforced for the management of potential prolonged pregnancies³⁹.

Note: When initiating fetal surveillance from 41⁺⁰ weeks gestation, clinicians should consider the timing of the 41st week of gestation review. Where services are operating at reduced capacity, for example over a weekend or public holiday, fetal surveillance should be conducted within working hours prior to the period of closure or reduced service availability.

Recommendation:

- From 41⁺⁰ weeks, women should be offered evaluation of the antenatal fetal heart rate pattern twice weekly
- From 41⁺⁰ weeks, women can be offered ultrasound assessment of amniotic fluid volume
- Specialist referral or consultation is required once the woman reaches 42⁺⁰ weeks gestation³⁸
- All plans for fetal surveillance should be recorded in the woman's ongoing management plan
- All pregnant women should be routinely provided with verbal and written information regarding normal fetal movements at each point of contact during the antenatal period.

2.5 Induction of labour between 41⁺⁰ and 42⁺⁰ weeks gestation

Induction of labour for pregnancy between 41⁺⁰ and 42⁺⁰ weeks gestation has been shown to reduce the caesarean section rate with a lowering of perinatal mortality and morbidity when compared to expectant management⁴. Systematic reviews^{40,41} found that compared with a policy of expectant management, a policy of induction of labour was associated with lower rates of (all - cause) perinatal death, meconium aspiration syndrome and caesarean section.

Clinical decisions for induction of labour for pregnancies beyond 41⁺⁰ weeks should be discussed with the woman in consultation with an obstetrician. Women should be counselled about the risks and benefits of induction of labour²⁶, with consideration also being given to the woman's circumstances and preferences.

Induction of labour for women with a history of previous caesarean section should only be undertaken with caution, with the decision led by an obstetrician in consultation with the woman^{27,42}.

Recommendation:

Following a detailed discussion of the risks and benefits of induction of labour with the woman, induction of labour should be offered to women and ideally scheduled between 41⁺⁰ and 42⁺⁰ weeks gestation.

2.5.1 Risks and benefits of induction of labour

Induction of labour should be considered as an option when the risks to the mother and/or baby of ongoing pregnancy outweigh the risks of induction of labour and birth.

The risks and benefits include:

Risks	Benefits
<ul style="list-style-type: none"> Induction of labour may lead to further interventions that can include emergency caesarean section and assisted vaginal delivery^{22,27} Opportunity for bonding achieved through skin-to-skin contact may be reduced if interventions such as emergency caesarean section are required²¹ Postpartum haemorrhage⁴³ The induction of labour process may be delayed depending on clinical activity and available resources. 	<ul style="list-style-type: none"> In pregnancy beyond 41⁺⁰ weeks, induction of labour has been shown to reduce perinatal mortality rate (see Section 2.5).

2.5.2 Service capability for induction of labour

LHDs must ensure that medical induction of labour or augmentation with oxytocin (Syntocinon®) should only occur in units where their service capability includes the ability to perform an emergency caesarean section⁴⁴.

All NSW Public Health Organisations providing maternity services should have clinical practice guidelines and protocols for the use of oxytocin for the induction of labour in pregnancy beyond 41⁺⁰ weeks (see Policy Directive 2011_075 Maternity - Oxytocin for the Induction of Labour at or Beyond Term)²⁷. Such clinical practice guidelines and protocols should reflect an LHD wide, standardised, evidence-based approach to the induction of labour. The LHD guideline should reflect the appropriateness of the procedure in line with the service capability of each maternity service with detailed escalation pathways for consultation and referral.

Recommendation:

- Consideration should be given to the availability of clinical resources when planning the most suitable gestation for induction of labour in line with the facility's service capability
- In the case of women with a history of previous caesarean section LHDs should ensure that medical induction of labour or augmentation with oxytocin occurs in line with the service capability of the facility²⁷.

3. WOMAN CENTRED CARE

3.1 Information and decision making

Effective communication between health care professionals and women is essential. Information should be offered regarding the risks associated with prolonged pregnancies, and the options available. This will help women to make an informed choice, based on her individual preferences and circumstances, for either a scheduled induction for a pregnancy beyond 41⁺⁰ weeks or expectant management.

Women should be informed that most women will go into labour spontaneously by 42⁺⁰ weeks gestation²⁷. The use of early gestational scans to calculate the estimated date of birth can lower the rate of pregnancy beyond 41⁺⁰ weeks in women⁷. If pregnancy is prolonged, additional fetal surveillance and management plans should be discussed with the woman and clearly documented in the woman's antenatal record.

The information discussed should include:

- The risks and benefits of membrane sweeping during a vaginal examination, as described in Section 2.2.1 of this document
- The risks and benefits of expectant management, as described in Section 2.3.1 of this document
- The need for increased fetal surveillance from 41⁺⁰ weeks, as described in Section 2.4 of this document
- The risks and benefits of induction of labour, as described in Section 2.5.1.

Clinicians should advise that management decisions can be made after the woman has an opportunity to consider the risks, benefits and her personal preferences.

Clinicians should be aware of the potential for women to experience anxiety if pregnancy is prolonged. There should also be consideration for practical difficulties for the woman for example, when the woman has to travel to give birth or needs to arrange for additional support of her children or other family members. Additional advice and support may be required in these situations such as relevant community supports and financial assistance programs particularly for women who are not eligible for Medicare. Social workers, where available, may be able to assist women further.

Communication should be supported by evidence-based written information, where possible, tailored to the needs of the individual woman. Treatment, clinical care, and information provided should be culturally appropriate. Information should also be accessible to women, their partners and families, taking into account any additional needs such as physical or cognitive disabilities, and inability to speak or read English.

The ***"Management of pregnancy beyond 41⁺⁰ weeks gestation"*** consumer information brochure (Attachment 1) is available to guide and support the discussions regarding the available options for care. Consideration should be given to using interpreters to relay this information to women from culturally diverse backgrounds.

3.2 Documentation

All documentation in the woman's medical record should be in line with *PD2012_069 Health Care Records - Documentation and Management*. Any discussion regarding the risks and benefits for the management of pregnancy beyond 41⁺⁰ weeks gestation should be recorded in the woman's antenatal record. Documentation should include the details of the discussion, options presented to the woman and the agreed management plan.

4. REFERENCES

1. Li Z, Zeki R, Hilder L et al (2012) *Australia's Mothers and Babies 2010*. Cat. no. PER 57. Sydney: Australian Institute for Health and Welfare National Perinatal Epidemiology and Statistics Unit.
2. Page JM, Snowden JM, Cheng YW, Doss AE, Rosenstein MG, Caughey AB(2013). The risk of stillbirth and infant death by each additional week of expectant management stratified by maternal age. *Am J Obstet Gynecol*. Oct;209(4):375.e1-7
3. NICE (2008) *Antenatal Care. Routine Care for the Healthy Pregnant Woman*. . National Collaborating Centre for Women's and Children's Health. Commissioned by the National Institute for Health and Clinical Excellence. London: RCOG Press.
4. SOGC Clinical Practice Guideline. *Guidelines for the Management of Pregnancy at 41⁺⁰ to 42⁺⁰ Weeks*. Guideline No. 214. Ottawa: 2008
5. Khambalia, A., Roberts, C., Nguyen, M., Algert, C., Nicholl, M., Morris, J. (2013), Predicting date of birth and examining the best time to date a pregnancy. *International Journal of Gynaecology and Obstetrics*. 123(2), 105-109.
6. Australian Health Ministers' Advisory Council 2012, *Clinical Practice Guidelines: Antenatal Care – Module 1*. Australian Government Department of Health and Ageing, Canberra. <http://www.health.gov.au/antenatal>.
7. Altman DG, Chitty LS. New charts for ultrasound dating of pregnancy. *Ultrasound Obstet Gynecol* 1997;10:174–191.
8. Campbell Westerway S (2000) Ultrasonic fetal measurements. *Aust NZ J Obstet Gynaecol* 40: 297–302.
9. Callen PW (2008) *Ultrasonography in Obstetrics and Gynaecology*. 5th ed. Philadelphia: WB Saunders.
10. NSW Health: *Policy Directive PD2012_070 Isolated Patients Travel and Accommodation Assistance Scheme (IPTAAS) Policy Framework*.
11. Al-Kuran O, Al-Mehaisen L, Bawadi H et al (2011). The effect of late pregnancy consumption of date fruit on labour and delivery. *J Obstet Gynaecol*. 2011;31(1):29-31.
12. Smith CA, Crowther CA, Grant SJ (2013). Acupuncture for induction of labour. *Cochrane Database of Syst Rev* (8):CD002962.
13. Smith, C.A.(2003).Homoeopathy for induction of labour. *Cochrane Database of Syst Rev* (4):CD003399.
14. Kavanagh J, Kelly AJ, Thomas J(2005). Breast stimulation for cervical ripening and induction of labour. *Cochrane Database of Syst Rev* (3):CD003392.
15. Kavanagh J, Kelly AJ, Thomas J (2001). Sexual intercourse for cervical ripening and induction of labour. *Cochrane Database of Syst Rev* (2): CD003093.
16. Kelly AJ, Kavanagh J, Thomas J (2013). Castor oil, bath and/or enema for cervical priming and induction of labour. *Cochrane Database of Syst Rev* (7): CD003099.
17. Mandruzzato G, Alfievic Z, Chervenak F et al (2010) Guidelines for the management of postterm pregnancy. *J Perinat Med* 38(2): 111–19.
18. Boulvain M, Stan C, Irion O (2005) Membrane sweeping for induction of labour. *Cochrane Database Syst Rev*(1): CD000451.

19. de Miranda E, van der Bom JG, Bonsel GJ et al (2006) Membrane sweeping and prevention of post-term pregnancy in low-risk pregnancies: a randomised controlled trial. *BJOG* 113(4): 402–08.
20. Yildirim G, Gungorduk K, Karadag OI et al (2010) Membrane sweeping to induce labor in low-risk patients at term pregnancy: a randomised controlled trial. *J Matern Fetal Neonatal Med* 23(7): 681–87.
21. Moore ER, Anderson GC, Bergman N, Dowswell T (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database of Syst Rev* (5):CD003519.
22. NICE (2008) *Induction of labour clinical guideline*. National Collaborating Centre for Women's and Children's Health. Commissioned by the National Institute for Health and Clinical Excellence. London: RCOG Press.
23. ACOG (2004) *Management of Postterm Pregnancy*. *ACOG Practice Bulletin 55*: American College of Obstetricians and Gynecologists.
24. Heimstad R, Romundstad PR, Hyett J et al (2007) Women's experiences and attitudes towards expectant management and induction of labor for post-term pregnancy. *Acta Obstet Gynecol Scand* 86(8): 950–56.
25. Divon MY & Feldman-Leidner N (2008) Postdates and antenatal testing. *Semin Perinatol* 32(4): 295–300.
26. Government of South Australia, Department of Health. Perinatal Practice Guidelines. Available at [URL: http://www.health.sa.gov.au/ppg](http://www.health.sa.gov.au/ppg)
27. NSW Health: *Policy Directive 2011_075 Maternity - Oxytocin for the Induction of Labour at or Beyond Term*
28. Briscoe D, Nguyen H, Mencer M et al (2005) Management of pregnancy beyond 40 weeks' gestation. *Am Fam Physician* 71(10): 1935–41.
29. Siozos C & Stanley KP (2005) Prolonged pregnancy. *Curr Obstet Gynaecol* 15: 73–79.
30. Olesen AW, Westergaard JG, Olsen J (2003) Perinatal and maternal complications related to postterm delivery: a national register-based study, 1978-1993. *Am J Obstet Gynecol* 189(1): 222–27.
31. Clark SL & Fleischman AR (2011) Term pregnancy: time for a redefinition. *Clin Perinatol* 38(3): 557–64.
32. Yurdakok M (2011) Meconium aspiration syndrome: do we know? *Turk J Pediatr* 53(2): 121–29.
33. Morris JM, Thompson K, Smithey J et al (2003) The usefulness of ultrasound assessment of amniotic fluid in predicting adverse outcome in prolonged pregnancy: a prospective blinded observational study. *BJOG* 110(11): 989–94.
34. Lam H, Leung WC, Lee CP et al (2006) Amniotic fluid volume at 41 weeks and infant outcome. *J Reprod Med* 51(6): 484–88.
35. Singh T, Sankaran S, Thilaganathan B et al (2008) The prediction of intra-partum fetal compromise in prolonged pregnancy. *J Obstet Gynaecol* 28(8): 779–82.
36. Khooshideh M, Izadi S, Shahriari A et al (2009) The predictive value of ultrasound assessment of amniotic fluid index, biophysical profile score, nonstress test and fetal movement chart for meconium-stained amniotic fluid in prolonged pregnancies. *J Pak Med Assoc* 59(7): 471–74.

37. Grivell RM, Alfievic Z, Gyte GM et al (2010) Antenatal cardiotocography for fetal assessment. *Cochrane Database Syst Rev*(1): CD007863.
38. Australian College of Midwives (2013). *National Midwifery Guidelines for Consultation and Referral*. 3rd ed. Australian College of Midwives, Canberra. Available at:
<http://midwives.rentsoft.biz/lib/pdf/documents/National/Guidelines2013.pdf>
39. NSW Health (2011): *Guideline GL2011_012 Maternity - Decreased Fetal Movements in the Third Trimester*. NSW Health, Sydney. Available at:
http://www0.health.nsw.gov.au/policies/gl/2011/GL2011_012.html
40. Gulmezoglu AM, Crowther CA, Middleton P et al (2012) Induction of labour for improving birth outcomes for women at or beyond term. *Cochrane Database Syst Rev* 6: CD004945.
41. Hussain AA, Yakoob MY, Imdad A et al (2011) Elective induction for pregnancies at or beyond 41 weeks of gestation and its impact on stillbirths: a systematic review with meta-analysis. *BMC Public Health* 11 Suppl 3: S5.
42. Guidelines GL2014_004 Maternity-Supporting women in their next birth after caesarean section (NBAC)
43. Khireddine I et al (2013). Induction of labor and risk of postpartum hemorrhage in low risk parturients. *PLoS One*: 8(1):e54858.
44. Standing Council on Health, 2012: National Maternity Services Capability Framework

5. ATTACHMENT 1

Consumer Brochure - **Pregnancy Beyond 41⁺⁰ weeks: Information about your options**
Available on the next two pages is a printable version of the Consumer Brochure.

What if I choose induction of labour after 41 weeks?

When thinking about induction of labour you may want to talk to your midwife and doctor to weigh up the risks and benefits of all of your options.

The benefits of induction of labour after 41 weeks may include:

- Reduced risk of complications for your baby
- Reduced risk of having a caesarean section

The risks of induction of labour may include:

- Further interventions such as forceps or vacuum assisted birth
- Increased need for pain relief which may lead to further intervention
- Increased risk of maternal bleeding

An induction of labour involves a combination of breaking your waters and the use of medication to get labour started. The aim is to get the cervix to open up and the uterus to start contracting. During your induction midwives and doctors will work together to look after you. Your baby will be continuously monitored by CTG.

If you have had a prior caesarean section, further detail is available about your options for vaginal birth in the *Next Birth After Caesarean Section (NBAC)* brochure on the NSW Kids and Families website (www.kidsfamilies.health.nsw.gov.au)

If you decide you would like to have an induction of labour your midwife or doctor will arrange a suitable date for you to attend the hospital.

What if I reach 42 weeks and labour hasn't started?

If you reach 42 weeks gestation your care provider should discuss with you the risks to you and your baby of going beyond 42 weeks.

These risks may include:

- A higher risk of stillbirth if you go over 42 weeks gestation
- An increased chance of your baby being bigger and having a little less amniotic fluid
- Waiting beyond 42 weeks may also lead to:
 - * Increased risk of maternal bleeding
 - * Increased risk of damage to the perineum due to the larger size of the baby
 - * Increased risk of caesarean section operation

Next steps for me:

This information brochure has been written by an Expert Advisory Group of NSW Kids and Families and is available for downloading and printing on the NSW Kids and Families website (www.kidsfamilies.health.nsw.gov.au). If you have any questions or suggestions regarding this brochure, please provide this feedback to your healthcare worker.

Published 2014



Pregnancy Beyond 41 Weeks

INFORMATION ABOUT YOUR BIRTH OPTIONS
WHEN YOU ARE 1 WEEK PAST YOUR DUE DATE

NSWKIDS
+FAMILIES



Health

This information brochure has been designed to provide you with information to assist you to make the most suitable choices for you and your baby should your pregnancy extend beyond 41 weeks, which is 1 week past your due date.

The information in this brochure should help the discussions you will have with your midwife and/or doctor.

I am now 41 weeks and 'overdue'. What are my choices?

When you became pregnant your health care professional would have given you an estimated date of birth for when your baby was due: this date is when you are 40 weeks pregnant. This date is only an estimate and most babies will actually be born within seven days either side of this date.

Not every pregnancy is the same and it is normal for different women to have shorter or longer pregnancies. In fact, about 8 in 100 women will not have gone into labour by 41 weeks, and most women will start to labour before they reach 42 weeks.

If you are still pregnant at 41 weeks, making decisions regarding your birth options should be made in partnership with your care provider. Appropriate information and support will help you make the best possible choices over a very short period of time.

Whilst there are benefits for waiting for labour to start naturally it is recommended that induction of labour occurs before 42 weeks gestation.

Is there anything that can help me go into labour naturally?

There are some non-medical options that may encourage your labour to start. Your health care professional will be able to give you more information and advice.

One option is a procedure called 'sweeping the membranes'. From 41 weeks gestation, your care provider may offer you a membrane sweep (also called a stretch and sweep). A membrane sweep is done during a vaginal examination (internal examination). Your care provider inserts their finger into your cervix and makes circular movements around your cervix with his or her finger to try and separate the amniotic sac (the sac around the baby) from the cervix. A membrane sweep encourages the release of hormones that help your uterus contract. You may need to undergo this procedure more than once. Membrane sweeping can be repeated at regular intervals until labour commences. Undergoing a membrane sweep does not harm you or your baby.

Benefits of membrane sweeping

- A membrane sweep may increase your chance of going into spontaneous labour
- You can have a membrane sweep during a pregnancy check-up and you can usually go home afterwards

Disadvantages of membrane sweeping

- The procedure can be uncomfortable with some women finding it slightly painful
- A small amount of vaginal bleeding or spotting can happen after the procedure along with some irregular contractions. If you are concerned please contact your health care provider
- It may not start your labour

What if I wait for labour to start naturally?

The benefits of waiting for labour to start naturally may include:

- Increased chance of normal birth, which can enhance mother-infant bonding and long term wellbeing
- A greater chance of an uncomplicated birth in future pregnancies
- Less likelihood of interventions such as forceps or vacuum assisted birth
- A shorter recovery time and hospital stay
- Reduced risk of maternal blood clots (deep vein thrombosis)

While you are waiting for labour to start, extra check-ups will be required for you and your baby. These check-ups usually involve monitoring your baby's heartbeat using a cardiotocograph (also called a CTG machine) and may also include an ultrasound scan to measure how much amniotic fluid is around your baby.

Your baby's movements

Your care provider should outline to you the normal patterns of fetal movement during pregnancy. Your baby **should** continue to move right up to, and through, labour. If you notice a decrease or change in patterns of your baby's movement or have any concerns regarding their movement it is important to contact your care provider or maternity services unit promptly.

