

# Postnatal care up to 8 weeks after birth (2006) NICE guideline CG37

## Appendix A: Summary of new evidence from surveillance

### Summary of new evidence

#### Planning the Content and delivery of care

#### **CG37 – 01      What are the models for delivering the care?**

#### Recommendations derived from this question

##### Principles of care

- 1.1.1 Each postnatal contact should be provided in accordance with the principles of individualised care. In order to deliver the core care recommended in this guideline, postnatal services should be planned locally to achieve the most efficient and effective service for women and their babies.
- 1.1.2 A coordinating healthcare professional should be identified for each woman. Based on the changing needs of the woman and baby, this professional is likely to change over time.
- 1.1.3 A documented, individualised postnatal care plan should be developed with the woman, ideally in the antenatal period or as soon as possible after birth. This should include:
- relevant factors from the antenatal, intrapartum and immediate postnatal period
  - details of the healthcare professionals involved in her care and that of her baby, including roles and contact details
  - plans for the postnatal period.

This should be reviewed at each postnatal contact.

- 1.1.4 Women should be offered an opportunity to talk about their birth experiences and to ask questions about the care they received during labour.
- 1.1.5 Women should be offered relevant and timely information to enable them to promote their own and their babies' health and wellbeing and to recognise and respond to problems.
- 1.1.6 At each postnatal contact the healthcare professional should:
- ask the woman about her health and wellbeing and that of her baby. This should include asking women about their experience of common physical health problems. Any symptoms reported by the woman or identified through clinical observations should be assessed.
  - offer consistent information and clear explanations to empower the woman to take care of her own health and that of her baby, and to recognise symptoms that may require discussion
  - encourage the woman and her family to report any concerns in relation to their physical, social, mental or emotional health, discuss issues and ask questions
  - document in the care plan any specific problems and follow-up.

## Surveillance decision

We will plan a full update of this guideline.

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### *Planning the content and delivery of care*

#### **5-year surveillance summary**

One RCT<sup>1</sup> tested the feasibility of using a 24-hour telephone hotline to address common postnatal concerns among first-time Lebanese mothers. The authors concluded that it is feasible to use a telephone hotline as an intervention in the post-partum period and those algorithms could be developed to provide standardised answers to the most common questions.

One study<sup>2</sup> described fathers' views of a recently-introduced, more family-centred postnatal care model. The authors concluded that a true family perspective should be applied in postnatal care with the new parents viewed as a family unit, not as medical cases only, and that staff working in postnatal wards should be given the opportunity to involve fathers in postnatal care.

One Australian study<sup>3</sup> designed strategies to improve hospital-based postnatal care. The result was a key strategy called 'One to One Time' which would provide women with an uninterrupted period of time each day with a midwife who was available to listen to their needs and concerns and discuss issues related to their health and that of their baby.

#### **8-year surveillance summary**

A systematic review of qualitative studies<sup>4</sup> explored women's perceptions and experiences of professional or peer breastfeeding support. The review identified strong evidence for adoption of models that emphasise relationship-based care; continuity of care; individualised care; practical help; antenatal education; postnatal advice and support; and support schemes that cater to women from all socio-economic groups.

#### **10-year surveillance summary**

A systematic review<sup>5</sup> assessed the effectiveness of different continuum of care linkages for reducing neonatal, perinatal, and maternal mortality in low- and middle-income countries. A total of 19 randomised and quasi-

randomised controlled trials were included. The findings indicate that continuous uptake of antenatal care, skilled birth attendance, and postnatal care, significantly reduced combined neonatal, perinatal, and maternal mortality risks.

A systematic review<sup>6</sup> examined the successes and challenges of antenatal and postnatal clinics delivery models in several settings around the world. The findings suggest that the key elements of successful programmes that benefit the health and wellbeing of women were: health workforce support; appropriate use of electronic technologies; integrated care; a woman-friendly perspective; and adequate infrastructure.

Use of educational technologies to encourage self-care in postpartum women was investigated in a systematic review<sup>7</sup>. Twenty-seven articles were selected for analysis. The findings indicate that, counselling and home visits were among the most effective and recommended educational strategies.

A systematic review of reviews<sup>8</sup> examined the effectiveness of facility level inputs for improving maternal and newborn health outcomes. Facilities included advice on referrals, post discharge care, long-term management of chronic conditions along with staff training, managerial and administrative support to other facilities. In total 32 systematic reviews were included. Findings suggest that continued midwifery care from early pregnancy to the postpartum period was associated with reduced medical procedures during labour and shorter length of stay. At the facility level, specialised midwifery teams and social support during pregnancy and labour have demonstrated conclusive benefits in improving maternal newborn health outcomes.

First-time parents' prenatal needs for early parenthood preparation were investigated in systematic review<sup>9</sup> of qualitative literature. The meta-synthesis included 12 articles. The findings indicate first-time expectant and new parents reflect a need for antenatal education

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that include male partners. Participants wished for early and realistic information about parenting skills, and to have the opportunity to seek support and help from health professionals when the need arose especially during the early postnatal period.

A systematic review <sup>10</sup> assessed the evidence based childbirth and postnatal interventions which have a beneficial impact on maternal and new-born outcomes. Interventions that were found to be associated with a decrease in maternal and neonatal morbidity and mortality included: advice and support for family planning, support and promotion of early initiation and continued breastfeeding; thermal care or kangaroo mother care for preterm and/or low birth weight babies; hygienic care of umbilical cord and skin following delivery; training health personnel in basic neonatal resuscitation; and increasing postnatal visits.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

The new evidence identified is essentially in line with current guideline recommendations that emphasise individualised care which is relationship, information and competency based.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## Recommendations derived from this question

### Principles of care

- 1.1.7 Length of stay in a maternity unit should be discussed between the individual woman and her healthcare professional, taking into account the health and wellbeing of the woman and her baby and the level of support available following discharge.

### Surveillance decision

We will plan a full update of this guideline.

#### *Planning the content and delivery of care*

##### **5-year surveillance summary**

One study<sup>11</sup> identified predictors and outcomes of postpartum mothers' perceptions of their readiness for hospital discharge. The authors concluded that there was a sequential relationship between the quality of discharge teaching, readiness for discharge, post-discharge coping and utilisation of family support and health care services.

##### **8-year surveillance summary**

No relevant evidence was identified.

##### **10-year surveillance summary**

A systematic review<sup>12</sup> investigated new parents' experiences of early postnatal discharge. A total of 10 qualitative studies involving 237 first time mothers and fathers were included. The findings identified four overlapping and mutually dependent themes reflecting the new parents' experiences of early postnatal discharge: feeling and taking responsibility; a time of insecurity; being together as a family and striving to be confident. The new parents' experiences of early discharge and becoming a parent were closely related. Feeling secure and confident in the parental role was positively or negatively influenced by the organisation of early discharge. The author concluded that this underscores the importance of the way health professionals support new mothers and fathers at early postnatal discharge.

##### **Topic expert feedback**

Feedback from the topic experts indicated that delivery of postnatal care has changed since the guideline was written and women now receive shorter hospital/maternity-lead unit stays and fewer postnatal visits.

##### **Impact statement**

The new evidence identified is essentially in line with current guideline recommendations that emphasise that the length of stay in maternity unit should be discussed and tailored based on needs of individual woman.

CG37 states that "length of stay in a maternity unit should be discussed between the individual woman and her healthcare professional, taking into account the health and well-being of the woman and her baby and the level of support available following discharge" which is broadly in line with current evidence on parents' needs and experience of early postnatal discharge.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

**CG37 – 03      What is the optimal number of postnatal contacts for the best outcomes? What needs to be done at what time?**

**Recommendations derived from this question**

**Principles of care**

The same recommendations were derived from this question as in 37-01.

**Surveillance decision**

We will plan a full update of this guideline.

*Planning the content and delivery of care*

**5-year surveillance summary**

Number of postnatal contacts

One RCT<sup>13</sup>, evaluated the effect of weekly home visits by health visitors on 'low-risk' first-time families in Northern Ireland, as compared to one planned visit. The authors concluded that weekly postpartum visits to 'low-risk' mothers had variable effects.

Experiences or views of mothers/fathers/care-givers

A survey<sup>14</sup> of first-time mothers' experiences of their postnatal care in the UK was identified. The overarching indication was that the NICE guideline on postnatal care was not being implemented in line with the intended ethos.

One national survey<sup>15</sup> of women's experiences of their maternity care in England indicated that women rated their postnatal care less positively than other aspects of care.

One qualitative study<sup>16</sup> on UK women's experiences and expectations of in-patient postnatal care revealed that staff interactions with women could make a difference to care as a positive or negative experience and that the units need to consider how individual staff communicate information to women.

One cohort study<sup>17</sup> investigated the perceived quality of, and satisfaction with, postpartum care among caregivers and care receivers of a community hospital in Norway. Results showed that although mothers' evaluations of overall care and service did not differ significantly from that of the maternity ward staff, they rated the

importance of assistance with child care during the night significantly higher than did the staff.

One study<sup>18</sup> investigated Swedish women's experiences of postnatal hospital care. The authors concluded that women are not necessarily either satisfied or dissatisfied with care in a general sense and that in order to provide individualised care; the carer needs to be aware of individual differences.

One Swedish study<sup>19</sup> focussed on new parents' discontent with postpartum care. A main finding was that the close emotional attachment between parents was not always supported by staff and that the father was treated as an outsider. The authors surmise that midwives should acknowledge that parents, irrespective of gender, should have equal opportunities as parents during postpartum care.

**8-year surveillance summary**

Number of postnatal contacts

Four RCTs of home visiting by nurses or midwives compared with control groups indicated reduced emergency medical care<sup>20</sup>, improved maternal/infant interaction and decreased severity of postpartum depression<sup>21</sup>, some breastfeeding benefits<sup>22</sup> and improved maternal healthy behaviours<sup>23</sup>. In addition, one Cochrane review<sup>24</sup> found that postnatal home visits may promote infant health and maternal satisfaction. Conversely, one RCT<sup>25</sup> of nurse-community health worker or a standard community care home visitation programme found no strong evidence that infant health was improved by the addition of community health

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workers to a programme of standard community care that included nurse home visitation.

### **10-year surveillance summary**

#### Number of postnatal contacts

A systematic review <sup>26</sup> assessed outcomes for women and infants of different home-visiting schedules during the early post-partum period. The review focused on the frequency of home visits, the duration (when visits ended) and intensity, and on different types of home visiting interventions. A total of 12 randomised trials with n=11 000 women were included. The trials were carried out across the world, and in both high- and low-resource settings. The findings showed that there was no evidence that home visits were associated with improvements in maternal and neonatal mortality, and no strong evidence that more postnatal visits at home were associated with improvements in maternal health. More intensive schedules of home visits did not appear to improve maternal psychological health and results from two studies suggested that women receiving more visits had higher mean depression scores. The reason for this finding was not clear. There was some evidence that postnatal care at home may reduce infant health service utilisation in the weeks following the birth, and that more home visits may encourage more women to exclusively breastfeed their babies. There was some evidence that home visits are associated with increased maternal satisfaction with postnatal care.

#### Experiences or views of mothers/fathers/care-givers

A systematic review <sup>27</sup> identified and analysed studies dealing with immigrant women's perspectives on prenatal and postpartum health care. The studies explored the relation between socio-demographic status of immigrant women and its impact on antenatal and postpartum care. Women's experience with health care services and the incidence of postpartum depression symptoms were also investigated. The language barrier was the main negative factor interfering with communication between women and health professionals, followed by health care professionals' lack of cultural sensitivity,

leading to women's reluctance in using health services.

A systematic review <sup>28</sup> of qualitative, quantitative and mixed-method studies investigated parents and healthcare professionals' experiences of care after stillbirth in high-income countries. A total of 52 studies were included. Parental and staff findings were often related; behaviours and actions of staff have a memorable impact on parents (53%) whilst staff described emotional, knowledge and system-based barriers to providing effective care (100%). Parents and staff both identified the need for improved training (parents 25% & staff 57%); continuity of care (parents 15% & staff 36%); supportive systems & structures (parents 50%); and clear care pathways (parents 5%).

A systematic review <sup>29</sup> compared midwife-led continuity models of care with other models of care for childbearing women and their infants. All published and unpublished trials in which pregnant women were randomly allocated to midwife-led continuity models of care or other models of care during pregnancy and birth were identified. Fifteen trials involving 17,674 women were included. No differences were observed in initiation of breast feeding between the two groups. Findings indicate that women who received midwife-led continuity models of care are more likely to be satisfied with their care.

A systematic review <sup>30</sup> was carried out to identify women's satisfaction with maternity care in developing countries. A total of 54 studies were included. The findings indicate that determinants of maternal satisfaction included good physical environment, cleanliness, and availability of adequate human resources, medicines and supplies. Process determinants included interpersonal behaviour, privacy, promptness, cognitive care, perceived provider competency and emotional support. Access, cost, socio-economic status and reproductive history also influenced perceived maternal satisfaction. Interpersonal behaviour was the most widely reported determinant, with the largest body of evidence generated around provider behaviour in terms of courtesy and non-abuse. Other aspects of interpersonal behaviour included therapeutic communication,

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staff confidence and competence and encouragement to labouring women.

**Topic expert feedback**

Feedback from the topic experts indicated that delivery of postnatal care has changed since the guideline was written and women now receive shorter hospital/maternity-lead unit stays and fewer postnatal visits.

**Impact statement**

The new evidence suggests that more home visits may encourage more women to exclusively breastfeed their babies; however that did not appear to improve maternal psychological health. The new evidence also suggests that women who received midwife-led continuity models of care are more likely to be satisfied with their care. The optimum number of postnatal visits was not addressed in CG37 recommendations. The new evidence identified on women experience is essentially in line with current guideline recommendations that emphasise individualised care which is relationship-, information- and competency-based. Therefore, the new evidence is unlikely

to have an impact on current guideline recommendations.

Feedback from the topic experts indicated that delivery of postnatal care has changed since the guideline was written and women now receive shorter hospital/maternity-lead unit stays and fewer postnatal visits. New evidence on parents' experiences of early postnatal discharge highlights the importance of health professionals supporting new mothers and fathers at early postnatal discharge. That is broadly in line with current evidence on parents' needs and experience of early postnatal discharge.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

**CG37 – 04      What information needs to be communicated by the health professionals at transfer of care?**

**Recommendations derived from this question**

**Professional communication**

- 1.1.8      There should be local protocols about written communication, in particular about the transfer of care between clinical sectors and healthcare professionals. These protocols should be audited.
- 1.1.9      Healthcare professionals should use hand-held maternity records, the postnatal care plans and personal child health records, to promote communication with women.

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

**CG37 – 05      What competencies are required of the health professionals who make each postnatal contact?**

**Recommendations derived from this question**

**Competencies**

- 1.1.10      All healthcare professionals who care for mothers and babies should work within the relevant competencies developed by Skills for Health. Relevant healthcare professionals should also have demonstrated competency and sufficient ongoing clinical experience in:
- undertaking maternal and newborn physical examinations and recognising abnormalities
  - supporting breastfeeding women including a sound understanding of the physiology of lactation and neonatal metabolic adaptation and the ability to communicate this to parents
  - recognising the risks, signs and symptoms of domestic abuse and whom to contact for advice and management, as recommended by Department of Health guidance
  - recognising the risks, signs and symptoms of child abuse and whom to contact for advice and management, as recommended by Department of Health guidance\*.

\* [National Service Framework for Children, Young People and Maternity Services](#)

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.



**Recommendations derived from this question**

**Information giving**

- 1.2.1 At the first postnatal contact, women should be advised of the signs and symptoms of potentially life-threatening conditions (given in table 2) and to contact their healthcare professional immediately or call for emergency help if any signs and symptoms occur.

**Table 2**

<b>Signs and symptoms</b>	<b>Condition</b>
Sudden and profuse blood loss or persistent increased blood loss Faintness, dizziness or palpitations/tachycardia	Postpartum haemorrhage
Fever, shivering, abdominal pain and/or offensive vaginal loss	Infection
Headaches accompanied by one or more of the following symptoms within the first 72 hours after birth: visual disturbances nausea, vomiting	Pre-eclampsia/ eclampsia
Unilateral calf pain, redness or swelling Shortness of breath or chest pain	Thromboembolism

- 1.2.2 The Department of Health booklet 'Birth to five', which is a guide to parenthood and the first 5 years of a child's life, should be given to all women within 3 days of birth (if it has not been received antenatally).
- 1.2.3 The personal child health record should be given to all women as soon as possible (if it has not been received antenatally) and its use explained.
- 1.2.4 Women should be offered information and reassurance on:
- the physiological process of recovery after birth (within the first 24 hours)
  - normal patterns of emotional changes in the postnatal period and that these usually resolve within 10–14 days of giving birth (within 3 days)
  - common health concerns as appropriate (weeks 2–8).

\*Available from: the [Department of Health](#)

**Surveillance decision**

We will plan a full update of this guideline.

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### Information giving

#### 5-year surveillance summary

No relevant evidence was identified.

#### 8-year surveillance summary

No relevant evidence was identified.

#### 10-year surveillance summary

No relevant evidence was identified.

#### Topic expert feedback

Topic experts commented that the 'Birth to Five' booklet is no longer produced in hard

copy and it is out of date.

#### Impact statement

No new evidence was identified relating to this review question.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 07 What are the signs and symptoms of major physical morbidities (postpartum haemorrhage [PPH])?

### Sub-questions

What are the risk factors for PPH?

What observations should be undertaken for diagnose and treat PPH?

How is deviation from normality detected?

When and how often fundal height be measured?

What is the optimal method of measuring fundal height and what competencies are required to measure it?

What is defined as normal/abnormal vaginal loss and how is deviation from normality detected?

When and how often should postpartum vaginal blood loss be observed?

What is the optimal method of measurement of vaginal blood loss and what competencies are required to measure it?

What are the referral pathways for postpartum haemorrhage and postpartum vaginal loss?

### Recommendations derived from this question

#### Postpartum haemorrhage

- 1.2.5 In the absence of abnormal vaginal loss, assessment of the uterus by abdominal palpation or measurement as a routine observation is unnecessary.
- 1.2.6 Assessment of vaginal loss and uterine involution and position should be undertaken in women with excessive or offensive vaginal loss, abdominal tenderness or fever. Any abnormalities in the size, tone and position of the uterus should be evaluated. If no uterine abnormality is found, consider other causes of symptoms (urgent action).
- 1.2.7 Sudden or profuse blood loss, or blood loss accompanied by any of the signs and symptoms of shock, including tachycardia, hypotension, hypoperfusion and change in consciousness, should be evaluated (emergency action).

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## Surveillance decision

We will plan a full update of this guideline.

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### *Postpartum haemorrhage*

#### **5-year surveillance summary**

One RCT<sup>31</sup> analysed the characteristics of low-risk women in India who experienced postpartum hemorrhage (PPH). Results showed that having fewer than 4 antenatal visits and lack of iron supplementation increased the risk for PPH. The authors concluded that rural communities should consider ways to increase both primary and secondary prevention of PPH.

One RCT conducted in India<sup>32</sup> compared visual estimation of postpartum blood loss with estimation using a specifically designed blood collection drape that measured blood loss by photospectrometry. The authors concluded that drape estimation of blood loss is more accurate than visual estimation and may have particular utility in the developing world.

One RCT<sup>33</sup> evaluated the effectiveness of a transparent plastic collector bag to measure postpartum blood loss after vaginal delivery in reducing the incidence of severe postpartum haemorrhage. The authors concluded that compared with visual estimation of postpartum blood loss, the use of a collector bag after vaginal delivery did not reduce the rate of severe postpartum haemorrhage.

#### **8-year surveillance summary**

A secondary analysis of an RCT<sup>34</sup> concluded that independent risk factors for uterine atony or postpartum haemorrhage requiring treatment include white ethnicity, preeclampsia, and chorioamnionitis.

#### **10-year surveillance summary**

No relevant evidence was identified.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

Limited evidence was found relating to postpartum haemorrhage. Evidence indicated that drape estimation and a collector bag are more accurate than visual estimation of blood loss in postpartum haemorrhage. The evidence is more related to immediate postpartum haemorrhage after birth and is based on single RCTs.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 08 What are the signs and symptoms of major physical morbidities (genital tract sepsis)?

### Sub-questions

What are the risk factors of genital tract sepsis?

What observations should be undertaken to diagnose and treat genital tract sepsis?

What is defined as normal/abnormal and how is deviation from normality detected?

When and how often should it be observed?

What is optimal method of measuring maternal temperature and what are the competencies required to measure it?

What competencies required to identify and treat genital tract sepsis?

When are the referral pathways for genital tract sepsis?

### Recommendations derived from this question

#### Genital tract sepsis

- 1.2.8 In the absence of any signs and symptoms of infection, routine assessment of temperature is unnecessary.
- 1.2.9 Temperature should be taken and documented if infection is suspected. If the temperature is above 38°C, repeat measurement in 4–6 hours.
- 1.2.10 If the temperature remains above 38°C on the second reading or there are other observable symptoms and measurable signs of sepsis, evaluate further (emergency action).

### Surveillance decision

We will plan a full update of this guideline.

#### *Postpartum haemorrhage*

##### **5-year surveillance summary**

No relevant evidence was identified.

##### **8-year surveillance summary**

No relevant evidence was identified.

##### **10-year surveillance summary**

No relevant evidence was identified.

##### **Topic expert feedback**

Topic experts had concerns about maternal postnatal observations. They remarked that women are dying from puerperal sepsis and often presenting late because of a failure to appreciate the fact they are becoming unwell and therefore leading to a delay in treatment. They contended that basic observations such as pulse and temperature and palpating the

uterus for tenderness have been abandoned; but no 'trial' or 'study' would show a difference as to whether these checks were of benefit because numbers of adverse events are low.

##### **Impact statement**

Topic experts had concern about maternal postnatal observations regarding sepsis. The identification and early treatment of sepsis in pregnant and postnatal women is covered by [NICE Guidance NG51](#) (2016).

Recommendations in NG51 are in line with current recommendation in CG37 on sepsis.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback

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from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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**CG37 – 09      What are the signs and symptoms of major physical morbidities (pre-eclampsia)?**

**Sub-questions**

What are the risk factors for pre-eclampsia?

What observations should be undertaken to diagnose and treat pre-eclampsia?

What is defined as normal/abnormal and how is deviation from normality detected?

When and how often should blood pressure be observed?

What is optimal method of measuring blood pressure and what competencies are required to measure it?

Are there additional observations which should be made in suspected pre-eclampsia?

What are the competencies required to identify and treat pre-eclampsia?

When are the referral pathways for pre-eclampsia?

**Recommendations derived from this question**

**Pre-eclampsia/eclampsia**

- 1.2.11 A minimum of one blood pressure measurement should be carried out and documented within 6 hours of the birth.
- 1.2.12 Routine assessment of proteinuria is not recommended.
- 1.2.13 Women with severe or persistent headache should be evaluated and pre-eclampsia considered (emergency action).
- 1.2.14 If diastolic blood pressure is greater than 90 mmHg, and there are no other signs and symptoms of pre-eclampsia, measurement of blood pressure should be repeated within 4 hours.
- 1.2.15 If diastolic blood pressure is greater than 90 mmHg and accompanied by another sign or symptom of pre-eclampsia, evaluate further (emergency action).
- 1.2.16 If diastolic blood pressure is greater than 90 mmHg and does not fall below 90 mmHg within 4 hours, evaluate for pre-eclampsia (emergency action).

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## CG37 – 10 What are the signs and symptoms of major physical morbidities in women? (thrombosis)

### Sub-questions

- What are the signs and symptoms of thromboembolism?
- What are the risk factors for thromboembolism?
- What observations should be undertaken to diagnose and treat thromboembolism?
- What is defined as normal/abnormal and how is deviation from normality detected?
- When and how often should observations be made?
- What are the optimal methods of measuring and what competencies are required?
- What competencies are required to identify and treat thromboembolism?
- What are the referral pathways for thromboembolism?

### Recommendations derived from this question

#### Thromboembolism

- 1.2.17 Women should be encouraged to mobilise as soon as appropriate following the birth.
- 1.2.18 Women with unilateral calf pain, redness or swelling should be evaluated for deep venous thrombosis (emergency action).
- 1.2.19 Women experiencing shortness of breath or chest pain should be evaluated for pulmonary thromboembolism (emergency action).
- 1.2.20 Routine use of Homan's sign as a tool for evaluation of thromboembolism is not recommended.
- 1.2.21 Obese women are at higher risk of thromboembolism and should receive individualised care.

### Surveillance decision

We will plan a full update of this guideline.

#### *Thromboembolism*

##### **5-year surveillance summary**

No relevant evidence was identified.

##### **8-year surveillance summary**

No relevant evidence was identified.

##### **10-year surveillance summary**

A systematic review<sup>35</sup> assessed the overall incidence of pregnancy related venous thromboembolism (VTE). Twenty-seven articles met the inclusion criteria. The pooled incidence rate was 1.4 for VTE, 1.1 for deep vein thrombosis (DVT) and 0.3 for pulmonary embolism (PE). The weighted proportion of VTE postpartum was 57.5% and the pooled proportion of right-sided DVT was 27.9%. The

author concluded that pregnancy or puerperium is associated with a higher morbidity of VTE.

##### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

##### **Impact statement**

A systematic review investigated the prevalence of pregnancy related venous thromboembolism. CG37 recommendations are on risk identification, signs and symptoms of thromboembolism. The identified evidence indicates that pregnancy or puerperium is associated with a higher risk of thromboembolism. This is in line with principles of current recommendations.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback

from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## **CG37 – 11 What are the signs and symptoms/risk factors of psychological morbidities (such as postpartum blues, transient anxiety)?**

### **Sub-questions**

What is the time line for resolution?

What are the observations of postpartum blues?

What interventions are effective in the management of postpartum blues?

What are the competencies required for identification/intervention/referral?

### **Recommendations derived from this question**

#### **Mental health and wellbeing**

- 1.2.22 At each postnatal contact, women should be asked about their emotional wellbeing, what family and social support they have and their usual coping strategies for dealing with day-to-day matters. Women and their families/partners should be encouraged to tell their healthcare professional about any changes in mood, emotional state and behaviour that are outside of the woman's normal pattern.
- 1.2.23 Formal debriefing of the birth experience is not recommended.
- 1.2.24 All healthcare professionals should be aware of signs and symptoms of maternal mental health problems that may be experienced in the weeks and months after the birth.
- 1.2.25 At 10–14 days after birth, women should be asked about resolution of symptoms of baby blues (for example, tearfulness, feelings of anxiety and low mood). If symptoms have not resolved, the woman should be assessed for postnatal depression, and if symptoms persist, evaluated further (urgent action)\*.
- 1.2.26 Women should be encouraged to help look after their mental health by looking after themselves. This includes taking gentle exercise, taking time to rest, getting help with caring for the baby, talking to someone about their feelings and ensuring they can access social support networks.

\*[Antenatal and postnatal mental health](#) (2007) NICE guideline CG45

### **Surveillance decision**

We will plan a full update of this guideline.

#### ***Mental health and wellbeing***

#### **5-year surveillance summary**

##### ***Debriefing***

One systematic review<sup>36</sup> on the effectiveness of postnatal debriefing to prevent maternal

mental health problems after birth was identified. The authors concluded that it might be appropriate to consider offering women an opportunity to discuss their childbirth experience and to differentiate this discussion

from the offer of a formal debriefing, which is unsupported by evidence.

One study<sup>37</sup> evaluated postnatal debriefing as a treatment for post-partum women who requested it. The authors concluded that providing debriefing as a treatment to women may help to reduce symptoms of posttraumatic stress disorder.

#### **8-year surveillance summary**

##### Skin to skin contact

One study<sup>38</sup> on the effect of skin to skin contact on postpartum blues was identified. The intervention group received skin to skin contact with newborns for 20-30 minutes daily for 10 days while the control groups had no intervention. The authors concluded that mother and newborn skin to skin contact was effective for decreasing the severity of postpartum blues.

#### **10-year surveillance summary**

##### Debriefing

A systematic review<sup>39</sup> assessed the effects of debriefing interventions compared with standard postnatal care for the prevention of psychological trauma in women following childbirth. Seven trials (eight articles) included. The number of women contributing data to each outcome varied from 102 to 1745.

The findings showed no differences between standard postnatal care with debriefing on psychological trauma symptoms within three months postpartum or at three to six months postpartum among women who had a high

level of obstetric intervention during labour and birth. Among women who experienced a distressing or traumatic birth, there was no evidence of an effect of psychological debriefing on the prevention of PTSD at four to six weeks postpartum (n=102) or at six months (n=103). One trial involving low-risk women who delivered healthy infants at or near term reported no significant difference between the intervention group and the control group in the proportion of women who met the diagnostic criteria for psychological trauma during the year following childbirth (n=1745).

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

Evidence was identified relating to debriefing and skin to skin contact for improving postnatal blues. The evidence on debriefing is inadequate and conflicting.

In light of the limitations, the new evidence is unlikely to impact on current guideline recommendation that indicates “formal debriefing of the birth experience is not recommended.”

However, the topic experts indicated that the service delivery and provision of care have considerably changed since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.



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**CG37 – 12      What are the signs and symptoms of major psychological morbidities (such as postnatal depression, puerperal psychosis/psychotic illness, risk of suicide/injury to baby, post-traumatic stress disorder, panic disorder) in women?**

**Sub-questions**

What are the observations needed to be undertaken for timely/early/appropriate referral?

What are the characteristics/risk factors, will these alter practice in terms of observations for referral?

What competencies are required for referral?

What are the appropriate referral pathways, cross refer to other guidelines (screening)?

**Recommendations derived from this question**

**Mental health and wellbeing**

The same recommendations were derived from this question as in 37-09.

**Surveillance decision**

We will plan a full update of this guideline.

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*Mental health and wellbeing*

**5-year surveillance summary**

*Signs and symptoms of postnatal depression*

One HTA report <sup>40</sup> provided an overview of methods to identify postnatal depression (PND) in primary care and assessed their validity, acceptability, clinical and cost-effectiveness, and modelled estimates of cost to determine whether any method met the UK National Screening Committee (NSC) criteria. Results showed that the Edinburgh Postnatal Depression Scale (EPDS) was the most frequently explored instrument, had a reasonably good test performance and acceptability among women and care-providers but did not appear to represent value for money.

One systematic review <sup>41</sup> on the main screening tools used to screen for postnatal depression was identified. Of the four screening tools reviewed and compared, the Edinburgh Postnatal Depression Scale (EPDS) and the Postpartum Depression Screening Scale (PDSS) presented substantial sensitivity

and specificity. However, the authors surmised that none of the instruments could be rated flawless when applied to different cultural contexts.

One systematic review <sup>42</sup> of qualitative and quantitative studies on screening for PND found that PND screening was acceptable to women and healthcare professionals. Aspects such as the woman needs to feel comfortable about the screening process; forewarning of the process and administration by a trusted person in her own home, were also identified as being important.

A systematic review <sup>43</sup> on the validity of the Edinburgh Postnatal Depression Scale (EPDS) in detecting postpartum and antepartum depression was identified. The authors concluded that the results of different studies may not be directly comparable and the EPDS may not be an equally valid screening tool across all settings and contexts.

One systematic review <sup>44</sup> of the clinical and cost effectiveness of antenatal and postnatal recognition of depressive symptoms was

identified. The authors concluded that despite some apparent beneficial effects of using formal methods to identify PND, it is difficult to disentangle the effects of the screening component alone from interventions linked to a positive screen as some of the studies included enhancements of care and/or an intervention.

One RCT<sup>21</sup> was identified that supported the use of the Edinburgh Postnatal Depression Screening Scale with a diagnostic assessment for those who screen positive. The authors concluded that screening must be linked to treatment options via referral and follow-up and that best-practice strategies for implementing screening include educating clinicians and postpartum women.

One RCT<sup>45</sup> evaluated the effectiveness of a postnatal depression screening programme using the Edinburgh Postnatal Depression Scale (EPDS) in improving maternal mental health. The authors' conclusion was that a postnatal depression screening programme comprising the use of EPDS as the screening tool and the provision of follow-up care resulted in an improvement in maternal mental health at 6 months.

One study<sup>46</sup> explored general practitioners' (GPs), health visitors' and women's views on the disclosure of symptoms which may indicate postnatal depression in primary care. Women described making a conscious decision about whether or not to disclose their feelings to their GP or health visitor. Health professionals described strategies used to hinder disclosure and described a reluctance to make a diagnosis of postnatal depression.

#### Risk factors of postnatal depression

One predictive validation study<sup>47</sup> of the Edinburgh Postnatal Depression Scale (EPDS) in the first week after delivery identified the following as risk factors of postnatal depression: previous history of depression (postnatal or other), unemployment, premature delivery or stopping breast-feeding in the first month for non-medical reasons; and concluded that the use of EPDS between the third and fifth day postpartum is valid.

One systematic review<sup>48</sup> examined the hypothesis that women who conceive using assisted reproductive technologies (ART) and women with multiple births, may be at increased risk for postpartum depression. The authors concluded that the identified studies

were small and lacked appropriate comparison groups, making further research in this area essential.

One systematic review<sup>49</sup> on the prevalence and risk factors for postpartum depression among women with preterm infants was identified. The review revealed that mothers of preterm infants are at higher risk of depression than mothers of term infants in the immediate postpartum period, with continued risk throughout the first postpartum year for mothers of very-low-birth-weight infants.

One study<sup>50</sup> which examined socioeconomic status (SES) as a risk factor for depressive symptoms in late pregnancy and the early postpartum period was identified. The conclusion of the authors was that although new mothers from all SES strata are at risk for postpartum depression, SES factors including low education, low income, being unmarried, and being unemployed increased the risk of developing postpartum depressive symptoms in their sample.

One systematic review<sup>51</sup> on depression among fathers during pregnancy and the first postpartum year was identified. Results showed a moderate positive correlation for paternal depression with maternal depression and a relatively higher incidence of paternal depression in the 3- to 6-month postpartum period.

One systematic review<sup>52</sup> on the correlation of ante- and postnatal depression in fathers was identified. Results showed that the most common correlates of depressive symptoms pre- and post-birth in fathers was having a partner with elevated depressive symptoms/depression and poor relationship satisfaction.

One systematic review<sup>53</sup> examined the prevalence of and risk factors for postpartum depression in rural communities. Results showed that although established risk factors were associated with depression in rural women, additional risk factors (such as having 2 or more young children) were reported for rural women from developing countries. The authors concluded that longitudinal studies with clearly defined "rural" and "comparison" groups are needed to determine whether rural residence is associated with increased risk for PPD.

### Interventions for postnatal depression

One study<sup>54</sup> reported that providing information on postpartum blues during the third trimester of pregnancy may reduce the intensity of the blues.

One meta-data-analysis<sup>55</sup> of qualitative studies on postpartum depression (PPD) was identified. The author concluded that women survive depression through support. This support validates their experience and promotes eventual reconnection with others and emphasises the need for persons trained to facilitate relational connection to develop interventions that address the interpersonal contexts of PPD

One cross-sectional survey<sup>56</sup> of women who participated in an RCT to evaluate the effect of peer support in the prevention of postpartum depression was identified. Results showed that the majority of mothers perceived their peer volunteer experience positively lending further support to telephone-based peer support as a preventative strategy for postpartum depression.

One RCT<sup>57</sup> tested the effectiveness of home-based peer support that included maternal-infant interaction teaching for mothers with symptoms of postpartum depression and their infants. The findings suggested that maternal-infant interaction teaching by peers is not well received by mothers with postpartum depression and might be more optimally delivered by professional nurses.

One qualitative study<sup>58</sup> explored women's experiences of the identification and management of postnatal depression. The authors concluded that the experience of women of their health visitors providing psychological sessions to help with postnatal depressive symptoms is highly positive and that women will better accept support from health visitors if they recognise their role in postnatal depression and find them easy to relate to on personal matters.

One systematic review<sup>36</sup> on the effectiveness of postnatal debriefing to prevent maternal mental health problems after birth was identified. The authors concluded that it might be appropriate to consider offering women an opportunity to discuss their childbirth experience and to differentiate this discussion from the offer of a formal debriefing, which is unsupported by evidence.

One study<sup>37</sup> evaluated postnatal debriefing as a treatment for post-partum women who requested it. The authors concluded that providing debriefing as a treatment to women who requested or are referred to it may help to reduce symptoms of posttraumatic stress disorder.

### **8-year surveillance summary**

#### Risk factors for postnatal depression

A systematic review<sup>52</sup> of correlates of postnatal depression in fathers concluded that further systematic investigation of direct and indirect predictors of depressive symptoms in men during postnatal period is needed.

#### Interventions for postnatal depression

A cluster randomised trial<sup>59</sup> of primary care teams in Trent, England found that women receiving care from a health visitor trained in identifying depressive symptoms were less likely to be depressed at 6 months compared to women in the control group.

A Cochrane review<sup>60</sup> concluded that psychosocial and psychological interventions significantly reduce the number of women who develop postpartum depression and that promising interventions include the provision of intensive, professionally-based postpartum home visits, telephone-based peer support, and interpersonal psychotherapy.

A Cochrane review<sup>61</sup> assessed the benefits of dietary supplements for preventing postnatal depression and concluded that currently there is no evidence to recommend food supplements for this indication.

One small RCT<sup>62</sup> of 4-weeks' duration concluded that omega-3 fatty acids is a suitable compound with no side effect in decreasing postpartum depression but that further studies with longer durations to identify its remission patterns are warranted.

One study<sup>63</sup> on the effect of mother/infant skin-to-skin contact on postpartum depressive symptoms and maternal physiological stress was found. The authors concluded that skin-to-skin contact benefits mothers by reducing their depressive symptoms and physiological stress in the postpartum period.

One RCT<sup>57</sup> on the effectiveness of home-based peer support on maternal-infant interactions among women with postpartum depression found that maternal-infant interaction teaching by peers is not well

received by mothers with postpartum depression and might be more optimally delivered by professional nurses.

A prospective economic evaluation<sup>64</sup> of a peer support intervention for prevention of postpartum depression among high-risk women concluded that it results in a net cost to the health care system and society. However, this cost is within the range for other accepted interventions for this population.

### **10-year surveillance summary**

#### *Risk factors of postnatal depression*

A systematic review<sup>65</sup> evaluated the prevalence and risk of antenatal and postpartum mental disorders among obese and overweight women. A total of 62 studies with 540,373 women were included. Meta-analyses were performed for antenatal depression (n=29 studies), postpartum depression (n=16 studies), and antenatal anxiety (n=10 studies). Obese and overweight women had significantly higher odds of elevated depression symptoms than normal-weight women and higher median prevalence estimates. This was found both during pregnancy and postpartum. Obese women also had higher odds of antenatal anxiety. The few studies identified for postpartum anxiety (n=3), eating disorders (n=2), or serious mental illness (n=2) also suggested increased risk among obese women. The authors concluded that women who are obese when they become pregnant are more likely to experience elevated antenatal and postpartum depression symptoms than normal-weight women.

A systematic review<sup>66</sup> of 18 studies investigated the association between the mode of delivery and postpartum depression. Eighteen studies were included. The findings showed significant association between delivery mode on postpartum depression.

A meta-analysis<sup>67</sup> performed to assess risk factors for birth-related PTSD (post-traumatic stress disorder). Fifty studies (n = 21 429) from 15 countries were included. Risk factors in birth most strongly associated with PTSD were negative subjective birth experiences (r = 0.59), having an operative birth (assisted vaginal or caesarean, r = 0.48), lack of support (r = -0.38) and dissociation (r = 0.32). After birth, PTSD was associated with poor coping and stress (r = 0.30), and was highly co-morbid with depression (r = 0.60).

A systematic review<sup>68</sup> was identified which evaluated evidence on depression during pregnancy and after childbirth. A total of 16 studies with 35,419 women were included. The average rate of antenatal depression across these studies was 17% and postnatal depression 13%. The longitudinal nature of the studies revealed that on average 39% of those who experienced antenatal depression went on to have postnatal depression. Similarly, on average, 47% of those with postnatal depression had also experienced antenatal depression. On average, almost 7% of women reported significant depressive symptoms in pregnancy that persisted after childbirth. The author concluded there is evidence that postnatal depression is often a continuation of existing antenatal depression.

A systematic review<sup>69</sup> evaluated the relationship between sleep and postpartum mental disorders. Thirty-one studies were included. The authors concluded that sleep interventions represent a potential low-cost, non-pharmacological prevention and treatment strategy for postpartum mental illness.

A systematic review<sup>70</sup> was identified which examined prevalence of anxiety disorders among postpartum women. Fifty-eight studies were included in the review: 13 addressed prevalence, 5 incidence, 14 onset, 16 course, 13 correlates and risk factors, 15 outcomes, and 2 treatments for postpartum anxiety disorders. The findings indicate that an estimated 8.5% of postpartum mothers experience one or more anxiety disorders.

A systematic review<sup>71</sup> evaluated the available evidence about the prevalence, nature and determinants of postpartum mental health problems among South Asian women who have migrated to high-income countries. Fifteen studies were included. Prevalence estimates of clinically significant symptoms of postpartum depression (CSS-PPD) varied widely (1.9-52%): the most common estimates ranged from 5 to 20%. Five studies found approximately a two-fold increase in risk of CSS-PPD among overseas born women with a South Asian subgroup. The most common determinants appeared to be social factors, including social isolation and quality of relationship with the partner. Barriers to accessing health care included lack of English language proficiency, unfamiliarity with local services and lack of

attention to mental health and cultural factors by health care providers.

A systematic review <sup>72</sup> of observational studies estimated the prevalence of postpartum depressive symptoms in immigrant women. Twenty-two studies contributed data for meta-analyses. The prevalence of postpartum depressive symptoms in immigrant women was 20% (18 studies, n=13,749 women). Immigrant women were twice more likely to experience depressive symptoms in the postpartum period than non-immigrant women (15 studies, n=50,519 women). Risk factors associated with postpartum depressive symptoms among immigrant women included shorter length of residence in the destination country, lower levels of social support, poorer marital adjustment, and perceived insufficient household income. The study concluded that immigrant women are at higher risk of postpartum depression than non-immigrant women.

A systematic overview <sup>73</sup> examined association between ante- and postnatal anxiety and pregnancy obesity, excessive gestational weight gain, and postpartum weight retention. Thirteen studies were included. Five out of seven studies focusing on pregnancy obesity and anxiety suggesting a positive association with ante- or postnatal anxiety. There were not enough studies on associations between excessive gestational weight gain (n=2) or postpartum weight retention (n=3) and anxiety making it difficult to draw conclusions about possible associations.

A systematic review <sup>74</sup> on postpartum depression in the context of structural, functional, and spectroscopic magnetic resonance identified. Eleven studies with about one hundred mothers with postpartum depression included. Brain magnetic resonance findings in postpartum depression appear to replicate those obtained in major depression.

A meta-analysis <sup>75</sup> investigated prevalence and risk factors of postpartum PTSD, both due to childbirth and other events, among community and targeted samples. Prevalence of postpartum PTSD in community samples was estimated to be 3.1% and in at-risk samples at 15.7%. Important risk factors in community samples included current depression, labour experiences such as interactions with medical staff, as well as a history of psychopathology.

A systematic qualitative literature review <sup>76</sup> described women's experiences of their body, and relevant clinical implications. A total of 17 papers were synthesised. Three themes were highlighted: "Public Event: 'Fatness' vs. Pregnancy", "Control: Nature vs. Self", and "Role: Woman vs. Mother". Body dissatisfaction dominated the postpartum period. Findings also indicate that women's perception of their pregnancy body image is varied and depends on the strategies they use to protect against social constructions of female beauty. Women have unrealistic expectations for their postpartum body, highlighting this as an area where women need better support.

A systematic review <sup>77</sup> examined the association between the birth experience and postnatal depression. Eleven studies meeting search criteria demonstrated a significant association between women's postnatal birth experience and postnatal depression.

A systematic review <sup>78</sup> identified factors that partners can modify to protect each other from developing perinatal depression and anxiety. A total of 120 papers, reporting 245 associations with depression and 44 with anxiety were included. The findings showed that emotional closeness and general support from partner were the dominant factors for both perinatal depression and anxiety. Partner factors for depression only were communication, conflict, emotional and instrumental support, and relationship satisfaction.

A systematic review <sup>79</sup> examined peripartum depression, anxiety and fear of birth in women with epilepsy (WWE). Point prevalence of depression from 2nd trimester to 6 months postpartum ranged from 16 to 35% in women with epilepsy compared to 9-12% in controls. The findings suggest that peripartum depression is frequent in WWE and seldom medically treated. Women with epilepsy are at higher risk of developing postnatal depression.

A systematic review <sup>80</sup> provided an overview of physical, psychological, and social domains of quality of life (QOL) and health status (HS) in postpartum women. The review also assessed which factors are associated with QOL and HS domains postpartum. A total of 66 studies were included. All three domains of QOL (physical, psychological, and social domains of QOL) were impaired in postpartum women with urinary incontinence, with even worse QOL in women with mixed urinary incontinence. Mental

QOL was impaired in women with urge urinary incontinence after caesarean section. Social QOL was decreased in HIV-positive women. HS was impaired in all three domains in postpartum depressed women. Physical HS was impaired after caesarean section for at least two months postpartum. Additional supportive interventions from health care social support were not associated with improved HS. Urinary incontinence and being HIV-positive seemed to be associated with impaired QOL. Postpartum depression and a caesarean section seemed to be associated with impaired HS.

A systematic review<sup>81</sup> examined the validity of self-administered psychosocial and behavioural scales for postpartum women in the United States in the domains of depression, body image, diet, physical activity, smoking, and alcohol use. A total of 23 published articles covering 19 scales were included. Seventeen were in the domain of depression, and one each in physical activity and dietary domains. None was found in the domains of body image, smoking, or alcohol use. The findings indicate that no U.S.-validated postpartum scales were found for body image, smoking, or alcohol use. Most scales had limited validity testing.

A systematic review of studies<sup>82</sup> assessed validity of the Edinburgh Postnatal Depression Scale (EPDS). Eleven validation studies met the inclusion criteria. The study design varied between studies. Sensitivity and specificity estimates also varied between 64-100% and 73-100%, respectively. The confidence interval estimates also showed a high degree of variability. The author concluded that due to differences in study design and variation in the cultural/linguistic adaptation, uncertainty remains regarding the comparability of the sensitivity and specificity estimates of different EPDS versions.

A systematic review<sup>83</sup> investigated the associations between attachment style and PND. A total of 20 papers met the study inclusion criteria, representing a total of 2306 women. The findings indicate attachment and PND share a common aetiology and that 'insecure adult attachment style' is an additional risk factor for PND. Of the insecure adult attachment styles, anxious styles were found to be associated with PND symptoms more frequently than avoidant or dismissing styles of attachment.

A systematic review<sup>84</sup> of qualitative studies examined the experience of postnatal depression in immigrant women living in western countries. A total of 16 studies were included. The findings revealed two overarching themes of migration and cultural influences on immigrant mothers that interact and give rise to psychosocial understandings of postnatal depression, remedies and healthcare barriers.

A systematic review<sup>85</sup> assessed the factors contributing to birth trauma, and the efficacy of interventions that exist in the literature. A total of 21 articles were included in this literature review. The findings indicated that women with previous mental health disorders were more prone to experiencing birth as a traumatic event. Other risk factors included obstetric emergencies and neonatal complications. Poor quality of provider interactions was identified as a major risk factor for experiencing birth trauma. Midwifery-led antenatal and postnatal interventions, such as early identification of risk factors for birth trauma and postnatal counselling showed benefit.

A systematic review<sup>86</sup> evaluated the effects of maternal cortisol function on perinatal depression. In total, 47 studies were included. Those studies identified as higher quality found that the cortisol awakening response is positively associated with momentary mood states but is blunted in cases of major maternal depression. Furthermore, results indicate that hypercortisolemia is linked to transient depressive states while hypocortisolemia is related to chronic postpartum depression.

A systematic review<sup>87</sup> examined the complex role that body image has in prenatal and postpartum depression, improving measurement, and informing next steps in research. A total of 19 studies were included. Cross-sectional studies consistently found a positive association between body image dissatisfaction and perinatal depression. The majority of studies found that body image dissatisfaction is consistently but weakly associated with the onset of prenatal and postpartum depression. Findings were less consistent for the association between perinatal depression and subsequent body image dissatisfaction.

A systematic review<sup>88</sup> investigated the benefits and harms of depression screening and treatment, and accuracy of selected screening

instruments, for pregnant and postpartum women. A total of six trials with n=11,869 participants included. Findings showed that a cut-off of 13 on the English-language Edinburgh Postnatal Depression Scale demonstrated sensitivity ranging from 0.67 and specificity consistently 0.87 or higher (23 studies n=5398). Data were sparse for Patient Health Questionnaire instruments. Pooled results for the benefit of CBT (cognitive behavioural therapy) for pregnant and postpartum women with screen-detected depression showed an increase in the likelihood of remission.

A systematic review<sup>89</sup> determined whether depression screening improves depression outcomes among women during pregnancy or the postpartum period. Fifteen RCTs were included. Only 1 RCT of screening postpartum was included, but none during pregnancy. The eligible postpartum study evaluated screening in mothers in Hong Kong with 2-month-old babies (N=462) and reported a standardised mean difference for symptoms of depression at 6 months postpartum of 0.34. Standardised mean difference per 44 additional women treated in the intervention trial arm compared to the non-screening arm was approximately 1.8. The author concluded that there is currently no evidence from any well-designed and conducted RCT that screening for depression would benefit women in pregnancy or postpartum.

#### Intervention for postnatal depression

A systematic review<sup>90</sup> assessed the development and implementation of future peer support interventions for women with postnatal depression. Six studies matching inclusion criteria were reviewed. Overall findings suggest that interventions should be targeted and take into consideration the age of the mother, any cultural and linguistic differences, the mother's circumstances and her needs.

A systematic review<sup>91</sup> evaluated the comparative benefits and harms in both mother and child of antidepressant treatment for depression in pregnant or postpartum women. Six RCTs and 15 observational studies provided evidence. Evidence suggested neonates of pregnant women being treated with antidepressants had higher risk of respiratory distress than did neonates of untreated women (13.9% compared with 7.8 %) but no difference in risk of neonatal convulsions

(0.14% compared with 0.11%) or preterm birth (17% compared with 10%). The authors concluded that evidence about the comparative benefits and harms of pharmacologic treatment of depression in pregnant and postpartum women was largely inadequate to allow informed decisions about treatment.

A systematic review<sup>92</sup> was identified which examined interventions for PND, quality of the mother-infant relationship and maternal mood. A total of 19 studies were included. The author concluded that there are lack of interventions assessing outcomes relevant to both mother and infant. The review highlighted the need for further research to continue to measure the quality of the mother-infant relationship, child development and long-term outcomes.

A Health Technology Assessment<sup>93</sup> evaluated the clinical effectiveness, cost-effectiveness, acceptability and safety of antenatal and postnatal interventions for pregnant and postnatal women to prevent PND. A total of 122 papers (86 trials) were included in the quantitative review and 56 papers (44 studies) were included in the qualitative review. The results were inconclusive. The most beneficial interventions appeared to be midwifery redesigned postnatal care, person-centred approach (PCA)-based and cognitive-behavioural therapy (CBT)-based interventions (universal), interpersonal psychotherapy (IPT)-based interventions and education on preparing for parenting (selective), promoting parent-infant interaction, peer support, IPT-based intervention and PCA-based and CBT-based interventions (indicated). Women valued seeing the same health worker, the involvement of partners and access to several visits from a midwife or health visitor trained in person-centred or cognitive-behavioural approaches. The most cost-effective interventions were estimated to be midwifery redesigned postnatal care (universal), PCA-based intervention (indicated) and IPT-based intervention in the sensitivity analysis (indicated), although there was considerable uncertainty. The author concluded that several interventions appear to be cost-effective relative to usual care, but this is subject to considerable uncertainty.

A systematic review<sup>94</sup> of eleven studies provided a first overview of computer- or web-based interventions for women's perinatal mental health issues. Interventions were

targeted at depression, stress, and complicated grief during the antenatal or postpartum period or the time after pregnancy loss. The findings suggest that computer- or web-based interventions are effective at improving mental health, especially depression and complicated grief.

A systematic review<sup>95</sup> evaluated the interventions that midwives could introduce to address post-traumatic stress in women following childbirth. Six primary studies and eight reviews were included. The majority of included studies or reviews focused on debriefing and/or counselling interventions; however the results were not consistent due to significant variation in methodological quality and use of dissimilar interventions. Two of the reviews considered the general management of postpartum PTSD and one broadly covered anxiety during pregnancy and the postpartum period, incorporating a section on PTSD. The majority of women reported that the opportunity to discuss their childbirth experience was subjectively beneficial.

A systematic review<sup>96</sup> of 17 papers estimated the extent to which interventions in outpatient perinatal care settings are associated with an increase in the uptake of depression care. Seventeen articles representing a range of study designs, including one randomised controlled trial and one cluster randomised controlled trial, were included. When no intervention was in place, an average of 22% of women who screened positive for depression had at least one mental health visit. The average rate of mental health care use was associated with a doubling of this rate with patient engagement strategies (44%) on-site assessments (49%), and perinatal care provider training (54%). High rates of mental health care use (81%) were associated with implementation of additional interventions, including resource provision to women, perinatal care provider training, on-site assessment, and access to mental health consultation for perinatal care providers. Screening alone was associated with 22% mental health care use among women who screened positive for depression; however, implementation of additional interventions was associated with a two to fourfold increased use of mental health care.

A systematic review<sup>97</sup> assessed the effects of psychosocial interventions with the aim of

reducing the intensity of stress in mothers during the postpartum period as compared with usual care. A total of 13 studies were included in the meta-analysis. The findings showed that psychosocial interventions in general and supportive stress management programmes in particular were effective for women dealing with postpartum stress. The author concluded that psychosocial interventions including supportive stress management programmes are effective for reducing postpartum stress in women, so those interventions should become an essential part of maternity care.

A systematic review<sup>98</sup> determined whether psychosocial sleep-focused interventions offered in the perinatal period improve infant sleep or maternal mood. A total of 1,656 studies were included. The meta-analysis indicated improvements in reported infant nocturnal total sleep time. However, there was no evidence for reducing infant night wakes. There was evidence of maternal mood improvements. The author indicated that this could have been influenced by publication bias. Study concluded that psychosocial sleep interventions appear to impact the amount of sleep that a mother reports her baby to have, although the infants continued to wake as frequently.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

Evidence was identified relating to identification, risk factors and intervention for postnatal depression. An association was identified between women's postnatal birth experience and postnatal depression. New evidence indicates that immigrant mothers, women with epilepsy, women with obesity and women with a history of mental disorder are at higher risk of developing postnatal depression. Evidence on effective intervention for postnatal depression revolves around, person-centred approach, interpersonal psychotherapy-based interventions, education on preparing and peer support. This is broadly in line with current CG37 recommendations which emphasise identification of postpartum depression, providing support, advice and appropriate referral.

CG37 focuses on signs and symptoms of major psychological morbidities at postpartum period.



Assessment, care and treatment of mental health problems in women during pregnancy and the postnatal period is addressed in NICE guideline on [antenatal and postnatal mental health \(CG192\)](#).

However, the topic experts indicated that the service delivery and provision of care have

changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 13 How should common health problems be identified and managed? (perineal pain)

### Sub-questions

How is perineal pain identified?

How is perineal pain managed?

What competencies are needed to identify and manage perineal pain?

When and how often should women be assessed for perineal pain?

What information about perineal pain does a woman need to maintain health and wellbeing?

### Recommendations derived from this question

#### Perineal care

- 1.2.27 At each postnatal contact, women should be asked whether they have any concerns about the healing process of any perineal wound; this might include experience of perineal pain, discomfort or stinging, offensive odour or dyspareunia.
- 1.2.28 The healthcare professional should offer to assess the perineum if the woman has pain or discomfort.
- 1.2.29 Women should be advised that topical cold therapy, for example crushed ice or gel pads, are effective methods of pain relief for perineal pain.
- 1.2.30 If oral analgesia is required, paracetamol should be used in the first instance unless contraindicated.
- 1.2.31 If cold therapy or paracetamol is not effective a prescription for oral or rectal non-steroidal anti-inflammatory (NSAID) medication should be considered in the absence of any contraindications (non-urgent action).
- 1.2.32 Signs and symptoms of infection, inadequate repair, wound breakdown or non-healing should be evaluated (urgent action).
- 1.2.33 Women should be advised of importance of perineal hygiene, including frequent changing of sanitary pads, washing hands before and after doing this, and daily bathing or showering to keep their perineum clean.

### Surveillance decision

We will plan a full update of this guideline.

#### Perineal care

##### 5-year surveillance summary

One Cochrane review <sup>99</sup> assessed the efficacy of a single administration of paracetamol (acetaminophen) in the relief of acute postpartum perineal pain. Results showed that more women experienced pain relief with paracetamol compared with placebo. Also, fewer women needed additional pain relief when they took paracetamol, as compared to placebo.

One RCT <sup>100</sup> compared the effectiveness of perineal cold gel pad versus oral analgesics in postpartum perineal pain relief. The authors concluded that the use of the cold gel pads was as effective in reducing perineal pain as oral analgesics.

One RCT <sup>101</sup> evaluated the effectiveness of an ice pack applied for 20 minutes to alleviate perineal pain after spontaneous vaginal birth. The authors concluded that the use of ice packs for 20 minutes was effective for

postpartum perineal pain relief after vaginal birth and had no adverse effects

One RCT <sup>102</sup> compared the effects of lidocaine and bupivacaine on postpartum perineal pain among primiparous women who had spontaneous vaginal delivery. The authors concluded that bupivacaine resulted in prolonged analgesia and required fewer doses of oral analgesics in the immediate postpartum perineal repair period.

One RCT <sup>103</sup> compared oral celecoxib with oral diclofenac as pain reliever after perineal repair following normal vaginal birth. The authors concluded that celecoxib was associated with a slightly lower VAS pain score at rest and less upper gastrointestinal symptoms were reported when compared to diclofenac.

One RCT<sup>104</sup> investigating the efficacy of nerve stimulator-guided unilateral pudendal nerve block with ropivacaine for pain relief after episiotomy, showed that the intervention group reported significantly lower pain scores at rest than those in the normal saline group at 3, 6, 12, 24, and 48 hours after delivery. The study also reported better analgesia for the intervention group while sitting and walking.

One RCT <sup>105</sup> compared the effectiveness of tramadol and placebo rectal suppository for the management of postpartum perineal pain after perineorrhaphy and concluded that there were no differences between the two interventions.

One RCT <sup>106</sup> assessed whether epidural morphine after vaginal delivery would reduce the analgesic requirements for perineal pain. The authors concluded that women who receive epidural labour analgesia for vaginal deliveries and stay in the hospital for 24 h after delivery may benefit from postpartum administration of epidural morphine.

One RCT <sup>107</sup> compared pain relief in postpartum women receiving analgesia administered by nurses with the relief achieved by use of self-administered medication. The authors posited that the use of self-administered medication should be considered for every postpartum unit.

A prospective cohort study <sup>108</sup> compared outcomes of suturing versus non-suturing of second-degree perineal tears. Results showed that high levels of morbidity persisted in both groups, with no differences observed for perineal pain between the two groups, although women whose trauma was unsutured had more

urinary frequency at ten days, increased self-referral for perineal problems and increased likelihood of depression at 12 months.

One prospective study <sup>109</sup> examined the effect of genital tract trauma, labour care, and birth variables on the incidence of pain in a population of healthy women exposed to low rates of episiotomy and operative vaginal delivery. The conclusion was that women with spontaneous perineal trauma reported very low rates of postpartum perineal pain and that women with major trauma reported increased perineal pain compared with women who had no or minor trauma; however, by 3 months postpartum this difference was no longer present.

### **8-year surveillance summary**

One Cochrane review <sup>110</sup> on local cooling for relieving pain from perineal trauma sustained during childbirth found that ice packs improved pain relief 24 to 72 hours after birth compared with no treatment.

One RCT <sup>111</sup> investigated the efficacy of lidocaine gel 2% or placebo in pain relief after episiotomy. Results showed that women using lidocaine gel had significantly lower average pain scores at 12 hours after delivery. Also there was a significant difference between the two groups in consumption of analgesia postpartum.

One RCT <sup>112</sup> evaluated the effectiveness of high-frequency transcutaneous electrical nerve stimulation (TENS) as a pain relief resource for primiparous women who had experienced natural childbirth with an episiotomy and concluded that TENS is a safe and viable non-pharmacological analgesic resource for pain relief post-episiotomy.

One RCT <sup>113</sup> evaluated the effectiveness of a low-level laser therapy for pain relief in the perineum following episiotomy during childbirth. The authors concluded that the intervention did not decrease the intensity of perineal pain reported by women who underwent right mediolateral episiotomy.

One RCT <sup>105</sup> of tramadol suppository versus placebo for the relief of perineal pain was identified. Results showed that tramadol and placebo had no statistical significances in analgesic properties, assessed by the means of pain rating at the different time intervals.

### **10-year surveillance summary**

### Physical health and well-being – pelvic pain

A systematic review <sup>114</sup> synthesised evidence from randomised controlled trials on the effectiveness of exercise on LPP (Lumbo Pelvic Pain) among postnatal women. A total of 4 RCTs involving 251 postnatal women were included. The trials included physical exercise programmes with varying components, differing modes of delivery, follow up times and outcome measures. The author concluded that while there is some evidence to indicate the effectiveness of exercise for relieving LPP, further good quality trials are needed to ascertain the most effective elements of postnatal exercise programmes suited for LPP treatment.

### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

### **Impact statement**

Evidence was found relating to perineal care, use of analgesia and local cooling. The new evidence identified is mainly supportive of the guideline recommendations that recommend cold therapy and use of analgesia.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## **CG37 – 14 How should common health problems be identified and managed? (dyspareunia)**

### **Sub-questions**

How is dyspareunia identified?

How is dyspareunia managed?

What competencies are needed to identify and manage dyspareunia?

When and how often should women be assessed for dyspareunia?

What information about dyspareunia does a woman need to maintain health and wellbeing?

### **Recommendations derived from this question**

#### **Dyspareunia**

- 1.2.34 Women should be asked about resumption of sexual intercourse and possible dyspareunia 2–6 weeks after the birth.
- 1.2.35 If a woman expresses anxiety about resuming intercourse, reasons for this should be explored.
- 1.2.36 Women with perineal trauma who experience dyspareunia should be offered an assessment of the perineum. (See perineal care above)
- 1.2.37 A water-based lubricant gel to help ease discomfort during intercourse may be advised, particularly if a woman is breastfeeding.
- 1.2.38 Women who continue to express anxiety about sexual health problems should be evaluated (non-urgent action).

### **Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 15      How should common health problems be identified and managed?  
(headache)**

**Sub-questions**

How is headache identified?

How is headache managed?

What competencies are needed to identify and manage postpartum headache?

When and how often should women be offered assessment for postpartum headache?

What information about postpartum headache does a woman need to maintain health and wellbeing?

**Recommendations derived from this question**

**Headache**

For severe headache see section on pre-eclampsia/eclampsia.

- 1.2.39 Women should be asked about headache symptoms at each postnatal contact.
- 1.2.40 Women who have had epidural or spinal anaesthesia should be advised to report any severe headache, particularly one which occurs while sitting or standing.
- 1.2.41 Management of mild postnatal headache should be based on differential diagnosis of headache type and local treatment protocols.
- 1.2.42 Women with tension or migraine headaches should be offered advice on relaxation and how to avoid factors associated with the onset of headaches.

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## **CG37 – 16      How should common health problems be identified and managed? (fatigue)**

### **Sub-questions**

How is fatigue identified?

How is fatigue managed?

What competencies are needed to identify and manage postpartum fatigue?

When and how often should women be offered assessment for postpartum fatigue?

What information about postpartum fatigue does a woman need to maintain health and wellbeing?

### **Recommendations derived from this question**

#### **Fatigue**

- 1.2.43 Women who report persistent fatigue should be asked about their general wellbeing, and offered advice on diet, exercise and planning activities, including spending time with her baby.
- 1.2.44 If persistent postnatal fatigue impacts on the woman's care of herself or baby, underlying physical, psychological or social causes should be evaluated.
- 1.2.45 If a woman has sustained a postpartum haemorrhage, or is experiencing persistent fatigue, her haemoglobin level should be evaluated and if low, treated according to local policy.

### **Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## **CG37 – 17      How should common health problems be identified and managed? (backache)**

### **Sub-questions**

How is back pain identified?

How is back pain managed?

What competencies are needed to identify and manage back pain?

When and how often should women be offered assessment for back pain?

What information about back pain does a woman need to maintain health and wellbeing?

### **Recommendations derived from this question**

#### **Backache**

- 1.2.46 Women experiencing backache in the postnatal period should be managed as in the general population.

## Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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### CG37 – 18 How should common health problems be identified and managed?(constipation)

#### Sub-questions

How is constipation identified?

How is constipation managed?

What competencies are needed to identify and manage constipation?

When and how often should women be assessed for constipation?

What information about constipation does a woman need to maintain health and wellbeing?

#### Recommendations derived from this question

##### Constipation

- 1.2.47 Women should be asked if they have opened their bowels within 3 days of the birth.
- 1.2.48 Women who are constipated and uncomfortable should have their diet and fluid intake assessed and offered advice on how to improve their diet.
- 1.2.49 A gentle laxative may be recommended if dietary measures are not effective.

## Surveillance decision

We will plan a full update of this guideline.

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### Constipation

#### 5-year surveillance summary

No relevant evidence was identified.

#### 8-year surveillance summary

No relevant evidence was identified.

#### 10-year surveillance summary

A Cochrane systematic review<sup>115</sup> was conducted to evaluate the effectiveness and safety of interventions for preventing postpartum constipation. All randomised controlled trials (RCTs) comparing any intervention for preventing postpartum constipation versus another intervention, placebo or no intervention were included. Interventions could include pharmacological (e.g. laxatives) and non-pharmacological interventions (e.g. acupuncture, educational and behavioural interventions). Five trials with

1208 postpartum mothers were included. Four trials examined laxatives versus placebo and one examined laxatives versus laxatives plus stool bulking agents. The author concluded that results from the trials were inconsistent and there is insufficient evidence to make general conclusions about the effectiveness and safety of laxatives.

#### Topic expert feedback

No topic expert feedback was relevant to this evidence.

#### Impact statement

Result from one systematic review provided inconclusive evidence about the effectiveness and safety of laxatives for preventing postpartum constipation.

CG37 states that a gentle laxative may be recommended if dietary measures are not effective.

However, the topic experts indicated that the service delivery and provision of care have

changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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**CG37 – 19      How should common health problems be identified and managed?  
(haemorrhoid)**

**Sub-questions**

How is haemorrhoids identified?

How is haemorrhoids managed?

What competencies are needed to identify and manage haemorrhoids?

When and how often should women be offered assessment for haemorrhoids?

What information about haemorrhoids does a woman need to maintain health and wellbeing?

**Recommendations derived from this question**

**Haemorrhoids**

- 1.2.50      Women with haemorrhoids should be advised to take dietary measures to avoid constipation and should be offered management based on local treatment protocols.
- 1.2.51      Women with a severe, swollen or prolapsed haemorrhoid or any rectal bleeding should be evaluated (urgent action).

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## CG37 – 20 How should common health problems be identified and managed? (faecal incontinence)

### Sub-questions

How is faecal incontinence identified?

How is faecal incontinence managed?

What competencies are needed to identify and manage faecal incontinence?

When and how often should women be assessed for faecal incontinence?

What information about faecal incontinence does a woman need to maintain health and wellbeing?

### Recommendations derived from this question

#### Faecal incontinence

- 1.2.52 Women with faecal incontinence should be assessed for severity, duration and frequency of symptoms. If symptoms do not resolve, evaluate further (urgent action).

### Surveillance decision

We will plan a full update of this guideline.

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#### 5-year surveillance summary

One systematic review <sup>116</sup> on causes of postpartum faecal incontinence (FI) found that a third- or fourth-degree sphincter rupture was the only etiological factor strongly (anal incontinence) or moderately (flatus incontinence) associated with postpartum FI, but not birth weight or instrumental delivery.

One study <sup>117</sup> on faecal incontinence (FI) among women during pregnancy and postpartum showed that women who reported FI at 1 year were more educated than those who did not report it and that no other demographic or birth data were associated with the condition at 1 year.

#### 8-year surveillance summary

No relevant evidence was identified.

#### 10-year surveillance summary

No relevant evidence was identified.

#### Topic expert feedback

No topic expert feedback was relevant to this evidence.

#### Impact statement

One systematic review, which was identified in previous surveillance, investigated the risk factors for postpartum faecal incontinence. CG37 does not make any recommendations on risk factors for faecal incontinence. There is NICE guidance on [management of faecal incontinence in adults \(CG49\)](#).

However, the topic experts indicated that the service delivery and provision of care have considerably changed since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 21 How should common health problems be identified and managed? (urinary retention)

### Sub-questions

How is urinary retention identified?

How is urinary retention managed?

What competencies are needed to identify and manage urinary retention?

When and how often should women be offered assessment for urinary retention?

What information about urinary retention does a woman need to maintain health and wellbeing?

### Recommendations derived from this question

#### Urinary retention

- 1.2.53 Urine passed within 6 hours of urination during labour should be documented.
- 1.2.54 If urine has not been passed within 6 hours after the birth, efforts to assist urination should be advised, such as taking a warm bath or shower.
- 1.2.55 If urine has not been passed by 6 hours after the birth and measures to encourage micturition are not immediately successful, bladder volume should be assessed and catheterisation considered (urgent action).

### Surveillance decision

We will plan a full update of this guideline.

#### *Urinary retention*

##### **5-year surveillance summary**

No relevant evidence was identified.

##### **8-year surveillance summary**

A systematic review and meta-analysis<sup>118</sup> of observational studies of risk factors for postpartum urinary retention (PUR) was identified. The authors concluded that instrumental delivery, epidural analgesia, episiotomy and nulliparity are statistically significantly associated with a higher incidence of overt PUR.

##### **10-year surveillance summary**

A systematic review<sup>119</sup> identified the necessity of diagnosing PUR in the puerperium and evaluated whether treatment is required. Twenty-four papers were included. Limited data on adverse effects demonstrated potential morbidities, like micturition symptoms and sporadically spontaneous bladder ruptures, related to PUR. The author concluded that

based on current literatures, evidence stating that PUR is harmless is lacking.

##### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

##### **Impact statement**

Risk factors for postpartum urinary retention were investigated in two systematic reviews.

CG37 does not include recommendations on risk factors for urinary retention. The new evidence identified is based on the limited observational studies.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 22 How should common health problems be identified and managed? (urinary incontinence)

### Subquestions

How is urinary incontinence identified?

How is urinary incontinence managed?

What competencies are needed to identify and manage urinary incontinence?

When and how often should women be offered assessment for urinary incontinence?

What information about urinary incontinence does a woman need to maintain health and wellbeing?

### Recommendations derived from this question

#### Urinary incontinence

- 1.2.56 Women with involuntary leakage of a small volume of urine should be taught pelvic floor exercises.
- 1.2.57 Women with involuntary leakage of urine which does not resolve or becomes worse should be evaluated.

#### Surveillance decision

We will plan a full update of this guideline.

#### 5-year surveillance summary

One systematic review <sup>120</sup> focusing on postnatal pelvic floor muscle training for preventing and treating urinary incontinence showed that supervised intensive programmes are more effective than standard postnatal care in the prevention/treatment of postnatal urinary incontinence immediately after delivery and in persistent incontinence.

One Cochrane review <sup>121</sup> assessed the effect of pelvic floor muscle training (PFMT) compared to usual antenatal and postnatal care on incontinence. The authors concluded that among primiparous women, the pelvic floor muscle training can prevent urinary incontinence in late pregnancy/postpartum and is therapeutic for older women with persistent postpartum urinary incontinence.

One systematic review <sup>122</sup> was identified that addressed pelvic floor muscle training in the prevention and treatment of urinary incontinence during pregnancy and after delivery. Most included studies reported statistically and clinically significant effects of the interventions, with a significant reduction in

symptoms or frequency of urinary incontinence after the intervention period.

One RCT<sup>123</sup> evaluated the effect of antenatal pelvic floor muscle exercise (PFME) in the prevention and treatment of urinary incontinence during pregnancy and the postpartum period. The authors concluded that PFME applied in pregnancy is effective in the treatment and prevention of urinary incontinence during pregnancy, and this effect may persist to the postpartum period.

One RCT <sup>124</sup> to determine the efficacy of antenatal pelvic floor muscle exercises in the primary prevention of postpartum stress incontinence in primiparous women was identified. Results showed that the intervention group was more likely to exercise their pelvic floor muscles compared to controls and reported fewer episodes of incontinence, however, the differences were not statistically significant.

One RCT <sup>125</sup> evaluating the effectiveness of pelvic floor muscle training (PFMT) as part of a general fitness class for pregnant women showed no effect when the exercises were taught in a general fitness class without

individual instruction of correct PFM contraction.

One study <sup>126</sup> determined the effectiveness of pelvic floor muscle exercises on urinary incontinence during pregnancy and the postpartum period. The authors concluded that pelvic floor muscle exercises are quite effective in the augmentation of the pelvic floor muscle strength and consequently in the treatment of urinary incontinence.

An eight-year follow up of an RCT <sup>127</sup> on the long-term efficacy of antenatal pelvic floor muscle training (PFMT) on stress urinary incontinence (SUI) showed that initial positive outcomes at 3 months in the treatment group (compared to control group) was not evident at the 8-year follow-up. The findings raise concerns about the long-term efficacy of PFMT.

#### **8-year surveillance summary**

Two RCTs and two systematic reviews of postpartum pelvic floor muscle training (PFMT) Hay-Smith <sup>128, 129, 130, 131</sup> indicated that it is effective in treatment and/or prevention of urinary incontinence after birth. Conversely, one RCT <sup>132</sup> on primiparous women of mixed population (i.e. with and without UI) concluded that postpartum PFMT did not decrease UI prevalence 6 months after delivery in this group of women, with stratified analysis showing similar non-significant results.

A multicentre prospective study <sup>133</sup> of pelvic floor dysfunctions related to delivery concluded that new onset of UI or anal incontinence (AI) during pregnancy, positive family history and vaginal delivery are independent risk factors for the persistence of symptoms of UI and AI in the early postpartum period.

#### **10-year surveillance summary**

The effect of pelvic floor muscle training (PFMT) compared to usual antenatal and postnatal care was assessed in a systematic review <sup>134</sup> on incontinence. Twenty-two trials involving 8,485 women were included. The findings showed that in a mixed population (women with and without incontinence symptoms in late pregnancy or after delivery), PFMT did not reduce incontinence rates after delivery. For women who are continent during pregnancy, PFMT may or may not prevent urinary incontinence up to 6 months after delivery.

A systematic review <sup>122</sup> addressed the effect of pelvic floor muscle training (PFMT) during pregnancy and after delivery in the prevention and treatment of Urinary incontinence (UI). Twenty two randomised or quasi-experimental trials were included. The findings showed that PFMT during pregnancy and after delivery can prevent and treat UI. A supervised training protocol following strength-training principles, emphasising close to maximum contractions and lasting at least 8 weeks is recommended. The findings indicate that PFMT is effective when supervised training is conducted.

A systematic review <sup>135</sup> compared the effectiveness of vaginal cones or balls for improvement of pelvic floor muscle performance and urinary continence in the postpartum period to no treatment, placebo, sham treatment or active controls. Only one RCT was included. The findings showed a significantly lower rate of urinary incontinence in the vaginal cones group; compared with the exercise group.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

New evidence on pelvic floor exercises generally supports the effectiveness of the exercise in improving urinary incontinence. This is consistent with the current guideline recommendations that indicate women with involuntary leakage of a small volume of urine should be taught pelvic floor exercises.

New evidence was also identified from a systematic review with one single RCT on the effectiveness of vaginal cones or balls for improvement of pelvic floor muscle. Given the new evidence comes from only 1 RCT, more evidence may be required to consider vaginal cones for inclusion in the guideline.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## Recommendations derived from this question

### Contraception

- 1.2.58 Methods and timing of resumption of contraception should be discussed within the first week of the birth.
- 1.2.59 The coordinating healthcare professional should provide proactive assistance to women who may have difficulty accessing contraceptive care. This includes providing contact details for expert contraceptive advice.

### Surveillance decision

We will plan a full update of this guideline.

### Contraception

#### 5-year surveillance summary

One systematic review <sup>136</sup> assessed the effects of educational interventions about contraceptive use for postpartum mothers. The authors concluded that postpartum education about contraception led to more contraception use and fewer unplanned pregnancies.

#### 8-year surveillance summary

A prospective trial <sup>137</sup> on the use of contraceptives during breastfeeding concluded that hormonal contraceptives do not affect the amount of infant milk intake and growth.

A systematic review <sup>138</sup> evaluating the scientific basis for conflicting clinical recommendations related to postpartum medroxyprogesterone use among breastfeeding women concluded that the current evidence is methodologically weak and provides an inadequate basis for inference about a possible causal relationship between the two.

One RCT<sup>139</sup> of personalised contraceptive assistance and uptake of long-acting, reversible contraception (LARC) by postpartum women concluded that providing telephone assistance to help navigate barriers did not increase postpartum uptake of LARC.

One study <sup>140</sup> on barriers to LARC use in the postpartum period in the US found that many postpartum women who desire to use LARC do not receive it in the postpartum period and use less effective contraceptive methods instead. The authors concluded that increasing access to immediate postpartum insertion of LARC and

eliminating two-visit protocols for LARC insertion may enable more postpartum women to receive LARC.

A sub-study of baseline data from an RCT <sup>141</sup> of characteristics associated with an interest in LARC use among postpartum women found that high interest exists among postpartum women with a recent unintended pregnancy and women who do not desire pregnancy for at least 2 years.

#### 10-year surveillance summary

A Cochrane systematic review <sup>142</sup> compared the outcomes of intra uterine contraception (IUC) insertion immediately after placenta delivery (within 10 minutes) with insertion at other postpartum times. Randomised controlled trials (RCTs) with at least one treatment arm that involved immediate IUC placement were included. Comparison arms could have included early postpartum insertion (from 10 minutes postplacental to hospital discharge) or standard insertion (during a postpartum visit). The study concluded that the benefit of effective contraception immediately after delivery may outweigh the disadvantage of increased risk for expulsion. Clinical follow-up can help detect early expulsion, as can education of women about expulsion signs and symptoms.

A systematic review <sup>143</sup> was identified which aimed to determine the effects of hormonal contraceptives on lactation and infant growth. Seven RCTs with 1482 women were included. Four trials examined combined oral contraceptives (COCs), and three studied a

levonorgestrel-releasing intrauterine system (LNG-IUS). Most trials did not report significant differences between the study arms in breastfeeding duration, breast milk composition, or infant growth. Results were not consistent across the trials. Five trials indicated no significant difference between groups in breastfeeding duration. For breast milk volume or composition, a COC study showed a negative effect, while an implant trial showed no significant difference. Of four trials that assessed infant growth, three indicated no significant difference between groups.

A systematic review<sup>144</sup> evaluated the effectiveness of postpartum family-planning programmes and aimed to identify research gaps. Thirty-four studies were included. Findings showed that antenatal care, home visitation programmes, and educational interventions were associated with improved family-planning outcomes. The authors concluded that mother-infant care integration, multidisciplinary interventions, and cash transfer/microfinance interventions need further investigation. The author also concluded that programmatic interventions may improve birth spacing and contraceptive uptake.

### Topic expert feedback

No topic expert feedback was relevant to this evidence.

### Impact statement

New studies were found relating to uptake of long-acting, reversible contraception and insertion of intra uterine contraceptive device. CG37 indicate that the methods and timing of resumption of contraception should be discussed within the first week of the birth. CG37 does not make any recommendations on different types of contraceptives; therefore the new evidence is unlikely to impact on current guideline recommendations. Long-acting reversible contraception was investigated in a NICE guidance ([Long-acting reversible contraception CG30](#) 2005 updated 2014).

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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## CG37 – 24 When is the optimal time to offer and administer maternal vaccination?

### Recommendations derived from this question

#### Immunisation

- 1.2.60 Anti-D immunoglobulin should be offered to every non-sensitised Rh-D-negative woman within 72 hours following the delivery of an RhD-positive baby.
- 1.2.61 Women found to be sero-negative on antenatal screening for rubella should be offered an MMR (measles, mumps, rubella) vaccination following birth and before discharge from the maternity unit if they are in hospital.
- 1.2.62 See the Public Health England/Department of Health guidance, Immunisation against infectious disease (2013) (the Green Book) for guidance on the timing of MMR vaccination in women who are sero-negative for rubella who also require anti-D immunoglobulin injection. [new 2015]
- 1.2.63 Women should be advised that pregnancy should be avoided for 1 month after receiving MMR, but that breastfeeding may continue.

#### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

**CG37 – 25      What tools exist to identify the women at risk for domestic violence in the postpartum period?**

**Recommendations derived from this question**

**Domestic abuse**

- 1.2.64      Healthcare professionals should be aware of the risks, signs and symptoms of domestic abuse and know who to contact for advice and management, following guidance from the Department of Health[\*][\*\*].

\* [National Service Framework for Children, Young People and Maternity Services](#)

\*\*Department of Health (2005) [Responding to domestic abuse: a handbook for health professionals](#). London: Department of Health

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 26      The six to eight week maternal postnatal check**

**Recommendations derived from this question**

**6–8-week check**

- 1.2.65      At the end of the postnatal period, the coordinating healthcare professional should ensure that the woman's physical, emotional and social wellbeing is reviewed. Screening and medical history should also be taken into account.

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**[Infant feeding](#)**

**CG37 – 27      Do environmental factors (hospital practice; Baby Friendly Initiatives; room-in) facilitate effective breastfeeding?**

**Recommendations derived from this question**

**A supportive environment for breastfeeding**

- 1.3.1      Breastfeeding support should be made available regardless of the location of care.

- 1.3.2 All healthcare providers (hospitals and community) should have a written breastfeeding policy that is communicated to all staff and parents. Each provider should identify a lead healthcare professional responsible for implementing this policy.
- 1.3.3 All maternity care providers (whether working in hospital or in primary care) should implement an externally evaluated, structured programme that encourages breastfeeding, using the Baby Friendly Initiative as a minimum standard.
- 1.3.4 Healthcare professionals should have sufficient time, as a priority, to give support to a woman and baby during initiation and continuation of breastfeeding.
- 1.3.5 Where postnatal care is provided in hospital, attention should be paid to facilitating an environment conducive to breastfeeding. This includes making arrangements for:
- 24 hour rooming-in and continuing skin-to-skin contact when possible privacy
  - adequate rest for women without interruption caused by hospital routine
  - access to food and drink on demand.
- 1.3.6 Formula milk should not be given to breastfed babies unless medically indicated.
- 1.3.7 Commercial packs, for example those given to women when they are discharged from hospital, containing formula milk or advertisements for formula should not be distributed.
- 1.3.8 Women who leave hospital soon after birth should be reassured that this should not impact on breastfeeding duration.
- 1.3.9 Written breastfeeding education materials as a stand-alone intervention are not recommended.

### Surveillance decision

We will plan a full update of this guideline.

### Infant feeding

#### 5-year surveillance summary

##### Factors that contribute to successful breastfeeding

One Health Technology Assessment <sup>145</sup> evaluated the effectiveness and cost-effectiveness of interventions that promote or inhibit breastfeeding for infants admitted to neonatal units. The authors concluded that despite the limitations of the evidence, kangaroo skin-to-skin contact, peer support, simultaneous breast milk pumping, multidisciplinary staff training and the Baby Friendly accreditation of the maternity hospital were associated with promotion of breast feeding in the neonatal unit.

One study <sup>146</sup> investigated whether breastfeeding rates were higher among mothers delivering in Baby Friendly accredited maternity units in the UK. The authors' conclusion was that policies to increase the proportion of maternity units participating in the Baby Friendly Initiative are likely to increase breastfeeding initiation but not duration. Other strategies are required in order to support UK

mothers to breastfeed for the recommended duration.

One systematic review <sup>147</sup> of professional support interventions for breastfeeding was identified. The authors concluded that The Baby Friendly Hospital Initiative (BFHI) as well as practical hands off-teaching, when combined with support and encouragement, were effective approaches. Postnatally effective were home visits, telephone support and breastfeeding centres combined with peer support.

One systematic review <sup>148</sup> investigated the effects of training, education and practice change interventions with health professionals and lay breast feeding educator/counsellors on duration of breast feeding. The authors concluded that there was insufficient evidence to draw conclusions about overall benefit or harm associated with the interventions and that there seems to be no single way that consistently achieved changes in breast feeding duration. From one of the methodologically more robust studies, however, the UNICEF/WHO Baby Friendly Hospital



Initiative (BFI) training might have the potential to influence breast feeding duration.

One study <sup>149</sup> evaluated the effects of Baby Friendly Initiative community training on breastfeeding rates among staff and mothers in a large Primary Care Trust. Results showed improvements in staff and mothers' breastfeeding attitudes, knowledge and self-efficacy after attending the course, in addition to increases in the appropriate management of breastfeeding problems.

#### **8-year surveillance summary**

No relevant evidence was identified.

#### **10-year surveillance summary**

No relevant evidence was identified.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

Evidence showed improvements in mothers' breastfeeding rate and attitudes in hospitals adhering to Baby Friendly Initiative policy. This is consistent with the current guideline that recommends facilitating effective feeding by improving environmental factors (hospital practice; Baby Friendly Initiatives; room-in).

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

### **CG37 – 28 What factors immediately after birth contribute to successful breastfeeding?**

#### **Subquestions**

When should first breastfeed commence?

Are there factors arising from the birth which are detrimental to breastfeeding which would be responsive to intervention?

Does skin-to-skin contact contribute to successful breastfeeding?

#### **Recommendations derived from this question**

##### **Starting successful breastfeeding**

- 1.3.10 In the first 24 hours after birth, women should be given information on the benefits of breastfeeding, the benefits of colostrum and the timing of the first breastfeed. Support should be culturally appropriate.
- 1.3.11 Initiation of breastfeeding should be encouraged as soon as possible after the birth, ideally within 1 hour.
- 1.3.12 Separation of a woman and her baby within the first hour of the birth for routine postnatal procedures, for example weighing, measuring and bathing, should be avoided unless these measurements are requested by the woman, or are necessary for the immediate care of the baby.
- 1.3.13 Women should be encouraged to have skin-to-skin contact with their babies as soon as possible after the birth.
- 1.3.14 It is not recommended that women are asked about their proposed method of feeding until after the first skin-to-skin contact.
- 1.3.15 From the first feed, women should be offered skilled breastfeeding support (from a healthcare professional, mother-to-mother or peer support) to enable comfortable positioning of the

mother and baby and to ensure that the baby attaches correctly to the breast to establish effective feeding and prevent concerns such as sore nipples.

- 1.3.16 Additional support with positioning and attachment should be offered to women who have had:
- a narcotic or a general anaesthetic, as the baby may not initially be responsive to feeding
  - a caesarean section, particularly to assist with handling and positioning the baby to protect the woman's abdominal wound
  - initial contact with their baby delayed.

## Surveillance decision

We will plan a full update of this guideline.

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### *Starting successful breastfeeding*

#### **5-year surveillance summary**

One HTA report <sup>145</sup> evaluated the effectiveness and cost-effectiveness of interventions that promote or inhibit breastfeeding for infants admitted to neonatal units. The authors concluded that despite the limitations of the evidence, kangaroo skin-to-skin contact, peer support, simultaneous breast milk pumping, multidisciplinary staff training and the Baby Friendly accreditation of the maternity hospital were associated with promotion of breast feeding in the neonatal unit.

One Cochrane review <sup>150</sup> assessed the effects of early skin-to-skin contact (SSC) on breastfeeding, behaviour, and physiological adaptation in healthy mother-newborn dyads. The authors concluded that the intervention may benefit breastfeeding outcomes, early mother-infant attachment, infant crying and cardio-respiratory stability, and has no apparent short or long-term negative effects.

One RCT <sup>151</sup> evaluating the effects of maternal-infant skin-to-skin contact during the first 2 hours post-birth compared to standard care (holding the infant swaddled in blankets) on breastfeeding outcomes through 1 month follow-up, was identified. The authors concluded that very early skin-to-skin contact enhanced breastfeeding success during the early postpartum period and that no significant differences were found at 1 month.

One RCT <sup>152</sup> evaluated the effects of early contact versus separation on the mother-infant interaction one year after initial randomisation. The authors concluded that when compared with routines involving separation of mother and infant, skin-to-skin contact, for 25 to 120

minutes after birth, early suckling, or both positively influenced mother-infant interaction.

One RCT <sup>153</sup> investigated whether the implementation of Kangaroo Mother Care (KMC) to low birth weight infants would improve physical growth, breastfeeding and its acceptability. The authors concluded that KMC improved physical growth, breastfeeding rates and was well accepted by both mothers and nursing staff.

One RCT <sup>154</sup> on the effects of kangaroo care (KC) (skin-to-skin contact) on breastfeeding status in mother-preterm infant dyads from postpartum through 18 months was identified. Results showed that KC dyads, compared to control dyads, breastfed significantly longer, more exclusively at each measurement, and more KC dyads than control dyads breastfed at full exclusivity at discharge and at 1.5, 3, and 6 months.

One study <sup>155</sup> compared mothers' and newborns' temperatures after caesarean delivery when skin-to-skin contact (SSC) was practiced. Results showed that SSC caesarean-delivered newborns were not at risk for hypothermia compared with newborns who received routine care. Also, SSC newborns attached to the breast earlier, were breast-fed at discharge, and at 3 months; and the SSC mothers expressed high levels of satisfaction with the intervention.

One study <sup>156</sup> compared breastfeeding initiation and duration in nulliparae who received epidural analgesia (randomised to bupivacaine control epidural, combined spinal epidural or low dose infusion) and matched non-epidural comparisons. Results showed that women with no epidural did not report a higher initiation rate

relative to epidural groups; those who received pethidine reported a lower initiation rate than control epidural and that among others, epidural fentanyl was not predictive of breastfeeding. The authors concluded there was no effect of epidural fentanyl on breastfeeding initiation.

### **8-year surveillance summary**

#### ***Interventions for effective breast feeding***

Two RCTs and one Cochrane review on skin-to-skin contact during breastfeeding indicated that it benefits breastfeeding outcomes, and cardio-respiratory stability and decreases infant crying, and has no apparent short- or long-term negative effects <sup>150</sup>, enhances maternal positive feelings and shortens the time it takes to resolve severe latch-on problems in older babies who started to latch <sup>157</sup>. Separation and swaddling at birth interfered with mother-infant interaction during breastfeeding; these mothers significantly demonstrated more roughness in their behaviours with their infants at Day 4 <sup>158</sup>. The authors of this RCT encouraged immediate and uninterrupted skin-to-skin contact at birth, and rooming-in during postpartum.

A sub-analysis of an RCT <sup>159</sup> on breastfeeding initiation in the context of a home intervention to promote better birth outcomes found that modifiable risk factors were associated with higher rates of breastfeeding initiation and that it may be possible to use protocols delivered via nurse-midwife home visits within a global intervention to increase breastfeeding initiation.

One randomised study <sup>160</sup> on the effect of the side-car bassinet on postnatal unit breastfeeding frequency and other maternal-infant behaviours compared to a stand-alone bassinet following caesarean birth found that women preferred the side-car, but differences in breastfeeding frequency were not statistically significant. More infant risks were observed with stand-alone bassinet use.

### **10-year surveillance summary**

#### ***Factors that contribute to successful breastfeeding***

A systematic review <sup>161</sup> of qualitative studies examined the role of midwives in their support of breast-feeding women, from their own perspective. A total of 11 papers representing 231 midwives and 24 maternity nurses were

included. All but one study concerned midwives working in hospital settings. Findings indicate that midwives value breast feeding education and breast feeding support as a significant part of their role as a postnatal midwife. However, the ways in which a midwife approaches and supports the breast-feeding woman vary. Two perspectives were identified 'the midwife as technical expert' and 'the midwife as a skilled companion'. The 'technical expert' midwife is mainly breast centred, focuses on techniques, uses the hands on approach and sees a woman as a novice. The 'skilled companion' midwife is woman centred, focuses on the mother - infant relationship and uses a hands off approach during the breast feeding support. The findings indicate midwives working in a hospital setting face many barriers when performing breast feeding support, such as time restraints, which makes it difficult for them to carry out their preferred role as a 'skilled companion'. These barriers can influence the breast feeding support negatively. Supporting factors, such as evidence based breast feeding guidelines, have a positive influence on breast feeding support. The authors concluded that the majority of midwives provide breast feeding support as a technical expert and a minority as a skilled companion. Midwives prefer to be a skilled companion but face many barriers in their working contexts.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

Evidence was identified relating to initiation of successful breastfeeding.

The identified new evidence is mainly supportive of the guideline recommendations which revolve around a supportive environment for breastfeeding, providing information and offering practical support.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

### **Subquestions**

Is there an optimal (or minimum) frequency and duration of a breastfeed?

How should the baby be positioned for effective attachment of the baby to the breast?

How can the mother successfully attach the baby on the breast?

How should the mother position herself to facilitate effective breastfeeding?

### **Recommendations derived from this question**

#### **Continuing successful breastfeeding**

- 1.3.17      Unrestricted breastfeeding frequency and duration should be encouraged.
- 1.3.18      Women should be advised that babies generally stop feeding when they are satisfied, which may follow a feed from only one breast. Babies should be offered the second breast if they do not appear to be satisfied following a feed from one breast.
- 1.3.19      Women should be reassured that brief discomfort at the start of feeds in the first few days is not uncommon, but this should not persist.
- 1.3.20      Women should be advised that if their baby is not attaching effectively he or she may be encouraged, for example by the woman teasing the baby's lips with the nipple to get him or her to open their mouth.
- 1.3.21      Women should be advised of the indicators of good attachment, positioning and successful feeding. (box1)

## Box 1. Breastfeeding

Indicators of good attachment and positioning:

- mouth wide open
- less areola visible underneath the chin than above the nipple
- chin touching the breast, lower lip rolled down, and nose free
- no pain.

Indicators of successful feeding in babies:

- audible and visible swallowing
- sustained rhythmic suck
- relaxed arms and hands
- moist mouth
- regular soaked/heavy nappies.

Indicators of successful breastfeeding in women:

- breast softening
- no compression of the nipple at the end of the feed
- woman feels relaxed and sleepy.

1.3.22 Women should be given information about local breastfeeding support groups.

## Surveillance decision

We will plan a full update of this guideline.

### *Continuing successful breastfeeding*

#### **5-year surveillance summary**

One Cochrane review <sup>162</sup> assessed the effect of pacifier use versus no pacifier use in healthy full-term newborns whose mothers had initiated breastfeeding and intended to exclusively breastfeed, on the duration of breastfeeding, other breastfeeding outcomes and infant health. The authors concluded that pacifier use in healthy term breastfeeding infants, started from birth or after lactation is established, did not significantly affect the prevalence or duration of exclusive and partial breastfeeding up to four months of age.

One RCT <sup>163</sup> investigated whether postnatal mother-infant sleep proximity affects breastfeeding initiation and infant safety. Babies were allocated to one of three sleep conditions: in mother's bed with cot-side, in side-car crib attached to mother's bed and in stand-alone cot adjacent to mother's bed. Results showed that bed and side-car crib infants breastfed more frequently than stand-

alone cot infants and no infant experienced adverse events; however, bed infants were more frequently considered to be in potentially adverse situations. The authors concluded that side-car cribs are effective in enhancing breastfeeding initiation and preserving infant safety in the postnatal ward

One RCT <sup>164</sup> compared sidecar cribs attached to mothers' bed on the postnatal ward with standalone cots adjacent to their bed. Results showed that the use of sidecar cribs did not improve the duration of breastfeeding or the frequency of bed sharing at home

One prospective cohort study <sup>165</sup> investigated the patterns of bed sharing, the characteristics associated with those patterns, and the relationship with breastfeeding. The authors concluded that advice on whether bed sharing should be discouraged needs to take into account the important relationship with breastfeeding.

A systematic review <sup>166</sup> on the effectiveness of primary care-initiated interventions to promote

breastfeeding with respect to breastfeeding and child and maternal health outcomes was identified. The authors concluded that the evidence suggested that breastfeeding interventions are more effective than usual care in increasing short- and long-term breastfeeding rates and that combined pre- and postnatal interventions and inclusion of lay support in a multicomponent intervention may be beneficial.

One Cochrane review <sup>167</sup> on interventions for promoting the initiation of breastfeeding was identified. The authors concluded that health education and peer support interventions can result in some improvements in the number of women beginning to breastfeed.

One randomised study <sup>168</sup> showed that after implementation of a process-oriented breastfeeding training programme for antenatal midwives and postnatal nurses that included an intervention guaranteeing continuity of care, the mothers were more satisfied with emotional and informative support during the first 9 months postpartum.

One RCT <sup>169</sup> assessing the clinical effectiveness and cost effectiveness of a policy to provide breastfeeding groups for pregnant and breastfeeding women was identified. The authors concluded that a policy for providing breastfeeding groups did not improve breastfeeding rates at 6-8 weeks and that the costs of running groups would be similar to the costs of visiting women at home.

One RCT <sup>170</sup> conducted in Jordan aimed to test whether the introduction of an educational programme supporting breastfeeding would increase the proportion of women who breastfed fully to six months, improve the women's level of breastfeeding knowledge, and decrease the proportion of infants admitted to hospitals due to gastrointestinal illnesses. The authors concluded that although the postnatal education and support programme improved breastfeeding knowledge among women in the study, the increase in knowledge did not translate to an increase in the duration of full breastfeeding to six months.

One community-based cluster-randomised trial in Western Denmark <sup>171</sup> assessed the impact of a supportive intervention on the duration of breastfeeding. The authors concluded that home visits in the first 5 weeks following birth may prolong the duration of exclusive breastfeeding; postnatal support should focus

on both psychosocial and practical aspects of breastfeeding and that mothers with no or little previous breastfeeding experience require special attention.

One cohort study <sup>172</sup> investigated whether a 4-h training programme in 'hands off' positioning and attachment support increased midwives' breastfeeding knowledge and problem-solving skills. The authors concluded that there is a large variation in the breastfeeding knowledge of midwives working in postnatal care and that a 4-h workshop in a positioning and attachment intervention, using a 'hands-off' approach, can increase midwives' knowledge of breastfeeding support relevant to the immediate post-natal period.

One systematic review <sup>173</sup> on factors that positively influence breastfeeding duration to 6 months was found. The authors concluded that the modifiable factors that are positively associated with breastfeeding duration are the woman's breastfeeding intention, her breastfeeding self-efficacy and her social support.

One RCT <sup>174</sup> assessed whether providing a breastfeeding support team results in higher breastfeeding rates at 6, 12, and 24 weeks postpartum among urban low-income mothers. The authors concluded that the intervention group was more likely to be breastfeeding at 6 weeks postpartum compared with the usual-care group, a time that coincided with the most intensive part of the intervention.

One RCT <sup>175</sup> investigated whether peer counsellors impacted on breastfeeding duration among premature infants in an urban population. Results showed that at 12 weeks postpartum, women with a peer counsellor had odds of providing any amount of breast milk 181% greater than women without a peer counsellor. The authors concluded that peer counsellors increased breastfeeding duration among premature infants.

One study <sup>176</sup> investigated the efficacy of acupuncture for the maintenance of breastfeeding during the first 3 months of a newborn's life. The authors concluded that 3 weeks of acupuncture treatment were more effective than observation alone in maintaining breastfeeding until the third month of the newborns' lives.

One qualitative study <sup>177</sup> on mothers' reactions to a skills-based breastfeeding promotional

intervention was identified. The intervention group participants described the mother-baby specialist as key in their decision to initiate and maintain breastfeeding. They credited her direct skills and positive reinforcement with their confidence and perseverance to breastfeed. The success of the intervention was attributed to technical assistance from a trained lactation consultant within the context of a relationship built on encouragement, guidance and support.

One qualitative study <sup>178</sup> on the experiences of trained 'lay' women to support exclusive breast feeding in South Africa was identified. Results showed that unlike the services provided by mainstream health care, peer supporters had to market their services. They had to negotiate entry into the mother's home and then her life. The authors concluded that designers of peer support interventions should consider the skills required for delivering health messages and the skills required for selling a service.

One qualitative study <sup>179</sup> on women's experience of infant-feeding peer counselling within a community-based intervention trial in South Africa was identified. Results showed that some women feared the peer counsellor visits and questioned their intentions. Others, especially HIV-infected women, valued peer counselling for the emotional support provided.

One qualitative study <sup>180</sup> explored the incentives and disincentives to breastfeeding experienced within 6 months postpartum among low-income breastfeeding women. The authors concluded that intrinsically motivated women may need support and instruction, extrinsically motivated women may benefit from motivational interviewing, and successfully experienced women may need only minimal breastfeeding counselling.

One meta-synthesis of qualitative studies <sup>181</sup> examined women's perceptions and experiences of breastfeeding support, either professional or peer, to illuminate the components of support that they deemed "supportive". The authors concluded that the findings emphasise the importance of person-centred communication skills and of relationships in supporting a woman to breastfeed.

One systematic review <sup>182</sup> on the effects of training, education and practice change interventions with health professionals and lay breast feeding educator/counsellors on

duration of breast feeding was found. The authors concluded that there was insufficient evidence to draw conclusions about overall benefit or harm associated with the interventions and that there seems to be no single way that consistently achieved changes in breast feeding duration. From one of the methodologically more robust studies, however, the UNICEF/WHO Baby Friendly Hospital Initiative (BFI) training might have the potential to influence breast feeding duration.

One economic analysis <sup>183</sup> compared the incremental costs associated with the provision of home-based vs. hospital-based support for breastfeeding by nurse lactation consultants for term and near-term neonates during the first week of life. Results showed that the cost of home lactation support programmes were comparable with the costs of hospital-based standard care.

One RCT <sup>184</sup> investigated whether antenatal breast feeding education alone or postnatal lactation support alone improves rates of exclusive breast feeding compared with routine hospital care. The authors concluded that antenatal breast feeding education and postnatal lactation support, as single interventions based in hospital both significantly improve rates of exclusive breast feeding up to six months after delivery. Postnatal support was marginally more effective than antenatal education.

One RCT <sup>185</sup> assessed the effect of breastfeeding counselling by peer counsellors in sub-Saharan Africa. The authors concluded that low-intensity individual breastfeeding peer counselling is achievable and, although it does not affect diarrhoea prevalence, can be used to effectively increase exclusive breastfeeding (EBF) prevalence in many sub-Saharan African settings.

One RCT <sup>186</sup> investigated whether an education and counselling intervention provided by a lactation consultant-peer counsellor team increased breastfeeding initiation and duration up to 6 months postpartum among adolescent mothers. Results showed that the intervention positively influenced breastfeeding duration within the experimental group, but not breastfeeding initiation or exclusive breastfeeding rates.

### 8-year surveillance summary

Three systematic reviews of interventions to promote and support breastfeeding indicated benefits for multi-component interventions rather than single-component and single-contact interventions<sup>187</sup>, educational programmes delivered in the context of ongoing personal contact with a health professional<sup>188</sup> and health education and peer support<sup>167</sup>.

One RCT<sup>189</sup> investigated the impact of lactation support on exclusive breastfeeding (EBF) to six months and found no group differences in EBF rates at 6 weeks, 4 months or 5.5 months but marginal evidence of differences was found at 6 months of age.

One RCT<sup>190</sup> examined the effects of a community doula home visiting intervention on infant feeding practices among young mothers. The authors concluded that community doulas may be effective in helping young mothers meet breastfeeding and healthy feeding guidelines.

One RCT<sup>168</sup> of a process-oriented breastfeeding training programme for healthcare professionals to promote breastfeeding found that the programme was associated with a reduced number of infants being given breastmilk substitutes during the 1st week without medical reasons and delayed the introduction of breastmilk substitutes after discharge from the hospital.

One study<sup>191</sup> assessed the feasibility and acceptability of a feeding team intervention with an embedded RCT of team-initiated and woman-initiated telephone support for breastfeeding after hospital discharge. The authors concluded that implementing and integrating the trial within routine postnatal care was feasible and acceptable to women and staff from a research and practice perspective and showed promise for addressing health inequalities.

A sub-analysis of an RCT<sup>159</sup> on breastfeeding initiation in the context of a home intervention to promote better birth outcomes found that modifiable risk factors were associated with rates of breastfeeding initiation and that it may be possible to use protocols delivered via nurse-midwife home visits within a global intervention to increase breastfeeding initiation.

One RCT<sup>192</sup> evaluated determinants of successful breastfeeding with follow-up of

women and children receiving comprehensive or traditional form of care after 8 weeks. The authors concluded that no variables independently affect EBF initiation and duration at 8 weeks; however, comprehensive care was of benefit.

One RCT<sup>193</sup> found that telephone lactation counselling provided by certified lactation counsellors was effective in increasing the rate of exclusive breastfeeding for the first postpartum month but not during the 4 and 6 month postpartum intervals.

A pilot RCT<sup>194</sup> of a breastfeeding self-efficacy intervention with primiparous mothers found that mothers in the intervention group had higher rates of breastfeeding self-efficacy, duration, and exclusivity at 4 and 8 weeks postpartum. However, the differences between groups were not statistically significant.

A randomised study<sup>176</sup> on acupuncture treatment as breastfeeding support found that 3 weeks of acupuncture treatment was more effective than observation alone in maintaining breastfeeding until the third month of the newborns' lives.

### 10-year surveillance summary

A systematic review<sup>161</sup> of qualitative studies evaluated the role of midwives in their support of breast-feeding women, from their own perspective. A total of 11 papers representing 231 midwives and 24 maternity nurses were included. Findings indicate that midwives value breast feeding education and breast feeding support is a significant part of their role as a postnatal midwife. However, the ways in which a midwife approaches and supports the breast-feeding woman vary. Two perspectives were identified 'the midwife as technical expert' and 'the midwife as a skilled companion'. The 'technical expert' midwife is mainly breast centred, focuses on techniques, uses the hands on approach and sees a woman as a novice. The 'skilled companion' midwife is woman centred, focuses on the mother - infant relationship and uses a hands off approach during the breast feeding support. The findings indicate midwives working in a hospital setting face many barriers when performing breast feeding support, such as time restraints, which makes it difficult for them to carry out their preferred role as a 'skilled companion'. These barriers can influence the breast feeding support negatively. Supporting factors, such as evidence based breast feeding guidelines, had



a positive influence on the breast feeding support. The authors concluded that majority of the midwives provide breast feeding support as a technical expert and a minority as a skilled companion. Midwives prefer to be a skilled companion but face many barriers in their working contexts.

A systematic review <sup>195</sup> provided an overview of the relationship between breastfeeding and postpartum depression. The relationships between postpartum depression and breastfeeding intention, initiation and duration were investigated. The findings indicate that the relationship was reported in the papers in diverse ways using differing methodologies. Authors concluded that due to number of methodological differences among studies they result was inconclusive.

A systematic review <sup>196</sup> examined clinical outcomes for breastfeeding and infant health among breastfeeding women using CHCs (combined hormonal contraceptives) compared to nonusers. Fifteen articles describing 13 studies met inclusion criteria for this review. Studies demonstrated inconsistent effects of combined oral contraceptives (COCs) on breastfeeding performance with COC initiation before or after 6 weeks postpartum; some studies demonstrated decreased breastfeeding continuation among COC users compared with nonusers, and others demonstrated no effect. For infant outcomes, some studies found decreases in infant weight gain for COC users compared with nonusers when COCs were initiated at <6 weeks postpartum, while other studies found no effect. None of the studies found an effect on infant weight gain when COCs were started after 6 weeks postpartum, and no studies found an effect on other infant health outcomes regardless of time of COC initiation. The evidence also demonstrated conflicting results on whether early initiation of COCs affects infant outcomes but generally found no negative impact on infant outcomes with later initiation of COCs.

#### Interventions for effective breast feeding

A systematic review <sup>197</sup> evaluated the effect of breastfeeding on long-term and short-term maternal health outcomes. Findings indicate that breastfeeding >12 months was associated with reduced risk of breast and ovarian carcinoma by 26% and 37%, respectively. No conclusive evidence of an association between breastfeeding and bone mineral density was

found. Breastfeeding was associated with 32% lower risk of type 2 diabetes. Exclusive breastfeeding and predominant breastfeeding were associated with longer duration of amenorrhoea. Shorter duration of breastfeeding was associated with higher risk of postpartum depression. There was no association between breastfeeding and postpartum weight change.

A systematic review <sup>198</sup> systematically examined the extent of medicine use in postpartum women, and the impact of maternal medicine use on breastfeeding outcomes (initiation and/or duration). Observational studies with information about postpartum women's use of any type of medicine either for chronic or acute illnesses with or without breastfeeding information were included. The majority of relevant studies suggest that more than 50% of postpartum women (breastfeeding or not) required at least one medicine. Due to the lack of uniform medication use reporting system and differences in study designs, settings and samples, the proportion of medicine use by postpartum women varies widely, from 34% to 100%. Regarding the impact of postpartum women's medicine use on breastfeeding, a few studies suggest that women's use of certain medicines (e.g. antiepileptics, propylthiouracil, antibiotics) during lactation can reduce initiation and/or duration of breastfeeding.

A systematic review <sup>199</sup> evaluated the effectiveness of clinical breastfeeding interventions on breastfeeding among Latinos. A total of 14, controlled studies describing 17 interventions were included. Interventions increased any breastfeeding at 1 to 3 and 4 to 6 months and exclusive breastfeeding at 1 to 3 and 4 to 6 months. Estimates were slightly larger among interventions with prenatal and postpartum components, 3 to 6 patient contacts, and delivery by an International Board Certified Lactation Consultant or lay provider. The authors concluded that breastfeeding interventions targeting Latinos increased any and exclusive breastfeeding compared with usual care.

A systematic review of literature <sup>200</sup> and analysis of 382 clinic records of postpartum mothers assessed the prevalence of skin-to-skin contact and breastfeeding within the first hour of life. Findings indicate that early skin-to-skin contact immediately after birth is a

potential sensory stimulus, which covers the newborn warming, tactile and active stimulation, respiratory rates and level of blood glucose, reduces baby crying and promotes breastfeeding.

A systematic review <sup>201</sup> assessed the effect of extra fluid for breastfeeding mothers on milk production/supply and infant growth. One quasi-randomised study (involving 210 women) that evaluated the effect of extra fluid for breastfeeding mothers on breastfeeding outcomes was included. The findings indicated that advising women to drink extra fluids did not improve breast milk production. No data was reported for the other outcomes.

A systematic review <sup>202</sup> evaluated breastfeeding and depression, considering both pregnancy and postpartum depression. A total of 48 studies were selected and included. Findings indicate that pregnancy depression predicts a shorter breastfeeding duration, but not breastfeeding intention or initiation. Breastfeeding duration is associated with postpartum depression in almost all studies. Postpartum depression predicts and is predicted by breastfeeding cessation in several studies. Pregnancy and postpartum depression are associated with shorter breastfeeding duration. Breastfeeding may mediate the association between pregnancy and postpartum depression. Pregnancy depression predicts shorter breastfeeding duration and that may increase depressive symptoms during the postpartum period.

A systematic review <sup>203</sup> evaluated the interventions designed to improve breastfeeding rates among adolescents to make recommendations for future research and practice. Interventions included school-based programmes, home visits, and telephone support that were implemented by a combination of peer counsellors, nurse clinicians, doulas, and lactation consultants. Only 1 intervention, a combination of education and counselling provided by a lactation

consultant-peer counsellor team, significantly improved both breastfeeding initiation and duration. Other results were mixed.

A systematic review <sup>204</sup> evaluated the interventions designed to promote exclusive breastfeeding to 6 months in high-income countries. Seventeen articles were identified as relevant; all were published in English and assessed exclusive breastfeeding with a follow-up period extending beyond 4 months postpartum. Interventions in pregnancy focused on educating mothers on the benefits of exclusive breastfeeding. Fifteen interventions took place, at least in part, in the postnatal period and provided educational and emotional support to mothers. Of the eight successful interventions, five took part in the postnatal period in the mothers' own homes. The findings showed significant increase in the duration of exclusive breastfeeding in eight of the 17 studies, with most interventions using supportive or educational approaches.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

New studies were found relating to infant feeding environment, interventions for effective breastfeeding, breastfeeding information and successful breastfeeding. The overall findings support educational approaches by a technical expert.

The identified new evidence is mainly supportive of the guideline recommendations which revolve around advice for continuing successful breastfeeding.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

### **Sub-questions**

What information can be given to the mother to help her decide if her baby is getting enough milk?

If the baby is not getting enough milk, what can the health professional suggest for the mother to do?

What effect do supplements have on the success of breastfeeding?

In what circumstances should a baby receive supplementary feeds? And how should breast-milk or substitutes be given to a baby who is not actively breastfeeding?

### **Recommendations derived from this question**

#### **Assessing successful breastfeeding**

- 1.3.23 A woman's experience with breastfeeding should be discussed at each contact to assess if she is on course to breastfeed effectively and identify any need for additional support. Breastfeeding progress should then be assessed and documented in the postnatal care plan at each contact.
- 1.3.24 If an insufficiency of milk is perceived by the woman, attachment and positioning should be reviewed and her baby's health should be evaluated. Reassurance should be offered to support the woman to gain confidence in her ability to produce enough milk for her baby.
- 1.3.25 If the baby is not taking sufficient milk directly from the breast and supplementary feeds are necessary, expressed breast milk should be given by a cup or bottle.
- 1.3.26 Supplementation with fluids other than breast milk is not recommended.

### **Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 31 What information and support offered to the woman and her partner and family members is more likely to enable women to successfully commence and continue breastfeeding?**

**Sub-questions**

- What information and support do women want/value to help them successfully breastfeed?
- What advice and support can give a mother confidence in her ability to breastfeed her baby?
- How best is information and support provided?
- Are there cultural differences that need to be considered in delivering information and support on breast or bottle-feeding?
- Should all mothers who wish to breastfeed be taught to express breast-milk?
- What are the best methods of expressing breast-milk?
- What are the best methods of storing expressed breast-milk?

**Recommendations derived from this question**

**A supportive environment for breastfeeding**

The same recommendations were derived from this question as in 37-25

*Expression and storage of breast milk*

- 1.3.27 All breastfeeding women should be shown how to hand express their colostrum or breast milk and advised on how to correctly store and freeze it.
- 1.3.28 Breast pumps should be available in hospital, particularly for women who have been separated from their babies, to establish lactation. All women who use a breast pump should be offered instructions on how to use it.

**Surveillance decision**

We will plan a full update of this guideline.

**5-year surveillance summary**

*Information and community support*

An RCT <sup>205</sup> investigated whether a knowledge sharing practices programme on antenatal education and postnatal support improved the rates of exclusive breastfeeding during the first six months postpartum compared with a standard knowledge of breastfeeding techniques. Results showed that rates of exclusive breastfeeding in the study group were significantly higher when compared with those in the control group at 14 days, 1, 2, 4, 5, and 6 months postpartum.

One RCT <sup>206</sup> on the efficacy of postpartum breastfeeding counselling to increase exclusive breastfeeding among term low birth weight infants showed that there was an increase in

the median duration of exclusive breastfeeding among mothers who received the intervention. The authors concluded that early and sustained breastfeeding support will enable mothers to exclusively breastfeed low birth weight infants for the first six months.

One systematic review <sup>207</sup> investigated the effect of pre- and post-discharge interventions on breastfeeding outcomes and weight gain among preterm babies. The authors concluded that the interventions were effective in promoting breastfeeding exclusivity, duration, and maternal satisfaction among mothers of preterm babies

One study <sup>208</sup> aimed to determine the effects of breastfeeding education/support offered at home on day 3 postpartum on breastfeeding

duration and knowledge. Findings were that breastfeeding education offered at home on day 3 postpartum was effective in increasing the breastfeeding duration and breastfeeding knowledge

One study <sup>209</sup> using data from a trial that assessed the efficacy of breastfeeding peer counselling showed among others that women who had the intention to engage in exclusive breastfeeding (EBF) in the antenatal period were more likely to do so and that at 2 months postpartum, mothers who were breastfed as children were more likely to engage in EBF.

One Cochrane review <sup>210</sup> on the effectiveness of support for breastfeeding mothers was identified. Results showed that additional professional support to women who had decided to breastfeed was effective in prolonging any breastfeeding, but its effects on exclusive breastfeeding were less clear. Additional lay support to the same category of women was effective in prolonging exclusive breastfeeding, while its effects on duration of any breastfeeding were uncertain.

One RCT <sup>211</sup> was identified that determined whether assigning mixed feeders to a breastfeeding clinic within 1 week postpartum will increase exclusive breastfeeding at 1 month. Results at 4 weeks postpartum indicated that the intervention group was more likely to be exclusively breastfeeding and that the intervention group was less likely to supplement with water and tea.

One study <sup>212</sup> investigated whether postpartum visits by trained community health workers (CHWs) reduce newborn breastfeeding problems. The authors concluded that counselling and hands-on support on breastfeeding techniques by trained workers within the first 3 days of birth should be part of community-based postpartum interventions

#### Expression and storage of breast milk

One Cochrane review <sup>213</sup> on methods of expression of breast milk was identified. The authors concluded that mothers appeared to obtain greater total volumes of milk in six days after birth using the electric or foot powered pump compared to hand expression, a greater volume at one expression during the second week when provided with a relaxation tape and that simultaneous pumping takes less time compared to sequential pumping.

One study <sup>214</sup> that was done to determine whether an electric breast pump (vs. a manual pump) would increase breastfeeding duration in those returning to work or school full-time was identified. The authors' findings suggest that the manual breast pump may work as well as the electric breast pump when breastfeeding is encouraged and supported among women returning to work or school full-time.

#### **8-year surveillance summary**

##### Breastfeeding information and support

One RCT <sup>215</sup> on the effect of training administered to working mothers and its duration on maternal anxiety levels and breastfeeding habits concluded that educating working mothers about breastfeeding reduces their anxiety levels and positively influences their breastfeeding habits.

A cluster RCT <sup>216</sup> of EBF promotion by peer counsellors found that low-intensity individual breastfeeding peer counselling is achievable and, although it does not affect diarrhoea prevalence, can be used to effectively increase EBF prevalence.

One RCT <sup>217</sup> of EBF support found that mobile phone based peer support based counselling may be as effective in supporting EBF as peer support group approaches, and more effective than usual standard of care, but is not associated with large differences in infant medication, illness and growth at 3 months postpartum.

A systematic review <sup>218</sup> of peer support interventions for breastfeeding found that professionals require breastfeeding education to act as breastfeeding supporters as well as the support of their organisations.

A Cochrane review <sup>219</sup> assessed the effectiveness of support for breastfeeding mothers. Results showed that all forms of extra support showed an increase in duration of 'any breastfeeding' and also had a positive effect on duration of EBF. Extra support by both lay and professionals also had a positive impact on breastfeeding outcomes.

One RCT <sup>220</sup> assessed the effectiveness of a peer support worker service on breast-feeding continuation in the UK. The study found that universal antenatal peer support and postnatal peer support for women who initiated breast feeding did not improve breast-feeding rates.

A systematic review and meta-regression analysis of RCTs <sup>221</sup> to examine the effect of

setting, intensity, and timing of peer support on breast feeding found that although peer support interventions increase breastfeeding continuation in low or middle income countries, especially EBF, this does not seem to apply in high income countries, particularly the UK, where breastfeeding support is part of routine postnatal healthcare.

One RCT <sup>222</sup> of breastfeeding education and support for overweight and obese women found that the intervention did not impact EBF practices but was associated with increased rates of any breastfeeding and breastfeeding intensity at 2 weeks postpartum and decreased rates of infant hospitalisation in the first 6 months after birth.

A systematic review of qualitative studies <sup>4</sup> exploring women's perceptions and experiences of professional or peer breastfeeding support was identified. There was strong evidence for adoption of models and arrangements that emphasise relationship-based care by facilitating provision of more continuity of care and individualised care and advice for women; practical help for women who need it; antenatal education; postnatal advice and support; midwifery/nursing education to enhance communication and information provision skills; and support schemes that cater to women from all socio-economic groups.

#### Barriers to breastfeeding

One systematic review <sup>223</sup> found the followings as barriers to breastfeeding in the Women, Infants, and Children (WIC) population: lack of support inside/outside the hospital, returning to work, practical issues, WIC-related issues, and social/cultural barriers. Factors predisposing to lower breastfeeding rates include non-Hispanic ethnicity, obesity, depression, younger age, or an incomplete high school education. Interventions trialled with positive outcomes included peer counselling, improved communication between hospital lactation consultants and WIC staff, breast-pump programmes, and discouraging routine formula provision in the hospital and by WIC.

#### Expression of breastmilk

One Cochrane review <sup>224</sup> of methods of milk expression for lactating women concluded that the most suitable method for milk expression may depend on the time since birth, purpose of expression and the individual mother and

infant. Findings indicate that hand expression and lower cost pumps may be as effective, or more effective, than large electric pumps for some outcomes.

One RCT <sup>225</sup> comparing hand expression with breast pumping for mothers of term newborns feeding poorly at 12-36 hours after birth concluded that hand expression in the early postpartum period improves eventual breastfeeding rates at 2 months after birth compared with breast pumping, but further research is needed to confirm this.

A systematic review <sup>226</sup> concluded that there is limited evidence about the prevalence and outcomes of expressing breast milk amongst mothers of healthy term infants, that the practice of expressing breast milk has increased along with the commercial availability of a range of infant feeding equipment, and that the reasons for expressing have become more complex.

#### **10-year surveillance summary**

##### Breastfeeding information and support

A systematic review <sup>227</sup> assessed the provision of internet-based breastfeeding information and support intervention programmes. A total of 1379 studies were identified but only one study was eligible for inclusion and reported positive outcomes. The author concluded that numerous study limitations and problems with scientific rigor make it difficult to extend study findings to antenatal and postnatal care.

A systematic review <sup>228</sup> assessed if lactation education or support programmes using lactation consultants or lactation counsellors would improve rates of initiation and duration of any breastfeeding and exclusive breastfeeding compared with usual practice. The review was limited to randomised trials and included 16 studies with 5084 participants. It was found that breastfeeding interventions using lactation consultants and counsellors increase the number of women initiating breastfeeding (any initiation vs not initiating breastfeeding). The interventions improve any breastfeeding rates (or any breastfeeding up to 1 month vs not breastfeeding). In addition, there were beneficial effects on exclusive breastfeeding rates (or for exclusive breastfeeding up to 1 month vs not exclusive breastfeeding). The author concluded that most of the evidence would suggest developing and improving

postpartum support programmes incorporating lactation consultants and lactation counsellors.

A systematic review <sup>229</sup> of qualitative studies examined maternal satisfaction with interventions supporting the establishment of breast-feeding in the early postnatal period, up to seven days following delivery, for women from disadvantaged groups. A total of 10 studies were included in the review. The review demonstrated that technical assistance and information provision resulted in greater awareness of breast-feeding physiology, increased rates and a longer duration of breast-feeding. The findings also suggested that maternal satisfaction was enhanced when proactive practical assistance was given within the confines of a collaborative relationship. The author concluded that disadvantaged women considered support strategies offering culturally relevant advice and specific to their individualised needs as the most acceptable and effective in meeting their breast-feeding intentions.

Another systematic review <sup>229</sup> of qualitative studies by the same author explored how women from socioeconomically deprived backgrounds experience breastfeeding and to identify factors associated with supportive practice. A total of eight studies were included. The result had identified three overarching themes that influenced maternal perception of the efficacy of breastfeeding support. These included practical skill and knowledge of the breastfeeding process, the influence of psychological factors on perceived breastfeeding ability, and the provision of a person-centred approach to infant feeding support.

#### Expression of breastmilk

An update of a Cochrane review <sup>213</sup> assessed acceptability, effectiveness, safety, effect on milk composition, contamination and cost implications of methods of milk expression. The updated review included 17 trials involving 961 participants providing data for analysis. The

findings indicate that the most suitable method for milk expression may depend on the time since birth, purpose of expression and the individual mother and infant. Low-cost interventions including early initiation when not feeding at the breast, listening to relaxing music, massage and warming of the breasts, hand expression and lower cost pumps may be as effective, or more effective, than large electric pumps for some outcomes.

#### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

#### **Impact statement**

New evidence was found on breast feeding information and support and breast milk expression.

The evidence regarding information and support is mainly in line with the guideline recommendations. The studies regarding breast milk expression were focused on methods of milk expressions for lactating women. Findings from the studies indicate that hand expression and lower cost pumps may be as effective, or more effective, than large electric pumps. This is consistent with the current guideline recommendations which state “all breastfeeding women should be shown how to hand express their colostrum or breast milk and advised on how to correctly store and freeze it” (1.3.27) and “breast pumps should be available in hospital, particularly for women who have been separated from their babies, to establish lactation. All women who use a breast pump should be offered instructions on how to use it” (1.3.28).

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 32 What should be done to prevent, identify and treat breastfeeding problem? (sore nipple)

### Recommendations derived from this question

#### Nipple pain

- 1.3.29 Women should be advised that if their nipples are painful or cracked, it is probably due to incorrect attachment.
- 1.3.30 If nipple pain persists after repositioning and re-attachment, assessment for thrush should be considered.

### Surveillance decision

We will plan a full update of this guideline.

#### *Nipple pain*

##### 5-year surveillance summary

One RCT<sup>230</sup> assessed the effectiveness of peppermint water in the prevention of nipple cracks during breastfeeding in comparison with the application of expressed breast milk (EBM). The study concluded that peppermint water is effective in the prevention of nipple pain and damage.

##### 8-year surveillance summary

One RCT<sup>231</sup> of a nipple ointment versus lanolin in treating painful damaged nipples in breastfeeding women found no significant group differences in mean pain scores at 1 week after randomisation, however, women in the lanolin group reported significantly greater satisfaction with their infant feeding method and had non-significantly higher breastfeeding duration and exclusivity rates at 12 weeks postpartum.

##### 10-year surveillance summary

A systematic review<sup>232</sup> assessed the effects of all interventions in the resolution or reduction of nipple pain and the impact of the interventions on other outcomes such as nipple trauma, nipple infections, breast mastitis, breastfeeding duration, breastfeeding exclusivity, and maternal satisfaction. Four trials involving 656 women included. Nipple ointment improved maternal perceptions of nipple pain. Findings indicate that there was insufficient evidence

that glycerine gel dressings, breast shells with lanolin, lanolin alone, or the all-purpose nipple ointment significantly improved maternal perceptions of nipple pain. The results from these four trials suggested that applying nothing or just expressed breast milk may be equally or more beneficial in the short-term experience of nipple pain than the application of an ointment such as lanolin. Findings also suggested that regardless of the treatment used, for most women nipple pain reduced to mild levels after approximately seven to 10 days' postpartum.

##### Topic expert feedback

No topic expert feedback was relevant to this evidence

##### Impact statement

Prevention and treatment of nipple pain was investigated in one systematic review and two RCTs. The identified studies did not provide conclusive evidence on effectiveness of any interventions investigated.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.



## CG37 – 33 What should be done to prevent, identify and treat breastfeeding problem?(engorgement)

### Recommendations derived from this question

#### Engorgement

- 1.3.31 Women should be advised that their breasts may feel tender, firm and painful when milk 'comes in' at or around 3 days after birth.
- 1.3.32 A woman should be advised to wear a well-fitting bra that does not restrict her breasts.
- 1.3.33 Breast engorgement should be treated with:
- frequent unlimited breastfeeding including prolonged feeding from the affected breast
  - breast massage and, if necessary, hand expression
  - analgesia.

#### Surveillance decision

We will plan a full update of this guideline.

#### Engorgement

##### 5-year surveillance summary

No relevant evidence was identified.

##### 8-year surveillance summary

No relevant evidence was identified.

##### 10-year surveillance summary

An update of a systematic review<sup>233</sup> assessed the new information on the best forms of treatment for breast engorgement in lactating women. In total, 13 studies with 919 women included. Trials examined interventions including non-medical treatments: cabbage leaves (three studies), acupuncture (two studies), ultrasound (one study), acupressure (one study), scraping therapy (Gua Sha) (one study), cold breast-packs and electromechanical massage (one study), and medical treatments: serrapeptase (one study), protease (one study) and subcutaneous oxytocin (one study). The author concluded that although some interventions such as hot/cold packs, Gua-Sha (scraping therapy), acupuncture, cabbage leaves and proteolytic

enzymes may be promising for the treatment of breast engorgement during lactation, there is insufficient evidence from published trials on any intervention to justify widespread implementation.

##### Topic expert feedback

No topic expert feedback was relevant to this evidence.

##### Impact statement

Non-medical and medical treatment for breast engorgement was investigated in a systematic review. The identified study did not provide conclusive evidence on effectiveness of any intervention.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 34 What should be done to prevent, identify and treat breastfeeding problem? (mastitis)

### Sub-questions

When should a woman be asked about problems?

Under what circumstances should a woman be referred?

### Recommendations derived from this question

#### Mastitis

- 1.3.34 Women should be advised to report any signs and symptoms of mastitis including flu like symptoms, red, tender and painful breasts to their healthcare professional urgently.
- 1.3.35 Women with signs and symptoms of mastitis should be offered assistance with positioning and attachment and advised to:
- continue breastfeeding and/or hand expression to ensure effective milk removal; if necessary, this should be with gentle massaging of the breast to overcome any blockage
  - take analgesia compatible with breastfeeding, for example paracetamol
  - increase fluid intake.
- 1.3.36 If signs and symptoms of mastitis continue for more than a few hours of self management, a woman should be advised to contact her healthcare professional again (urgent action).
- 1.3.37 If the signs and symptoms of mastitis have not eased, the woman should be evaluated as she may need antibiotic therapy (urgent action).

### Surveillance decision

We will plan a full update of this guideline.

#### Mastitis

##### 5-year surveillance summary

One RCT<sup>234</sup> evaluated the efficacy of oral administration of two lactobacilli strains isolated from breast milk to treat lactational mastitis, compared to antibiotic therapy. The conclusion was that the use of the two lactobacilli strains appeared to be an efficient alternative to the use of commonly prescribed antibiotics for the treatment of infectious mastitis during lactation

A Cochrane review<sup>235</sup> to assess the effects of preventive strategies for mastitis and the subsequent effect on breastfeeding duration was identified. The authors concluded that there was insufficient evidence to show effectiveness of any of the interventions, including breastfeeding education, pharmacological treatments and alternative therapies, regarding the occurrence of mastitis or breastfeeding exclusivity and duration.

One Cochrane review<sup>236</sup> on the effectiveness of antibiotic therapies in relieving symptoms for breastfeeding women with mastitis with or without laboratory investigation was identified. The authors' conclusion was that there is insufficient evidence to confirm or refute the effectiveness of antibiotic therapy for the treatment of lactational mastitis.

One prospective cohort study<sup>237</sup> reported on mastitis in the first six months postpartum in a Scottish population; its impact on breastfeeding duration and the appropriateness of the support and management received by affected women from health professionals. The authors concluded that approximately one in six women is likely to experience one or more episodes of mastitis whilst breastfeeding and a small but clinically important proportion of women continue to receive inappropriate management advice from health professionals which, if followed, could lead them to unnecessarily

deprive their infants prematurely of the known nutritional and immunological benefits of breast milk.

### **8-year surveillance summary**

A Cochrane review <sup>235</sup> of interventions for preventing mastitis after childbirth concluded that there was insufficient evidence to show effectiveness of any of the interventions, including breastfeeding education, pharmacological treatments and alternative therapies, regarding the occurrence of mastitis or breastfeeding exclusivity and duration.

A Cochrane review <sup>236</sup> of antibiotics for mastitis in breastfeeding women was found; two trials of poor quality met the inclusion criteria. One small trial compared amoxicillin with cephadrine and found no significant difference between the two antibiotics in terms of symptom relief and abscess formation. The other study compared breast emptying alone as 'supportive therapy' versus antibiotic therapy plus supportive therapy, and no therapy, with results indicating faster clearance of symptoms for women using antibiotics. The authors concluded that there is an urgent need to conduct high-quality trials to determine whether antibiotics should be used in this condition.

### **10-year surveillance summary**

A systematic review <sup>238</sup> of RCTs assessed the effects of different treatments for the management of breast abscesses in breastfeeding women. Four studies involving 325 women included. Needle aspiration (with

and without ultrasound guidance) versus incision and drainage (I&D) Mean time (days) to complete resolution of breast abscess (three studies) were investigated. Findings indicated that there is insufficient evidence to determine whether needle aspiration is a more effective option to I&D for lactational breast abscesses, or whether an antibiotic should be routinely added to women undergoing I&D for lactational breast abscesses.

### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

### **Impact statement**

Insufficient evidence was found to confirm the effectiveness of antibiotic therapy for the treatment of lactational mastitis. This is consistent with CG37 that recommends continuing with breastfeeding and/or hand expression, gentle massaging, analgesia and fluid intake. The recommendation states, "If the signs and symptoms of mastitis have not eased, the woman should be evaluated as she may need antibiotic therapy" (1.3.37).

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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## **CG37 – 35 What should be done to prevent, identify and treat breastfeeding problem? (inverted nipple)**

### **Sub-question**

### **Recommendations derived from this question**

#### **Inverted nipples**

- 1.3.38 Women with inverted nipples should receive extra support and care to ensure successful breastfeeding.

### **Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 36 Are there interventions to facilitate continued breast feeding when the baby is tongue tied?**

**Recommendations derived from this question**

**Ankyloglossia (tongue tie)**

- 1.3.39 Evaluation for ankyloglossia should be made if breastfeeding concerns persist after a review of positioning and attachment by a skilled healthcare professional or peer counsellor.
- 1.3.40 Babies who appear to have ankyloglossia should be evaluated further (non-urgent action)\*.

\* [Division of ankyloglossia \(tongue-tie\) for breastfeeding](#) (2005) NICE interventional procedure guidance 149

**Surveillance decision**

No new information was identified at any surveillance review.  
We will plan a full update of this guideline.

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**CG37 – 37 Are there interventions to facilitate continued breast feeding when the baby is sleepy?**

**Recommendations derived from this question**

**Sleepy baby**

- 1.3.41 Women should be advised that skin-to-skin contact or massaging a baby's feet should be used to wake the baby. The baby's general health should be assessed if there is no improvement.

**Surveillance decision**

No new information was identified at any surveillance review.  
We will plan a full update of this guideline.

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**CG37 – 38 Are there interventions to facilitate continued breastfeeding when the baby is failing to gain weight?**

**Recommendations derived from this question**

No recommendations were derived from this question.

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 39 What information offered to the woman and her partner is more likely to enable women to formula feed?**

**Sub-questions**

Should a breastfeeding mother be shown how to prepare a bottle? And if so in what context?

Is there a risk of overfeeding breast or formula fed babies?

**Recommendations derived from this question**

**Formula feeding**

- 1.3.42 All parents and carers who are giving their babies formula feed should be offered appropriate and tailored advice on formula feeding to ensure this is undertaken as safely as possible, in order to enhance infant development and health, and fulfil nutritional needs.
- 1.3.43 A woman who wishes to feed her baby formula milk should be taught how to make feeds using correct, measured quantities of formula, as based on the manufacturer's instructions, and how to clean and sterilise bottles and teats and how to store formula milk\*.
- 1.3.44 Parents and family members should be advised that milk, either expressed milk or formula should not be warmed in a microwave.
- 1.3.45 Breastfeeding women who want information on how to prepare formula feeds should be advised on how to do this.

\*Department of Health (1996) [Immunisation against infectious disease](#). London: Department of Health

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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*Maintaining infant health*

**CG37 – 40 Are there any interventions that promote attachment/bonding in the postpartum period?**

**Recommendations derived from this question**

**Parenting and emotional attachment**

- 1.4.5 Assessment for emotional attachment should be carried out at each postnatal contact.
- 1.4.6 Home visits should be used as an opportunity to promote parent- or mother-to-baby emotional attachment.
- 1.4.7 Women should be encouraged to develop social networks as this promotes positive mother-baby interaction.

- 1.4.8 Group based parent-training programmes designed to promote emotional attachment and improve parenting skills should be available to parents who wish to access them.
- 1.4.9 Healthcare providers should offer fathers information and support in adjusting to their new role and responsibilities within the family unit.

### Surveillance decision

We will plan a full update of this guideline.

#### Maintaining infant health

##### 5-year surveillance summary

One study<sup>19</sup> focussed on new parents' discontent with postpartum care. A main finding was that the close emotional attachment between parents was not always supported by staff and that the father was treated as an outsider. The authors concluded that midwives should acknowledge that parents, irrespective of gender, should have equal opportunities as parents during postpartum care.

##### 8-year surveillance summary

A Cochrane review<sup>239</sup> of postnatal parental education for optimising infant general health and parent-infant relationships found that education related to sleep enhancement increases infant sleep but has no effect on infant crying time. The author concluded that the education about infant behaviour potentially enhances mothers' knowledge and parent-infant relationships; however more and larger, well-designed studies are needed to confirm these findings.

An RCT<sup>240</sup> of community doula services or routine medical and social services for young

mothers found that doula support promotes parenting and positive mother-infant relationships.

##### 10-year surveillance summary

No relevant evidence was identified.

##### Topic expert feedback

No topic expert feedback was relevant to this evidence.

##### Impact statement

The new evidence highlights the importance of postnatal parental education and fathers' role in promoting parent-infant relationships in postnatal period. This is consistent with the current guideline recommendation to offer fathers information and support in adjusting to their new role and responsibilities within the family unit.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

## CG37 – 41 Physical examination of the newborn

### Recommendations derived from this question

- 1.4.1 Healthy babies should have normal colour for their ethnicity, maintain a stable body temperature, and pass urine and stools at regular intervals. They initiate feeds, suck well on

the breast (or bottle) and settle between feeds. They are not excessively irritable, tense, sleepy or floppy. The vital signs of a healthy baby should fall within the following ranges:

- respiratory rate normally 30–60 breaths per minute
- heart rate normally between 100 and 160 beats per minute in a newborn
- temperature in a normal room environment of around 37°C (if measured).

1.4.2 At each postnatal contact, parents should be offered information and advice to enable them to:

- assess their baby's general condition
- identify signs and symptoms of common health problems seen in babies
- contact a healthcare professional or emergency service if required.

1.4.3 Parents, family members and carers should be offered information and reassurance on:

- their baby's social capabilities as this can promote parent–baby attachment (in the first 24 hours)
- the availability, access and aims of all postnatal peer, statutory and voluntary groups and organisations in their local community (within 2–8 weeks).

1.4.4 Both parents should be encouraged to be present during any physical examination of their baby to promote participation of both parents in the care of their baby and enable them to learn more about their baby's needs.

### **Physical examination and screening**

1.4.10 The aims of any physical examination should be fully explained and the results shared with the parents and recorded in the postnatal care plan and the personal child health record.

1.4.11 A complete examination of the baby should take place within 72 hours of birth. This examination should incorporate a review of parental concerns and the baby's medical history should also be reviewed including: family, maternal, antenatal and perinatal history; fetal, neonatal and infant history including any previously plotted birth-weight and head circumference; whether the baby has passed meconium and urine (and urine stream in a boy). Appropriate recommendations made by the UK National Screening Committee should also be carried out.

A physical examination should also be carried out. This should include checking the baby's:

- appearance including colour, breathing, behaviour, activity and posture
- head (including fontanelles), face, nose, mouth including palate, ears, neck and general symmetry of head and facial features. Measure and plot head circumference
- eyes; check opacities and red reflex
- neck and clavicles, limbs, hands, feet and digits; assess proportions and symmetry
- heart; check position, heart rate, rhythm and sounds, murmurs and femoral pulse volume
- lungs; check effort, rate and lung sounds
- abdomen; check shape and palpate to identify any organomegaly; also check condition of umbilical cord
- genitalia and anus; check for completeness and patency and undescended testes in males
- spine; inspect and palpate bony structures and check integrity of the skin
- skin; note colour and texture as well as any birthmarks or rashes
- central nervous system; observe tone, behaviour, movements and posture. Elicit newborn reflexes only if concerned
- hips; check symmetry of the limbs and skin folds (perform Barlow and Ortolani's manoeuvres)
- cry; note sound
- weight; measure and plot.

- 1.4.12 The newborn blood spot test should be offered to parents when their baby is 5-8 days old.
- 1.4.13 At 6–8 weeks, an examination, comprising the items listed in 1.4.11, should be carried out. In addition, an assessment of social smiling and visual fixing and following should be carried out.
- 1.4.14 A hearing screen should be completed before discharge from hospital or by week 4 in the hospital programme or by week 5 in the community programme.
- 1.4.15 Parents should be offered routine immunisations for their baby according to the schedule recommended by the Department of Health\*.

\*Department of Health (1996) [Immunisation against infectious disease](#). London: Department of Health

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## **CG37 – 42      How should common health problems in the infants be identified and managed? (Jaundice)**

### Recommendations derived from this question

#### Jaundice

- 1.4.16 Parents should be advised to contact their healthcare professional if their baby is jaundiced, their jaundice is worsening, or their baby is passing pale stools.
- 1.4.17 Babies who develop jaundice within the first 24 hours after birth should be evaluated (emergency action).
- 1.4.18 If jaundice develops in babies aged 24 hours and older, its intensity should be monitored and systematically recorded along with the baby's overall wellbeing with particular regard to hydration and alertness.
- 1.4.19 The mother of a breastfed baby who has signs of jaundice should be actively encouraged to breastfeed frequently, and the baby awakened to feed if necessary.
- 1.4.20 Breastfed babies with jaundice should not be routinely supplemented with formula, water or dextrose water.
- 1.4.21 If a baby is significantly jaundiced or appears unwell, evaluation of the serum bilirubin level should be carried out.
- 1.4.22 If jaundice first develops after 7 days or jaundice remains after 14 days in an otherwise healthy baby and a cause has not already been identified, it should be evaluated (urgent action).

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 43      How should common health problems in the infants be identified and managed? (skin)**

**Recommendations derived from this question**

**Skin**

- 1.4.23      Parents should be advised that cleansing agents should not be added to a baby's bath water nor should lotions or medicated wipes be used. The only cleansing agent suggested, where it is needed, is a mild non-perfumed soap.
- 1.4.24      Parents should be advised how to keep the umbilical cord clean and dry and that antiseptics should not be used routinely.

**Surveillance decision**

We will plan a full update of this guideline.

*Skin*

**5-year surveillance summary**

One pilot RCT <sup>241</sup> investigated whether bathing newborn babies with a specific cleaning product is superior to bathing with water and cotton wool. Results showed similar rates of transepidermal water loss at 4 and 8 weeks after birth between the two groups. The authors concluded that the decision to proceed with a superiority trial was not consistent with the findings and as such a non-inferiority trial was recommended.

**8-year surveillance summary**

No relevant evidence was identified.

**10-year surveillance summary**

No relevant evidence was identified.

**Topic expert feedback**

No topic expert feedback was relevant to this evidence.

**Impact statement**

The evidence from previous surveillance is consistent with current guideline recommendations not to use cleaning agents, lotions or medicated wipes for newborns.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

**CG37 – 44      How should common health problems in the infants be identified and managed? (thrush)**

**Recommendations derived from this question**

**Thrush**

- 1.4.25      If thrush is identified in the baby, the breastfeeding woman should be offered information and guidance about relevant hygiene practices.
- 1.4.26      Thrush should be treated with an appropriate antifungal medication if the symptoms are causing pain to the woman or the baby or feeding concerns to either.
- 1.4.27      If thrush is non-symptomatic, women should be advised that antifungal treatment is not required.

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## **CG37 – 45      How should common health problems in the infants be identified and managed? (Napkin [nappy] rash)**

### Recommendations derived from this question

#### Nappy rash

- 1.4.28 For babies with nappy rash the following possible causes should be considered:
- hygiene and skin care
  - sensitivity to detergents, fabric softeners or external products that have contact with the skin
  - presence of infection.
- 1.4.29 If painful nappy rash persists it is usually caused by thrush, and treatment with antifungal treatment should be considered.
- 1.4.30 If after a course of treatment the rash does not resolve, it should be evaluated further (non-urgent action).

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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## **CG37 – 46      How should common health problems in the infants be identified and managed? (constipation)**

### Recommendations derived from this question

#### Constipation

- 1.4.31 If a baby has not passed meconium within 24 hours, the baby should be evaluated to determine the cause, which may be related to feeding patterns or underlying pathology (emergency action).
- 1.4.32 If a baby is constipated and is formula fed the following should be evaluated: (urgent action)
- feed preparation technique
  - quantity of fluid taken
  - frequency of feeding
  - composition of feed.

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 47      How should common health problems in the infants be identified and managed? (Diarrhoea)**

**Recommendations derived from this question**

**Diarrhoea**

- 1.4.33      A baby who is experiencing increased frequency and/or looser stools than usual should be evaluated (urgent action).

**Surveillance decision**

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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**CG37 – 48      How should common health problems in the infants be identified and managed? (colic)**

**Recommendations derived from this question**

**Colic**

- 1.4.34      A baby who is crying excessively and inconsolably, most often during the evening, either drawing its knees up to its abdomen or arching its back, should be assessed for an underlying cause, including infant colic (urgent action).
- 1.4.35      Assessment of excessive and inconsolable crying should include:
- general health of the baby
  - antenatal and perinatal history
  - onset and length of crying
  - nature of the stools
  - feeding assessment
  - woman's diet if breastfeeding
  - family history of allergy
  - parent's response to the baby's crying
  - any factors which lessen or worsen the crying.
- 1.4.36      Healthcare professionals should reassure parents of babies with colic that the baby is not rejecting them and that colic is usually a phase that will pass. Parents should be advised that holding the baby through the crying episode, and accessing peer support may be helpful.
- 1.4.37      Use of hypoallergenic formula in bottle-fed babies should be considered for treating colic, but only under medical guidance.
- 1.4.38      Dicycloverine (dicyclomine) should not be used in the treatment of colic due to side effects such as breathing difficulties and coma.

## Surveillance decision

We will plan a full update of this guideline.

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### Colic

#### 5-year surveillance summary

No relevant evidence was identified.

#### 8-year surveillance summary

One small RCT<sup>242</sup> comparing the effectiveness of lactobacillus reuteri, herbal drop and placebo, all combined with baby massage, on infantile colic found a significant decrease in crying times at week 3 in the L. reuteri group.

#### 10-year surveillance summary

No relevant evidence was identified.

#### Topic expert feedback

No topic expert feedback was relevant to this evidence.

#### Impact statement

Evidence from previous surveillance found use of a probiotics combined with massage is effective in reducing crying times for babies with colic. Given the new evidence comes from only 1 small RCT, more evidence may be required to consider the treatment for inclusion in the guideline.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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## CG37 – 49 How should common health problems in the infants be identified and managed? (fever)

### Recommendations derived from this question

#### Fever

- 1.4.39 The temperature of a baby does not need to be taken, unless there are specific risk factors, for example maternal pyrexia during labour.
- 1.4.40 When a baby is suspected of being unwell, the temperature should be measured using electronic devices that have been properly calibrated and are used appropriately\*.
- 1.4.41 A temperature of 38°C or more is abnormal and the cause should be evaluated (emergency action). A full assessment, including physical examination, should be undertaken.

\*[Feverish illness in children](#) (2013) NICE guideline CG160

### Surveillance decision

No new information was identified at any surveillance review.

We will plan a full update of this guideline.

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### Sub-questions

When and in what doses should Vitamin K be administered?

What is the most critical and cost effective route (IM or oral) of delivering Vitamin K?

Is there an association between childhood cancer and IM vitamin K?

### Recommendations derived from this question

#### Vitamin K

- 1.4.42 All parents should be offered vitamin K prophylaxis for their babies to prevent the rare but serious and sometimes fatal disorder of vitamin K deficiency bleeding.
- 1.4.43 Vitamin K should be administered as a single dose of 1 mg intramuscularly as this is the most clinically and cost-effective method of administration.
- 1.4.44 If parents decline intramuscular vitamin K for their baby, oral vitamin K should be offered as a second-line option. Parents should be advised that oral vitamin K must be given according to the manufacturer's instructions for clinical efficacy and will require multiple doses.

### Surveillance decision

We will plan a full update of this guideline.

#### *Vitamin K*

##### **5-year surveillance summary**

###### *Vitamin K prophylaxis*

One RCT<sup>243</sup> assessed vitamin K status and metabolism in preterm babies. The authors concluded that breastfed preterm babies who are given a 0.2mg dose of prophylaxis should receive additional supplementation when feeding has been established.

##### **8-year surveillance summary**

No relevant evidence was identified.

##### **10-year surveillance summary**

No relevant evidence was identified.

##### **Topic expert feedback**

No topic expert feedback was relevant to this evidence.

##### **Impact statement**

Evidence from one study indicated that preterm babies should receive additional supplementation of vitamin K when feeding has been established. CG37 recommendations do not address dosage of vitamin K in preterm babies. The evidence identified is based on one single RCT. Therefore, no impact on current recommendations is anticipated.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

**Sub-question**

Role of home visiting in prevention of childhood injury

**Recommendations derived from this question****Safety**

- 1.4.45 All home visits should be used as an opportunity to assess relevant safety issues for all family members in the home and environment and promote safety education.
- 1.4.46 The healthcare professional should promote the correct use of basic safety equipment, including, for example, infant seats and smoke alarms and facilitate access to local schemes for provision of safety equipment.

**Surveillance decision**

We will plan a full update of this guideline.

*Maintaining infant health***5-year surveillance summary**

No relevant evidence was identified.

**8-year surveillance summary**

Four RCTs of home visiting by nurses or midwives compared with control groups indicated reduced emergency medical care <sup>20</sup>, improve maternal/infant interaction and decrease severity of postpartum depression <sup>21</sup>, some breastfeeding benefits <sup>22</sup>, and improved maternal healthy behaviours <sup>23</sup>. In addition, one Cochrane review <sup>24</sup> found that postnatal home visits may promote infant health and maternal satisfaction. However, the frequency, timing, duration and intensity of such postnatal care visits should be based upon local needs. Conversely, one RCT <sup>25</sup> of nurse-community health worker or standard community care home visitation programme found no strong evidence that infant health was improved by the addition of community health workers to a programme of standard community care that included nurse home visitation.

**10-year surveillance summary**

A systematic review <sup>26</sup> assessed outcomes for women and infants of different home-visiting schedules during the early post-partum period. The review focuses on the frequency of home visits, the duration (when visits ended) and intensity, and on different types of home visiting interventions. A total of 12 randomised trials

with n=11 000 women were included. The trials were carried out across the world, and in both high- and low-resource settings. The findings showed that there was no evidence that home visits were associated with improvements in maternal and neonatal mortality, and no strong evidence that more postnatal visits at home were associated with improvements in maternal health. More intensive schedules of home visits did not appear to improve maternal psychological health and results from two studies suggested that women receiving more visits had higher mean depression scores. The reason for this finding was not clear. There was some evidence that postnatal care at home may reduce infant health service utilisation in the weeks following the birth, and that more home visits may encourage more women to exclusively breastfeed their babies. There was some evidence that home visits are associated with increased maternal satisfaction with postnatal care.

**Topic expert feedback**

No topic expert feedback was relevant to this evidence.

**Impact statement**

The studies on home visiting are mainly in line with the guideline recommendations which state that “home visits should be used as an opportunity to promote parent- or mother-to-baby emotional attachment” and that “all home

visits should be used as an opportunity to assess relevant safety issues for all family members in the home and environment and promote safety education”.

However, the topic experts indicated that the service delivery and provision of care have

changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.

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**CG37 – 52      What is the risk of co-sleeping in relation to sudden infant death syndrome (SIDS)?**

### Recommendations derived from this question

#### Co-sleeping and sudden infant death syndrome

The cause of sudden infant death syndrome (SIDS) is not known. It is possible that many factors contribute but some factors are known to make SIDS more likely. These include placing a baby on their front or side to sleep. We need clear evidence to say that a factor directly causes SIDS. Evidence was reviewed relating to co-sleeping (parents or carers sleeping on a bed or sofa or chair with an infant) in the first year of an infant's life. Some of the reviewed evidence showed that there is a statistical relationship between SIDS and co-sleeping. This means that, where co-sleeping occurs, there may be an increase in the number of cases of SIDS. However, the evidence does not allow us to say that co-sleeping causes SIDS. Therefore the term 'association' has been used in the recommendations to describe the relationship between co-sleeping and SIDS. The recommendations on co-sleeping and SIDS cover the first year of an infant's life.

- 1.4.47      Recognise that co-sleeping can be intentional or unintentional. Discuss this with parents and carers and inform them that there is an association between co-sleeping (parents or carers sleeping on a bed or sofa or chair with an infant) and SIDS. [new 2014]
- 1.4.48      Inform parents and carers that the association between co-sleeping (sleeping on a bed or sofa or chair with an infant) and SIDS is likely to be greater when they, or their partner, smoke. [new 2014]
- 1.4.49      Inform parents and carers that the association between co-sleeping (sleeping on a bed or sofa or chair with an infant) and SIDS may be greater with:
- parental or carer recent alcohol consumption, or
  - parental or carer drug use, or
  - low birth weight or premature infants. [new 2014]

#### Pacifier use

- 1.4.50      If a baby has become accustomed to using a pacifier (dummy) while sleeping, it should not be stopped suddenly during the first 26 weeks.

### Surveillance decision

We will plan a full update of this guideline.

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### *Co-sleeping and sudden infant death syndrome*

This section was updated in 2013 and only studies that published after the literature search period date for that update have been included in this surveillance.

#### **8-year surveillance summary**

No relevant evidence was identified.

#### **10-year surveillance summary**

An observational study<sup>244</sup> was identified which evaluated the issue of infant safe sleep education, particularly with regard to parent-infant bed-sharing and risk of SIDS and accidental death--a topic which has often been the focus of single-message campaigns. The study examined whether a more complex message would be understood and remembered by mothers. A leaflet-based tool was designed which addressed common infant sleep locations, with information on their risks and benefits. Novel components involved the inclusion of information regarding bed-sharing benefits, and a checklist that parents could use to assess their own risk. The findings indicated that the leaflet, when delivered by appropriately trained staff, is effective for enabling discussions with pregnant women that increase their knowledge surrounding the risks and benefits of infant sleep locations.

A qualitative study<sup>245</sup> examined how white British and Pakistani mothers in Bradford recall, understand and interpret SIDS-reduction guidance, and to explore whether and how they implement this guidance in caring for their infants. In-depth narrative interviews were carried out with 46 mothers (25 white British origins and 21 Pakistani origins) of 8–12 week old infants. Findings indicated that Pakistani

mothers tended to dismiss the guidance as being irrelevant to their cultural practices; white British mothers adopted aspects of the guidance to suit their preferred parenting decisions and personal circumstances. The authors concluded that current SIDS reduction information in the UK does not meet the need of immigrant families, and is easily misinterpreted or misunderstood by mothers from all sections of the community.

#### **Topic expert feedback**

One topic expert highlighted that ethnic minority groups do not receive SIDS reduction guidance that reflects their cultural practices or beliefs. General guidance on SIDS reduction needs prioritising to emphasise the key messages.

#### **Impact statement**

A topic expert highlighted two observational studies related to SIDS. One study highlighted that SIDS reduction information in the UK does not meet the needs of immigrant families. The other study indicated that SIDS leaflet is effective and increases women knowledge if delivered by an appropriately trained staff. Both studies were small qualitative studies. Further consistent evidence is needed to explore needs of immigrant families regarding SIDS- reduction guidance.

However, the topic experts indicated that the service delivery and provision of care have changed considerably since the guideline was developed and the recommendations no longer fit with current practice. Based on the feedback from topic experts, the guideline will be updated to bring the recommendations into line with how services are currently delivered.



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**CG37 – 53      What tools exist to identify the child at the risk of abuse?**

**Recommendations derived from this question**

**Child abuse**

- 1.4.51      Healthcare professionals should be alert to risk factors and signs and symptoms of child abuse.
- 1.4.52      If there is raised concern, the healthcare professional should follow local child protection policies.

**Surveillance decision**

No new information was identified at any surveillance review.  
We will plan a full update of this guideline.

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**Research recommendations**

**RR – 01      Does routine monitoring of the weight of all low-risk babies during the first 6–8 weeks after birth reduce the incidence of serious morbidities?**

No new evidence was identified that would affect this research recommendation. This research recommendation will be considered again at the next surveillance point.

**RR – 02      What is the impact of the use of the Baby Friendly Initiative (BFI) on breastfeeding uptake and duration in English and Welsh hospitals and community settings?**

New evidence [was found](#) and a full update of this guideline is planned.

**RR – 03      Is the severity of postnatal depression among socially isolated women reduced by the provision of peer social support compared with standard care?**

No new evidence was identified that would affect this research recommendation. This research recommendation will be considered again at the next surveillance point.

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