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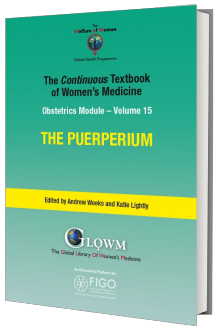

Chapter

Essentials of Postnatal Care for the Mother and Baby

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INTRODUCTION

The global burden of maternal morbidity (or ill-health) related to pregnancy and childbirth is largely unknown but likely to be significant.[1] For every maternal death, it has been estimated that 20–30 women experience significant morbidity requiring healthcare.[2,3] Recent studies show that the burden of pregnancy-related morbidity is high in women living in low- and middle-income-countries (LMIC).[4,5,6,7] It is estimated that 75% of all neonatal deaths occur during the first week of life, and 1 million newborn babies die within the first 24 hours of childbirth.[8] There is less information about the burden of neonatal morbidity available, but it is clear that effective interventions during and after childbirth are critical to reduce maternal deaths, stillbirths and early neonatal deaths (the 'triple return').[9] Ensuring that each individual mother and baby's health needs are met after childbirth is equally important.

Care in the period following childbirth is critical not only for survival, but also for the future health and development of both the mother and her newborn baby including with regard to physical, mental and social health. Postnatal care provides a unique opportunity to provide a full comprehensive and holistic assessment of the mother and her newborn baby. It aims to ensure the mother and baby are healthy, the mother is supported to take care of her newborn baby and is equipped with the information she needs to do so. Additionally, the postpartum period is an important time to discuss and provide family planning options to address a largely unmet need for contraception, commence the immunization schedule for the baby, as well as introduce growth and development monitoring.[10]

Globally, less than half (48%) of all women and babies receive postnatal care.[11] There is increasing evidence that women

living in LMIC and their babies have significant ill-health which is still largely unrecognized.[6] There is a need for a new focus and efforts are required to ensure improved access to and availability and quality of postnatal care, in order to save lives and to improve the health and well-being of the woman and her baby.

POSTNATAL CARE

Postnatal care is the care that is given to the mother and her newborn baby after birth and up to 6 weeks after birth. The term **'early'** or **'immediate' postnatal care** is often used to indicate the first 24 hours after birth, whereas the **'late postnatal period'** is used for the period after 24 hours and up to 6 weeks after birth.[10]

It is important that both the mother and the newborn baby have a full check and assessment within 1 hour of birth, 6 hours after birth, and again within the first 24 hours after birth and before discharge home.[10] For these reasons, mothers are encouraged to remain in the healthcare facility for at least 24 hours following birth, so that both mother and baby can be closely monitored.[10] This also gives the mother a chance to rest. It is recommended that a woman is not discharged until breastfeeding is established.

After the immediate postnatal period, a minimum of three consultations in the first 6 weeks is recommended. A common schedule for this is at 2–3 days after birth, 7–14 days after births, and 6 weeks after birth.[10] In many settings, this means it is important to re-assess which components of postnatal care could be provided at/close to home by community-based or primary care health providers and/or which components can be effectively provided at healthcare facility level.

It is important that good quality care after childbirth is provided by a trained healthcare provider. Care at the time of birth and the immediate postnatal period should be provided by a **skilled birth attendant** who is described as 'an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborn babies'.[12] During later postnatal care visits to a healthcare facility, it is also usually a skilled birth attendant who provides care. At the community level, postnatal care may in practice be provided in part or in full by a range of other cadres of healthcare providers, including in some settings by a community-based health care worker.[13] It is important in all cases that a full complement (content) of postnatal care can be provided at all levels, with clear referral pathways in place for women and/or babies with complications or illness which requires further investigation and management.

Childbirth and the time around childbirth represent an important social and cultural event for the woman and her family. A supportive environment in which a mother, her newborn and family feel well informed and equipped to begin their new life together, is of crucial importance.

Essential components of postnatal care

During all postnatal care consultations, it is important that the mother and baby are seen together by the same healthcare provider and at the same time in a room or area which is warm, light, well ventilated and in which the right amount of privacy can be maintained.

The health and well-being of both the new mother and her baby are central in the postnatal care consultation. Provision of postnatal care allows for a 'debriefing' and discussion of what happened during pregnancy and birth, whether there were any complications or difficulties and what this might mean for future pregnancies. Family planning options should be discussed and offered. The results of any tests and investigations that have been done during and after pregnancy need to be reviewed and discussed with the woman, so she understands possible implications of these. The postnatal period is an opportunity to review maternal co-morbidities and check whether the mother has been screened and treated for HIV, TB, malaria, syphilis, anemia, hypertension or diabetes in pregnancy. In the postnatal period the mother has the opportunity to bond with her new baby, nurture and feed her baby and she will need support and advice, as well as be able to share any worries she may have for herself and her newborn baby.

Supporting breastfeeding

Breasts produce **colostrum** (first milk) during the first few days after birth. It is usually a golden yellow color. Colostrum has a very high concentration of nutrients and helps the baby to fight infections. The amount of breast milk produced

will vary from a few drops to a teaspoon; this is all the baby needs. In some cultures, feeding babies with colostrum is frowned upon and it may require the healthcare provider to explain why it is important that the baby gets colostrum and this is not thrown away. A newborn baby may want to feed quite often, perhaps every hour to begin with. Then the baby will require fewer and longer feeds once the breasts start to produce more milk after a few days. It is important to inform the mother that the more she breastfeeds, the more the newborn's sucking will stimulate her supply and the more milk she will produce. In addition, it is important that the mother is well hydrated and receives good nutrition at this time[14](see Global Aspects of Breastfeeding).

MATERNAL MORBIDITY IN THE POSTNATAL PERIOD

There are a number of 'common' health problems or illnesses which women experience after childbirth and at this time support and advice is invariably needed. This is often referred to as 'routine' postnatal care. These include perineal injury and pain, bladder problems, anemia and management of underlying medical or pre-existing medical problems. In addition, it is important to provide advice on nutrition, personal hygiene, resumption of sexual intercourse and family planning.

Nutrition

Women in the postnatal period need to maintain a balanced and nutritious diet. It is important that a new mother is able to restore her strength and if breast feeding, she will generally be required to eat a greater amount and variety of healthy foods including meat, fish, oils, nuts, seeds, cereals, beans and vegetables. There are frequently local 'taboos' about which foods can and cannot be eaten and it is important to address these wherever possible. It is advisable that iron and folic acid supplementation continues for 3 months after birth. Women who are breastfeeding require additional food and should drink sufficient water or other fluids to maintain hydration.

Personal hygiene

After childbirth, extra care and attention is needed with regard to personal hygiene.

Women should be advised of the need to:

- wash their hands before and after breast feeding
- keeping breasts and nipples clean and dry
- wash their hands well before and after changing pads and using the toilet
- change their pads/pieces of cloth regularly throughout the day
- bathe regularly to keep the perineal area clean.

It is normal for a woman to have an increased vaginal discharge after birth. This discharge is also called **lochia** and consists of mild vaginal discharge usually with some blood during the first 3 days. Lochia is usually odorless and stops after 15–21 days. Bleeding normally stops by 6 weeks after birth, but should be mild (commonly less than during menstruation after the first 1–2 weeks).

It is important to know when to seek care. This could be when the mother or healthcare providers notices:

- change in color of lochia
- increase in the amount of lochia
- offensive smelling lochia
- abdominal pains
- woman is feeling generally unwell.

Offensive smelling lochia with lower abdominal pains and feeling generally unwell with or without fever are usually the signs of endometritis, which may lead to sepsis. Sepsis is a life-threatening form of infection and requires early recognition and treatment.[15]

Perineal injury

Over 85% of women having a vaginal birth will sustain some form of perineal injury of which 60–70% of women need repair with sutures for first and/or second degree tears, and up to 6% of women will experience a third- or fourth-degree tear.[16] It is crucial that third- or fourth-degree tears are identified and repaired by a specialist healthcare provider (medical doctor or trained midwife) usually in theater in the healthcare facility. This is crucial to avoid long-term problems such as flatus or fecal incontinence problems. Details of the perineal trauma sustained, including information on the type of repair and where the wound is sited, should be discussed with the woman, as this will enable her to more effectively manage and monitor her own recovery.

For women who have had an episiotomy or sutured perineal tear the following need to be discussed and managed:

- type of tear
- perineal care and hygiene
- pain relief available
- signs and symptoms of infection – fever, smelly lochia, pain, swelling
- bleeding – normal and abnormal bleeding after birth, bleeding is likely to continue for up to 6 weeks after birth but should gradually reduce
- dietary advice to prevent constipation, and/or laxatives if available
- to contact a healthcare provider if there is ongoing urinary or fecal incontinence.

It is important to keep the perineum wound and surrounding area clean to prevent infection. After going to the toilet, a woman can pour warm water (ideally previously boiled water left to cool, or just clean water) over the vaginal area to rinse it. Pouring warm water over the outer area of the vagina when passing urine may also help ease discomfort.

Sutures

Sutures should be removed if they are not re-absorbable (e.g. silk does not absorb and sutures will need to be removed carefully by a health care provider). Chromic catgut is also commonly used to suture a tear or episiotomy. Catgut lasts about 2–3 weeks after which it ‘dissolves’ or is re-absorbed and sutures do not therefore need to be removed. It is advised that re-absorbable sutures are always used for perineal repair, but these are not always available, especially in low-resources settings.

Pain relief management

At each postnatal care visit, the healthcare provider should ask women about their experience of perineal pain and offer advice on its management. For most women, paracetamol will be the first line of pain management. However, women who have more severe trauma may require stronger analgesia, with oral NSAIDS or oral opiates. If available, rectal suppositories can be given in the first 24 hours after childbirth. Some mothers may experience other persistent symptoms, including dyspareunia (difficult or painful sexual intercourse). Advise the woman to abstain from sexual intercourse until the perineal area has healed. The perineum should be inspected with consent at each postnatal visit to check for signs of a hematoma, dehiscence or infection.

Bladder care

Bladder care is an important aspect of management in the postpartum period. Postpartum voiding dysfunction occurs in a significant number of women, which can potentially cause permanent, damage to the detrusor muscle and long-term complications when left undetected or untreated.[17]

Urinary retention is a relatively common condition in the immediate postpartum period. Traditionally postpartum urinary retention is described as the absence of spontaneous micturition within 6 hours of vaginal delivery. If a woman is not able to void, an ‘in-out catheterization’ (in which a catheter is used to empty the bladder and then immediately removed) might be needed. The situation needs to be monitored carefully. After childbirth, the timing and volume of the first voided urine from a woman should be monitored. Voiding should be encouraged every 2–3 hours in the immediate postpartum period. A fluid balance chart can be helpful in monitoring input and output, especially in the first 24 hours after delivery. Once swelling and pain have subsided, normal micturition will return.

CONTRACEPTION

Provision of family planning services and choice is an essential part of the postnatal care package. The timing and choice of family planning method depends on whether a mother is breastfeeding and on her desire (or not) for more children. It is vitally important that the healthcare provider takes the time to discuss this in detail with the mother and advises her of all the wide range of modern contraceptives available, how each of these methods works and how and where they can be obtained if not in the postnatal clinic (see Postnatal Family Planning) (Table 1).

Table 1 Family planning methods for the postnatal period.[10]

Options for breastfeeding women		
Methods that can be used immediately postpartum: • Female sterilization – within 7 days or delay 6 weeks • Intrauterine contraceptive device – in the 48-hour period after birth or delay until 4 weeks • Abstinence	Methods that must be delayed for 6 weeks • Progestogen-only oral contraceptives • Progestogen-only injectable, implants	Methods that must be delayed for 6 months: • Combined oral contraceptive pill • Combined injectable
Options for non-breastfeeding women		
Methods that can be used immediately postpartum: • Progestogen-only oral contraceptive • Progestogen-only injectable or implant • Female sterilization – within 7 days or delay 6 weeks • Intrauterine contraceptive device – in the 48-hour period after birth or delay until 4 weeks • Abstinence	Methods that must be delayed for 6 weeks: • Combined oral contraceptive pill • Combined injectable	

MEDICAL AND INFECTIOUS MORBIDITY AFTER PREGNANCY

Women who have pre-existing medical conditions (such as asthma, epilepsy, HIV, tuberculosis) may need to change their medication back to pre-pregnancy levels and/or continue with health care at outpatient departments at the relevant health care facility as well as receive postnatal care. If a woman is diagnosed for the first time with a medical condition in pregnancy (such as hypertension, diabetes, HIV), it is essential that she is aware of the diagnosis, treatment and care she will need to access.

It is important that the postnatal care provider sees it as their responsibility to ensure all of the health needs of a woman and her baby are met and that she/he facilitates follow up consultations within other areas of the healthcare facility or organizes referral if needed. If this is not possible during the same postnatal care consultation, then as much as possible, care should be provided in an integrated manner so that there are no delays and gaps in follow-up. Good communication between healthcare providers is essential, so that the woman and her baby are supported by a health team.

ANEMIA

Anemia is very common in women in LMIC and occurs in between 40 and 60% of women.[3,18] It is therefore recommended that all women have hemoglobin measurement after birth. Women who have suffered an antepartum or postpartum hemorrhage will most likely be moderately to severely anemic. For women who have had a hemorrhage it is

important to measure their hemoglobin (again) at 4 days and 10–14 days after being discharged from hospital. Ferrous sulfate and folic acid tablets (treatment dose) should be given. A blood transfusion or intravenous iron treatment need to be considered if the patient is severely anemic.[10]

Table 2 Severity and management of anemia in the postpartum period.[10]

Hemoglobin levels	Classification	Action
<7 g/dl	Severe anemia	Will require a blood transfusion
7–11 g/dl	Moderate anemia	Double dose of iron tablets for 3 months Advise on iron rich foods (red meat, green vegetables)
>11 g/dl	Normal	Preventative iron/folate tablets for 3 months can be given as well as dietary advice

EMERGENCY OBSTETRIC AND NEWBORN CARE

Although the majority of mothers and babies require 'routine' care and advice for common discomforts, some mothers and babies are at risk of life-threatening complications. It has been estimated that almost 50% of maternal deaths occur in the postnatal period and 75% of newborn deaths occur in the first week of life.[8] Therefore, it is important that the healthcare provider is trained and competent to be able to recognize, manage and/or refer women and babies with complications.

Potentially life-threatening complications which occur in the postpartum period include:

In the mother:

- postpartum hemorrhage – mainly in the immediate postpartum period
- puerperal sepsis – in the first weeks following childbirth
- persistent high blood pressure as a result of pre-eclampsia
- puerperal psychosis;

In the baby:

- severe bacterial infections such as sepsis, pneumonia and tetanus
- preterm birth and hypothermia.

The healthcare providers should inform the mother of danger signs for herself and the newborn and advise her to attend a healthcare facility as soon as possible if any of these occur (Tables 3 and 4). The healthcare provider needs to recognize and act on symptoms and signs of potentially life-threatening conditions quickly. It is the responsibility of the healthcare provider to stabilize and refer a woman or her newborn baby to the appropriate level healthcare facility.

Table 3 Maternal danger signs and symptoms of potentially life-threatening conditions.

Symptoms and signs	Diagnosis
Sudden and profuse blood loss or persistent increased blood loss; faintness; dizziness; palpitations/tachycardia	Postpartum hemorrhage
One or more of the following symptoms: • headaches • visual disturbances	Pre-eclampsia/eclampsia

Symptoms and signs	Diagnosis
• persistent nausea • seizures	
Unilateral calf pain; redness or swelling of calves; shortness of breath or chest pain	Deep vein thromboembolism or pulmonary thromboembolism
Fever, shivering, abdominal pain and/or offensive vaginal discharge, red tender breast	Sepsis

Table 4 Newborn danger signs.

Symptoms and signs	Possible diagnosis
Stopped or not breastfeeding well	Infection
Convulsed or fitted since birth	Infection
Fast breathing at a rate of 60 breaths per minutes or more	Infection
Severe chest in-drawing or grunting	Infection/hypoxic–ischemic encephalopathy
High temperature 37.5°C or more	Infection
Low temperature 35.5°C or less	Infection
Vomits after every feed	
Lethargic or unconscious – less active than before	Infection
Movement only when stimulated, or no movement even on stimulation	Respiratory distress/Infection
Floppy or stiff	
Central cyanosis	
>10 skin pustules	Infection
Any jaundice in first 24 hours of life, or yellow palms and soles at any age	Jaundice, pathological if presents within 24 hours
Umbilicus draining pus or umbilical redness extending to skin	Umbilical infection
Bleeding from umbilical stump	Cord clamp has been dislodged/infection

PSYCHO-SOCIAL MORBIDITY

Mental health

The birth of a new baby can lead to many physical and emotional changes, and the mother can experience significant psychological ill health. For example, in a review of studies across LMIC, up to 20% of mothers suffer significant depression after birth.[19] Psychological ill health after pregnancy can have serious consequences for the health and well-being of a mother and her baby, as well as for her partner and other family members.

Screening for psychological ill health

Through screening, it is possible to identify women who have a high risk of depression. The healthcare provider can ask a series of questions to explore whether women may have psychological ill health. Common screening tools include local

adaptions of the Edinburgh Postnatal Depression Score and Whooley questions.[20,21] Women can then be referred and assessed by a specialized healthcare provider.

It is important that healthcare providers understands that women who have psychological ill health may be unwilling to disclose or discuss their problem because of fear of stigma, negative perceptions and may be reluctant to engage with the healthcare provider, and treatment and care for psychological ill health should take into account the woman's individual needs and preferences. Women with psychological ill health during and after pregnancy should have the opportunity to make informed decisions about their care and treatment in partnership with their healthcare providers. Good communication between healthcare providers and women, their husbands/partners, and family is essential. The treatment, care and information women are given regarding psychological ill-health should be culturally appropriate.[22]

COUNSELING AFTER ADVERSE INCIDENTS DURING PREGNANCY OR CHILDBIRTH

A serious adverse incident is defined as any event or circumstance that led or could have led to serious unintended or unexpected harm, loss or damage to women and/or their newborn baby.

Adverse clinical events can have a devastating effect, not only on the mother and baby, but also on the healthcare providers involved in the event. Healthcare providers involved in adverse clinical incidents, whether directly or indirectly may need support. Support can take the form of someone to talk to, debriefing, help with writing statements or reflection.

Healthcare providers can support women who wish to talk about their experience, encourage them to make use of support systems available from family and friends, and consider the effect of the birth on the partner/husband. Health and well-being are not just physical components.

1. Healthcare providers should be aware of and responsive to possible variations in individual and cultural approaches to severe adverse incidents.
2. Counseling should be offered to all women and their partners/husbands.
3. Other family members, especially existing children and grandparents should also be considered for counseling.
4. Each woman's experience and reaction is subjective and individual.
5. Effective communication and empathy are essential aspects of care when counseling women after a serious adverse incident

DOMESTIC VIOLENCE

Domestic violence also often called 'gender based violence' or intimate partner violence' can be defined as "any act of gender-based violence that results in or is likely to result in physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life".[23]

The abuse can encompass, but is not limited to:

- psychological
- physical
- sexual
- financial
- emotional.

A woman who is experiencing domestic violence may have difficulty accessing postnatal care services. The perpetrator of the abuse may try to prevent her from attending appointments. The woman may be afraid that disclosure of the abuse to a healthcare provider will worsen her situation and healthcare providers require training to counsel and support women.[24]

Screening for domestic violence

Screening for domestic violence needs to occur at various times over the course of the pregnancy as most women will not disclose violence the first time they are asked. Violence may also begin later in pregnancy. Women should be screened for domestic violence at the first antenatal visit, throughout their pregnancy and at each postnatal visit. An example of a short, efficient, easy to use method of screening for domestic violence is the 'HITS' (Hurt, Insult, Threaten and Screamed at) tool.[25]

Management

Women who experience domestic violence can be supported as follows:

1. Inform the woman that the information she discloses will be kept in a confidential record and will not be included in her handheld record.
2. Provide information and support tailored to the specific needs of the woman.
3. Provide a more flexible series of appointments if needed.

Information and support for women who suffer domestic abuse

Offer the woman information about other healthcare providers, including non-governmental organizations or charities which provide supportive counseling for women who experience domestic violence.[25]

POSTNATAL CARE AFTER A CESAREAN SECTION

A woman who has had a cesarean section whether as an elective (planned) or emergency procedure requires additional care during the postnatal period.

Early skin-to-skin contact between the woman and her baby should be encouraged and facilitated because it improves maternal perceptions of the infant, mothering skills, maternal behavior, and breastfeeding outcomes. Women who have had a cesarean section should be offered additional support to help them to start breastfeeding as soon as possible after the birth of their baby. This is because women who have had a cesarean section are less likely to start breastfeeding in the first few hours after the birth due to postoperative pain, but, when breastfeeding is established, they are as likely to continue as women who have a vaginal birth.[14]

Pain management after cesarean section

Women who have had a cesarean section should be prescribed and encouraged to take regular analgesia for postoperative pain. Examples of analgesics are given in Table 5.

Table 5 Drugs and dosages for relief after cesarean section.

Analgesia	Dosage
Morphine (IM)	5–10 mg (4 hourly)
Pethidine (IM)	50 mg (6 hourly)
NSAIDs (e.g. diclofenac PO)	50 mg (8 hourly)
Dihydrocodeine (PO)	30 mg (every 4–6 hours – maximum dose in 24 h is 180 mg)
Paracetamol (PO)	1 g 4–6 hourly

Wound care

Cesarean section wound care should include:

- changing the dressing 24 hours after the cesarean section
- specific monitoring for infection (increased pulse rate, respiratory rate, temperature).

Infection prevention:

- assess the wound for signs of infection (such as increasing pain, redness or discharge), separation or dehiscence
- gently clean and dry the wound daily
- check for wound hematoma
- plan for the removal of sutures or clips at day 5–7
- if women are showing signs of infection post cesarean section, they should be treated with antibiotics based on the severity of infection and local protocols and antibiotic resistance.

Bladder care:

- removal of the urinary bladder catheter should be carried out once a woman is mobile
- it is important to check that good volumes of urine are passed regularly and monitor for any signs of retention (no urine passed in a 6-hour timeframe); re-catheterization may be necessary to prevent damage to the innervation of the bladder secondary to hyperdistension
- healthcare providers caring for women who have urinary symptoms should consider the possible diagnosis of urinary tract infection or stress incontinence. a urinary fistula would present as continuous leakage of urine and may also be a complication of cesarean section.

Bowel care:

- check that a woman who has had a cesarean section has passed flatus within 12 hours. Failure to pass flatus especially when accompanied by excessive pain and abdominal distension may be a sign of paralytic ileus. Listen for bowel sounds. Most women experiencing ileus will recover within 24 hours of conservative treatment with nil by mouth and intravenous hydration
- check that the woman who has had a cesarean section has passed feces within 24–48 hours. If passing flatus but not feces, laxatives may help
- women who have had an uncomplicated cesarean section and who do not have complications can drink immediately after the procedure and eat when they feel hungry.

Risk of thrombo-embolism:

- women who have had a cesarean section are at increased risk of thromboembolic disease (both deep vein thrombosis and pulmonary embolism)
- encourage early and frequent mobilization (sitting in a chair, walking around, getting up from the bed) to prevent thrombosis and pulmonary embolism
- healthcare providers need to pay particular attention to women who have chest symptoms (such as cough, chest pain of sudden onset or shortness of breath) or leg symptoms (such as painful swollen calf).

Resuming activities:

- women who have had a cesarean section should resume activities such as carrying heavy items and sexual intercourse only once they have fully recovered from the cesarean section. This may take up to 6–8 weeks.

Vaginal birth after a cesarean section

It is important that the woman knows and understands the reason(s) why she had a cesarean section. Before discharge and at subsequent postnatal care visits ensure the woman is again debriefed; discuss the indication for the cesarean section and make a plan for any subsequent pregnancies. All women with a previous cesarean section should be advised to deliver in healthcare facilities for subsequent pregnancies.

1. Planned vaginal birth after cesarean section is appropriate for and may be offered to the majority of women with a singleton pregnancy of cephalic presentation at 37+0 weeks or beyond and those who have had a single previous lower segment cesarean delivery, with or without a history of previous vaginal birth.
2. Planned vaginal birth after cesarean section is contraindicated in women with previous uterine rupture or classical cesarean scar and in women who have other absolute contraindications to vaginal birth that apply irrespective of the presence or absence of a scar (e.g. major placenta previa). However, all women with a previous cesarean section should deliver in a healthcare facility for subsequent pregnancies.

SUMMARY

Childbirth and the time around childbirth is an important and significant event in families' lives that is often governed by societal and cultural norms. There is emerging evidence of a significant burden of ill health (including physical, psychological and social morbidity) in women (and their babies) during and after childbirth. Postnatal care provides a 'window of opportunity' for healthcare providers to provide a full comprehensive and holistic assessment of the health and well-being of the mother and her newborn baby, in a way that meets their individual health needs.

Well trained and empathic healthcare providers can provide good quality postnatal care to detect and manage ill health and to ensure the provision of a supportive environment in which a mother, her newborn and family are well informed and equipped to begin their new life together.

PRACTICE RECOMMENDATIONS

The postnatal care schedule[10]

Immediate postnatal care	• **In 1st hour after birth, after 6 hours, after 24 hours and additional monitoring of all vital signs in mother and baby if there are any complications**
Later postnatal care	**A minimum of 3 further postnatal care consultations:** • **Between days 2 and 3 after childbirth** • **Between days 7 and 14 after childbirth** • **At 6 weeks after childbirth**

The postnatal care content

During each postnatal care visit the following are points to check through a discussion with the mother and examination of both the mother and her baby:

History	
General	• **Does she feel well? Does she have any concerns about the baby or her own health? Is the baby feeding well?**
Previous obstetric information	• **Previous pregnancies (G)** • **Previous births (P) live births or stillbirths?** • **Previous miscarriages? (<24 weeks) (+)** **e.g. G_3P_{2+1}**
Complications	**Were there any complications during pregnancy or birth?**

during pregnancy	**Review any risk factors or complications the mother experienced during her pregnancy:** • **Sepsis/infection (premature rupture of membranes, abnormal vaginal discharge): check all clinical observations, is she receiving or did she receive antibiotics?** • **Hemorrhage: what was the estimated blood loss? Did the mother receive a blood transfusion? Check Hb level** • **Pre-eclampsia: check blood pressure, check urine for proteinuria, is the mother receiving any anti-hypertensives?**
Childbirth	• **Date and place of birth** • **Mode of birth – spontaneous vaginal birth, ventouse or forceps, cesarean section?** • **Perineal tear or episiotomy?**
Past medical history	• **Are there any underlying medical conditions or co-morbidities for which the mother and baby require follow-up, e.g. HIV, tuberculosis, malaria, syphilis or other STI, hypertension, diabetes?**
Family planning	• **Has she commenced or does she want to start a method of family planning?**
Psychosocial assessment	• **Is the mother happy, peaceful, and content or is she anxious, restless, and unhappy? Is the woman feeling low, any thoughts of self-harm? What are her social circumstances? Does she feel safe at home?**
Examination of the mother	
General	• **General demeanor – is the mother looking happy, peaceful, content or is she anxious, restless, unhappy, is she in pain** • **Pulse, blood pressure, temperature, respiratory rate**
Breasts	• **Examine for skin changes, swelling, abscess, excoriation of nipples, nipple discharge** • **Check lymph glands in axillae and above clavicles**
Uterus	• **Check fundal height: In the immediate postnatal period the uterus will generally be palpable 1–2 fingers above the umbilicus but this should be below the umbilicus in week 1 and then reduce to should be normal size (not abdominally palpable) by week 6).** • **Assess uterine firmness: the uterus should be firm. Sub-involution and a 'boggy' or 'soft' uterus may be an indication of partial retained placenta and/or or membranes and/or endometritis (infection in the uterus)** • **Check for signs of puerperal infection (fever, foul smelling vaginal discharge/lochia)**
Perineum	• **Inspect the perineum for vaginal tears or an episiotomy wound, assess healing of these.** • **Assess the type and amount of bleeding/lochia/vaginal discharge**
Bladder (urine output)	• **Assess for urinary incontinence: screen for urge -, stress- and continuous-incontinence** • **In women with continuous leakage of urine and history of prolonged obstructed labor, assess for obstetric fistula**
Legs	• **Check that both legs are soft and non-tender, symmetric in size, assess for deep vein thrombosis**
Examination of the baby	
General	• **Is the baby peaceful, breathing regularly or irritable, crying and seemingly uncomfortable?** • **Check: pulse, breathing, temperature**

	• **Check the eyes for conjunctivitis, pus**
	• **Check the mouth for tongue-tie**
Growth	• **Is the baby feeding well? Breastfeeding or other?**
	• **Measure: weight and length**
Lungs	• **Assess breathing – is breathing regular? Is there any in-drawing of the chest?**
Abdomen	• **Assess the abdomen: is the abdomen soft and not distended?**
	• **Is the cord stump dry?**
	• **Is the anus open?**
Arms and Legs	• **Are arms and legs moving well? Are all toes and fingers complete?**
Other	• **Have the required immunisations been provided? Does the mother have a baby monitoring chart? Does she know when to come to the next clinic?**

CONFLICTS OF INTEREST

The authors of this chapter declare that they have no interests that conflict with the contents of the chapter.

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