Essential interventions for safer maternal and newborn health

Guide to support implementation by practitioners

Improving the quality of maternal and newborn health care services through accelerated implementation of the essential interventions by the health care professionals associations

International Confederation of Midwives

Strengthening Midwifery Globally

UGANDA PRIVATE MIDWIVES ASSOCIATION

international pediatric association

The team

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Acknowledgements

Project implementers: FIGO, ICM and IPA and respective national affiliates AOGU, UPMA and UPA in collaboration with IECS
Partners: Laerdal and Glowm
Funder: PMNCH
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Edited and designed by www.portfoliopublishing.com

Published by International Federation of Gynecology and Obstetrics (FIGO), 2014
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Reference

Jacob S, Kwizera A, Ngonzi J, Amongin D, Byaruhanga R, Namisi CP, Okaba VK, Achan J, Naiga P, Kasirye C, Mugumya D and Musoke MG (2014) *Essential Interventions for Safer Maternal and Newborn Health. Guide to Support Implementation by Practitioners. Improving the quality of maternal and newborn health care services through accelerated implementation of the essential interventions by the health care professionals associations*. London, United Kingdom: FIGO, ICM, IPA, AOGU, UPMA, UPA Joint Initiative.
Available at www.figo.org/figo-project-publications – see FIGO-ICM-IPA Essential Interventions Project – and also at www.internationalmidwives.org and www.ipa-world.com

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This resource has been produced to assist with dissemination of selected essential interventions and their implementation in clinical practice to improve maternal and newborn outcomes.

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The health care professionals associations: joint initiative rationale

- PMNCH funded phase 1 of **the first project to promote joint working across the three health care professionals associations (HCPAs)** – FIGO, ICM and IPA – at international and national levels to guide best practice and effective implementation of stability, structures, systems and commitment to reach health providers at all levels.

- This joint initiative recognises that **engaging HCPAs, health facilities, the Ministry of Health, academic institutions and civil society** is vital in the continuous dissemination and implementation of the essential interventions for maternal and newborn health.

- Uganda was selected as the first country to test the effects and effectiveness of a **package of activities to strengthen the essential interventions and joint work by obstetricians, midwives and pediatricians in health facilities**. This booklet was used to guide dissemination activities and aims to bridge the 'know-do gap'.

- The package of activities was built on an evidence-based conceptual framework, supported by a communication strategy. It included dissemination workshops, development of reminders, birth simulation sessions, team building, case reviews and academic visits in the wards.

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Project strategy

- The eight selected essential interventions focus on the birth and postnatal period.
- This covers a **critical period for mothers and newborns** and offers an opportunity for obstetricians, midwives and pediatricians to work collaboratively to improve maternal and health outcomes.

Sample cards and checklists

List of essential interventions

Complete **1** (for Yes) or **0** (for No)

Check: The specific EI was observed during the academic visit.

CHECK

1. Social support during childbirth.
2. CS prophylactic antibiotics.
3. PPH prophylactic uterotonics.
4. Induction of labour for prolonged pregnancy.
5. Thermal care (immediate drying, warming, skin-to-skin, delayed bathing).
6. Early initiation and exclusive breastfeeding.
7. Kangaroo mother care (KMC) for preterm and babies <2000g.
8. Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome.

Individual 3

Academic visits (activity 3)

Academic visits are part of the package of activities for **observation of practice** and support on **quality of care**.

What?

1. Academic visits are done by facilitators to support and motivate health providers to implement essential interventions.
2. Facilitators visit the wards (labour, postnatal, special care), about one hour visit in total, spending 20 minutes with one health provider, and reach three health providers per visit.

How? Checklist

3. Discuss with health provider the care of women/babies where the selected eight essential interventions are applicable (5 minutes).
4. Observe health provider giving care (10 minutes).
5. Ask health provider to outline the impact of dissemination of essential interventions on his/her practice (5 minutes).
6. Complete your findings on the back of this card.
7. In the event of major challenge relating to implementation of essential intervention, discuss it with the health facility coordinator as soon as possible.
8. Discuss your findings at a group meeting with other facilitators.
9. After the discussion, place this individual card in the box.

Group 2

Use of reminders (activity 2)

Individual 2

Facilitator

Obstetrician

Midwife

Pediatrician

Pediatric nurse

Eight selected essential interventions

- Each essential intervention (EI) is presented in individual memory cards which include a summary of evidence, references and practice tips for implementing the essential intervention.

	CHILDBIRTH	NEWBORN
General EI	Social support during childbirth (priority intervention).	Promote and provide thermal care for all newborns to prevent hypothermia (immediate drying, warming, skin-to-skin, delayed bathing).
	Prophylactic uterotonic to prevent postpartum haemorrhage.	Promote and support early initiation and exclusive breastfeeding (within the first hour).
Specific EI	Prophylactic antibiotics for caesarean section.	Kangaroo mother care (KMC) for preterm and babies <2000g.
	Induction of labour for prolonged pregnancy.	Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome.

1. Social support during childbirth by health care professionals or companions

Summary of evidence

- Reduced the risk of caesarean sections and antenatal hospital admissions.
- Reduced the need for pain relief analgesics.
- Increased rate of terminations.
- Lower overall health risks for mothers.
- Did not reduce the number of preterm or perinatal mortality.

Hodnett ED, Gates S, Hofmeyr GJ and Sakala C (2003) Continuous support during childbirth. *Cochrane Library*. Issue 4.

Gjerdingen DK, Froberg DG and Fontaine P (1991) The effects of social support on women's health during pregnancy, labor and delivery, and the postpartum period. *Family Medicine*. 23(5):370–75.

The Partnership for Maternal, Newborn & Child Health (2011) *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH*). Geneva: PMNCH.

Langer A (2011) Support during pregnancy for women at increased risk of low birth weight babies. *RHL Commentary*. Geneva: WHO Reproductive Health Library, World Health Organization. Available at http://apps.who.int/rhl/pregnancy_childbirth/childbirth/routine_care/CD000198_langera_com/en/

Implementation of EI: practice tips

What? (Use WHO definition of social support in labour)

1. When the woman arrives, how welcoming are the facility and the staff? Are women encouraged to have companions throughout labour?

How?

2. Relationships with mothers need to be trusting and open.
3. Mothers treated with kindness, dignity, respect and privacy.
4. Staff competent in clinical skills and information giving. For example, give explanations about all procedures and encourage the woman to move about in labour, and offer light refreshments and encouragement.

Major change in practice

- **Discussion about improving facility environment to promote the role of companions throughout labour.**
- **Staff challenged for poor behavioural norms.**
- **All complaints by mothers taken seriously and investigated and staff held accountable.**
- **Social support to be recorded in clinical notes.**

2. Uterotonic to prevent postpartum haemorrhage

Summary of evidence

- Routine uterotonic agents to prevent postpartum haemorrhage can reduce maternal mortality by 40%.
- Lack of trained personnel and refrigeration to store oxytocic agents undermine the potential for implementing the active management of third stage labour.
- Misoprostol, an oral preparation of prostaglandin (PGE_1) analogue, with its uterotonic properties: ease of use as an oral, vaginal or rectal preparation; relatively low cost in some areas; and stability of the drug efficacy at high temperature whilst suitable is not as effective – incidence of PPH with misoprostol was 4% compared to 3% with oxytocin.
- Regular palpation of uterus after delivery to ensure it remains contracted – putting the baby to the breast at this stage helps.

Miller S, Lester F and Hensleigh P (2004) Prevention and treatment of postpartum hemorrhage, new advances for low-resource settings. *J Midwifery Women's Health*. 49(4):283–92.

World Health Organization (2012) *Recommendations for the Prevention and Treatment of Postpartum Haemorrhage*. Geneva: WHO. Available at http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502_eng.pdf?ua=1
Evidence base available at http://apps.who.int/iris/bitstream/10665/75519/1/WHO_RHR_12.29_eng.pdf?ua=1

Implementation of EI: practice tips

What?

1. Prophylactic uterotonic and active management of third stage of labour (AMTSL) to reduce the risk of postpartum haemorrhage.

How?

2. A uterotonic, preferably oxytocin, 10 IU IM immediately after all births, including caesarean sections.
3. Regular updating of knowledge to manage the third stage of labour using uterotonic.
4. Review storage and availability of oxytocin for all women.
5. Regular case reviews of women diagnosed with PPH to learn lessons.

Major change in practice

- **Delayed cord clamping (1–3 minutes after birth).**
- **Regular and frequent assessment of uterine tone by palpation of the uterine fundus after delivery of the placenta.**

3. Prophylactic antibiotics for caesarean section

Summary of evidence

- Reductions in all maternal morbidity primary outcomes: febrile morbidity wound infection and serious infectious morbidity.
- Administration of antibiotics before or after clamping of the cord is equally effective for women undergoing caesarean section.
- Adverse effects of antibiotics on the baby have not been evaluated.

Baaqeel H and Baaqeel R (2013) Timing of administration of prophylactic antibiotics for caesarean section: a systematic review and meta-analysis. *BJOG*. 120(6):661–69.

Smaill F and Hofmeyr GJ (2002) Antibiotic prophylaxis for cesarean section. *Cochrane Database Syst Rev.* (3):CD000933.

Bastu E and Gulmezoglu AM (2012) Antibiotic prophylaxis versus no prophylaxis for preventing infection after cesarean section. *RHL Commentary*. Geneva: WHO Reproductive Health Library, World Health Organization. Available at http://apps.who.int/rhl/pregnancy_childbirth/childbirth/caesarean/cd007482_bastue_com/en/index.html

Implementation of EI: practice tips

What?

1. Administering prophylactic antibiotics to women prior to caesarean section reduces morbidity and mortality due to infections.

How?

2. Prophylactic antibiotics should be prescribed and administered to all women undergoing a caesarean section.
3. This should be recorded in the notes by the person who administers it.
4. Records of infection rates in women during childbirth should be kept in maternity units.
5. All women should have their temperature, wound site and other signs of infection observed.
6. There should be a high standard of hygiene in the maternity facility and aseptic techniques followed during all surgical procedures.

Major change in practice

- **All women undergoing caesarean section receive prophylactic antibiotics.**
- **Improve documentation relating to prophylactic antibiotics.**

4. Induction of labour for prolonged pregnancy

Summary of evidence

- Usually recommended for pregnancy over 41 weeks (> 40 weeks + 7 days).
- Caution is required because the procedure carries the risk of uterine hyperstimulation and rupture, and fetal distress.
- Induction of labour is recommended for women with pre-labour rupture of membranes at term (high-quality evidence).
- Oral misoprostol (25 μg, 2-hourly) or vaginal low-dose misoprostol (25 μg, 6-hourly) is recommended for induction of labour.
- Sweeping membranes is recommended for reducing formal induction of labour.
- Induction for medical indications may be associated with poorer outcomes due to maternal baseline risks.

Vogel JP, Souza JP and Gülmezoglu AM (2013) *Patterns and Outcomes of Induction of Labour in Africa and Asia: A Secondary Analysis of the WHO Global Survey on Maternal and Neonatal Health*. Available at http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0065612

Sanchez-Ramos L (2005) Induction of labor. *Obstet Gynecol Clin N Am*. 32:181–200.

World Health Organization (2011) *WHO Recommendations for Induction of Labour*. Geneva: WHO. Available at http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/9789241501156/en/

Implementation of EI: practice tips

What?

1. Awareness of the commonly recorded indications for induction of labour.
2. Induction for prolonged pregnancy improves perinatal outcome.

How?

3. Women receiving oxytocin, misoprostol or other prostaglandins should never be left unattended.
4. Women having induction of labour should be monitored using a partograph, with special attention to the strength, length and frequency of contractions and the pain threshold.
5. They may require additional pain relief and careful monitoring.

Major change in practice

- **Improve the rates of induction of labour for prolonged pregnancy.**
- **Develop a standard for induction of labour in women with prolonged pregnancy.**

5. Thermal care (immediate drying, warming, skin-to-skin, delayed bathing)

Summary of evidence

- Hypothermia has been defined by WHO as body temperature below the normal range (36.5°C–37.5°C) and has been sub-classified into three grades: mild (36.0°C–36.5°C), moderate (32.0°C–35.9°C) and severe (<32.0°C) hypothermia – the most common preventable cause of neonatal mortality and morbidity. Baby should be re-warmed immediately and gradually.
- Early breastfeeding initiation, skin-to-skin contact, delayed bathing, and immediate wrapping and drying, as well as hygiene (clean delivery and cord care), resulted in a 54% reduction in neonatal mortality.
- The most common methods to re-warm a baby are to wrap him/her in a dry, soft cloth that covers the head, use of radiant heaters, and a heated bed in combination with incubators.

Kumar V, Shearer JC, Kumar A and Darmstadt GL (2009) Neonatal hypothermia in low resource settings: a review. *J Perinatol*. 29:401–12.

World Health Organization (1996) *Essential Newborn Care*. Geneva: WHO.

Implementation of EI: practice tips

What?

1. Babies have a large surface area, compared to their body mass, they are wet at birth and are also used to a warm uterine temperature so they lose heat very rapidly. Drying and wrapping the baby immediately after birth is recommended.

How?

2. Place of birth must be warm, with facilities to dry the baby with absorbable cloth.
3. Commence skin-to-skin contact and delay bathing the baby as well as dressing him/her, and covering the head.
4. After skin-to-skin contact is finished (for at least one hour), dress the baby but delay the bathing for at least six hours.
5. Encourage skin-to-skin contact with mother. If the baby is cold, use the radiant heaters.
6. Check baby's temperature and check the baby's behaviour for slow feeding and lethargy.
7. Record thermal care of baby in case notes.

Major change in practice

- **Record thermal care received by newborn at birth.**

6. Early initiation and exclusive breastfeeding

Summary of evidence

- WHO recommends all infants should be fed exclusively on breast milk from birth to six months of age.
- Babies who are not fully breastfed for the first 3–4 months are more likely to suffer from gastroenteritis, respiratory and ear infections, urinary tract infections, allergies and diabetes mellitus.
- Breastfeeding education, peer support for women, needs-based, one-to-one, informal education or support sessions are most effective.
- Information produced by commercial milk companies is not useful.

White AL, Carrara VI and Paw MK et al (2012) High initiation and long duration of breastfeeding despite absence of early skin-to-skin contact in Karen refugees on the Thai-Myanmar border: a mixed methods study. *International Breastfeeding Journal*. 7:19.

Mahmood I, Jamal M and Khan N (2011) Effect of mother-infant early skin-to-skin contact on breastfeeding status: a randomized controlled trial. *J Coll Physicians Surg Pak*. 21(10):601–05.

World Health Organization (n.d.) *Early Initiation of Breastfeeding*. Available at http://www.who.int/elena/titles/early_breastfeeding/en/

Implementation of EI: practice tips

What?

1. When the baby is born, make sure he/she is put to the breast within the first hour of birth.

How?

2. Assist the mother with positioning the baby to breastfeed as she may be tired after labour. Supervise her if she has had medication or an operative birth.
3. Encourage skin-to-skin contact.
4. Support and reassure the mother to gain confidence in her ability and explain the benefits of early feeding as colostrum is highly nutritious.

Major change in practice

- **Focus on starting breastfeeding during the first hour of birth.**
- **Encourage the mother and support her if there are difficulties or problems.**
- **Address barriers that may hinder promotion of breastfeeding in the first hour after labour.**
- **Be confident of your knowledge of physiology of lactation. There is no such thing as inadequate supply of milk.**

7. Kangaroo mother care (KMC) for preterm and babies <2000g

Summary of evidence

- Kangaroo mother care (KMC) came about as a response to the high death rate in preterm babies seen in Bogota, Colombia, in the late 1970s. Death rate for premature infants was 70%.
- Studies comparing incubator and kangaroo mother care found that heart rate and abdominal skin temperature rose for infants during KMC. Heat loss did not occur during KMC, and infants slept more during KMC. Kangaroo mother care had a comforting effect on infants and their mothers. Apnoea and periodic breathing episodes dropped during KMC.

Ludington-Hoe SM, Thompson C, Swinth J, Hadeed AJ and Anderson GC (1994) Kangaroo care: research results, and practice implications and guidelines. *Neonatal Netw.* 13(1):19–27.

Conde-Agudelo A and Diaz-Rossello JL (2014) Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. *Cochrane Database Syst Rev.* (4):CD002771.

Karlsson V, Heinemann AB and Sjors G et al (2012) Early skin-to-skin care in extremely preterm infants: thermal balance and care environment. *J Pediatr.* 161:422–26. Available at http://www.careperinatologia.it/lavori/L218.pdf

Kangaroo Mother Care: Support for Parents and Staff of Premature Babies. Website at http://www.kangaroomothercare.com/premature-babies.aspx

Implementation of EI: practice tips

What?

1. Kangaroo mother care is a low cost procedure which is effective in improving health outcomes for preterm babies.

How?

2. Encourage all mothers to practice kangaroo mother care.
3. Practice techniques of tying a cloth to support the baby next to mother's chest making sure both are comfortable.
4. Hold demonstration sessions and displays of kangaroo mother care.

Major change in practice

- **Promote kangaroo mother care for small babies.**
- **Education of mothers.**
- **Improve record keeping.**

8. CPAP to manage preterm babies with respiratory distress syndrome

Summary of evidence

- Comparing CPAP and surfactant treatment, CPAP recipients required less frequent intubations or postnatal corticosteroids and fewer days of mechanical ventilation, and were more likely to be alive and free from the need for mechanical ventilation by day.
- All babies who require respiratory support other than oxygen as a result of respiratory disease in the immediate neonatal period should be intubated with an endotracheal tube on delivery suite, given surfactant when appropriate and receive intermittent positive pressure ventilation until they arrive on the neonatal unit. If gases are acceptable, rapid weaning should take place and baby should be transferred onto CPAP or head box oxygen depending on birth weight.

Hameed NN, Abdul Jaleel RK and Saugstad OD (2014) The use of continuous positive airway pressure in preterm babies with respiratory distress syndrome: a report from Baghdad, Iraq. *J Matern Fetal Neonatal Med.* 27(6):629–32.

SUPPORT Study Group of the Eunice Kennedy Shriver NICHD Neonatal Research Network (2010) Early CPAP versus surfactant in extremely preterm infants, *N Engl J Med.* 362(21):1970–79.

Implementation of EI: practice tips

What?

1. Continuous positive airway pressure (CPAP) is a type of respiratory support. In premature babies, CPAP is delivered through a set of nasal prongs or through a small mask that fits snugly over a baby's nose when intubation is difficult.

How?

2. Preterm babies who have recurrent apnoea and require frequent stimulation may benefit from CPAP.
3. Nasal CPAP is effective when endotracheal intubation equipment is not available.
4. When weaning babies from CPAP, it is important to consider reducing pressure and duration. This needs to be gradual and in tandem with baby's response to CPAP withdrawal.

Major change in practice

- **Frequent training sessions on CPAP are essential to keep skills and competency updated.**
- **Staff should be familiar with assembling CPAP equipment.**
- **Skills in improvising the equipment to provide CPAP is essential in low income settings.**
- **Improved record keeping.**

Abbreviations and acronyms

AMTSL	Active management of third stage of labour
AOGU	Association of Obstetricians and Gynecologists of Uganda
CPAP	Continuous positive airway pressure
CS	Caesarean section
EI	Essential interventions
FIGO	International Federation of Gynecology and Obstetrics
GLOWM	The Global Library of Women's Medicine
HCPAs	Health care professionals associations
ICM	International Confederation of Midwives
IECS	Institute for Clinical Effectiveness and Health Policy
IPA	International Pediatric Association
KMC	Kangaroo mother care
PGE_1	Prostaglandin E1
PMNCH	Partnership for Maternal, Newborn & Child Health
PPH	Postpartum haemorrhage
UPA	Uganda Paediatric Association
UPMA	Uganda Private Midwives Association
WHO	World Health Organization

Personal notes

*This booklet can be used for the introduction/**orientation of new students**; it will help to show them that you need to do this, you need to do that.*

Obstetrician

It has been emphasised that it's good for the mother to hold her baby. For us [midwives], if you give the mother her baby when you're suturing, it eases the work of suturing because these mothers protect their babies and concentrate on the baby while you suture, so the mother won't focus on what you're doing.

***Skin-to-skin is done** but duration is the problem! When there are no tears, that's when the mother doesn't get a chance to keep her baby for a long time! You want to clean the mother, for which the mother needs to turn around, and it's more difficult to clean the mother while she holds her baby, but we need to practice more.*

Midwife

*Most midwives wanted to first weigh and dress the baby; even in mothers it's engrained that the baby needs to be dressed... It helps when senior colleagues do skin-to-skin, because it helps to **stick in everyone's minds!***

Midwife

This booklet is easy to use and speaks for itself

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*Thinking about life after the project – these cards can be extremely useful for **appraisals**.*

Pediatrician