

## KANGAROO MOTHER CARE

This module on Kangaroo Mother Care is designed to complement pre-service and in-service education of nursing personnel involved in care of newborn babies.

### LEARNING OBJECTIVES

After learning through this module participants will be able to :

- **Distinguish between kangaroo mother care (KMC) and skin-to-skin care at birth**
- **List the components and prerequisite of KMC**
- **Enumerate the benefits of KMC and describe the procedure**
- **Discuss how to counsel a mother for KMC initiation**

### MODULE CONTENTS

The module includes following elements:

- **Text material:** Easy to read format for quick reproduction and essential reference material for the participants. Key messages are highlighted in the boxes.
- **Clinical skills:** Practising skills of initiation and supporting KMC in actual case scenarios in a hospital setting.
- **Demonstration:** There will be a demonstration on practice and procedure of KMC using a poster.
- **Video Film:** Learn how to initiate KMC. Listen to the views of mothers, family members, and health professionals regarding KMC.
- **Role-play:** Observe steps of counseling a mother for initiation of KMC. Participants will also be provided with an opportunity to do role play.
- **Self-evaluation:** At the end of text, self evaluation based on what has been learnt is included. If you need to recapitulate, feel free to refer to text material.

### 1. WHAT IS KANGAROO MOTHER CARE?

Kangaroo mother care (KMC) is a simple method of care for low birth weight babies. This includes early, prolonged and continuous skin-to-skin contact with the mother (or any caregiver) and exclusive and frequent breastfeeding (optimal feeding). This natural form of humane care stabilises body temperature, promotes breastfeeding and prevents infection. KMC is initiated in the hospital and continued at home as long as the baby needs and likes it.

KMC must not be confused with routine early skin-to-skin care at birth. The World Health Organization (WHO) recommends skin-to-skin care immediately after birth for every newborn to ensure that all babies stay warm in the first hours of life helps in early initiation of breastfeeding. This intervention for all newborns, irrespective of weight, promotes newborn transition and promotes exclusive breastfeeding

#### 1.1 The two components of KMC are:

##### i. Skin-to-skin contact

Early, continuous and prolonged skin-to-skin contact between the mother and her baby is the basic component of KMC. The infant is placed on her mother's chest between the breasts.

##### ii. Exclusive breastfeeding

The baby on KMC is breastfed exclusively. Skin-to-skin contact promotes lactation and thus facilitates exclusive breastfeeding.



### ***Skin-to-skin contact of the infant on the mother's chest***

#### **1.2 The two pre-requisites of KMC are:**

- i. ***Support to the mother in hospital and at home***  
A mother needs counseling, support, and supervision from healthcare providers for initiating KMC in the hospital. She also requires assistance and cooperation from her family members for continuing KMC at home.
- ii. ***Post discharge follow-up***  
KMC is continued at home after early discharge from the hospital. A regular follow up and access to healthcare providers for solving problems, if any, are crucial to ensure safe and successful KMC at home.

#### ***Components of KMC***

- *Skin-to-skin contact*
- *Exclusive breastfeeding*

#### ***Pre-requisites of KMC***

- *Support to the mother in hospital and at home*
- *Post-discharge follow up*

## **2. BENEFITS OF KMC**

- i. ***Breastfeeding***  
Studies have revealed that KMC results in increased breastfeeding rates as well as duration of breastfeeding. Even if initiated late and practiced for a limited duration, KMC has still been shown to exert a beneficial effect on breastfeeding.
- ii. ***Thermal control***  
Prolonged skin-to-skin contact between the mother and her preterm/ LBW infant stabilizes the baby's body temperature with a reduced risk of hypothermia. For stable babies, KMC is nearly equivalent to incubator care in terms of safety and thermal protection.
- iii. ***Early discharge***  
Studies have shown that KMC cared LBW infants could be discharged from the hospital earlier than the conventionally managed babies. The babies gain more weight on KMC than on conventional care. At least a minimum of 6-8 hours per day and at least more than one hour per sitting should be practiced to get maximum benefit.
- iv. ***Less morbidity and mortality***  
Babies receiving KMC have more regular breathing and less predisposition to apnea. KMC protects against nosocomial infections. Even after discharge from the hospital, the morbidity amongst babies managed by KMC is less. KMC is associated with reduced incidence of severe illness including pneumonia during infancy. Studies have shown that KMC leads to a significant reduction of neonatal mortality when compared to conventionally cared babies.

#### v. **Other effects**

KMC helps both infants and parents. Mothers are less stressed during kangaroo care as compared with a baby kept in incubator. Mothers prefer skin-to-skin contact to conventional care. They report a stronger bonding with the baby, increased confidence, and a deep satisfaction that they were able to do something special for their babies. Fathers felt more relaxed, comfortable and better bonded while providing kangaroo care.

**Benefits of KMC:** Effective thermal control, increased breastfeeding rates, early discharge, decreased neonatal mortality, less morbidities such as apnea and infection, less stress, and better infant bonding.

*KMC satisfies all five senses of the baby. The baby feels mother's warmth through skin-to-skin contact (touch), listens to mother's voice and heartbeat (hearing), sucks breast milk (taste), has eye contact with mother (vision) and smells mother's odour (olfaction).*

### 3. REQUIREMENTS FOR KMC IMPLEMENTATION

- Training of nurses, physicians and other staff involved in the care of the mother and the baby
- Educational material such as information sheets, posters and video films on KMC in local language should be available to the mothers, families and community
- If possible, reclining chairs in the nursery and postnatal wards, and beds with adjustable back rest should be arranged. Mother can provide KMC sitting on any comfortable chair/sofa or in a semi-reclining posture on a bed with the help of pillows

- **Once KMC is implemented, health professionals recognise importance of KMC. Health benefit of KMC to babies and emotional satisfaction to mothers helps in its scaling up in health facilities.**
- **KMC does not require extra staff or expensive articles.**
- **KMC can be provided by anyone (who is motivated), anywhere and anytime.**
- **Do not wait for written order of the physician. KMC can be initiated once the baby is stable.**



## DEMONSTRATION

Facilitator will conduct a demonstration on KMC using a poster

# कंगारू माता देखभाल

## (कंगारू मदर केयर : के.एम.सी.)

### कंगारू माता देखभाल (के.एम.सी.) क्या होती है?

इस विधि में माँ अपने शिशु को अपनी नग्न छाती से चिपका कर रखती है।



के.एम.सी. से गर्मी मिलती है, स्तनपान को बेहतर करती है व साँस ठीक से लेने में सहायता करती है।

### के.एम.सी. कहाँ पर दी जा सकती है?



नर्सरी अथवा प्रसवोत्तर वार्ड

### के.एम.सी. कैसे दी जाती है?

माँ बैठी हुई अथवा आधी लेटी हुई अवस्था में होनी चाहिए।



जितना समय तक संभव हो, के.एम.सी. दें।

### कब तक के.एम.सी. देते रहना चाहिए?



घर पर भी जारी रखनी चाहिए

### किन शिशुओं को के.एम.सी. की जरूरत होती है?

2.5 कि.ग्रा. से कम जन्म-भार वाले सभी शिशुओं को के.एम.सी. की आवश्यकता होती है।



सभी कम जन्म-भार वाले शिशुओं को के.एम.सी. से लाभ होता है।

### माँ के अलावा और कौन के.एम.सी. दे सकता है?



परिवार का कोई भी सदस्य जैसे दादी, नानी, दादा, पिता के.एम.सी. दे सकता है।

### के.एम.सी. देने के लिए आवश्यकताएं

माँ की मदद करना और अस्पताल से छुट्टी के बाद उपचार प्रदान करना



### के.एम.सी. की घटक क्या हैं?

माँ का अपनी छाती के साथ शिशु को चिपकाए रखना

स्तन-पान



### लाभ :

- \* शिशु उचित गर्म रहता है।
- \* स्तन-पान को बढ़ावा देती है।
- \* शिशु के मानसिक व शारीरिक विकास में सुधार करती है।
- \* अस्पताल से जल्दी छुट्टी होती है।
- \* शिशु में होने वाले रोगों की संभावना को कम करती है।
- \* शिशु-माँ के आपसी बंधन को बढ़ावा देती है।

कंगारू माता देखभाल  
शिशु का अधिकार माँ का प्यार

### आप किस लिए इन्तजार कर रहे हैं?

के.एम.सी. एक आसान, कम-खर्च तथा अति प्रभावी उपचार है जो कम जन्म-भार वाले शिशुओं को फायदा पहुँचाती है।

- \* शिशुओं तथा उनकी माताओं को के.एम.सी. अच्छी लगती है
- \* आप भी अपनी यूनिट में के.एम.सी. को बढ़ावा दे सकते हैं
- \* चाहें तो आज से ही शुरू कर सकते हैं
- \* सभी कम जन्म-भार वाले शिशुओं के लिए के.एम.सी. सुनिश्चित कीजिए।



KMC India Network



कृपया और अधिक जानकारी के लिए हमारी वेबसाइट [www.kmcindia.org](http://www.kmcindia.org) पर तौंग ऑन करें।

# KANGAROO MOTHER CARE

## Kangaroo Mother Care India Network

### What is Kangaroo Mother Care (KMC)?

**Skin to skin contact between baby and mother's chest**



Provides warmth, prevents apnea  
stimulates breathing

### How to provide KMC?

**Mother should be in sitting or semi reclined position**



Provide KMC for as long as possible

### Which babies need KMC

**All stable LBW babies are eligible for KMC**



All LBW babies benefit from KMC

### Where can KMC be provided?



Nursery or postnatal ward

### How long should KMC be practiced?



Should be continued at home

### Who else can provide KMC?



Any family member can provide KMC

### What are the components of KMC?

**Skin-skin contact of the infant on mother's chest**



**Exclusive breast feeding**



### Pre-requisites of KMC

**Support to mother & post-discharge follow-up**



### Benefits

- \* Provides warmth to the baby
- \* Promotes exclusive breast feeding
- \* Improves weight gain & growth
- \* Reduces hospital stay
- \* Reduces infection
- \* Promotes baby-mother bonding



### What are you waiting for ?

KMC is a simple, low-cost and highly effective intervention which benefits low birth weight babies

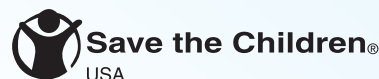
\* The babies and their mothers love KMC

\* You too can promote KMC in your unit... start today...

\* Ensure KMC for all stable LBW babies



KMC India Network



For more information visit [www.kmcindia.org](http://www.kmcindia.org)



## 4. ELIGIBILITY CRITERIA

### 4.1. Baby

All stable LBW babies are eligible for KMC. However, very sick babies needing special care should be cared under radiant warmer initially. KMC should be started after the baby is hemodynamically stable. Guidelines for practicing KMC include:

- i. Birth weight  $\geq 1800$  g:** These babies are generally stable at birth. Therefore, in most of them KMC can be initiated soon after birth.
- ii. Birth weight 1200-1799 g:** Many babies of this group have significant problems in neonatal period. It might take a few days before KMC can be initiated. If such a baby is born in a place where neonatal care services are inadequate, baby should be transferred to a proper facility after initial stabilization. One of the best ways of transporting small babies is by keeping them in continuous skin-to-skin contact with the mother / family member.
- iii. Birth weight  $< 1200$  g:** Frequently, these babies develop serious prematurity-related morbidities often starting soon after birth. They benefit the most from in-utero transfer to the institutions with neonatal intensive care facilities. It may take days to weeks before baby's condition allows initiation of KMC.

**KMC can be initiated in a baby who is otherwise stable but may still be on intravenous fluids, tube feeding and/or oxygen and even on CPAP**

### 4.2 Mother

All mothers can provide KMC, irrespective of age, parity, education, culture and religion. The following points must be taken into consideration while counseling for KMC:

- i. Willingness:** The mother must be willing to provide KMC. Healthcare providers should counsel and motivate her. Once the mother realizes the benefits of KMC for her baby, she will learn and undertake KMC.
- ii. General health and nutrition:** The mother should be free from serious illness to be able to provide KMC. She should receive adequate diet as recommended by her physician.
- iii. Hygiene:** The mother should maintain good hygiene - daily bath/sponge, change of clothes, hand washing, and short and clean finger nails.
- iv. Supportive family:** Apart from supporting the mother, family members should also be encouraged to provide KMC when mother wishes to take rest or she is too sick to provide KMC. Mother would need family's cooperation to deal with the daily household chores while the baby is requiring KMC.
- v. Supportive community:** Community awareness about the benefits should be created. This is particularly important when there are social, economic or family constraints.

## 5. PREPARING FOR KMC

### 5.1 Counseling

When the baby is ready for KMC, arrange a time that is convenient to the mother and her baby. The first few sessions are important and require extended interaction. Demonstrate her the KMC procedure in a caring and gentle manner. Answer her queries patiently and allay her anxieties. Encourage her to bring her mother/mother-in-law/husband or any other member of the family. It helps in building positive attitude of the family and ensuring family support to the mother which is particularly crucial for post-discharge home-based KMC. It is helpful if the mother starting KMC interacts with someone who is already practicing KMC.

## 5.2 Mother's clothing

KMC can be provided using any front-open, light dress as per the local culture. KMC works well with blouse and sari, gown, front open kurta, shirt or shawl. A suitable dress that can retain the baby for extended period of time can be adapted locally.

## 5.3 Baby's clothing

Baby is dressed with cap, socks, nappy, and front-open sleeveless shirt or 'jhabala'.

# 6. TIME OF INITIATION

KMC can be started as soon as the baby is stable. Babies with severe illnesses or requiring special treatment should be managed according to the unit protocol. Short KMC sessions can be initiated during recovery with ongoing medical treatment (IV fluids, oxygen therapy). KMC can be provided while the baby is being fed via orogastric tube or on nasal cannula oxygen.

# 7. THE KMC PROCEDURE

## 7.1 Kangaroo positioning

- Baby should be placed between the mother's breasts in an upright position
- Head should be turned to one side and in a slightly extended position. This slightly extended head position keeps the airway open and allows eye to eye contact between the mother and her baby
- Hips should be flexed and abducted in a "frog" position; the arms should also be flexed
- Baby's abdomen should be at the level of the mother's epigastrium. Mother's breathing stimulates the baby thus reducing the occurrence of apnea
- Support the baby's bottom with a sling/binder



**Kangaroo positioning**



**Baby upright between mother's breasts**

## 7.2 Monitoring

Babies receiving KMC should be monitored carefully especially during the initial days. Nursing staff should make sure that baby's neck position is neither too flexed nor too extended, airway is clear, breathing is regular, color is pink and baby is maintaining temperature. Mother should be involved in observing the baby during KMC so that she can continue monitoring at home.

**Ensure that baby's neck is not too flexed or too extended, breathing is normal, and feet and hands are warm during KMC**

### 7.3 Feeding

Mother should be explained how to breastfeed while the baby is in KMC position. Holding the baby near the breast stimulates milk production. She may express milk while the baby is still in KMC position. The baby could be fed with paladai, spoon or tube depending on the condition of the baby.

### 7.4 Privacy

KMC unavoidably leads to some exposure on the part of the mother. This can make her nervous and could be de-motivating. The staff must respect mother's sensitivities in this regard and ensure culturally acceptable privacy standards in the nursery and the wards where KMC is practiced.

## 8. DURATION OF KMC

- Skin-to-skin contact should start gradually in the nursery with a smooth transition from conventional care to continuous KMC
- Sessions that last less than one hour should be avoided because frequent handling may be stressful for the baby
- The length of skin-to-skin contacts should be gradually increased up to 24 hours a day, interrupted only for changing diapers. Minimum duration of 6-8 hours should be practiced.
- When the baby does not require specialised care, she should be transferred to the postnatal ward where KMC should be continued

## 9. CAN THE MOTHER CONTINUE KMC DURING SLEEP AND RESTING?

A comfortable chair with adjustable back may be useful to provide KMC during sleep and rest. In the KMC ward or at home, the mother can sleep with the baby in kangaroo position in a reclined or semirecumbent position, about 45° from above the ground. This can be achieved with an adjustable bed or with several pillows on an ordinary bed. It has been observed that this position decreases the risk of apnea in the baby. A supporting garment to carry the baby in kangaroo position will allow the mother, the father or the relatives to sleep with the baby in that position.



**Father providing KMC**

***When mother is not available, other family members such as grandmother, father or any other relative can provide KMC***



## 10. FROM HOSPITAL TO HOME

### 10.1 Criteria to transfer the baby from nursery to the ward

Standard criteria of the unit for transferring baby from the nursery to the postnatal ward should be as follows:

- Stable baby
- Gaining weight
- Mother confident to look after the baby

### 10.2 Discharge criteria

The standard policy of the unit for discharge from the hospital should be followed. Generally the following criteria are accepted at most centers:

- Baby's general health is good and no evidence of infection
- Feeding well and receiving exclusively or predominantly breast milk
- Gaining weight (at least 15-20 gm/kg/day for at least three consecutive days)
- Maintaining body temperature satisfactorily for at least three consecutive days at room temperature.
- The mother and family members are confident about giving KMC and are willing to come for follow-up visits regularly

## 11. WHEN SHOULD KMC BE DISCONTINUED?

If the mother and baby are comfortable, KMC can be continued for as long as possible initially in the hospital and then at home. Often this is desirable until the baby's gestation reaches term or the weight is around 2500g. The baby starts wriggling to show that she is uncomfortable, pulls her limbs out, cries and fusses every time the mother tries to put her in skin-to-skin position. This is the time to wean the baby from KMC. Mothers can provide skin-to-skin contact occasionally after giving the baby a bath and during cold nights.

## 12. POST-DISCHARGE FOLLOW UP

Close follow up is a fundamental pre-requisite of KMC practice. Each unit should formulate its own policy for follow up of these small babies undergoing KMC.

In general, a baby is followed up once or twice a week until 37-40 weeks of post conceptional age or the baby reaches 2.5-3.0 kg of weight (smaller babies discharged earlier would need more frequent follow-up visits). Thereafter, a follow-up once in two weeks may be enough till 3 months of age. Later the baby should be seen at an interval of 1-2 months during first year of life.

The baby should gain adequate weight (15-20 gm/kg/day up to 40 weeks of post conceptional age and 10 gm/kg/day subsequently). More frequent visits should be planned if the baby is not growing well.

## References

- World Health Organization. Kangaroo mother care: a practical guide. Department of Reproductive Health and Research, WHO, Geneva. 2003
- Udani RH, Nanavati RN. Training manual on Kangaroo Mother Care. Published by the Department of Neonatology, KEM Hospital and Seth GS Medical College, Mumbai. September 2004
- Website of KMC India Network . Guidelines for parents and health providers are available online at [www.kmcindia.org](http://www.kmcindia.org)
- Government of India. Guidelines for operationalisation of Kangaroo Mother Care 2014.



## SELF EVALUATION

1. Components of KMC include
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
2. Benefits of KMC include
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
3. Mother should practice KMC at least for \_\_\_\_\_ in one sitting.
4. Do you need additional staff for implementing KMC in your unit: Yes / No
5. Who all can practice KMC?  
\_\_\_\_\_
6. A mother is practicing KMC during the day. Can she provide KMC during the night while she is sleeping?  
\_\_\_\_\_
7. Mention the discharge criteria of a baby receiving KMC.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Can KMC be provided in the following scenarios:
  - i. Baby on OG tube feed Yes/No
  - ii. Baby receiving in IV fluids Yes/No
  - iii. Baby receiving free flow O<sub>2</sub> Yes/No

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***\*You will be given individual feedback after you have evaluated yourself.***



## VIDEO

There will be a video demonstration on initiation and procedure of KMC. This will be followed by discussion.

### 1. Following aspects of KMC were shown

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_

### 2. Comments on Video

Good aspects

Needs improvement

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### 3. Video covered

Demonstrated procedure of KMC	Yes/No
Precautions to be taken while practicing KMC	Yes/No
Benefits of KMC	Yes/No
Views of mothers and nurses	Yes/No



## ROLE PLAY

There will be a role-play on 'motivating and counselling a mother for providing KMC'.

### Checklist for demonstration role play

A (Ask)

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L (Listen)

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P (Praise)

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A (Advise)

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C (Check understanding)

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### Checklist for role play by participants

A (Ask)

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L (Listen)

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P (Praise)

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A (Advise)

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C (Check understanding)

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