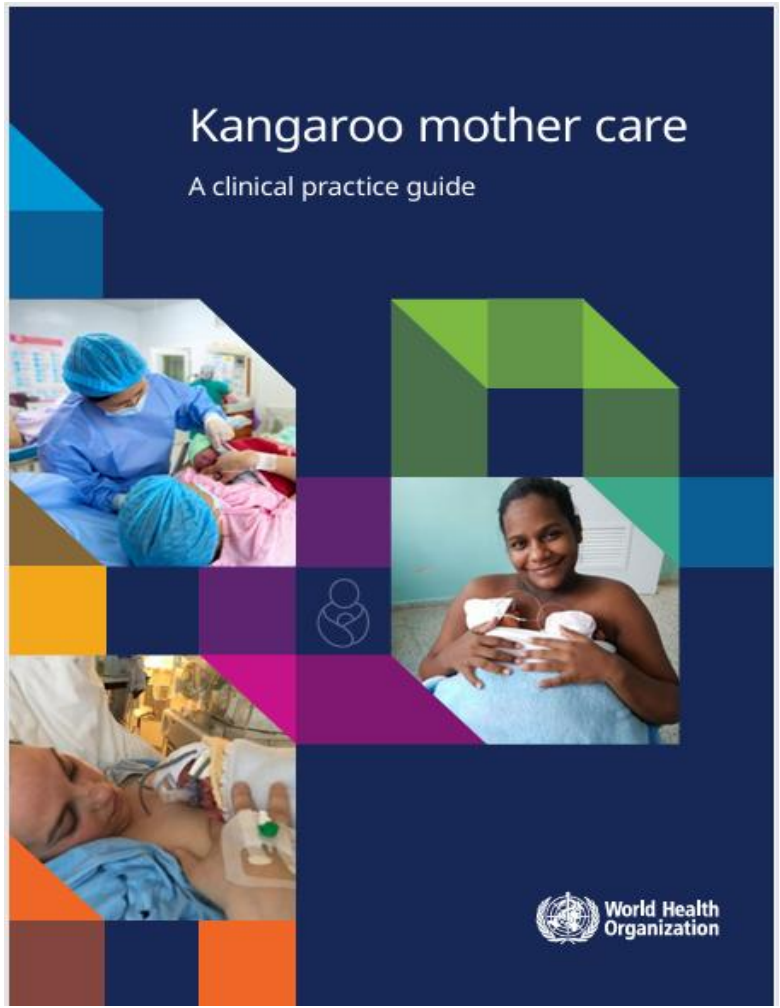

Kangaroo Mother Care (KMC): The New WHO 2025 Recommendations

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Asociația Prematurilor
Prețuim fiecare secundă

Fundación Canguro
30 años

Chapter 5: Discharge Policies in the Kangaroo Position — WHO 2025 Guideline

A small error

Please find attached a revised version – fresh off the oven from today.

To my knowledge, the exact edit to this document is the following:

The sentence in Section 5.1, page 89:

"As an example, dedicated outpatient community clinics in Colombia support KMC in the community and provide appropriate follow-up services "

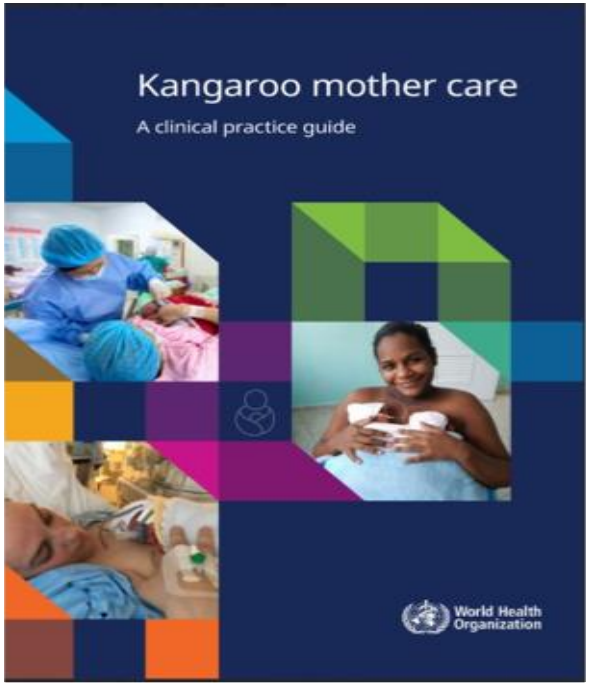
has been moved to Section 5.4, page 96, and revised to:

"As an example, Colombia has established a dedicated outpatient follow-up system for preterm or LBW newborns extending to one year of corrected gestational age (61)."

The associated reference in Spanish has also been updated to the BMJ Global Health paper describing the results of the Colombia follow-up programme.

Whilst the attached now has the edited text, it will take some time – from days to a couple of weeks - until the revision is also updated in the internet.

Hope this now closes the issue satisfactorily.



5.4 Monitoring and follow-up

Close follow-up is a critical component of KMC. Evidence-based WHO guidelines on follow-up care for preterm or LBW newborns are still in development, but it is desirable that small and/or sick newborns receive additional visits beyond those typically recommended for healthy, term newborns. The timing, frequency and content of postnatal care should be customized to address the specific health needs and outcomes of both the mother and newborn, in line with country-specific protocols. As an example, Colombia has established a dedicated outpatient follow-up system for preterm or LBW newborns extending to one year of corrected gestational age (61).

61. Charpak N, Montealegre-Pomar A. Follow-up of Kangaroo Mother Care programmes l the last 28 years: results from a cohort of 57 154 low-birth-weight infants in Colombia. BMJ Global Health. 2023;8:e011192 (https://doi.org/10.1136/ bmjgh-2022-011192,

https://fundacioncanguro.co/wp-content/uploads/2025/12/3275MCA-Kangaroomothercare191125_FINAL_SG.pdf

1.1 Context: Update of the WHO/KMC Guide

1994-2003	Creation of the Kangaroo Foundation. Beginning of the Kangaroo journey: rigorous scientific evaluation of KMC to improve and disseminate the method, and training of more than 200 national and international teams.
2003	WHO publishes the first practical KMC guide (with the active participation of the Kangaroo Foundation). The guide was translated into more than 20 languages.
2004-21	Key studies: immediate KMC, community-based KMC, and expanded evidence on all aspects of Kangaroo Mother Care (with the active participation of the Kangaroo Foundation in KMC research and publications).
2022	WHO updates its global recommendations on KMC.
2023	Global position paper and implementation strategy for KMC.
2025	This guide: updated clinical practice guidance aligned with the new recommendations.

Since 1994, substantial evidence has demonstrated the benefits of KMC, its implementation, and its immediate initiation from birth.

1.2 Guideline Development Process

01

Global Working Group

KMC experts from diverse settings. Based on WHO guidelines on KMC, breastfeeding, and maternal and newborn care.

02

Resolution of Divergences

When experts disagreed, decisions were guided by current WHO recommendations or global guidelines verified by WHO experts.

03

Extensive Review

Feedback from global experts and end users. Technical accuracy and usability were verified.

04

Supporting Materials

Videos and resources were developed and reviewed by experts. External resources were included when aligned with WHO recommendations.

05

Declaration of Interests

All working group members declared competing interests. None were considered sufficiently serious to compromise the process.

06

Continuous Updates

The content will be updated as evidence and practices evolve.

1.3 Target Audience

Clinical Health Personnel

- Physicians, nurses, and midwives
- Work directly with mothers and preterm or low-birth-weight (LBW) newborns
- Need practical guidance on how to implement KMC
- Sections 2, 4, and 5 are primarily intended for them

Administrators and Managers

- Health facility administrators
- Neonatal health program managers
- Section 3 focuses on institutional implementation
- How to create enabling environments for KMC implementation

Community Health Workers

- Community health workers
- Community midwives and health agents
- Section 5 addresses KMC at home
- Post-discharge support, follow-up, and monitoring through a follow-up program such as the Colombian Kangaroo Mother Care Program up to 40 weeks

This guide is also relevant for educators, researchers, and maternal and newborn health policymakers.

1.4 How to Use This Guide

Main uses of the guide:

- Development of national KMC policies and guidelines
- Education and training curriculum (undergraduate and postgraduate)
- Health facility protocols for neonatal care
- Training and guidance materials for healthcare personnel
- Reference for developing local KMC guidelines and adaptations

Note: This is not a stand-alone training tool. Practical skills should be acquired in health facilities that practice KMC.

G tructure: 5 Sections

Section #6 is needed: Follow-up of high-risk infants through at least 12 months of corrected age.

2 **Understanding**

What KMC is, why it is imp and for how long.

3 **Implementation in Health Facilities**

Policies, infrastructure, equipment, records, staffing and

4 **Provision of KMC in Health Facilities**

Antenatal preparation, initiation in the delivery room, and continuation in rooming-in

5 **KMC at Home**

Requirements, considerations, monitoring and outpatient follow-up up to 40 weeks, and support for mothers and

Global Context: The Need for the Guideline

The Global Problem

- 15 million preterm babies are born worldwide each year.
- Complications of prematurity are a leading cause of death in children under 5 years of age.
- Low birth weight (<2,500 g) is a critical risk factor.
- Many newborns do not receive adequate care.
- Major disparities persist between high- and low-income countries.

The Solution: Updated KMC

- KMC is a proven, accessible, and low-cost intervention.
- New evidence supports immediate initiation after birth for all preterm infants.
- KMC can be initiated even in unstable infants who require respiratory support.
- The guideline translates scientific evidence into practical action.
- It addresses both low- and high-resource settings.

Guide Assumptions and Adaptations

Fundamental Assumptions

The guide assumes the existence of functional health systems providing essential maternal and newborn care, and that health personnel have the knowledge and skills required for the level of care they provide.

Local Adaptations

- Adaptations of KMC based on local experience are encouraged.
- The document highlights contextual variations.
- Adaptations should maintain evidence-based principles.

Simplified Terminology

- Minimal use of specialized terminology.
- Practices and processes are clearly described and illustrated.
- Effective communication is prioritized over complex technical language.

Multimedia Resources

- Videos and supporting materials accompany the guide.
- External resources are included when publicly available and aligned with WHO guidance.
- Permissions have been obtained where applicable.

Mother and father practice skin-to-skin contact with their twins

A newborn, delivered via caesarean section, received immediate skin-to-skin contact with the father until her mother arrived in the neonatal intensive care unit, when the mother took over.

Key Updates Compared with the 2003 Guide

1

Immediate KMC and KMC at Home

New guidance on immediate KMC after birth, including for newborns requiring specialized respiratory support, as well as guidance on KMC at home, with step-by-step instructions and videos for situations where access to health facilities is limited and birth occurs at home.

2

Use of the Term “Skin-to-Skin Care”

KMC includes at least prolonged skin-to-skin contact plus breastfeeding. When referring only to the kangaroo position with skin-to-skin contact, the term KMC may be used. The term “skin-to-skin care” alone is no longer used, as it does not specify the setting, duration, or feeding component.

3

Terminology: “Kangaroo Position” → “KMC Position”

The term “kangaroo position” is replaced by “KMC position.” Terms such as “fetal position” (risk of neck flexion) and “frog position” (not standardized) are removed. The term “skin-to-skin contact in the KMC position” may be used to accurately describe how the kangaroo position is practiced.

4

Discharge and Follow-up Until at Least 40 Weeks’ Gestational Age

KMC may allow for earlier discharge. Specific discharge criteria are not provided because of differences across countries; instead, general guidance is provided for local adaptation. Close outpatient follow-up should continue until at least 40 weeks’ gestational age. The Colombian experience in following these fragile infants for more than 30 years is also acknowledged.

Chapter 2

Understanding KMC

What it is, why it matters, who, how, where, and for how long KMC is provided

Contents of this chapter:

- WHO official definition of KMC
- Why KMC matters: the evidence
- Who should receive KMC and who can provide it
- Where and for how long KMC should be practiced

2.1 What is KMC?

Official WHO Definition

Care for preterm or low-birth-weight (LBW) infants involving prolonged skin-to-skin contact—as close as possible to 24 hours/day, with a minimum of 8 hours/day—initiated as soon as possible after birth, together with exclusive breast-milk feeding whenever possible. When initiated in health facilities, it also includes timely discharge home and follow-up until 40 weeks through a Kangaroo Mother Care Program (KMC Program).

Component 1

Skin-to-Skin Contact in the Kangaroo Position

Prolonged and sustained. Initiated as soon as possible after birth. Minimum 8 hours/day; ideally 24 hours/day. Primarily provided by the mother, but also by an additional caregiver. The infant is placed upright and prone, in direct skin-to-skin contact between the caregiver's breasts/chest, with firm support to maintain the kangaroo position.

Component 2

Exclusive Breast-Milk Feeding

Exclusive feeding with breast milk whenever possible, with support beginning at birth. Essential for the development and protection of preterm or LBW infants.

Component 3

Timely Discharge Home + Close Follow-up Until 40 Weeks

Early discharge from intensive/special care. KMC continues at home, with close monitoring and post-discharge follow-up until 40 weeks' gestational age through a KMC Program.

A mother provides KMC to her preterm newborn requiring continuous positive airway pressure (CPAP), with support from her partner. © General TWG Hospital / Kim Chi Luong

A mother breastfeeds her newborn in skin-to-skin contact. © General TWG Hospital / Kim Chi Luong

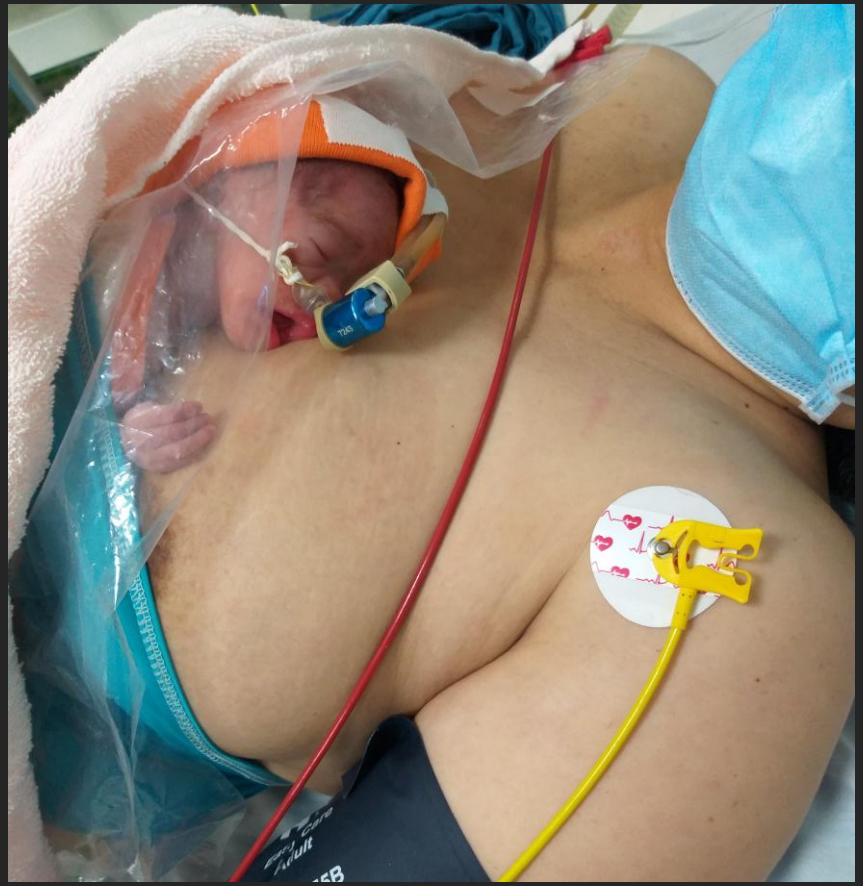
Official WHO Recommendations on KMC

Recommendation 1	**Immediate KMC from Birth** KMC should be initiated as soon as possible after birth for all preterm or low-birth-weight newborns, including clinically unstable newborns, unless they are hemodynamically compromised or unable to breathe spontaneously.
Recommendation 2	**KMC for All Preterm or Low-Birth-Weight Newborns** KMC is recommended as routine care for all preterm or low-birth-weight newborns. It can be initiated in health-care facilities or at home. KMC should be practiced for 8–24 hours per day (as many hours as possible).

Source: WHO Recommendations for care of the preterm or low-birth-weight newborn, 2022.


Hosp 12 de Octubre, Madrid


Hosp 12 de Octubre, Madrid



Dra. Kim Chi Luong

2.2 Why KMC Matters: The Evidence

32%
Reduction in neonatal mortality

68%
Reduction in hypothermia at discharge

15%
Reduction in severe infections

48%
Longer duration of exclusive breastfeeding at discharge

Additional Benefits for the Newborn

- Improved weight gain and shorter hospital stay
- Earlier initiation of breastfeeding
- Reduced hypoglycemia
- Improved physiological regulation (RR, O_2, T°)
- Protection against pain
- Optimal developmental care (neurological)

Long-Term Benefits

- Improved brain development and function
- Better academic performance
- Less hyperactivity and fewer behavioral problems
- Potential for higher earnings in adulthood
- More likely to become sensitive and protective parents

For Mothers, Families, and the Health System

- Facilitates respectful maternal care
- Strengthens mother–newborn bonding and reduces anxiety/depression

Reduces postpartum hemorrhage

- Fathers: stronger bonding and greater confidence as caregivers
- Lower cost: US$1,546 less with KMC vs. conventional care

2.3 Who Should Receive KMC?

✓ INDICATIONS (who SHOULD receive KMC)

- ✓ All preterm newborns (<37 weeks' gestation)
- ✓ All low-birth-weight (LBW) newborns (<2,500 g at birth)
- ✓ Regardless of clinical condition (unless critically ill)
- ✓ Even if medical support is required (CPAP, continuous monitoring)
- ✓ Even with certain congenital anomalies (provided the kangaroo position is feasible)
- ✓ No defined lower gestational age limit (with close monitoring)
- ✓ Extremely preterm newborns: KMC with continuous monitoring

✗ CONTRAINDICATIONS

- ✗ Hemodynamic instability of the newborn
- ✗ Inability to breathe spontaneously
- ✗ Certain congenital abdominal anomalies that prevent the kangaroo position

Special note:

WHO does not specify a lower gestational age limit for KMC in health facilities. Experienced NICUs may provide KMC even to newborns <28 weeks' gestation with continuous monitoring.

The difference between KMC and routine skin-to-skin contact: KMC is PROLONGED and SUSTAINED (from birth until ~2,500 g or 38–40 weeks' corrected gestational age), combined with exclusive breastfeeding (EBF) whenever possible.

Photo: Stina Klemming

2.4 Who Can Provide KMC?

Primary caregiver: THE MOTHER

She should be encouraged and supported to provide KMC for as much time as possible. Skin-to-skin contact with the mother stimulates milk production, promotes exclusive breastfeeding, and exposes the newborn to beneficial microbiota that supports immune development.
All mothers—regardless of age, parity, education, culture, religion, or socioeconomic status—can practice KMC unless there is a medical contraindication (e.g., uncontrolled epilepsy, a mental health condition that impairs her ability to care for the infant, or a contagious skin infection).
Minor illnesses such as COVID-19 are not contraindications when appropriate precautions are taken.

The Father

The ideal additional caregiver. He can provide skin-to-skin contact in the kangaroo position while the mother rests or needs to attend to other activities. His participation also promotes bonding and confidence as a caregiver.

Another Family Member

A grandmother or another family member who can be consistently involved. Ideally, this should be someone who will remain involved during and after hospitalization. The additional caregiver should be identified and prepared BEFORE birth.

When the Mother Is Severely Ill

The additional caregiver should begin skin-to-skin contact in the kangaroo position, in the same room whenever possible. This should continue until the mother is able to resume her role as the primary KMC provider. Expression of breast milk should begin immediately.

Fig. 1. Additional caregivers providing KMC

Grandmother of a newborn admitted to a level 2 mother–newborn care unit providing skin-to-skin contact

Father providing skin-to-skin contact

Newborn in skin-to-skin contact with her father, supported by her mother and siblings

2.5 Where KMC Should Be Provided

Level 1 · Primary Care

- All preterm/LBW newborns who do not require referral to a higher level of care.
- Initiate KMC in the delivery room/operating room
- Continue KMC until discharge.
- Continue KMC at home after discharge.

In Colombia: referral to a Kangaroo Mother Care Program for follow-up until 40 weeks, followed by high-risk follow-up due to prematurity or low birth weight.

Level 2 · Secondary Care (Newborn Unit)

- Includes newborns requiring neonatal hospitalization without NICU.
- Mother–newborn unit, keeping mother and baby together 24/7.
- KMC in the kangaroo position, including newborns receiving CPAP or IV support.
- As the newborn's condition improves, continue hospitalization with KMC until discharge.

In Colombia: referral to a Kangaroo Mother Care Program for follow-up until 40 weeks, followed by high-risk follow-up due to prematurity or low birth weight.

Level 3 · Intensive Care

- All preterm and LBW newborns.
- If the newborn is in shock or requires mechanical ventilation, defer KMC until hemodynamic stabilization.
- Apply the same principles of early initiation.
- Advanced care may include surfactant therapy and parenteral nutrition.

In Colombia: referral to a Kangaroo Mother Care Program for follow-up until 40 weeks, followed by high-risk follow-up due to prematurity or low birth weight.

At Home

- Continue KMC after hospital discharge, with close outpatient follow-up through a Kangaroo Mother Program.
- KMC may also be initiated following a home birth when hospitalization is not required, with the first health assessment within 24 hours after birth.
- Follow national guidelines.


HUSI, Bogota, Colombia


HUSI, Bogota, Colombi


HUSI, Bogota, Colombia

2.6 How Long Should KMC Continue? · The Kangaroo Position

Optimal Duration

Ideal: 24 hours/day

Minimum: 8 hours/day

*Each session: minimum of **2 hours** to avoid stress in the newborn and allow normal sleep and thermoregulation cycles.*

When Does KMC End?

KMC should continue for as long as the newborn accepts it. Preterm infants usually begin trying to move out of the kangaroo position when they:

- Reach approximately 2500 g
- Reach a corrected gestational age of 38–40 weeks.
- Are able to maintain a normal body temperature without skin-to-skin contact

The Kangaroo Position: Description

- The newborn is placed in direct skin-to-skin contact on the caregiver's chest, between the breasts, in a prone and upright position.
- The head is turned to one side, with the neck slightly extended to maintain a patent airway.
- Arms, hips, and knees are flexed, with the hips partially abducted.
- The mother should be able to kiss the newborn's head. Alternate the position of the head every 1–2 hours (at each breastfeeding session).
- The newborn is secured with a wrap/binder and an outer garment for additional support.

KMC vs. Routine Skin-to-Skin Contact: Key Differences

Aspect	KMC	Routine Skin-to-Skin Contact
Indication	Preterm and low-birth-weight (LBW) newborns	All term newborns (first hour)
Duration	Prolonged: 8–24 h/day, for weeks to months	Immediately after birth
Initiation	From birth, including clinically unstable newborns	Immediately after birth
Nutritional component	Exclusive breastfeeding: an essential component	Breastfeeding is encouraged but is not a defining component
Additional caregiver	Father or another family member may provide skin-to-skin contact in the kangaroo position	N/A in this context
Follow-up	Timely discharge + close follow-up until 40 weeks' gestational age; in Colombia, through a KMC program	Not applicable
Main objective	Reduce mortality and morbidity among preterm and LBW newborns	Thermoregulation and breastfeeding support for all newborns

Key Points from Chapter 2

KMC = prolonged skin-to-skin contact (≥8 h/day, ideally 24 h/day) + exclusive breastfeeding (EBF). For all preterm or low-birth-weight (LBW) newborns.

Proven benefits: 32% lower mortality, 68% less hypothermia, and improved brain development.

The mother is the primary caregiver; the father and other family members can complement KMC.

KMC can be initiated at any level of care, from the delivery room to the home.

KMC continues until the baby shows signs of wanting to leave the kangaroo position (~2,500 g or 38–40 weeks' corrected gestational age).

Chapter 3

Implementation of KMC in Health Facilities

Requirements for health facilities at all levels

Chapter content:

- Institutional policies and protocols
- Infrastructure and spaces
- KMC equipment and supplies
- Records, staffing, and costs

CONTENT

https://fundacioncanguro.co/wp-content/uploads/2026/01/Protocolo-intrahosp-MMC.pdf

KMC Requirements by Level of Care — Summary

Area	Level 1 (Primary)	Levels 2–3 (Secondary/Tertiary)
Policies	Mother with newborn 24/7; additional caregivers allowed	Same as Level 1 + standardized protocols
Infrastructure (Labor & Delivery room)	Wide reclining bed with side rails; space for an additional caregiver	Same as Level 1
Infrastructure (Newborn unit)	Dedicated space with privacy; bathroom, dining area, lactation room	Mother–newborn unit (bed next to incubator, 24/7)
Equipment	Reclining chair/bed, KMC wrap and clothing, wheelchair, anthropometric equipment	Level 1 + radiant warmer, CPAP with oxygen–air blender, pulse oximeter
Records	Birth records: GA, weight, time in kangaroo position and breastfeeding; KMC clinical records	Same as Level 1 + indicator dashboards
Staff	Trained in neonatal and maternal care, counseling, and practical KMC skills	Same + training in the care of sick newborns at Level 2 or higher
Costs	Dedicated budget for KMC wraps, education, water, and food for the mother	Same + financial support for prolonged stays

3.1 Policies and Protocols

Fundamental Principle

Respecting, empowering, and supporting the mother as the primary caregiver is essential. The mother's trust in healthcare providers and her participation in newborn care depend on how she is treated and on the quality of postnatal care she receives.

Essential Policies — All Levels

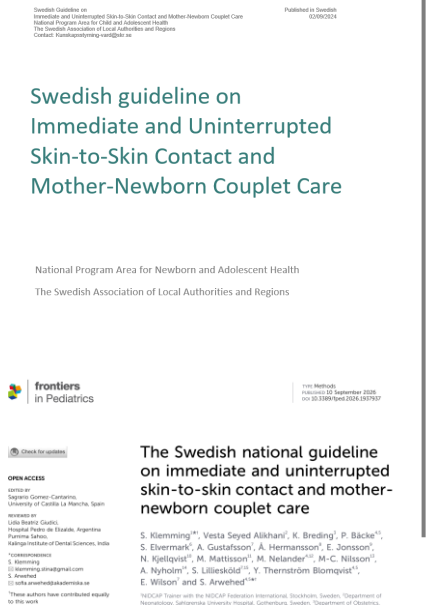
- Mother and newborn remain together 24/7, without separation, from birth until discharge
- Allow additional caregivers and family members to support KMC
- Coordination between maternal and neonatal healthcare teams

Recommended Protocols — All Levels

- Standardized protocols for the care of small newborns receiving KMC
- Discharge criteria and preparation for home care
- Quality assurance and improvement protocols, including audits and PDSA cycles

Mother–Newborn Care Unit: Key Concept

- Level 2 or 3 unit where the mother can remain with her newborn 24/7
- Mother's bed located next to the radiant warmer or incubator
- Both mother and newborn receive postnatal care in the same area
- 25% reduction in neonatal mortality (WHO Immediate KMC Study)



Swedish Guideline on
Immediate and Uninterrupted Skin-to-Skin Contact and Mother-Newborn Couplet Care
National Program Area for Child and Adolescent Health
The Swedish Association of Local Authorities and Regions
Contact: Kamkaposstyrning-vard@skr.se

Published in Swedish
02/09/2024

Swedish guideline on Immediate and Uninterrupted Skin-to-Skin Contact and Mother-Newborn Couplet Care

National Program Area for Newborn and Adolescent Health

The Swedish Association of Local Authorities and Regions

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Check for updates

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The Swedish national guideline on immediate and uninterrupted skin-to-skin contact and mother-newborn couplet care

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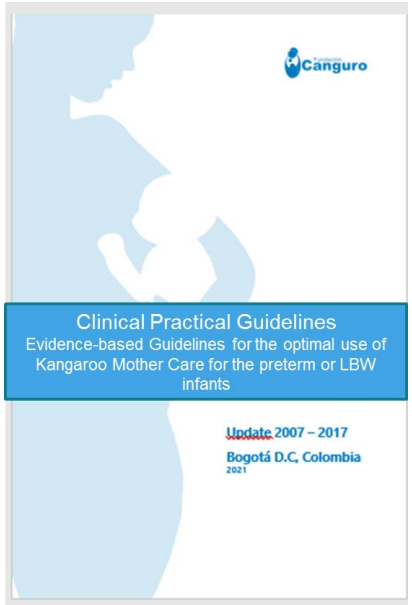


Canguro

Clinical Practical Guidelines

Evidence-based Guidelines for the optimal use of Kangaroo Mother Care for the preterm or LBW infants

Update 2007 – 2017

Bogotá D.C, Colombia
2021

Kangaroo mother care

Implementation strategy for scale-up adaptable to different country contexts

World Health Organization 75 HEALTH FOR ALL

Organización Mundial de la Salud

Normas para mejorar la calidad de la atención a los recién nacidos enfermos o de pequeño tamaño en los establecimientos de salud

3.2 Infrastructure: KMC Spaces and Areas

Labor & Delivery Areas

- Wide reclining bed with safety rails
- Space for an additional caregiver to initiate skin-to-skin contact if the mother is unable to do so
- Wheelchair / mobile bed for transport
- Minimum temperature of 25°C, especially in operating rooms

KMC Area (Primary-Level Facility)

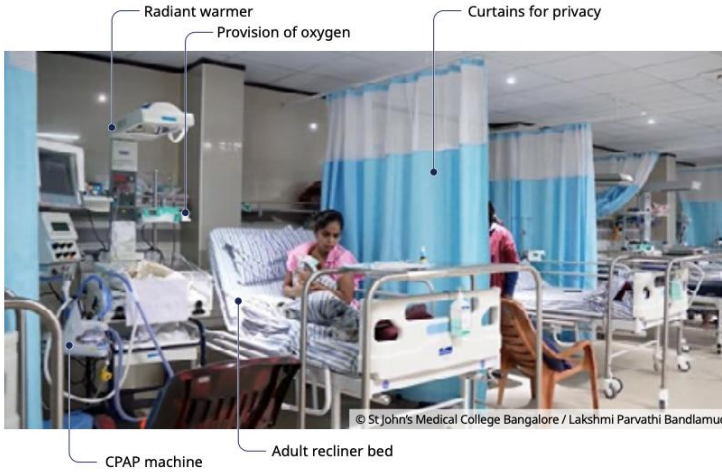
- Dedicated space with privacy (curtains or screens)
- Bathroom with water and soap for the mother
- Eating area for the mother and caregivers
- Area for breast milk expression and storage

Mother–Newborn Unit (Level 2–3 Facility)

- Mother's bed next to the radiant warmer/incubator
- Access to clean drinking water and bathroom facilities
- Dining area for the mother and caregivers
- The mother receives postnatal care in the same space
- If space is limited: reclining beds/chairs available 24/7 next to the newborn

Note: Existing neonatal intensive care units can be converted into mother–newborn units by placing a bed for the mother next to her newborn.

A mother provides KMC to her newborn, recently weaned from CPAP, in the mother–newborn care unit. © Safdarjung Hospital / Harish Chellani



A shared space for mother and newborn integrated within a larger unit

Mother and additional caregivers providing KMC in a conventional newborn care unit

Note: Regular chairs are being used instead of dedicated KMC chairs. Whenever possible, KMC chai
should be used in such interim arrangements, as they offer greater comfort and better support pro
skin-to-skin contact.

3.3 KMC Equipment and Supplies

KMC Binder

Elastic tubular fabric used to secure the newborn. Options:
- Long piece of fabric: tied at the back and crossed over the chest
- Elastic tubular binder: placed around the chest

The mother should have at least two binders so one can be washed and dried without interrupting KMC.

KMC Outer Garment

- Front-opening garment worn over the binder. Provides additional support and prevents the newborn from slipping.
- Any comfortable, easy-to-wash local fabric is suitable.
- Fasten from below to support the newborn's weight.

Sillas y camas MMC

- Comfortable, sturdy, preferably reclining chair.
- Adequate support for the mother's back and legs.
- Chair that allows safe semi-reclined sleep (20–30° from horizontal).
- Wide reclining bed with side rails for the delivery room.

Equipos de monitoreo y soporte

- Pulse oximeter: continuous monitoring of SpO_2 and heart rate.
- CPAP: for newborns with respiratory distress (Level 2+).
- Digital thermometer.
- Resuscitation equipment always available and ready for use.
- Breast pump (desirable).

Fig. 7. Plain cloth used as a binder

Fig. 8. Tube type binders

Note: Made of lycra or other elastic and flexible fabric, a tube type binder may not require additional support from an outer KMC garment

Fig. 9. Customized binders

Ready-made binder

Self-made binder created by folding locally available cloth

3.4 Health Facility Records

Essential Records

Birth records: gestational age, birth weight, time of KMC initiation, duration of the kangaroo position, and breastfeeding.

Newborn clinical records with KMC-specific variables:

- Age at KMC initiation (hours of life)
- Hours of KMC per day
- Frequency of exclusive breastfeeding
- Axillary temperature and daily weight

Ideally, KMC should be recorded every 6 hours to minimize recall bias.

Key Monitoring Indicators

- % of preterm/LBW infants receiving KMC (8–24 h/day + exclusive breastfeeding)
- Age (hours) at KMC initiation among infants who received KMC
- Hours of skin-to-skin contact per day among infants receiving KMC
- KMC and frequency of exclusive breastfeeding during the 24 hours prior to discharge
- Reasons for not initiating KMC
- % of preterm/LBW infants exclusively breastfed at discharge
- Age at initiation of breast-milk feeding

3.5 Human Resources and 3.6 Costs

3.5 Human Resources

Essential:

- Adequate number of trained staff, according to the level of care
- Staff with the competencies and motivation to provide KMC
- Practical training in the care of small newborns, including KMC
- Training in counseling for mothers and families
- On-the-job support

Desirable:

- Periodic refresher training in the care of small newborns
- Specialized breastfeeding counseling for very small or sick newborns
- Coordination between maternal and neonatal healthcare teams
- Joint obstetric–neonatal rounds in mother–newborn units

3.6 Costs

- Dedicated budget for KMC (garments, education, training)
- **Safe drinking water and food for mothers: ESSENTIAL**
- KMC costs less than conventional care (US$1,546 less per DALY)
- Preterm/LBW newborns require longer hospital stays
- Consider subsidizing costs associated with prolonged stays
- Include coverage through health insurance and parental leave
- Social protection for parents during prolonged hospitalization

The Mother–Newborn Care Unit: A Transformative Concept

Origin of the Concept

The WHO Immediate KMC multicountry trial (2021) introduced the mother–newborn care unit: a level 2 care unit where mothers can remain with their small or sick newborns 24/7. This approach enabled KMC to begin, on average, within 2 hours after birth, achieving approximately 17 hours of KMC per day and a 25% reduction in neonatal mortality.

Essential Physical Elements

- Mother's bed NEXT to the radiant warmer or incubator
- Bathroom with a hand-hygiene area between the bathroom and the care unit
- Food and drinking-water area for mothers and caregivers
- Space that ensures privacy (curtains, screens)

Coordinated Care

- Mother receives postnatal care in the same unit
- Joint rounds by obstetric and neonatal care teams
- A nurse trained in maternal care can be assigned to the unit
- Staff trained in specialized lactation support for small newborns

Practical Implementation

- An existing NICU can be adapted by placing a mother's bed next to the newborn
- If space is limited, create a 24/7 area with reclining chairs or beds
- A minimal-renovation solution can be both feasible and impactful
- Plan structural changes during the next major renovation

KMC Coverage Indicator (WHO/ENAP)

WHO/ENAP Indicator Formula:

KMC Coverage = (No. of newborns weighing <2,500 g placed in the kangaroo position anywhere within the health facility) ÷ (No. of newborns admitted weighing <2,500 g) × 100

Recommended sub-tabulation: separately report newborns <2,000 g whenever possible.

Indicator Limitation	Data to Be Routinely Collected	Use of Data
May capture brief KMC during the first hour after birth, which is not equivalent to prolonged KMC. Improved accuracy of birth-weight measurement is needed for sub-tabulation of newborns <2,000 g; digital scales should be used to avoid “heaping” at 2,500 g.	KMC initiation (hours of life), hours of KMC/day, KMC duration and frequency of exclusive breastfeeding during the 24 hours before discharge, reasons for not initiating KMC; measurements ideally every 6 hours using dedicated records.	Aggregate monthly to assess KMC coverage and quality. Use for quality-improvement cycles (audits) and within national KMC monitoring and evaluation frameworks.

Chapter 4

Practical Provision of KMC in Health Facilities

From birth to discharge: a step-by-step practical guide

Contents:

4.1 Antenatal Preparation and Counseling

4.1.1 Breastfeeding Counseling

- At least one antenatal breastfeeding counseling session
- Importance of breastfeeding; global recommendations for exclusive breastfeeding for 6 months
- Risks associated with infant formula and breast-milk substitutes
- Importance of immediate and sustained KMC
- Early initiation of breastfeeding; positioning and attachment; feeding cues
- For high-risk women: emphasis on colostrum, early milk expression, and donor human milk

4.1.2 Antenatal KMC Counseling

- What KMC is, how it is provided, and its short- and long-term benefits.
- Importance of immediate initiation and minimum duration (8 h/day)
- Preparation: hand hygiene, appropriate clothing, and use of KMC wraps
- What to expect if the newborn or mother requires specialized care
- Keep mother and newborn together; involve an additional caregiver for support
- Identify a family member who can provide support before and after discharge

4.2 Initiating KMC in the Labor & Delivery Room

Immediate	**At Birth (0 min)** Place the newborn on the mother's abdomen or chest, depending on cord length. Gently dry with a clean, warm cloth. Assess breathing and crying. Delay cord clamping.
< 1 min	**First Seconds** If the newborn cries/breathes well: continue uninterrupted skin-to-skin contact. If not breathing: stimulate and clear the airway; if this persists → CPAP or resuscitation. The mother should receive a uterotonic within the first minute.
2-60 min	**First Hour** Continue KMC. Cover the newborn's head and remove wet clothing. Keep the mother in a semi-reclined position. Monitor the newborn's respiratory rate and temperature every 15 minutes. Initiate breastfeeding.
> 60 min	**After de the First Hour** Examine the newborn (weight, gestational age, vitamin K, eye care). Secure the newborn in the KMC position with a wrap. Transfer to a mother–newborn unit or designated KMC area.
Cesarean birth	Place the newborn on the mother's thighs for 1–3 minutes, then transversely on her chest. If the mother is under general anesthesia, an additional caregiver should initiate KMC. Begin colostrum expression immediately.
Multiple births	For twins, position one newborn on each side of the chest. Alternate head position at each session or every 1–2 hours. Additional caregivers should be available, especially for triplets.

Fig. 14. Algorithm for initiating KMC for a preterm or LBW newborn in the first hour after birth

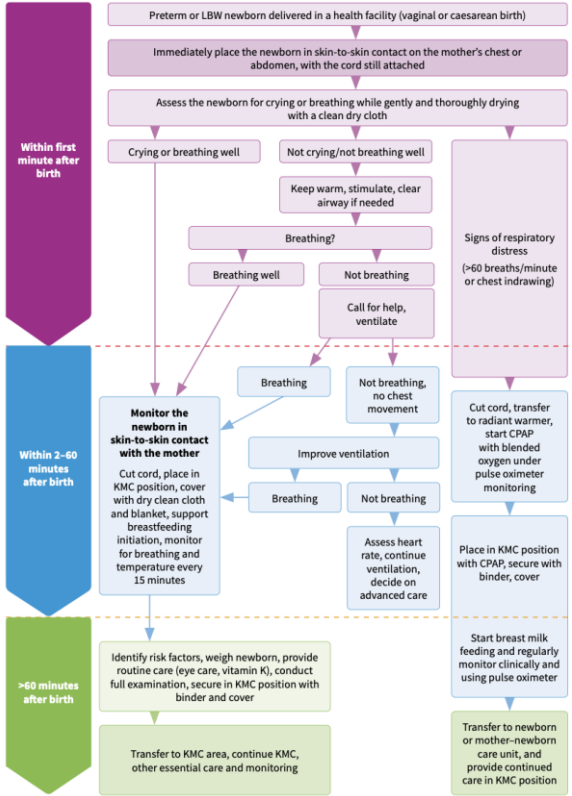


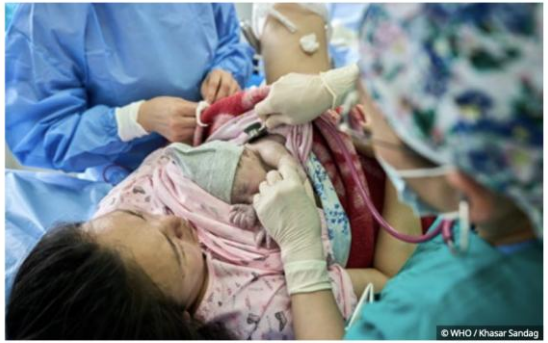
Fig. 15. Immediate skin-to-skin contact: a core component of essential newborn care at birth

Delayed cord cutting, with the newborn in skin-to-skin contact after birth

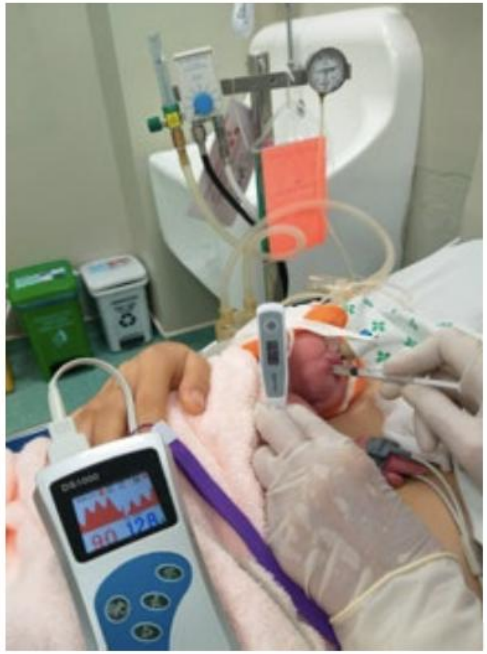
Fig. 17. Direct breastfeeding with skin-to-skin contact in the first hour after birth

A health worker supports mother in initiating breastfeeding in the first hour after birth

Fig. 16. Newborn being examined in skin-to-skin contact with the mother immediately after birth



A doctor examines the newborn in skin-to-skin contact with the mother



Note continuous monitoring of the newborn by pulse oximeter

A mother provides tube feeding to her newborn in KMC position

Fig. 18. Expressed breast milk feeding in the first hour after birth for very small and sick newborns

Colostrum being collected in a syringe while the newborn is on CPAP in skin-to-skin contact with the mother

Mother observing her newborn being fed colostrum

4.3.1 Postnatal Counselling

G

Greet

Introduce yourself and ask for names. Maintain an open posture and eye contact, and lean forward to show attention.

A

Ask

Use open-ended questions: “How are you feeling today?” “How do you think your baby is doing?” Listen actively.

L

Listen

Paraphrase: “You’re saying that your baby needs breathing support and you’re wondering whether it is safe to hold your baby.”
Reflect feelings: “It sounds like you’re worried. Is that right?”

C

Comment and Counsel

Commend: “It’s great that you are here and willing to provide KMC.”
Then explain: what KMC is, its benefits, how to practice it, and the ultimate goal.

Confirm understanding: “To make sure I explained it clearly, could you tell me in your own words what we discussed?”

4.3.2 KMC Position: 9 Steps for a Stable Newborn

1

Hand Hygiene

Healthcare provider and mother perform appropriate hand hygiene.

2

Prepare the mother

Seated or semi-reclined. Front-opening clothing, with no undergarments. Place the wrap below the breasts.

3

Prepare the newborn

Hat on the head and a dry diaper. Pulse oximeter on the hand or foot. If stable, the newborn may be briefly disconnected from the base unit.

4

Move the newborn

Hold the newborn in a supine position (supporting the head and neck with one hand and the buttocks with the other) or prone (palm under the chest, with the index finger supporting the jaw).

5

Position on the Chest

Place the newborn prone and upright between the breasts. Head turned to one side, neck slightly extended. Arms and hips flexed. The mother should be able to kiss the newborn's head.

6

Secure with a Wrap or Binder

The wrap goes around the mother's back, high under the armpits, and crosses over the chest. The tightest part should support the newborn's back. Tie at the side, if applicable.

7

Check Tubes, Cables, and Condition

Secure cables and tubes within the mother's clothing. Check the newborn's clinical condition and the mother's comfort.

8

Outer garment

Place the KMC garment over the wrap and tie it at the bottom. In cold environments, cover with a blanket.

9

Education and supervision

Teach the mother how to observe the newborn. Encourage her to move while keeping the newborn secure. Supervise until the mother feels comfortable.

KMC in Newborns on CPAP or Other Non-Invasive Respiratory Support

Differences in the procedure compared with a stable newborn:

1	At least 2 healthcare professionals are required to transfer a newborn on CPAP.
2	One professional holds the newborn while the other stabilizes the CPAP tubing to prevent displacement of the nasal interface.
3	If additional IV lines are present, a third healthcare professional may be required.
4	The newborn is moved laterally toward the mother using slow, controlled movements.
5	The mother places her hands over the healthcare professional's hands to secure the newborn before the professional removes their hands.
6	CPAP tubing is secured to the mother's clothing. With an elastic binder, the tubing should exit from the top to allow rapid access in an emergency.
7	Continuously check neck position, airway patency, and SpO_2.
8	Resuscitation equipment must always be available and ready for use during and after the transfer.

Note: Procedures that can be performed while the newborn remains in the KMC position include: complete physical examination, CPAP, nasogastric/orogastric tube placement, IV access, blood sampling, ultrasound, phototherapy, and retinal examination.

4.3.3–4.3.4 Maintaining Prolonged KMC

Minimum Session Duration

Each session should last **at least 2 hours** to avoid stress for the newborn and allow normal sleep and thermoregulation cycles. When the mother needs to rest, an additional caregiver can take over.

Maternal Sleep and Position

The mother should rest in a semi-reclined position (20–30° from horizontal), using an adjustable bed or pillows. Reclining chairs are ideal during the day. Mothers usually adapt quickly to this position.

Movement and Activity

The mother can walk, stand, sit, and carry out activities while the newborn is safely secured in the kangaroo position. If the newborn has IV lines or respiratory support, movement may be limited but is still feasible.

Preventing Boredom

Provide organized recreational and educational activities and peer-group support, which can be very effective. When the newborn is awake, encourage active interaction such as singing, reading, and talking. Emphasize that prolonged KMC can facilitate earlier discharge.

4.3.5–4.3.7 Newborn Monitoring and Maternal Care

Monitoring the Newborn in the KMC Position

- HR, RR, temperature, SpO_2, activity, and feeding: at least every 6 hours
- Measure axillary temperature on the exposed arm for 3 minutes. If T < 36.5°C → take corrective action
- Periodic breathing is normal in preterm infants: brief pauses followed by spontaneous breathing without stimulation
- Apnea: >20 seconds, or <20 seconds with bradycardia/cyanosis → immediate stimulation; provide O_2 if hypoxemic
- Teach parents and caregivers how to recognize apnea (demonstration: hold breath for 20 seconds)
- Newborns can receive CPAP, NG tube feeding, IV therapy, and phototherapy while in the KMC position
- Perform painful procedures in the KMC position whenever possible, as KMC provides proven natural analgesia
- Avoid daily bathing; clean skin folds with a damp cloth when needed

Maternal Care (4.3.7)

- Monitor every hour during the first 4 hours, then every 4 hours during the first day
- Assess blood pressure, pulse, temperature, vaginal bleeding, uterine tone, and episiotomy
- Confirm urination and ensure adequate hydration and nutrition
- Provide postnatal counseling on perineal hygiene, nutrition, and gradual return to physical activity
- Provide contraception when appropriate
- Offer HIV testing in high-prevalence settings
- If the mother is ill, support breast-milk expression and ensure that breast milk is provided to the newborn
- Respect the mother's privacy within the unit using curtains or privacy screens

4.3.8 Breastfeeding and Alternative Feeding Methods

< 32 Weeks' GA

Nasogastric/orogastric tube

Non-nutritive sucking (NNS) at an emptied breast from ≥28 weeks. Sucking may not yet be coordinated. Begin milk expression from the start.

32–34 Weeks' GA

Direct breastfeeding + cup/spoon supplementation

Coordination improves, but the infant may tire quickly. Offer the breast first, then expressed breast milk by cup. Encourage NNS. **Hindmilk technique?.**

≥ 34 Weeks' GA

Direct breastfeeding

Most infants can suck and swallow effectively. Cup feeding may still be needed if milk transfer is inadequate. Follow an infant-led approach.

Milk Expression

Express milk 8–12 times/24 h, including at least once during the night. Initially, avoid intervals longer than 4–5 hours. Continue until milk flow decreases (5–15 min/breast). Combine hand expression, pumping, and breast massage (hands-on pumping).

Breastfeeding Support

Keep mother and newborn together whenever possible. Provide instruction and guided demonstrations. Involve the father and family to encourage and assist the mother. Monitor daily expressed milk volume (see Table 5 of the guide).

Signs of Adequate Feeding

Sustained weight gain. At least 6 wet diapers/day. Breasts feel softer after feeding. Infant appears satisfied and sleeps after feeding. In preterm infants, weight gain and urine output are the most reliable indicators.

Fig. 28. Guidance for initial method of feeding for preterm or LBW newborns

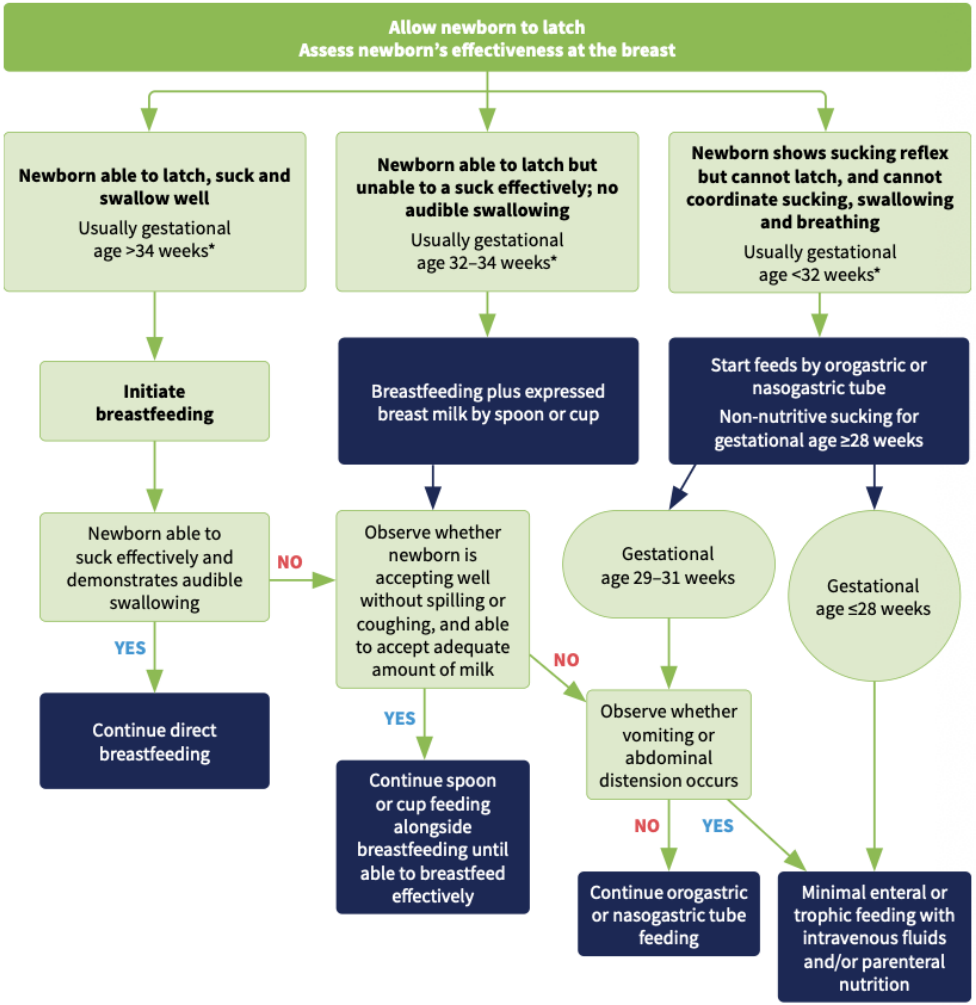


Fig. 29 Tube feeding in KMC position

A premature newborn is fed breast milk through a tube

Fig. 30. Cup feeding in KMC position

Newborn receiving expressed breast milk via a cup while in the KMC position

Fig. 32. Direct breastfeeding in KMC position

4.4 KMC Monitoring · 4.5 Preparation for Discharge

KMC Quality Monitoring (4.4)

- Record KMC data at least daily (ideally every 6 hours)
- Date/time of KMC initiation and weight at KMC initiation
- Hours of KMC per day and frequency of exclusive breastfeeding
- Newborn's temperature and daily weight
- Aggregate data monthly to assess coverage and quality
- Integrate data into the health information system
- Key indicator: % of newborns <2,500 g receiving KMC (KMC position anywhere within the health facility)

Discharge Criteria and Counseling (4.5)

- No illness or apnea preventing discharge
- Screening completed (vision and hearing)
- Temperature 36.5–37.5°C during sustained KMC
- Adequate weight gain for 3 consecutive days
- Mother/family confident in caring for the newborn
- Appropriate maternal hand hygiene
- Family knows the warning signs and where to seek care
- Post-discharge follow-up is ensured **(through a KMC program)**

Fig. 33. Discharge preparation and counselling

Health worker counselling the parents during their stay in the in mother-newborn care unit in preparation for discharge

Health worker counselling the parents at the time of discharge

4.5.2–4.5.3 Discharge Counselling and Transition to Home

Newborn Care at Home

- Continue KMC at home: warm room ≥25°C; supportive chair/bed
- At least 8 h of KMC/day until the newborn no longer tolerates it (~2,500 g or 40 weeks' corrected gestational age)
- Exclusive breastfeeding for 6 months; feeding plan if supplementation is required
- Hygiene: avoid bathing until the newborn can independently maintain a normal body temperature
- Warning signs: fever, feeding refusal, breathing pauses, cyanosis

Maternal Care

- Perineal and postpartum hygiene
- Adequate nutrition and family support
- Family planning and contraception
- Gradual return to physical activity
- Mental health: support for postpartum anxiety or depression
- Sexual activity and safe practices

Follow-up and Emergencies

- Follow-up visits according to national guidelines
- First follow-up visit within 24–48 h after discharge **(in Colombia: daily follow-up until weight gain reaches ≥15 g/kg/day)**
- Schedule follow-up appointments and upcoming vaccinations
- Provide emergency contact numbers and identify the nearest health facility
- Provide a written summary including diagnosis, treatment, and special follow-up needs, **particularly weight, length, and head circumference growth charts before and after 40 weeks' gestational age**

Encourage parents to take the newborn home in KMC position. Discuss arrangements: clothing, transportation, family support, and how to communicate with relatives and neighbors.





A shared effort between mother and father.




Chapter 5

KMC at Home

Supporting mothers and families to practice KMC at home.

Content:

- Requirements and considerations for KMC at home
- KMC initiated, when appropriate, following home births
- Practical considerations for effective KMC at home
- Colombia Post-discharge monitoring and follow-up **through an outpatient KMC Program.**

5.1 Requirements and Considerations for KMC in the Community

National Policies

- KMC included in the comprehensive maternal and newborn care package
- Number, frequency, duration, and content of home visits clearly defined
- Roles of community health workers clearly defined

Community-Based Mechanisms

- Community clinics or home visits by community health workers
- Health workers, community midwives, and outreach workers
- Peer groups or women's support networks (not necessarily healthcare workers)

Training of Community Health Workers

- Practical training in facilities where KMC is practiced
- Identification of preterm or low-birth-weight newborns
- Assessment of danger signs
- Breastfeeding counseling and breast-milk expression
- Support, assessment, and problem-solving for KMC at home

Referral System

- Clear criteria for referral to a higher level of care
- Effective communication between community health workers and healthcare facilities
- Appropriate and complete referral documentation
- Planned transportation for routine visits and emergencies

5.2 KMC Initiated After Home Birth

Key Principle
The first contact with a healthcare professional should occur within 24 hours after a home birth. During this contact, the newborn should be weighed and examined to determine whether hospitalization is required or whether KMC can be initiated at home.

1

First Contact (<24 h)

Weigh and examine the newborn. Assess gestational age (pregnancy wheel/LMP). Identify danger signs. Determine whether hospitalization is required according to national guidelines.

2

Does the Newborn Require Hospitalization?

Yes → Refer immediately. Transfer the mother and newborn together, ideally with the newborn in the KMC position. Continue breastfeeding during transport. Follow up to ensure that the referral is completed.

3

No Hospitalization Required?

Initiate KMC at home under close supervision. Demonstrate and help the mother place the newborn in the KMC position. If referral to a Kangaroo Mother Program (KMP) is not possible or accepted, KMC at home is better than no care.

4

Identification of Preterm Newborns

Low birth weight is relatively easy to identify. To identify prematurity, follow pregnant women from 28 weeks onward. Use a pregnancy wheel if the LMP is known. Preterm newborns are also commonly LBW.

5

Demonstration and Support

Help the mother place the newborn in the KMC position. Observe breastfeeding and provide technical support. Counsel on hygiene and hand expression of breast milk. Demonstrate cup feeding if needed.

6

Home Records

Record the daily duration of KMC and exclusive breastfeeding at home. Document when KMC and exclusive breastfeeding are discontinued. Link these records to the national community healthcare recording system.

5.2.2 Examination of the Newborn at Home and Family Counseling

Clinical Examination	Practical Guidance for the Family	Warnings and Danger Signs
• Introduce yourself, explain the procedure, and obtain consent	• Observe breastfeeding; provide support with technique and milk transfer	• Fever or temperature <36.5°C
• Observe the newborn's crying, activity, and feeding	• Teach hand expression and cup feeding	• Refusal to feed or weak sucking
• Assess clothing, room temperature, environmental hygiene, and caregiving practices	• Provide guidance on the newborn's daily hygiene	• Breathing pauses (apnea) or very rapid breathing
• Check vital signs and identify danger signs	• Weigh the newborn; use a pregnancy wheel to estimate gestational age and identify low birth weight	• Cyanosis (bluish discoloration of the skin/lips)
• Perform a complete head-to-toe examination, including front and back	• Ensure that the mother feels confident in providing KMC	• Lethargy or abnormally low activity
• Assess skin color, activity, posture, and tone	• Demonstrate the KMC position and observe the mother performing it	• Umbilical cord bleeding or signs of infection (pus, warmth, redness)

5.2.3 Guidance for Mothers and Families on KMC at Home

Feeding

- Exclusive breastfeeding day and night, if possible
- Respond to the newborn's hunger and satiety cues
- Seek help if breastfeeding difficulties arise

Thermal Care

- In cold climates: keep the room warm; avoid smoke and open flames
- Outside skin-to-skin contact: dress the newborn in one extra layer compared with adults
- Do not leave the newborn in a wet diaper
- Adjust clothing according to the ambient temperature

Hygiene

- Wash hands frequently before handling the newborn
- Do not apply anything to the eyes, ears, or umbilical stump
- Keep the diaper below the umbilical stump; if soiled, clean and dry it
- If the stump becomes red or has pus → seek care immediately

Safe Sleep

- When sleeping together during KMC, secure the newborn in the KMC position with a binder
- Mother/caregiver should remain semi-reclined
- When not in KMC: place the newborn on their back (supine) on a firm surface
- Keep loose bedding, pillows, and toys out of the sleep area

5.3 Practical Considerations for Effective KMC at Home

Climate and Temperature

Hot climates: use a fan, but do not direct it toward the newborn; use a hand fan during power outages. Cold climates: wear front-opening clothing so the newborn can be placed in the kangaroo position without fully undressing the mother beforehand.

KMC at Night

The mother can practice KMC while sleeping. Use a semi-reclined position with the KMC wrap securely fastened. Evidence from a community-based study showed that nighttime KMC reduced neonatal mortality by 30%. Benefits outweigh the potential risks.

Privacy at Home

In a one-room home, temporary partitions can be created using old sheets or curtains. In larger homes, a room can be dedicated to KMC. Mothers can maintain their cultural or traditional practices while providing KMC.

Household Activities

A securely fastened KMC wrap allows the mother to perform non-strenuous activities. Family members should help reduce her household workload. The father or other caregivers can provide skin-to-skin contact while the mother rests.

Cultural and Social Barriers

Preterm birth may be stigmatizing in some cultures, and KMC may be perceived as socially inappropriate. Provide culturally sensitive counseling by identifying misconceptions and addressing their underlying causes.

Discomfort and Physical Support

For abdominal pain or postpartum fatigue, use pillows for support. Alternate between semi-reclined and supine positions. A securely fastened KMC wrap can provide additional support while walking. Consider social support services when logistical or financial barriers are present.

Nighttime KMC and Safe Sleep: Evidence and Recommendations

Context: Some experts in high-income countries have raised concerns about a potential conflict between nighttime KMC and safe-sleep guidelines. However, available evidence provides reassurance regarding the safety of nighttime KMC.

Community KMC Trial

LBW newborns received KMC for as long as possible, including at night. Average KMC duration: 11.5 hours/day.

Result: 30% reduction in mortality. Findings suggest that KMC at home, including nighttime KMC, reduces neonatal mortality.

Immediate KMC Study (WHO)

Sudden death among LBW newborns: 1.0% vs. 1.3% (not statistically significant). Post-discharge mortality was lower in the intervention group, although both groups continued nighttime KMC at home (average 8 hours/day of KMC).

WHO Conclusion

The benefits of KMC—particularly its role in reducing neonatal mortality—outweigh concerns about a potential conflict with safe-sleep recommendations. Current evidence does not show an increased risk of sudden death associated with nighttime KMC.

5.4 Monitoring and Follow-up of the Newborn After Discharge in the Kangaroo Position in a KMC Program

Suggested Follow-up Schedule

Until 40 weeks' corrected GA or 2,500 g	Then until 3 months' corrected GA	From 3–12 months
Frequent follow-up (according to clinical condition and protocol)	*Every 2–4 weeks*	*Every 6 weeks*

Area	Frequency	Details
Clinical history and examination	Every visit	Ask about problems, review medications/supplements, complete physical examination
Growth/Anthropometry	Every visit	Weight, length, head circumference. Plot on growth chart. Manage inadequate weight gain *(target: 15–20 g/kg/day)*
KMC and breastfeeding	Every visit	Check position and duration. Observe breastfeeding if needed. Provide appropriate support
Maternal–newborn counselling	Every visit	Feeding, hygiene, KMC. Address maternal concerns
Neurological screening	40 weeks' GA	Tone, reflexes, posture, movement, cranial nerves, behavior
Retinopathy of prematurity	According to national protocol	Specialist assessment; teleophthalmology if available
Hearing	40 weeks' corrected GA to 1 month	Automated auditory brainstem response preferred
Immunizations	According to WHO/national guidelines	Follow the national immunization schedule; doses according to chronological age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MADRE
INTEGRAL

Specialized Follow-up and Integrated Support

Newborns Who May Require Specialized Follow-up

- Ophthalmology: retinopathy of prematurity (ROP)
- Neurology: newborns with neurological complications
- Cardiology: congenital heart defects or patent ductus arteriosus
- Pediatric surgery: congenital malformations
- Nutrition: complex feeding difficulties
- Speech and language therapy: swallowing disorders
- Physiotherapy: hypotonia or increased muscle tone
- Audiology: identified hearing loss

At Each Follow-up Visit, Assess

- Signs of illness: fever, respiratory distress, jaundice, lethargy
- Medications/supplements: dosage, side effects, adequate supply
- Growth: plot growth and intervene if inadequate
- KMC position and duration; signs of intolerance
- Breastfeeding status (exclusive/mixed): provide support and positive reinforcement if exclusive
- Neurodevelopment: tone, reflexes, posture, behavior
- Maternal well-being: ask about personal, household, or social concerns

Annexes

- Annex 1. Breastfeeding positions
- Annex 2. Growth monitoring and guidance on management of poor weight gain. **Controversy regarding the use of human milk fortifiers and preterm formula when a preterm or low-birth-weight infant is not gaining adequate weight after underlying medical conditions have been ruled out.**
- Annex 3. WHO conditional recommendations on micronutrient supplementation
- Annex 4. Sample KMC monitoring forms. **Examples are provided. Fundación Canguro has a follow-up form that can be shared.**
- Annex 5. How to Calculate Gestational Age to Determine Whether a Newborn Is Preterm Using the LMP. **It is preferable to use gestational age determined by first-trimester ultrasound, when available, or the New Ballard Score, assessed after birth (within the first 72 hours postpartum).**

KMC at Home: Key Messages

KMC should continue at home after discharge: it is safe, effective, and accessible to all families.

The first contact with a healthcare professional after a home birth should occur within 24 hours of birth.

Train the entire family—mother, father, grandparents, and other caregivers—to provide continuous support and participate in an outpatient Kangaroo Mother Care Program.

Close follow-up is essential: until 40 weeks' corrected gestational age, and then periodically until 1 year of corrected age.

Evidence shows that KMC during the night is safe, and its benefits outweigh potential risks.

Preterm and/or LBW infants should not only survive, but survive with quality of life.











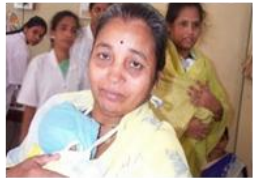

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