

# Is Early Kangaroo Care Safe in Preterm Infants Under 28 Weeks Gestation?

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## Introduction

The protective effects of Kangaroo mother care (KC) on the neurodevelopment of preterm infants are well established, but we do not know whether the KC is safe on infants under 28 weeks gestational in the first days of life.

## Aims

To describe safety in early KC on preterm infants under 28 postmenstrual weeks.

## Methods

This study is part of a primary randomized parallel clinical trial conducted to evaluate the equivalence or non-inferiority of lateral kangaroo care posture versus prone conventional posture. (Cangulat Study. Trial registration at clinicaltrials.gov: NCT03990116) RCT was conducted at the Neonatal Intensive Care Unit (NICU) of the 12 de Octubre University Hospital (Madrid, Spain), from May 2019 to November 2021. A total of 105 infants < 28 GA (Gestational Age) at birth were assessed for eligibility; 35 of them were excluded and 70 were enrolled.

During their first five days of life, all KC sessions were monitored. All infants in KC were covered by polyethylene bags to keep humidity and decrease hypothermia risk while keeping maximal skin-to-skin contact.

## Ethics Considerations

The Clinical Research Ethics Committee of the Hospital 12 de Octubre approved the study (no. CEIM 19/206). Informed consent was obtained from the parents of all subjects involved in the study.

## Results

During the study, 285 sessions of KC were taken throughout the first five days of life. The main results are shown in Table 1.

Of the 285 sessions studied, 78% took place in a single room (SR) and 22% in an open bay room (OB). An umbilical catheter was present in 60% of the sessions (168/285) and peripherally inserted central catheter in 58% (165/285). In 5.6% (16/285) of the sessions, infants were intubated and 94.4% were assisted on duopap/cpap.

Two of the sessions lasted only 60 minutes due to infant temperatures < 36.5°C and an accidental extubation occurred. In 80% (228/285) transference was performed by a health profes-

Table 1

N=70	Media	DS	Min- Max
GA (wk)	26.2	1.2	24-27.8
Weight (g)	859 ± 63	196	510-1460
Apgar 5 min < 4	7 (10%)	2.3	2-10
Days of admisión	52.17	24	3-141
Sex (male)	46 (65,7%)		
C- section	39 (55,7%)	8.2	
Hours of life of the 1st KC	38.1		8-99
Duration of KC sessions (min)	130	56	50 - 365
Oxygen saturation	95%	3.4	
Oxygen supplementation %	25.4	8.5	
Heart rate	153	12	
T <sup>a</sup> 60 min after beginning KC	36.7 °C	0.4	
Infants with apnea during the first KC session, % (n)	30% (21/70)		

sional, and in 20% (57/285) by the parents. Ultrasound follow-up detected 8.5% (6/70) of IVH I and 4.3% (3/70) of IVH II.

Activity in the room during the kangaroo sessions was measured using the Profile of the Nursery Environment and of Care Components Template Score Sheet1. When children were in the SR the activity was calmer and quieter (>4-5) than OB (66% vs. 90.3% p< 0.005). As light and noise were softer (6.8 lux vs 3.7 lux p<0.005) and (62 dB vs 58 dB p<0.005).

## Relevance to NIDCAP

As professionals working in neonatal units, we should have as much knowledge as possible about KC and be able to make parents as autonomous as possible in the KC.

## Conclusion

Our findings suggest that extremely preterm infants keep normothermia during kangaroo care in their first days of life.

And there are no risks concerning devices such as umbilical catheters and endotracheal tubes, IVH is not increased, as all IVH cases were grade 1 or 2. If KC takes place in a single room, a calmer environment and a more appropriate noise and light level surround children.

#### References

Als H, Buehler D, Gilkerson L, Smith K. Profile of the Nursery Environment and of Care Components Template Manual Part 1. NIDCAP Training Manual. NIDCAP Federation International, 2015.

## Time for Change: Let Parents Assess Neonatal Pain in the NICU

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### Introduction

Newborns are exposed to many painful procedures in Neonatal Intensive Care Units (NICUs). Neonatal pain has been recognized in the eighties and many scales have been developed to assess and manage pain. Despite this, pain management in NICUs is often suboptimal and remains challenging. Over the last decades, parents have become more and more involved in the care of their babies.

### Aims

The primary aim of this study is to compare the EDIN pain scale assessed by parents with the assessment made by caregivers. This is to determine if parents could be reliable resources to optimize pain management in ill newborns. The secondary aim of the study is to evaluate the Swedish ALPS-Neo scale compared to the EDIN pain scale as a potential and more appropriate tool for assessing stress and pain in newborns.

### Methods

A prospective study was conducted in the NICU of Saint-Pierre University Hospital in Brussels, Belgium. The study compared the EDIN pain scale assessed by parents to the one assessed by caregivers. From January 1st to May 31st, 2022, informed consent was obtained for fourteen newborns. Parents of these newborns who were enrolled in the study were trained (one hour) in assessing the EDIN scale by an experimented caregiver. Both parents and caregivers assessed the EDIN pain scale. EDIN scores of parents and caregivers were compared. Caregivers also assessed the ALPS-Neo pain scale for each EDIN score.

### Results

The results showed that the EDIN scores assessed by parents were significantly higher in absolute value compared to the scores assessed by the caregivers. However, there was an agreement between parents and caregivers in identifying positive pain scores (EDIN  $\geq$  5) in 77.8% of the cases. Parental pain assessments were particularly amplified during painful

procedures. Parent's pain assessment is more constant during the day while caregivers assess pain mostly during the morning. The ALPS-Neo pain scale was found to be more efficient, precise, and supportive of nonpharmacological pain management compared to the EDIN scale. A larger study in the unit is currently underway to confirm these findings.

### Relevance to NIDCAP

The study highlights that parents' assessment of the EDIN pain scale is as reliable as those of caregivers. Furthermore, parents consistently evaluate pain throughout the day, indicating that their involvement can contribute to more optimal pain management. This underscores the importance of a family-centred approach in NICUs.

### Conclusion

To improve pain management in the NICU, parents should receive training in assessing pain and stress and become active collaborators in the assessment process. ALPS-Neo is suggested as a validated, user-friendly pain scale that could be more suitable for use by parents compared to the EDIN scale. ALPS-Neo promotes nonpharmacological pain management and may offer a more appropriate tool for parents to assess their newborns' pain.

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