

Evidence table

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
Camba F, Céspedes MC, Jordán R, Gargallo E, Perapoch J. Elective extubation during skin-to-skin contact in the extremely premature infant. <i>An Pediatr (Barc)</i> . 2016;84:289- 291	VI	<ul style="list-style-type: none"> • Evidence on the safety of skin-to-skin for ventilated neonates • Greater stabilisation of cardiorespiratory parameters during skin-to-skin
Chang J, Filoteo L, Nasr A. Comparing the Analgesic Effects of 4 Nonpharmacologic Interventions on Term Newborns Undergoing Heel Lance A Randomized Controlled Trial. <i>Journal of perinatal and neonatal nursing</i> . 2020 Oct/Dec; 34 (4) pp 334-345	II	<ul style="list-style-type: none"> • STS promotes breastfeeding • STS aids in thermoregulation • STS has been demonstrated to improve stability in vital signs • STS has analgesic effects for procedural pain.
Cunningham, C. Patton, D, Moore, Z, O'Connor, T, Bux,D, & Nugent, L. Neonatal kangaroo care - What we know and how we can improve its practice: An evidence review, <i>Journal of Neonatal Nursing</i> , Volume 28, Issue 6, 2022, Pages 383-387, ISSN 1355-1841, https://doi.org/10.1016/j.jnn.2021.10.004 .	VII	<ul style="list-style-type: none"> • Benefits include haemodynamic stability, neurodevelopmental, maternal and paternal. • Identifies improvement in breastfeeding and feed tolerance. • Lists contraindications to STS in the NICU • Identifies need for expert support and education in the NICU
Jeewan Jyoti, Kaye Spence, Sharon Laing, Nadine Griffiths, Himanshu Popat, Parents' awareness and use of nonpharmacological methods to manage their baby's procedural pain in a surgical neonatal intensive care unit, <i>Journal of Neonatal Nursing</i> , 29 (1), 2023, Pages 60-67, ISSN 1355-1841, https://doi.org/10.1016/j.jnn.2022.02.005 .	VIII	<ul style="list-style-type: none"> • Parents of babies undergoing surgery identify pain management as a major source of stress. • Being unable to protect their infant from pain has been linked to parental stress. • Skin-to-skin is beneficial for infants in intensive care as well as parents.

<p>Jesney, Sarah. A critical analysis of the role of the nurse in the implementation of skin-to-skin on the neonatal unit, <i>Journal of Neonatal Nursing</i>, Volume 22, Issue 2, 2016, Pages 68-73, ISSN 1355-1841, https://doi.org/10.1016/j.jnn.2015.04.008.</p>	VIII	<ul style="list-style-type: none"> • Parental and newborn benefits • Improved breastfeeding rates • Increased milk supply post STS session.
<p>El-Farrash, R., Shinkar, D., Ragab, D., Salem, R., Saad, W., Farag, A., Salama, D. and Sakr, M. (2019). Longer duration of kangaroo care improves neurobehavioral performance and feeding in preterm infants: a randomized controlled trial. <i>Pediatric Research</i>.</p>	II	<ul style="list-style-type: none"> • Newborns who receive SSC for long durations reach full enteral feeds faster, better thermoregulation and tissue oxygenation • Better neurobehavioural performance achieved with longer durations of regular SSC
<p>Hubbard, J. and Gattman, K. (2017). Parent–Infant Skin-to-Skin Contact Following Birth: History, Benefits, and Challenges. <i>Neonatal Network</i>, 36(2), pp.89-97.</p>	V	<ul style="list-style-type: none"> • Promotion of newborn growth particularly premature newborns • Focus on benefits for mothers and fathers broken down into separate categories
<p>Orahood J. Kangaroo Care in the in the neonatal intensive care unit. <i>Contemporary Pediatrics</i></p>	VIII	<ul style="list-style-type: none"> • Length of time STS should be provided • Benefits of STS
<p>Karlsson, V, Heinemann, A, Sjors, G, Hedberg Nykvist, K & Agren, J (2012), 'Early Skin-to-Skin Care in Extremely Preterm Infants: Thermal Balance and Care Environment', <i>Journal of Pediatrics</i>, 161(3): 422-426.</p>	III	<ul style="list-style-type: none"> • The safety of SSC extreme pre-term infants taking into account evaporative and convective heat loss.
<p>Lisanti AJ, Demianczyk AC, Costarino A, Vogiatzi MG, Hoffman R, Quinn R, Chittams JL, Medoff-Cooper B. Skin-to-Skin Care Is a Safe and Effective Comfort Measure for Infants Before and After Neonatal Cardiac Surgery. <i>Pediatr Crit Care Med</i>. 2020 Sep;21(9):e834-e841. doi: 10.1097/PCC.0000000000002493. PMID: 32740179; PMCID: PMC8865053.</p>	II	<ul style="list-style-type: none"> • STS is a low risk, safe and low cost intervention that provides comfort and physiological stability to infants in the pre and post operative period. • Can be applied with adequate support with multiple catheters, tubes and monitoring cables insitu. • Highly beneficial in improving neurodevelopmental outcomes.

<p>Lorenz, L., Dawson, J., Jones, H., Jacobs, S., Cheong, J., Donath, S., Davis, P. and Kamlin, C. (2017). Skin-to-skin care in preterm infants receiving respiratory support does not lead to physiological instability. <i>Archives of Disease in Childhood - Fetal and Neonatal Edition</i>, 102(4), pp.F339-F344.</p>	<p>V</p>	<ul style="list-style-type: none"> • Instability is unlikely caused by SSC. Cerebral oxygenation and other physiological measurements are the same between infants receiving SSC or incubator care.
<p>Mangat, A., Oei, J., Chen, K., Quah-Smith, I. and Schmölzer, G. (2018). A Review of Non-Pharmacological Treatments for Pain Management in Newborn Infants. <i>Children</i>, 5(10), p.130.</p>	<p>V</p>	<ul style="list-style-type: none"> • SSC is a great intervention for pain in newborns particularly for procedures due to its relatively high safety profile, accessibility to most patients, and ease of use.
<p>Rheinheimer N, Beijers R, Cooijmans KHM, Brett BE, de Weerth C. Effects of skin-to-skin contact on full-term infants' stress reactivity and quality of mother-infant interactions. <i>Dev Psychobiol</i>. 2022;64(7):e22308. doi:10.1002/dev.22308</p>	<p>II</p>	<ul style="list-style-type: none"> • RCT on effects of STS on maternal and infant cortisol levels • Benefits of STS identified but RCT did not prove a reduction in cortisol as mechanism.
<p>Schrauwen L, Kommers DR, Oetomo SB. Viewpoints of Parents and Nurses on How to Design Products to Enhance Parent-Infant Bonding at Neonatal Intensive Care Units: A Qualitative Study Based on Existing Designs. <i>HERD</i>. 2018 Apr;11(2):20-31. doi: 10.1177/1937586717728483.</p>	<p>VII</p>	<ul style="list-style-type: none"> • Utilising a mirror during skin to skin enables parents to make eye contact and promote the bond with their baby during skin-to-skin. • Giving them a mirror helps facilitate parental recognition of babies cues, and removes focus of the monitors and equipment in the NICU environment, which many parents identified as additional stressors.