**Caitlin Guest u3017623**

**Nature’s Lifeline- Optimal Cord Management and Neonatal Resuscitation**

Optimal cord management (OCM) is a baby-led approach to the timing of umbilical cord clamping which focuses on respiration, ceasing of cord pulsations and baby behaviour. The benefits of OCM are widely accepted, yet up to 30% of babies have their placental circulation ceased prematurely in order to initiate resuscitation efforts or to allow cord blood sampling. Research shows that babies receiving resuscitation with the umbilical cord intact have better cardio-respiratory stability, improved oxygen saturation and higher Apgar scores. Mother-side resuscitation removes the requirement to cut off this valuable lifeline and has been practised by many midwives, particularly in the home, for centuries.

This policy supports initial neonatal resuscitation efforts being conducted mother-side, with umbilical cord intact for term neonates in the absence of significant risk factors. Multidisciplinary engagement and collaboration will be required for the redesign of birth rooms and acquisition of appropriate portable equipment. Care provider concerns regarding access for resuscitation will be balanced with the dyadic needs of the woman and baby. Training in portable resuscitation equipment will be provided for all intrapartum care providers. Evaluation will include an audit of birth outcomes, staff confidence with altered practice and maternal experience. Policy expansion to all neonates is planned upon positive evaluation.

Mother-side, intact cord neonatal resuscitation returns the focus of care to supporting the family unit and physiological transition to extra-uterine life. Significantly more babies will receive OCM’s benefits with improved clinical outcomes, whilst keeping women and their families at the centre of their care.

**References:**

Andersson, O., & Mercer, J.S. (2021). Cord management of the term newborn. *Clinics in Perinatology, 48*(3), 447-470. <https://doi.org/10.1016/j.clp.2021.05.002>

Andersson, O., Rana, N., Ewald, U., Malqvist, M., Stripple, G., Basnet, O., Subedi, K., & Kc, A. (2019). Intact cord resuscitation versus early cord clamping in the treatment of depressed newborn infants during the first 10 minutes of birth (Nepcord III)- a randomized clinical trial. *Maternal Health, Neonatology and Perinatology, 5*(15). <Https://doi.org/10.1186/s40748-019-0110-z>

Batey, N., Yoxall, C.W., Fawke, J.A, Duley, L., & Dorling, J. (2017). Fifteen-minute consultation: stabilisation of the high-risk newborn infant beside the mother. *Archives of Disease in Childhood: Education and Practice, 102,* 235-238. <https://doi.org/10.1136/archdischild-2016-312276>

Blank, D.A., Badurdeen, S., Kamlin, C.O.F., Jacobs, S.E., Thio, M., Dawson, J.A., Kane, S.C., Dennis, A.T., Polglase, G.R., Hooper, S.B., & Davis, P.G. (2018). Baby-Directed umbilical cord clamping: A feasibility study. *Resuscitation, 131,* 1-7. <https://doi.org/10.1016/j.resuscitation.2018.07.020>

Gruneberg, F., & Crozier, K. (2015). Delayed cord clamping in the compromised baby. *British Journal of Midwifery, 23*(2), 102-108. <Https://doi.org/10.12968/bjom.2015.23.2.102>

Katheria, A.C. (2019). Neonatal Resuscitation with an intact cord: Current and ongoing trials. *Children, 6*(4), 60. <https://doi.org/10.3390/children6040060>

Katheria, A.C., Brown, M.K., Faksh, A., Hassen, K.O., Rich, W., Lazarus, D., Steen, J., Daneshmand, S.S., Finer, N.N. (2017). Delayed cord clamping in newborns born at term at risk for resuscitation: A feasibility randomized clinical trial. *The Journal of Pediatrics, 187,* 313-317. <https://doi.org/10.1016/j.jpeds.2017.04.033>

Katheria, A.C., Sorkhi, S.R., Hassen, K., Faksh, A., Ghorishi, Z., & Poetler, D. (2018). Acceptability of bedside resuscitation with intact umbilical cord to clinicians and patients’ families in the United States. *Frontiers in Pediatrics, 6*(100). <https://doi.org/10.3389/fped.2018.00100>

Kc, A., Budhathoki, S.S., Thapa, J., Niermeyer. S., Gurung, R., Singhal, N, Nepal Neonatal Network. (2021). Impact of stimulation among non-crying neonates with intact cord versus clamped cord on birth outcomes: observation study. *BMJ Paediatrics Open, 5*(1). <https://doi.org/10.1136/bmjpo-2021-001207>

Kearney, L., Reed, R., Kynn, M., Young, J., & Davenport, L. (2019). Third stage of labour management practices: A secondary analysis of a prospective cohort study of Australian women and their associated outcomes. *Midwifery, 75,* 110-116. <https://doi.org/10.1016/j.midw.2019.05.001>

Kresch, M.J. (2017). Management of the third stage of labour: How delayed umbilical cord clamping can affect neonatal outcome. *American Journal of Perinatology, 34,* 1375-1381. <https://doi.org/10.1055/s-0037-1603733>

McDonald, S.J., Middleton, P., Dowswell, T., & Morris, P.S. (2013). Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. *Cochrane Library*, *2013*(7). <https://doi.org/10.1002/14651858.CD004074.pub3>

Mercer, J.S., Erickson-Owens, D.A. (2014). Is it time to rethink cord management when resuscitation is needed? *Journal of Midwifery and Women’s Health, 59*(6), 635-644. <https://doi.org/10.1111/jmwh.12206>

Rabe, H., Mercer, J., & Erickson-Owens, D. (2022). What does the evidence tell us? Revisiting optimal cord management at the time of birth. *European Journal of Pediatrics.* <https://doi.org/10.1007/s00431-022-04395-x>

Rabe, H., Gyte, G.M.L., Diaz-Rossello, J.L., & Duley, L. (2019). Effect of timing of umbilical cord clamping and other strategies to influence placental transfusion at preterm birth on maternal and infant outcomes (Review). *Cochrane Library, 2019*(9). <https://doi.org/10.1002/14651858.CD003248.pub4>.

Saether, E. (2021, March 8). *Optimal start: Intact-cord stabilisation of the newborn. Evidence and implementation* [Webinar]. Gynzone Live. <https://my.gynzone.com/courses/83-design-of-loving-birth-environments-jan-march-2021/chapters/320-march-sessions-in-english-2021/watch/1081-intact-cord-stabilisation-of-the-newborn-evidence-and-implementation?referrer=/courses/83-design-of-loving-birth-environments-gynzones-2021-webinars>

Saether, E., Reinhart-Van Gulpen, F., Jensen, C., Myklebust, T.A., Erikson, B.H. (2020). Neonatal transitional support with intact umbilical cord in assisted vaginal deliveries: a quality-improvement cohort study. *BMC Pregnancy and Childbirth, 20.* <https://doi.org/10.1186/s12884-020-03188-0>

Stamoulos, S., & Lavelle, R. (2019). Neonatal resuscitation: ‘Room side to motherside’. *British Journal of Midwifery, 27*(11), 716-728. <https://doi.org/10.12968/bjom.2019.27.11.716>

Sawyer, A., Ayers, S., Bertuillies, S., Thomas, M., Weeks, A.D., Yoxall. C., & Duley, L. (2015). Providing immediate neonatal care and resuscitation at birth beside the mother: parents’ views, a qualitative study. BMJ Open, 5. <https://doi.org/10.1136/bmjopen-2015-008495>

Thomas M.R., Yoxall, C.W., Weeks, A.D., & Duley, L. (2014). Providing newborn resuscitation at the mother’s bedside: assessing the safety, usability and acceptability of a mobile trolley. *BMC Pediatrics, 14*(135). <https://doi.org/10.1186/1471-2431-14-135>