protecting the wellbeing of mothers and babies

IWK researchers are constantly looking for better ways to safeguard the health and wellbeing of expecting mothers and their unborn and newborn babies. By doing so, they are helping lay strong foundations for the health of future generations.

‘SO CONTENT TOGETHER’

Born seven weeks early, twins **Luka** *(left)* and **Melaniya Drebot** spent their first few weeks in separate incubators in the IWK’s Neonatal Intensive Care Unit (NICU), according to standard Canadian hospital policy.

Melaniya was ready to leave the incubator first, but Luka needed extra time for his lungs and his ability to self-regulate his body temperature to develop. As soon as Luka was ready to leave the incubator, however, IWK staff offered to put the babies together in a bassinet.

“We were so happy to see Luka and Melaniya together… and we could see the difference when they were apart,” says mother, **Khrystyna Drebot**. “Luka was unsettled whenever Melaniya was out of the bassinet, but calmed down as soon as we put her back in… they would both sleep more peacefully after that.”

Khrystyna and the twins’ father **Frederick** are pleased IWK researchers are studying how placing preterm twins together in incubators may help them cope with the stresses of those first weeks. “You can see and feel the strength of their bond,” she says of her own twins. “They make each other much more comfortable.”

Please note: *The IWK does not recommend co-bedding twins at home; further research is needed to shed light on the potential risks and benefits. Currently, the IWK is studying the pain-relief and comforting potential of co-bedding twins in hospital. This may lead to a policy to routinely offer co-bedding in incubators.*

A NATURAL WAY TO EASE PAIN AND STRESS IN FRAGILE PREEMIES

Depending on how long before term they are born, preterm babies may undergo as many as 600 painful procedures during their stay in neonatal intensive care. These include heel lances for blood work, insertion of intravenous lines, and suctioning of mucous from the airways. According to **Marsha Campbell-Yeo**, a nurse practitioner and clinical researcher in the IWK’s Neonatal Intensive Care Unit (NICU), these stressful early experiences can have a lasting impact.

Marsha Campbell-Yeo and colleagues in the IWK’s Neonatal Intensive Care Unit are investigating whether or not placing preterm twins together in incubators relieves the stress of painful procedures in their earliest weeks of life.

“Pain and the resulting stress disturb the delicate balance of pre-term babies’ self-regulatory systems. This could result in long-term issues with learning and behaviour,” says Marsha, who has Canadian Institutes of Health Research funding to identify the best non-pharmaceutical ways to alleviate procedural pain and provide comfort to babies in neonatal intensive care. Her past work has confirmed the powerful pain-relieving effect of skin-to-skin contact with mothers—and fathers—and now she is exploring how keeping twins close together in the NICU may improve their ability to cope with painful experiences.

“Twins are at higher risk for stressful early pain experiences because they are seven times more likely than single babies to be born before 37 weeks of gestation,” notes Marsha. She believes, however, that Mother Nature may have provided these vulnerable souls with built-in protection against pain and stress: the comforting presence of their twin.

Marsha and her colleagues are the first to study the pain- and stress-relief effects of keeping twins in the same incubator (co-bedding) in neonatal intensive care. They’re comparing the responses of twins who are cared for separately (standard care) to those of co-bedded twins following a heel-stick procedure. Early results are promising, says Marsha: “We’ve found that co-bedded twins’ heart rates return to normal two times faster than separated twins’, and that the level of stress hormones in their saliva is much lower.”

A PROACTIVE APPROACH TO HIGH-RISK BIRTH

As a specialist in maternal-fetal medicine, obstetrician **Dr. Vicky Allen** wants to know what factors put mothers and babies at higher risk of birth-related complications—such as fever, infection or hemorrhage in the mother, or respiratory distress, trauma or death in the newborn. Vicky and her colleagues are examining how length of pushing stage and delivery method (spontaneous, cesarean, vacuum or forceps) interact with such factors as the number of times a woman has given birth, her age and health, and any pregnancy or labour-related complications, to increase risk. Their findings enable IWK birth teams to manage each birth situation more proactively.