

Research team updates online tool for extremely preterm infant outcomes

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A research team funded by the National Institutes of Health has updated an online tool to provide information for clinicians and parents on outcomes for extremely preterm infants. The key change in the update was the incorporation of data from the hospital where the infant was born, which the researchers found was as important as gestational age in determining infant outcome. The original web-based outcome tool was developed in 2008 by the Neonatal Research Network, a group of clinical sites supported by NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD).

The revised tool, developed using data from the Neonatal Research Network and later validated using data from hospitals in the Vermont Oxford Network (VON), is based on outcomes for extremely preterm births in the United States. The researchers also used VON data to describe differences in survival across U.S. hospitals. The researchers describe the basis for the revision in an article appearing in *JAMA Pediatrics*.

The extremely [preterm infants](#) in this study were born from weeks 22 through 25 of pregnancy; a full-term pregnancy is 40 weeks. Many of these infants die soon after birth, despite receiving the [best treatment](#) available. Although some survive and reach adulthood largely unaffected, others will experience disability, ranging from correctable hearing loss to profound physical or intellectual impairment. Physicians and [family members](#) often must choose between aggressive treatment to save an infant's life or comfort care, which meets the infant's [basic needs](#)

but forgoes painful medical procedures unlikely to benefit the infant.

Like its predecessor, the new tool provides information on infant survival and neurological impairment on the basis of five factors: gestational age (the week of pregnancy the infant was born), whether the baby is male or female, birth weight, whether the baby was a single baby or from a multiple pregnancy, and whether the baby's mother was given antenatal steroids during labor to accelerate the baby's maturation and overall development. Hospital-specific estimates of survival for each participating hospital in VON are now available to that hospital through the VON website.

The developers of the tool stress that while it provides information useful for families and clinicians considering treatment options, it cannot substitute for a physician's careful assessment or predict with certainty the outcome for any infant.

More information: Rysavy, MA, et al. Assessment of an updated Neonatal Research Network extremely preterm birth outcome model in the Vermont Oxford Network. *JAMA Pediatrics*. 2020.

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