

New, simple method identifies preterm infants at risk of eye disease

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A simple way of establishing which preterm infants are at risk of developing the eye disease ROP is to follow their weight gain. A new study from the Sahlgrenska Academy, University of Gothenburg, Sweden, suggests that following weekly weight development might replace the need for considerably more expensive ophthalmological examinations.

Every year around 1000 Swedish [infants](#) are born more than two months prematurely. Preterm infants are at increased risk of damage to several important organs, including the brain, lungs, guts and eyes. Around 350 of these infants develop the [eye disease](#) retinopathy of prematurity (ROP) which, if left untreated, can threaten their sight. Ten per cent, or around one hundred, of the preterm infants need the same treatment to prevent [blindness](#).

"In the past 50 years it has been routine for all infants born very prematurely to be examined several times by ophthalmologists to identify children who need treatment for ROP, but this expensive method of screening can now perhaps be replaced by a considerably simpler and cheaper method, so that ophthalmological examination can be avoided in most cases," says Professor Ann Hellström of Sahlgrenska Academy.

The research team has previously identified another important link between preterm birth and vascular disease in the eye, the protein IGF-1, which is strongly linked to the infant's weight gain. Assisted by

statisticians at the University of Gothenburg, the researchers have developed an assessment model known as WINROP (Weight IGF-1 Neonatal ROP), which is based on weekly measurements of the infant's weight and analyses of the serum levels of IGF-1. "However, one would prefer not to take any blood samples from the preterm infants, and therefore we wanted to investigate whether our surveillance model worked if we only used the infant's weight. We found that it works extremely well," says Professor Hellström.

In a review of medical records, information on the weekly weights of 350 infants was entered into the model, and the outcome was compared with the ophthalmological examinations performed on them.

"All infants at risk were on average identified a few months before the ophthalmologist had seen signs of ROP requiring treatment. The method could therefore not just save money but also make it possible for infants with eye problems to be identified earlier," says Professor Hellström.

The new WINROP model is now to be evaluated in a large British study and also on data from Brazilian and American infants. The material will be analysed during the summer of 2009.

Source: University of Gothenburg ([news](#) : [web](#))

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