

New method of infant pain assessment

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Recently, the accuracy of current methods of pain assessment in babies have been called into question. New research from London-area hospitals and the University of Oxford measures brain activity in infants to better understand their pain response.

As every parent knows, interpreting what a baby is feeling is often incredibly difficult. Currently, pain in infants is assessed using the premature infant pain profile (PIPP), which is based on behavioral and physiological body reactions, such as crying and facial expression. Though this is a useful measure, it is largely dependent on unconscious reflexes and may not be reliably linked to central sensory processing in the brain.

The new pain assessment technique, published in the unique video-based publication, the *Journal of Visualized Experiments (JoVE)*, evaluates the electrical activity in skeletal muscles and uses electroencephalography (EEG) to detect activity in the areas of the brain where unpleasant sensations are processed.

"We want to help work out how effective pain treatments are," said study author Dr. Rebeccah Slater. "We also want to understand the effects of prematurity on pain, and whether prematurity on pain, and whether prematurity has long-term implications on the <u>pain response</u>."

The researchers gathered the data while the infants were undergoing a medically necessary heel lance, a routine method of collecting blood from newborns. Babies born with severe medical conditions may have to



undergo painful medical procedures frequently, and research has shown that this can cause long-term harm on a baby's nervous system.

Over-exposure to pain in infancy can lead to feeding and <u>sleep problems</u>, chronic pain problems and learning and behavioral disorders.

Because a poor understanding of pain in infants can lead to severe <u>health</u> <u>consequences</u>, Slater and her colleagues decided to publish in *JoVE*, the first and only peer-reviewed video journal indexed in PubMed and MEDLINE. The video-article makes it easier for other researchers and clinicians to learn this method.

"It's quite hard to measure <u>brain activity</u> in premature infants," said Slater about the decision. "The methods are quite complicated and we wanted people to be able to do this technique."

Provided by The Journal of Visualized Experiments

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