

# The Pavlik Harness as Treatment for Developmental Dysplasia of the Hip

*Winning Article, TSMJ Paediatrics Essay Prize, 2013*

Catherine Quinn, 4th Year Physiotherapy, TCD



**“The Pavlik harness has been shown to be extremely successful in the treatment of developmental dysplasia of the hip (DDH). Risk factors for failure and complications have been identified and can therefore be minimized.”**

Developmental dysplasia/dislocation of the hip (DDH) is a congenital condition that represents a number of anatomical abnormalities where the hip joint is not fully formed at birth. The femoral head is not held firmly in the acetabulum. It can be caused by the acetabulum being too shallow and/or the hip ligaments being lax. This means that it can range from slight ligament laxity to complete dislocation. Newborns are screened for DDH, as left untreated it can lead to abnormal gait, pain and osteoarthritis in early adulthood<sup>1</sup>. It is more common in girls, especially first-borns, and tends to run in families<sup>2</sup>. There is no definite cause; it may be a reaction to the mother's hormones during pregnancy, due to a tight uterus that does not allow foetal movement, or being born breech. It is often graded by Graf classification, ranging from I to IV, with IV being the most severe form of dislocation. The Pavlik harness is the most common harness used to treat DDH<sup>3</sup>.

Ultrasound is reported as the most sensitive method for detecting hip abnormalities in infants<sup>4</sup>, followed by clinical examination using the Barlow and Ortolani manoeuvres. Both tests are performed with the hip and knee bent to 90 degrees. Barlow's test is performed by adducting the hip and applying a downward pressure. The feeling of the femoral head slipping out of the socket posterolaterally indicates a positive result. The Ortolani manoeuvre involves gently abducting the hip and pulling the femoral head anteriorly. An audible and palpable clunk demonstrates a positive result. However, a study by O'Grady et al.<sup>5</sup> found that 84% of the units they included in their study (n=19) in the Republic of Ireland relied on radiographs for diagnosis. Only 37% had access to hip ultrasounds and only 42% of the units included in their study had formal DDH screening. This study highlights the fact that the two most effective methods of diagnosis are not routinely being used in Ireland today. Another study states that almost all authors agree that Ortolani-









