

# Plain Language Summary

## Detection and Nonoperative Management of Pediatric Developmental Dysplasia of the Hip in Infants up to Six Months of Age

### Background

This plain language summary provides an overview of the detection and nonoperative management of hip instability and dysplasia in children less than 6 months of age. The incidence of developmental dysplasia of the hip (DDH) is estimated to range from 1 to 28 out of every 1,000 newborns in the United States. DDH is usually present at birth but can develop in infancy.

### What is DDH?

Developmental dysplasia of the hip (DDH) is a malformation of the hip joint. Our hips are a 'ball and socket' joint, in which the ball (top of the femur/thighbone) fits firmly into the socket (acetabulum/hip bones). In infants with DDH, the ball is either loose in the socket, easily dislocated from the socket, or completely dislocated.

### How is DDH diagnosed?

#### Physical Examination:

Physicians perform a physical examination of infants to determine if DDH is present by moving the infant's leg in order to test the stability of the ball and socket joint. Infants with a hip joint that is very loose or easily dislocated are defined as having an unstable hip, or clinical instability.

Even in infants that are born with stable hips, there is limited evidence that the physician should reexamine the hip for stability at well-being checks until the child reaches 6 months of age.

#### Imaging:

A diagnosis of DDH may be confirmed with the use of imaging, although the use of imaging should be based on a positive physical examination. There is moderate evidence that universal screening of all infants (excluding those with risk factors present)

does not improve diagnosis rates and may lead to over-treatment. However, there is moderate strength evidence supporting the imaging of infants less than six months of age in infants with the following risk factors: breech presentation, family history of DDH, or a history of a clinically unstable hip.

Limited evidence also supports the use of ultrasound in infants younger than 6 weeks of age if instability is discovered in the physical examination; this use of ultrasound is to guide bracing treatment. If the physical examination does not reveal instability but there are abnormalities present on the ultrasound, there is limited evidence that supports observation without the implementation of bracing treatment. Once the infant is older than 4 months of age, evidence supports the use of an AP (anteroposterior, or front-to-back) pelvis x-ray rather than an ultrasound.

### What non-operative treatment options are available for DDH?

The use of a brace can be used to treat DDH in infants younger than 6 months of age. There is limited evidence that supports the use of a brace either immediately following the positive physical exam or delayed, as defined by 2-9 weeks. Delayed bracing treatment would include a period of observation prior to implementing brace treatment. During the course of bracing treatment, there is limited evidence supporting follow-up visits in which the physician performs additional physical examinations and imaging to guide the treatment course and the treatment duration. When bracing treatment is implemented, there is limited evidence in favor of the von Rosen splint over the Pavlik, Craig, or Frejka splints for initial treatment of a hip with instability.