



CLINICAL PRACTICE GUIDELINE
KEMH Postnatal Wards

Developmental Dysplasia of the Hips (DDH)

This document should be read in conjunction with the [Disclaimer](#)

Background Information

Developmental Dysplasia of the Hips (DDH) is a condition with a range of anatomical abnormalities of the hip joint in which the femoral head has an abnormal relationship with the acetabulum. This includes¹:

- Dysplasia - there is an inadequate acetabulum formation (may not be clinically noted).
- Subluxation - occurs if the femoral head can be partially displaced out of the acetabulum.
- Dislocatable - when the femoral head may be displaced from the acetabulum with manoeuvres.
- Dislocated - the femoral head is completely outside the acetabulum.

Teratologic hip dysplasia refers to prenatal severe fixed dislocation usually associated with genetic or neuromuscular disorders.²

Clinically detected neonatal hip instability ranges from 1.6-28.5 neonates per 1000. Long term consequences of undiagnosed or untreated DDH leads to pain in the hip, knee and lower back, gait abnormalities, and degenerative changes of the hip joint.³ During the immediate neonatal period, laxity of the hip capsule predominates, and if considerable enough can cause the femoral head to spontaneously dislocate. If it spontaneously relocates and stabilises within a few days future hip development is usually normal, however if dislocation continues structural abnormalities may develop.⁴ Audible and palpable tendinous 'clicks' can be confused with true neonatal instability of the hips. These clicks often disappear within the first few weeks after birth. Clinical examination by performing the Barlow or Ortolani tests are used to detect DDH. A positive test for Barlow or Ortolani signs also resolve quickly in more than 80% of infants with hip instability.⁵

Risk Factors

DDH is more common in girls than boys (girls 19 in 1000 verses boys 4.1 in 1000 of clinically diagnosed neonates).⁸ Other risk factors of DDH include first degree relative with DDH and breech delivery. Oligohydramnios, birth weight more than 4000g and foot deformities like metatarsus adductus, and talipes, may also increase risk of DDH. However, it is important to note that more than 60% of neonates have no identifiable risk factors for DDH^{5, 6}, with only 1 in 75 infants with identified risk factors for DDH being diagnosed with hip dislocation.⁷

Ultrasound is used for hip imaging in the first few months following birth as the femoral head is composed entirely of cartilage, and from 4-6 months of age x-ray's are more reliable. ^{1,4,5}

Despite clinical examination and screening practices for DDH there is a 1:5000 rate of late-onset dislocation of the hips. ^{5,7}

Management : All Newborn Infants

- All neonates should have their hips clinically checked by a clinician competent in performing the Barlow or Ortolani tests on the first day of birth. Refer to Neonatology Clinical Guidelines: [Developmental Dysplasia of the Hips \(DDH\)](#) for guidance in performing the Barlow and Ortolani tests. An educational video available on <http://www.ddheducation.com/> is a useful resource.
- The neonate should be tested for DDH by the clinician again at the home discharge check. If paediatric RMO is unsure of the test finding, they should then refer examination to the paediatrician registrar or Consultant. The neonate should not be discharged until the examination is performed

Neonate with 'Risk Factors' WITHOUT Clinical Signs of DDH

Refer the neonate with 'risk factors' but with no signs of DDH to the Orthopaedic Clinic at Princess Margaret Hospital (PMH), for clinical examination and ultrasound follow-up (as required) in 6 weeks in the following circumstances:

- A history of DDH in a first degree relative.
- A breech birth.

Referral to Orthopaedic Clinic at PMH is done using "[Hip Referral Form](#)".

Neonate with "Clicky" Hip which is Stable and En-located on Examination

Refer the neonate to the Orthopaedic Clinic at PMH using the [Hip Referral Form](#) for clinical examination and ultrasound follow-up (as required) in 6 weeks.

Neonate with Unstable Hip on Examination

A direct phone call is made to a member of the Department of Orthopaedics to discuss immediate referral and arrange an appointment. Complete the [Hip Referral Form](#) and fax to PMH.

Discharge

A discharge letter should be generated and sent to the GP to advise when an orthopaedic referral has been sent to PMH to assess for DDH.

The mother should be counselled regarding referrals, and recommended management for the 'at risk' neonate.

References


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5. Cady RB. Development Dysplasia of the Hip: Definition, Recognition, and Prevention of Late Sequelae. **Pediatric Annals.** 2006;35(2):92-101.
6. Patel H. Preventative health care, 2001 update: screening and management of developmental dysplasia of the hip in newborns. **CMAJ.** 2001;164(12):1669-77.
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8. Goldberg MJ. Early Detection of Developmental Hip Dysplasia: Synopsis of the AAP Clinical Practice Guideline. **Pediatrics in Review.** 2001;22(4):131-34.
9. Witt C. Detecting Developmental Dysplasia of The Hip. **Advances in Neonatal Care.** 2003;3(2):65-75.

Resources

<http://www.ddheducation.com/>

Related WNHS policies, procedures and guidelines

Neonatology Clinical Guideline - [Developmental Dysplasia of the Hips \(DDH\)](#)

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