



CLINICAL GUIDELINE	
Developmental Dysplasia of the Hips (DDH)	
Scope (Staff):	Nursing and Medical Staff
Scope (Area):	KEMH Postnatal Wards
<p align="center">Child Safe Organisation Statement of Commitment</p> <p>The Child and Adolescent Health Service (CAHS) commits to being a child safe organisation by meeting the National Child Safe Principles and National Child Safe Standards. This is a commitment to a strong culture supported by robust policies and procedures to ensure the safety and wellbeing of children at CAHS.</p>	

This document should be read in conjunction with this [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. A “clicky hip” is not an indication for an orthopaedic referral in the nascence of other signs of instability. Clinical examination by performing the Barlow or Ortolani tests is 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 an appropriately prepared health professional * 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 an appropriately prepared health professional* again at the home discharge check.
- If paediatric RMO or appropriately prepared midwife is unsure of the test finding, they should then refer examination to the Senior Registrar or Consultant. The neonate should not be discharged until the examination is performed.
- Where the examination is carried out by an appropriately prepared midwife, a neonate with definite or suspicious signs of DDH on clinical examination should be referred immediately to a Consultant Neonatologist.

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 Perth Children's Hospital (PCH), 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 PCH is done using eReferral

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 eReferral.

Discharge

A discharge letter should be generated and sent to the GP to advise when an orthopaedic referral has been sent to PCH to assess for DDH. [GP Letter](#)

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

Note: * An appropriately prepared health professional* is either a paediatric medical officer or a midwife who has successfully undertaken the Full Physical examination of the Newborn (FPEON).

Related CAHS internal policies, procedures and guidelines

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

References and related external legislation, policies, and guidelines

1. Gelfer P, Kennedy KA. Developmental Dysplasia of the Hip. **Journal of Pediatric Health Care**. 2008;22(5):318-22.
2. Storer SK, Skaggs DL. Developmental Dysplasia of the Hip. **American Family Physician**. 2006;74:1310-6.
3. Dezateux C, Rosendahl K. Developmental dysplasia of the hip. **The Lancet**. 2007;369:1541-52.
4. American Academy of Pediatrics. Committee on Quality Improvement SoDDotH. Clinical Practice Guideline: Early Detection of Developmental Dysplasia of the Hip. **Pediatrics**. 2000;105(4):896-905.
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.
7. Schwend RM, Schoenecker P, Richards BS, et al. Screening the Newborn for Developmental Dysplasia of the Hip. Now What Do We Do? **Journal of Pediatric Orthopedics**. 2007;27(6):607-10.
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.

Useful resources

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

[GP Letter](#)

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