

SUPPLEMENTARY FILES

Supplementary File 1: The Protocol of the Article

Definition of the Developmental Dysplasia of the Hip: A Systematic Scoping Article

CONDITION OR DOMAIN BEING STUDIED

Developmental dysplasia of the hip (DDH) is considered as an uncommon medical problem; however, in the orthopedics field, it is a common one and forms a large portion of pediatric orthopedics practice. This condition, i.e. DDH, refers to a wide spectrum of pathologic conditions, ranging from a subtle acetabular dysplasia to an irreducible hip dislocation.^[1] The term is defined simply as an abnormality of the hip joint where the hip joint has not formed normally in babies and young children, the socket portion (acetabulum) is shallow and does not fully cover the ball portion, and the ball is loose in the socket and resulting in an increased risk for joint dislocation. It may occur at birth or develop during a child's first year of life.^[2] This definition is present in the public health websites. The precise definition of hip dysplasia is controversial, and it encompasses a spectrum of abnormalities, rather than a single condition.^[3] Existing definitions of DDH lack uniformity. The literature has no clear, widely accepted definition of the condition.^[4]

REVIEW QUESTION

What is the modern definition of DDH?

TYPE OF THE STUDY TO BE DONE

Systematic scoping review.

SEARCH SOURCES

Electronic database search will include the following sites:

- PubMed and PubMed Central (PMC)
- Europe PMC
- Google Scholar
- IMEMR
- Cochrane Library.

Books of Orthopedics subject, especially of Pediatric Orthopedics specialty such as:

- Canale ST, Beaty JH, Azar FM. Campbell's Operative Orthopaedics. 13th ed. Philadelphia, PA: Elsevier; 2017
- Tachdjian's Pediatric Orthopaedics: From the Texas Scottish Rite Hospital for Children. 5th ed. Philadelphia, PA: Elsevier Saunders; 2014.
- Broughton NS. A Textbook of Pediatric Orthopaedics. London: WB Saunders; 1997.
- Benson MK, Macnicol MF. Developmental dysplasia of the hip. In: Children's Orthopaedics and Fractures. London: Springer; 2010.
- Ebnezar J. Textbook of Orthopedics. 4th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2010.
- Hefti F. Pediatric Orthopedics in Practice. 2nd ed. Berlin: Springer; 2015.
- Weinstein SL, Mubarak SJ, Wenger DR. Fundamental concepts of developmental dysplasia of the hip. Instr Course Lect 2014.
- Shapiro F. Pediatric Orthopaedic Deformities. Vol. 2. Cham: Springer Nature Switzerland; 2019.
- Blom A, Warwick D, Whitehouse M, editors. Apley and Solomon's System of Orthopaedics and Trauma. 10th ed. Boca Raton, FL: CRC Press, Taylor and Francis Group; 2018.
- Aresti N, Ramachandran M, Paterson M, Barry M. (eds) Paediatric Orthopaedics in Clinical Practice. In Clinical Practice. London: Springer; 2016.
- Joseph B, Nayagam S, Loder R, Torode I, editors. Paediatric Orthopaedics: A System of Decision-Making. 2nd ed. Boca Raton, FL: Tylor and Francis Group, CRC Press; 2016.
- Morrissy RT, Weinstein SL, editors. Lovell and Winter's Pediatric Orthopaedics, 5th ed. Philadelphia, PA: Lippincott Williams and Wilkins; 2001.
- Gosselin R., Spiegel D., Foltz M. (eds) Global Orthopedics. New York: Springer; 2014.

KEYWORDS OR PHRASES Will Be Used For The Search Process

Developmental dysplasia of hip, hip dysplasia, developmental dislocation of hip, congenital dislocation of hip, congenital dysplasia of hip, definition and description.

TYPES OF STUDIES AND ARTICLES TO BE INCLUDED

Inclusion criteria

- Types: Any journal article (of any type), a book chapter or a website discussing the definition or description of the condition specially those articles which include the term of definition in its title or abstract, or it is a review article discussing general aspects of the DDH (e.g. update, current concepts)
- Date of their publication: Last three decades (1990–2020)
- Language: English.

Exclusion criteria

- Grey literature
- Studies which discuss specific subject other than definition (e.g. risk factors, screening, diagnostic or therapeutic method)
- Case reports.

PARTICIPANTS/POPULATION

None.

INTERVENTION(S), EXPOSURE(S)

None.

COMPARATOR(S)/CONTROL

None.

DATA EXTRACTION AND RESULT SYNTHESIS

The data to be extracted from the articles will be collected, sorted and arranged in a special table using Word software sheet. The table's fields for journals will be:

- First author name
- Title of the article
- Publication date
- Type of the article
- Source of the article
- Descriptive data for DDH.

For the books, the following data will be extracted:

- First editor name
- Book name (with edition)
- Publication details (date, publisher, place)
- Chapter (with pages numbers) which include descriptive data
- The descriptive data for DDH.

The descriptive data will be those phrases and statements that have relation with the definition, description, and clarification of the condition. They will be reviewed, summarized, and sorted according to the concepts they indicate in a single chart. A short title will be used for each sort of data and concept.

The short titles of the concepts with the articles will be arranged in a special table in order to know how the concepts were used by the articles. Finally, a summary of the concepts will be retrieved and will be used as definition for DDH.

RISK OF BIAS (QUALITY) ASSESSMENT

According to the scoping review methodology, an assessment of the quality (risk of bias) of the included studies will not be performed.^[4,5]

LANGUAGE OF THE ARTICLE

English.

ANTICIPATED START DATE

June 20, 2020.

ANTICIPATED COMPLETION DATE

June 30, 2020.

REFERENCES

1. Gulati V, Eseonu K, Sayani J, Ismail N, Uzoigwe C, Choudhury MZ, *et al.* Developmental dysplasia of the hip in the newborn: A systematic review. *World J Orthop* 2013;4:32-41.
2. OrthoInfo. Illinois: American Academy of Orthopaedic Surgeons; c 1995-2020. Diseases and Conditions: Developmental Dislocation (Dysplasia) of the Hip (DDH). Available from: <https://orthoinfo.aaos.org/en/diseases--conditions/developmental-dislocation-dysplasia-of-the-hip-ddh/>. [Last accessed on 2020 Jun 20; Last updated on 2018 Jan 05].
3. Bracken J, Tran T, Ditchfield M. Developmental dysplasia of the hip: Controversies and current concepts. *J Paediatr Child Health* 2012;48:963-72.
4. Musielak B, Idzior M, Józwiak M. Evolution of the term and definition of dysplasia of the hip – A review of the literature. *Arch Med Sci* 2015;11:1052-7.
5. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, *et al.* PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Ann Intern Med* 2018;169:467-73.
6. Peters MD, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc* 2015;13:141-6.