

Swaddling and Developmental Hip Dysplasia Information Statement

The Pediatric Orthopaedic Society of North America (POSNA), International Hip Dysplasia Institute (IHDI), American Academy of Orthopaedic Surgeons (AAOS), United States Bone and Joint Initiative (USBJI) and Shriners Hospitals for Children have come together to promote “hip-healthy swaddling” when parents decide to swaddle their infant.

The POSNA, IHDI, AAOS and Shriners Hospitals for Children believe that “hip healthy” swaddling of infants should allow ample room for hip and knee movement in the first few months of life to allow for optimal development of the infant hip.

A swaddling technique that allows ample room for hip and knee movement is recommended. Avoidance of forced or sustained passive hip extension and adduction in the first few months of life is essential for proper hip development.

Hip dysplasia is one of the most common causes of osteoarthritis of the hip in adulthood, which can lead to pain, disability and total hip replacement. Swaddling used to promote improved sleep and to calm the infant is increasing in frequency in the United States (1). The newborn has a very sensitive hip joint that can be harmed by too much pressure or stress from abnormal hip positions or restricted motion. Infants who have been tightly swaddled with hips and legs bound together in extension are at increased risk for hip dysplasia and arthritis as an adult leading to instability (1,2,3,4,5,6). The newborn hip that is forced into an extended position through prolonged swaddling has been confirmed in animal studies to lead to DDH and hip dislocation (7).

Since tight swaddling can stress the infant’s hips, leading to instability, dysplasia and even hip dislocation, it is important for parents to be aware of proper swaddling methods. Some commercial products may hold the hips in too much extension. It is recommended to allow the hips to move freely, especially in the first few months of life (1,2,3,6). When swaddling, the infant hip should have freedom to flex and abduct; Caution when swaddling has been recommended to allow the hips to move freely to avoid increasing the risk of developmental dysplasia, especially in the first few months of life (1,2,3,6). The infant hips should have freedom of flexion and abduction motion during swaddling. The knees should also be maintained in slight flexion. Some commercial products may hold the hips in too much extension. Swaddling should be snug around the infant’s chest. There should be enough space so that the caregiver’s hand can fit between the blanket and the baby’s chest. If the swaddle becomes loose, it can result in head covering or strangulation. A swaddled infant should always be placed on the back (8).



When an infant exhibits signs of attempting to roll, swaddling should no longer be used, as a swaddled infant in the prone position is at high risk for SIDS and suffocation.

If there is a question about the safety of a device or other questions about swaddling, we encourage that the parent discuss this with child's pediatrician or health care provider.

Terms:

Hip dysplasia- abnormal formation and/or looseness of the hip joint.

Hip flexion- knees positioned towards the chest.

Hip extension- thighs straight in line with the body.

Hip adduction- thighs and knees together.

Hip abduction- thighs separated.

The following websites provide additional information and background for this statement:

International Hip Dysplasia Institute: <http://www.hipdysplasia.org>

Video of proper swaddling (Dr. Chad T. Price, Medical Director, International Hip Dysplasia Institute):

<http://hipdysplasia.org/developmental-dysplasia-of-the-hip/hip-healthy-swaddling/>

American Academy of Pediatrics Healthy Children. Advice on the general benefits of and precautions concerning swaddling:

<http://www.healthychildren.org/English/ages-stages/baby/diapers-clothing/Pages/Swaddling-Is-it-Safe.aspx>

American Academy of Pediatrics. AAP News Article:

<http://www.pwrnewmedia.com/2011/posna/newsletter/september/downloads/Swaddle.pdf>

American Academy of Orthopaedic Surgeons: <http://newsroom.aaos.org/media-resources/Press-releases/swaddling.tekprint>

References

1. Van Sleuwen B, Engelberts AD, Boere-Boonekamp MM, Kuis W, Schulpen TWJ, L'Hoir MP. Swaddling: a systematic review. *Pediatrics* 2007;120:e1097-e1106
2. Mahan S, Kasser JR. Does swaddling influence developmental dysplasia of the hip? *Pediatrics* 2008;121:17-18.
3. Kutlu A, et al. Congenital dislocation of the hip and its relation to swaddling used in Turkey. *J Pediatr Orthop* 1992;12:598-602
4. Yamamuro T, Ishida K. Recent advances in the prevention, early diagnosis, and treatment of congenital dislocation of the hip in Japan. *Clin Orthop Rel Res* 1984;184:34-40.
5. Salter RB. Gibson Memorial Lecture: "Etiology, pathogenesis and possible prevention of congenital dislocation of the hip". *Canadian Medical Assoc. J* 1968;98:933-45.
6. Karp H. Safe swaddling and healthy hips: don't toss the baby out with the bathwater. *Pediatrics* 2008;121:1075-1076.
7. Wang E, Liu T, Li J, et al. Does swaddling influence developmental dysplasia of the hip? *J Bone Joint Surg.* 2012;94(12):1071-1077

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8. Oden RP, Powell C, Sims A, Weisman J, Joyner BL, Moon RY. Swaddling: will it get babies onto their backs for sleep? *Clin Pediatr (Phila)*. 2012;51(3):254-259

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