

Achondroplasia

Achondroplasia was first described in [1878](#) and is the most common form of human skeletal dysplasia.

Achondroplasia in Neurosurgery

- [Sleep apnea in patients with achondroplasia associated with foramen magnum stenosis](#)
- [Rehabilitation in a child with Chiari II malformation, lumbosacral meningocele, achondroplasia and impaired respiratory regulation - a case report and literature review](#)
- [Dynamic MRI in the Evaluation of the Cervical Spine in Pediatric Patients With Achondroplasia](#)
- [Potential efficacy of vosoritide for foramen magnum stenosis in a patient with achondroplasia](#)
- [TACC3 facilitates chondrocyte differentiation by attenuating abnormally activated FGFR3 signaling in achondroplasia - An in vitro study](#)
- [Multidisciplinary Management of Acute Tetraparesis in an Infant with Achondroplasia, with a Focus on Anesthetic Strategies: A Case Report](#)
- [Flexion-extension cervical MRI imaging in pediatric patients with achondroplasia unsupervised by neurosurgery or radiology, is it safe?](#)
- [Early evaluation and treatment of thoracolumbar kyphosis in children with achondroplasia](#)

Complications

[Foramen magnum stenosis](#) is a serious, and potentially life-threatening [complication](#) of [achondroplasia](#).

Spinal manifestations include thoracolumbar kyphosis, foramen magnum, [spinal stenosis](#), [degenerative scoliosis](#)

Odontoid hypoplasia (seen in conjunction with achondroplasia and spondyloepiphyseal absolute dysplasia) absolute C-spine-related contraindication for participation in [contact sports](#)

Progressive kyphosis can result in spinal cord compression and paraplegia due to the reduced size of spinal canal. The deficits are typically progressive, presenting as an insidious onset of paresthesia, followed by the inability to walk and then by urinary incontinence.

[Paraplegia](#) can be the result of direct pressure on the cord by bone or the injury to the anterior spinal vessels by a protruding bone.

Treatment

Surgical treatment consists of posterior instrumentation, fusion with total wide laminectomy at stenosis levels, and anterior interbody support. Pedicle screws are preferred for spinal instrumentation because wires and hooks may induce spinal cord injury due to the narrow spinal canal. Pedicle lengths are significantly shorter, and 20-25 mm long screws are appropriate for lower thoracic and lumbar pedicles in adult achondroplastic. There is no information about the appropriate

length of screws for the upper thoracic pedicles. Tracheal injury due to inappropriate pedicle screw length is a rare complication ¹⁾.

¹⁾

Kahraman S, Enercan M, Demirhan O, Sengül T, Dalar L, Hamzaoğlu A. Pneumomediastinum, subcutaneous emphysema, and tracheal tear in the early postoperative period of spinal surgery in a paraplegic achondroplastic dwarf. Case Rep Orthop. 2013;2013:987578. doi: 10.1155/2013/987578. Epub 2013 Dec 18. PubMed PMID: 24455372.

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