

Chin brow vertical angle

Chin-brow vertical angle (CBVA) is very important in correction of thoracolumbar kyphotic deformity in [ankylosing spondylitis](#) (AS), especially for the patients with cervical ankylosis. In previous study, Suk et al. stated that the patients with CBVA between -10° and 10° had better horizontal gaze. Unfortunately, in our clinical practice, we found the patients with CBVA between -10° and 10° after surgery usually complained of difficulty in cooking, cleaning, desk working and the like, although they had excellent horizontal gaze. In other words, for the patients with cervical ankylosis, good horizontal gaze existed together with poor downward gaze. Then, which condition do the patients prefer? Is there a compromise solution that makes a better quality life possible for the patients? ¹⁾

The maintenance of [horizontal gaze](#) is an essential function of upright [posture](#) and sagittal [global spinal alignment](#). Horizontal gaze is classically measured by the [chin brow vertical angle](#) (CBVA), which is not readily measured on most lateral spine radiographs.

The slope of the line of sight and [McGregor's line](#) (McGS) correlated strongly with CBVA and can be used as surrogate measures. The range of values for these measures corresponding to low disability was identified. These values can be used as a general guideline to assess alignment for diagnostic purposes. Cervical compensatory mechanism may modify the natural head position in sagittally misaligned patients ²⁾.

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Song K, Su X, Zhang Y, Liu C, Tang X, Zhang G, Zheng G, Cui G, Zhang X, Mao K, Wang Z, Wang Y. Optimal chin-brow vertical angle for sagittal visual fields in ankylosing spondylitis kyphosis. Eur Spine J. 2016 May 4. [Epub ahead of print] PubMed PMID: 27146808.

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Lafage R, Challier V, Liabaud B, Vira S, Ferrero E, Diebo BG, Liu S, Vital JM, Mazda K, Protosaltis TS, Errico TJ, Schwab FJ, Lafage V. Natural Head Posture in the Setting of Sagittal Spinal Deformity: Validation of Chin-Brow Vertical Angle, Slope of Line of Sight, and McGregor's Slope With Health-Related Quality of Life. Neurosurgery. 2016 Jul;79(1):108-15. doi: 10.1227/NEU.0000000000001193. PubMed PMID: 26702836.

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