Effectiveness of surgical treatment for neglected congenital muscular torticollis: a systematic review and meta-analysis
Hyun Jung Kim, Hyeong Sik Ahn, Eun-Ji Park, Shin-Young Yim
Department of Preventive Medicine, College of Medicine, Korea University, Seoul, Korea
The Center for Torticollis, Department of Physical Medicine and Rehabilitation, Ajou University School of Medicine, Suwon, Korea

Background
• The ideal age for surgical treatment of congenital muscular torticollis (CMT) is <5 years. However, not all patients who need surgery for CMT are able to have surgical treatment for various reasons, and these individuals are said to have neglected CMT.
• Findings on the effectiveness of surgical release for neglected CMT have been conflicting.
• This systematic review aims to examine the literature describing the effectiveness of surgery for neglected CMT.

Flow diagram of study selection

Study characteristics and patient populations of 12 interrupted time series studies analyzed in this review

Assessment of risk of bias

Meta-analysis of the outcomes of surgical treatment for neglected CMT

Conclusion
• This systematic review and meta-analysis presents evidence to suggest that surgical treatment for patients with neglected CMT is associated with 81% probability of success, along with improvement in both range of motion of the neck and secondary skeletal deformities.
• The point estimates of a successful result were not significantly different between patients who underwent surgery before 15 years of age and those who underwent surgery after 15 years of age.
• These findings indicate that surgical treatment for neglected CMT is effective and the effect sizes are equivalent for patients older than 15 years.