

# Endoscopic Balloon Dilatation for Pediatric Subglottic Stenosis: A Meta-Analysis of Successful Outcomes

## Abstract

**Introduction:** Pediatric SGS sometimes develops abruptly and needs rapid treatment. Endoscopic balloon dilation (EBD) is a novel method for treating children with SGS endoscopically. **Methodology:** This was a systematic review and meta-analysis that aimed to investigate the use and success rate of EBD for treating pediatric SGS. An electronic systematic literature search of three major databases, PubMed, EBSCO, and Web of Science & MEDLINE through Clarivate, was conducted to include the eligible articles. **Results:** A total of 14 unique studies were included in the final analysis, with 473 cases of pediatric SGS. The pooled success rate of EBD in treatment of pediatric SGS was 76% ( $k = 14$  studies, 95% confidence interval [CI] = 0.65-0.86,  $P = 0.000$ ,  $Q$  test for heterogeneity = 0.03,  $P = 0.000$ ,  $I^2 = 91\%$ ). **Conclusion:** We reported a high success rate of EBD in treating pediatric SGS. The reported complications were uncommon, although they can be serious and life threatening. The intensity of SGS may be related to the likelihood of therapy failure.

**Keywords:** subglottic stenosis; pediatric; endoscopic balloon dilatation.