

## Overview

Hyoid suspension publications are often confounded by the performance of a genioglossus advancement as part of the tongue base surgical intervention. A careful review of available evidence, however, indicates more efficacious objective and subjective results for hyoid suspension to the mandible (hyo-mandibular suspension) versus hyoid suspension to the thyroid cartilage (hyo-thyroid suspension) when the hyoid suspension is performed with an uvulopalatopharyngoplasty (UPPP).

## Evidence-based Review of Hyoid Suspension Techniques

Thirty-four published studies for hyoid suspension as a treatment for obstructive sleep apnea (OSA) were found in a comprehensive literature review. Five of these studies were for hyo-mandibular suspension performed with an UPPP.<sup>1,2,3,4,5</sup> Ten of these studies were for hyo-thyroid suspension performed with an UPPP.<sup>6,7,8,9,10,11,12,13,14,15</sup> The results are summarized in the following table:

	N	AHI reduction	Surgical Success <sup>16</sup>	ESS change
Hyo-mandibular Suspension	123	60%	71%	-7.3
Hyo-thyroid Suspension	495	48%	58%	-3.8

The reported data for these techniques performed without a genioglossus advancement shows hyo-mandibular suspension with 25% greater AHI reduction, 22% greater surgical success, and a 92% greater subjective improvement than hyo-thyroid suspension.

## Why is Hyo-mandibular Suspension Better than Hyo-thyroid Suspension?<sup>17</sup>

The hyoid bone attaches to multiple muscles and helps to stabilize the upper airway. A low hyoid position creates a long upper airway that lacks rigid support between the mandible and the hyoid bone. This increases the likelihood of tongue base airway collapse and agrees with evidence correlating a low position of the hyoid bone to higher sleep apnea severity. Moving the hyoid bone anteriorly and superiorly helps to shorten the airway, reduce airway collapse, and improve OSA.

## Conclusion

Reported data show larger improvements for hyo-mandibular suspension over hyo-thyroid suspension in the treatment of tongue base airway obstructions, with results at least 22% greater than those for the hyo-thyroid technique.

## The Encore<sup>TM</sup> System

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Catalog No.	Description
<b>FG0002</b>	Encore Suspension System (USA)

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