Abstract
Objective: To determine if strong inter-examiner agreement exists in identifying Friedman Tongue Positions (FTP) for staging of obstructive sleep apnea/hypopnea syndrome (OSAHS).

Study design and Methods: 26 digital video clips of oropharyngeal examinations were prepared to demonstrate Friedman tongue positions I-IV. Specific parameters for each FTP were provided to 136 examiners (otolaryngology attendings, fellows, and residents). The video clips were then presented to the examiners to determine FTP. Kappa statistical analysis was used to evaluate the degree of inter-examiner agreement or disagreement.

Results: The overall Kappa statistic was 0.8194. This value denotes “almost perfect” agreement between examiners.

Conclusion: The strong inter-examiner correlation of FTP demonstrated by this study indicates that FTP maybe a valuable adjunct in describing hypopharyngeal anatomy in patients with OSAHS.

Introduction
Obstructive sleep apnea/hypopnea syndrome (OSAHS) results from the obstruction of the upper airway during sleep. This obstruction can occur at various anatomic levels of the upper airway and frequently involves multiple sites. Many methods have been developed for localizing the sites of obstruction in OSAHS. One such method, the Friedman tongue position (FTP), is a quantitative assessment of tongue position based on the relationship of the tongue to adjacent structures. Determining FTP can aid in approximating the presence and severity of hypopharyngeal obstruction. In this study we determine the inter-examiner correlation of FTP between otolaryngology professionals.

Methods
Video clips of 26 oropharyngeal examinations were created to demonstrate FTP I-IV. 136 otolaryngologists (attendings, fellows, and residents) were provided with a detailed description and illustrations of FTPs. Each examiner was then asked to view the 26 video clips and assign each clip a specific FTP. Data was compiled and a Kappa statistic was calculated to measure inter-examiner agreement.

Discussion
Initially presented by the senior author et. al. in 1999, FTP (previously identified as the Modified Mallampati score and subsequently the Friedman palate position) has been found to be a simple method to approximate hypopharyngeal obstruction. As hypopharyngeal obstruction has important implications for the surgical management of OSAHS, FTP can be utilized as a valuable clinical tool in the assessment of OSAHS patients. In this study we demonstrate that FTP is easily and reliably identified. The kappa score of 0.819 indicates that there is substantial inter-examiner correlation in determining FTP.

Conclusions
- Friedman tongue positions (FTP) is a anatomical based, clinical assessment that estimates hypopharyngeal obstruction
- FTPs are easily identified by otolaryngology professionals and substantial inter-examiner correlation exists as demonstrated by the Kappa score of 0.819
- FTP can be used as a standard measure of estimating hypopharyngeal obstruction and can reliably predict the presence of OSAHS and can help guide surgical management.