# Airway Patency Assessment

Root Cause Resolutions
Oral-Systemic Integration

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This Airway Patency Assessment was created to summarize three common clinical screening tools for airway obstruction risks, which provide a standard protocol for healthcare and dental providers and improves whole-body patient care.

The information within this packet is validated and proven by years of research and testing for identification of approximate airway obstruction at the hypopharyngeal level and has been simplified down to easy-to-use, single-page summaries.

- Mallampati Score
- Friedman Tongue Position
- Brodsky Tonsil Grading
- Airway Patency Assessment - summary
- Airway Screening Form - update yearly for each patient
- Intervention Protocols

Please note, the information in this packet is not intended to take the place of talking with a medical provider and should not be used for diagnosis. This was created as a screening guide only. Regardless of the results, if a patient or provider has concerns about noted symptoms, they are encouraged to discuss them further with a medical and/or dental provider.

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# Mallampati Score

The original Mallampati Score was created in 1985 as a way to assess and describe the relative size of the tongue compared to the oropharyngeal opening to predict difficult intubation of patients undergoing general anesthesia or entering an operating room or critical care setting.[5]

- The original Mallampati Score was based on a range from Class I-III

The Modified Mallampati Score emerged in 1987 with a range from Class I-IV and was updated again in 1998 to include Class 0-IV, which provides the most detailed breakdown of airway patency and is the version most used in modern medicine.

Guidelines:

- Patient is seated upright
- Assessed when the tongue is maximally protruded
- Classically, this exam is completed without phonation (no vocal sounds made)

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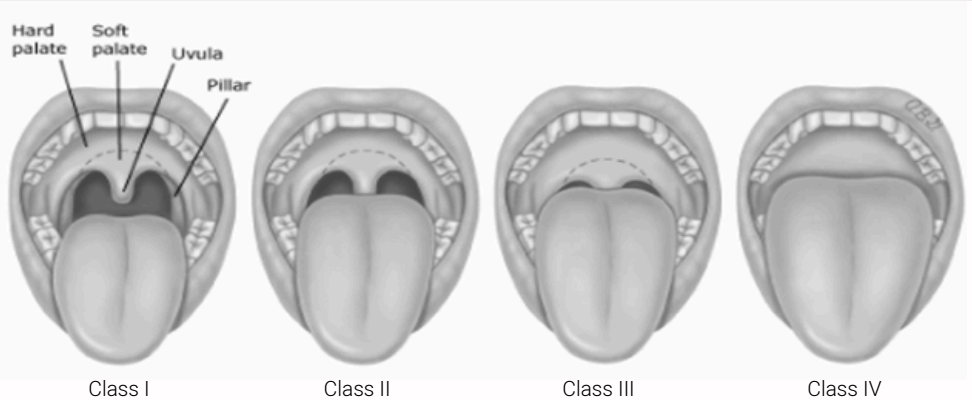


Class 0: any part of the epiglottis is visible
Class I: soft palate, fauces, uvula and pillars are visible
Class II: soft palate, fauces, and portion of uvula visible
Class III: soft palate and base of uvula visible
Class IV: soft palate not visible

In terms of airway health, a Mallampati Class III or Class IV indicates an increased risk of airway blockage during sleep, resulting in obstructive sleep apnea. Because of this, airway providers often use the Modified Mallampati grading scale as a simple guideline for identifying patients who may need further airway interventions, such as myofunctional therapy, a CPAP/BiPAP machine, or possibly even surgical interventions.

As the Modified Mallampati grading scale is not intended to diagnose sleep apnea, it is designed to be used as a screening tool, and patients should seek further assistance about any questions or concerns they have to receive treatment based on their individual needs.

# Friedman Tongue Position

The Friedman Tongue Position (FTP) was initially presented in 1999 as a way to evaluate the tongue's position relative to the tonsils or pillars, hard palate, uvula, and soft palate and to approximate airway obstruction at the hypopharyngeal level.[3] Comparative to the Modified Mallampati, the FTP It is assessed while the tongue is in a neutral position.

Guidelines:

- Patient is seated upright
- Assessed when the tongue is in its natural resting position inside the mouth (not protruded)
  - Have patient open wide five times to establish an average neutral tongue position
  - While breathing normally, assess the base of the tongue relative to the tonsils/tonsillar pillars, hard palate, uvula, and soft palate
- Includes a scale of Grade I-IV
  - Sub-grading of IIa and IIb provide greater descriptions of airway patency

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Grade I: visualizes the uvula and tonsils/pillar
Grade IIa: visualizes most of the uvula but not the tonsils/ pillar
Grade IIb visualizes the entire soft palate to the uvular base
Grade III: shows some of the soft palate with the distal end absent
Grade IV: visualizes only the hard palate

While both the Modified Mallampati score and the Friedman Tongue Position describe the relative position of the base of the tongue to the oropharyngeal opening, the Friedman Tongue Position provides a more detailed evaluation of the tongue's neutral resting position, which is generally more helpful for assessing and identifying potential airway restrictions.

To keep interdisciplinary care teams from misunderstanding or misinterpreting reports from other providers, it's essential that each provider identify which grading scale they utilize, either Modified Mallampati or FTP.

# Brodsky Tonsil Grading

The Friedman Tonsil Grading system was created to identify enlargement, or hypertrophy, of the palatine tonsils, which are located in the lateral walls of the oropharynx between the palatoglossal arch (anterior) and palatopharyngeal arch (posterior).[4] The palatal tonsils are part of the lymphatic system and important for both innate and acquired immunity.

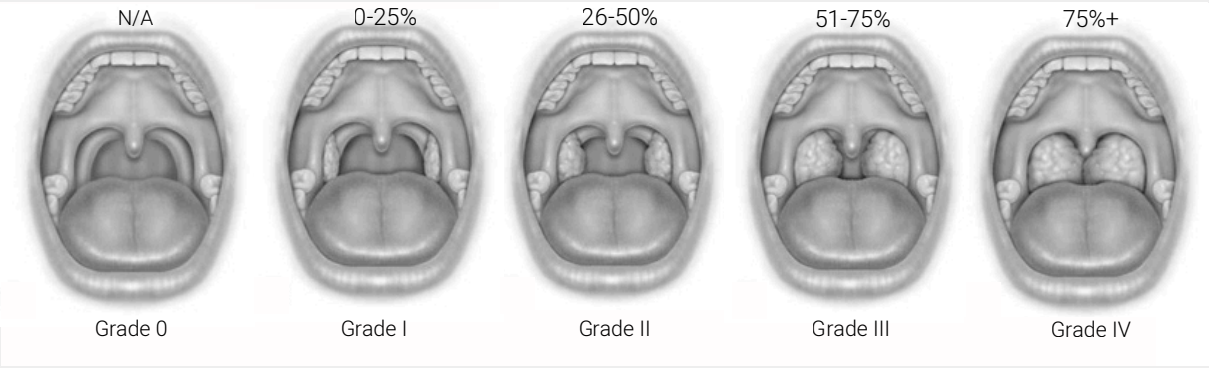
Cycle of Dysfunction

- When palatine tonsillar hypertrophy is present, individuals often resort to mouth breathing, which allows harmful pathogens, bacteria, and viruses to enter the body and bypass filtration within the nasal cavity.
- This creates a perpetual immune response and chronic tonsillar hypertrophy, and an individual is unable to restore nasal breathing habits effectively.
- Chronic mouth breathing habits increases an individuals risk of oral microbiome dysbiosis and in turn increases their risk for gingival inflammation (i.e. gingivitis and periodontal disease) and dental caries (i.e. cavities).

A quick and easy chairside assessment to evaluate for possible airway resistance should include palatine tonsil grading.

- Following assessment, should tonsillar hypertrophy be present, intervention protocols should be followed. This gives the greatest chance of lowering inflammation of the tonsillar tissue and restoring airway patency and, therefore, nasal breathing.

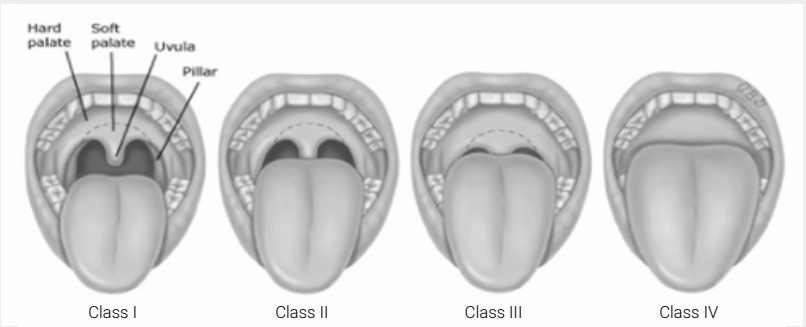
[1]




Grade 0: abscence of tonsilar tissue
Grade 1: tonsils contained within the pillars
Grade 2: tonsils extend to the pillars
Grade 3: tonsils extend beyond the pillars but do not meet at the midline
Grade 4: tonsils extend to the midline

# Airway Patency Assessment

## Mallampati

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## Friedman Tongue Position


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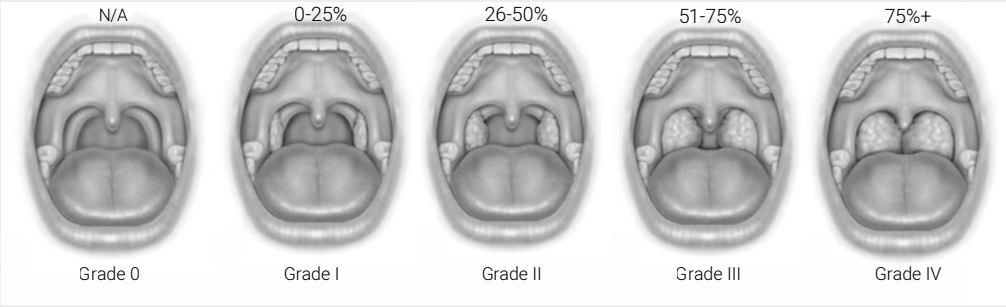
## Brodsky Tonsil Grading

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# Airway Screening Assessment

Patient Name: _____ Date: _____

## Patient-Reported Symptoms

- ☐ Snoring
- ☐ Fatigue
- ☐ Excessive daytime sleepiness
- ☐ Headaches
- ☐ Neck tension
- ☐ Difficulty concentrating
- ☐ ADHD
- ☐ Bedwetting
- ☐ Acid reflux
- ☐ Sleep talking, sleepwalking
- ☐ Night terrors
- ☐ Nursing difficulties
- ☐ Irritability
- ☐ Sleep paralysis
- ☐ Drooling
- ☐ Anxiety & depression
- ☐ Thumb/digit sucking
- ☐ Mouth breathing

## Clinical Presentation

- ☐ Tooth decay
- ☐ Narrow palate
- ☐ Orthodontic relapse
- ☐ Forward head posture
- ☐ Class II or Class III occlusion
- ☐ Tongue thrust
  - ☐ Anterior or posterior open bite
- ☐ Palatal an/or mandibular tori
- ☐ Teeth crowding
- ☐ Erosion - acid reflux
- ☐ Limited tongue space
  - ☐ Scalloped lateral borders
- ☐ Cracked, dry lips
- ☐ Clenching and grinding
  - ☐ Recession
  - ☐ Abfraction
  - ☐ Occlusal wear
  - ☐ Craze lines
  - ☐ Cracked teeth
- ☐ Enlarged tonsils
- ☐ Persistent gingival inflammation
- ☐ TMJ dysfunction
  - ☐ Click, crepitus
  - ☐ Pain
  - ☐ Lock jaw
- ☐ Mouth breathing

## Airway Anatomy Evaluation

- ☐ Palatine tonsils - enlarged
- ☐ Adenoids - enlarged (via CBCT)
- ☐ Labial frenulum
- ☐ Inferior turbinate hypertrophy
- ☐ Narrow nasal valve(s)
- ☐ Tongue to airway position
  - ☐ Modified Mallampati
  - ☐ Friedman Tongue Position
- ☐ Tongue function
  - ☐ Tongue Range of Motion Ratio (TRMR)
- ☐ Maxilla
  - ☐ Intermolar width
  - ☐ Signs of deficient growth
    - ☐ Crowding
    - ☐ Impacted teeth
    - ☐ Delayed tooth eruption
    - ☐ Retrusive mandible

# Intervention Protocols

**Nasal Clearing**

One of the top recommended products for nasal clearing is Xlear® Nasal Spray, a natural saline solution with xylitol that inhibits bacteria adhesion and replication within the nasopharynx and promotes a decrease in tonsillar inflammation.

Order Xlear® Nasal Spray




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**Oral Microbiome Dysbiosis**

Dysbiosis, or an imbalance of the good and bad bacteria, is a side effect of mouth breathing, and each person has individual needs for rebalancing their oral microbiome. Common signs of oral dysbiosis includes halitosis (i.e. bad breath), high cavity rate, dry mouth, and gingival inflammation such as gingivitis or periodontal disease.

Use of the **Bristle Oral Health Test** -- an at-home oral microbiome test -- will provide individualized product recommendations and is a great place to start the process of repairing the oral microbiome.

Please note, use of this product does not replace regular visits with medical and/or dental providers.

As a Bristle Partner, I am happy to offer 10% off their Oral Health Test and Oral Probiotics.

Scan the QR code to order!

Dental providers looking to join the Bristle Partner Program can find out more here.

# Sources


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5. Stutz EW, Rondeau B. Mallampati Score. [Updated 2023 Aug 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: Stutz EW, Rondeau B. Mallampati Score. [Updated 2023 Aug 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK585119/
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