

CLINICAL INDICATORS FOR SLEEP DISORDERED BREATHING AND OBSTRUCTIVE SLEEP APNEA (SDB/OSA)

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SOME SOURCES COURTESY OF DR. JIM BRONSON

1. TIGHT LINGUAL FRENUM (ANKYLOGLOSSIA)



SHORT ANTERIOR FRENULUM LEAD TO ABNORMAL FEEDING
BEHAVIOR AND SPEECH DEVELOPMENT

**ASSESSMENT OF LINGUAL FRENULUM LENGTHS IN SKELETAL
MALOCCLUSION.**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/24783137](https://www.ncbi.nlm.nih.gov/pubmed/24783137)

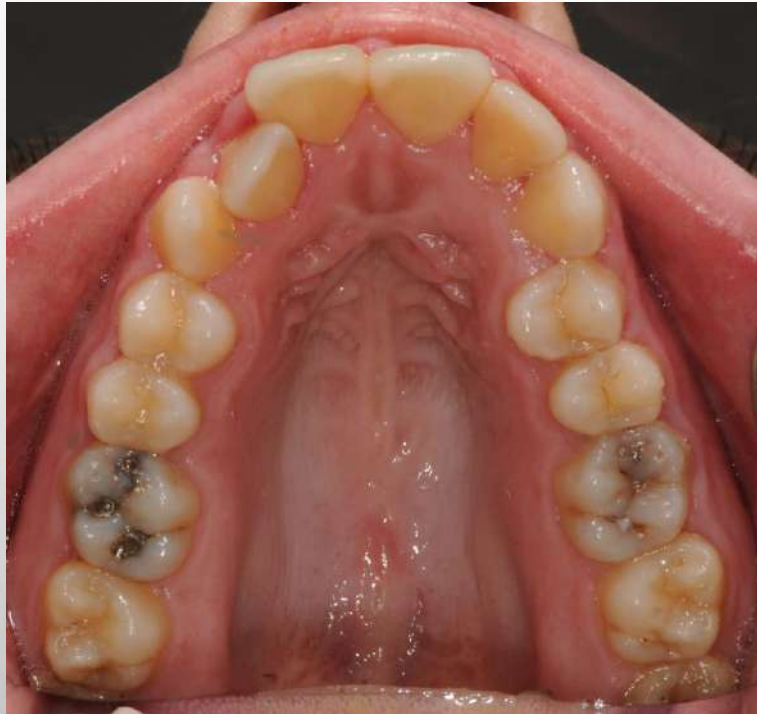


ALL CHILDREN IN STUDY WITH UNTREATED SHORT
FRENULUM HAD SDB. ALL HAD NARROW HIGH PALATE

**PEDIATRIC SLEEP-DISORDERED BREATHING: NEW
EVIDENCE ON ITS DEVELOPMENT**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/26500024](https://www.ncbi.nlm.nih.gov/pubmed/26500024)

2. HIGH NARROW PALATE



**MAXILLARY MORPHOLOGY IN OBSTRUCTIVE SLEEP
APNEA: A CEPHALOMETRIC AND MODEL STUDY.**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/15529500](https://www.ncbi.nlm.nih.gov/pubmed/15529500)

3. UPPER AIRWAY RESTRICTION



SDB CAN BOTH RESULT FROM AND BE WORSENER BY
NASAL OBSTRUCTION

**THE NOSE AND SLEEP-DISORDERED BREATHING: WHAT
WE KNOW AND WHAT WE DO NOT KNOW**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/14665515](https://www.ncbi.nlm.nih.gov/pubmed/14665515)



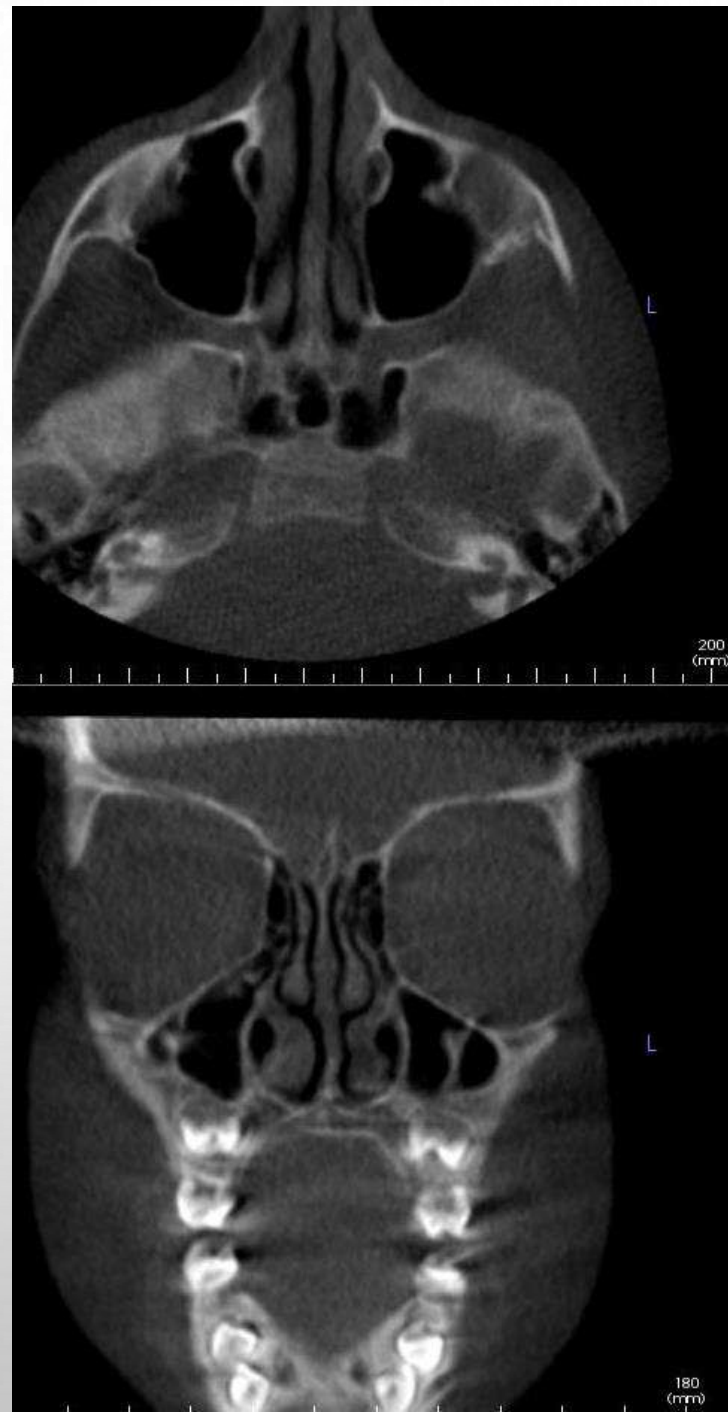
3. UPPER AIRWAY RESTRICTION

CRANIOFACIAL AND UPPER AIRWAY MORPHOLOGY IN PEDIATRIC SLEEP-DISORDERED BREATHING AND CHANGES IN QUALITY OF LIFE WITH RAPID MAXILLARY EXPANSION

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/24286909](https://www.ncbi.nlm.nih.gov/pubmed/24286909)

CRANIOFACIAL MORPHOLOGICAL CHARACTERISTICS IN CHILDREN WITH OBSTRUCTIVE SLEEP APNEA SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/23449902](https://www.ncbi.nlm.nih.gov/pubmed/23449902)



4. MOUTH BREATHING



**LETAL AND OCCLUSAL CHARACTERISTICS IN MOUTH-
ATHING PRE-SCHOOL CHILDREN**

[PS://WWW.NCBI.NLM.NIH.GOV/PUBMED/15366619](https://www.ncbi.nlm.nih.gov/pubmed/15366619)

4. MOUTH BREATHING



PRIMARY SNORING AND OBSTRUCTIVE SLEEP APNEA ARE FREQUENT FINDINGS
IN MOUTH BREATHING CHILDREN

[HTTP://WWW.SCIELO.BR/SCIELO.PHP?PID=S1808-
86942010000500003&SCRIPT=SCI_ARTTEXT&TLNG=EN](http://www.scielo.br/scielo.php?pid=S1808-86942010000500003&script=sci_arttext&tlng=en)

OPEN-MOUTH BREATHING DURING SLEEP IS A RISK FACTOR FOR OBSTRUCTIVE SLEEP
APNEA (OSA) AND IS ASSOCIATED WITH INCREASED DISEASE SEVERITY AND UPPER
AIRWAY COLLAPSIBILITY.

[HTTPS://KOREAUNIV.PURE.ELSEVIER.COM/EN/PUBLICATIONS/THE-IMPACTS-OF-OPEN-
MOUTH-BREATHING-ON-UPPER-AIRWAY-SPACE-IN-OBST](https://koreauniv.pure.elsevier.com/en/publications/the-impacts-of-open-mouth-breathing-on-upper-airway-space-in-obst)

5. ENLARGED TONSILS

IF NASAL BREATHING IS NOT RESTORED, DESPITE
SHORT-TERM IMPROVEMENTS AFTER
ADENOTONSILLECTOMY, CONTINUED USE OF THE
ORAL BREATHING ROUTE MAY BE ASSOCIATED
WITH ABNORMAL IMPACTS ON AIRWAY GROWTH
AND POSSIBLY BLUNTED NEUROMUSCULAR
RESPONSIVENESS OF AIRWAY TISSUES.

[HTTP://WWW.LEARNAIRWAYDENTISTRY.COM/REFERENCES/OSA-ORAL-BREATHING-2014-PEDIATRICS-NEONATAL-BIOLOGY-001.PDF](http://www.learnairwaydentistry.com/references/OSA-ORAL-BREATHING-2014-PEDIATRICS-NEONATAL-BIOLOGY-001.PDF)



OBSTRUCTIVE SLEEP APNEA IN INFANTS AND YOUNG CHILDREN

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/8714340](https://www.ncbi.nlm.nih.gov/pubmed/8714340)

6. LONG FACE HEIGHT

**CRANIOFACIAL AND UPPER AIRWAY MORPHOLOGY IN
PEDIATRIC SLEEP-DISORDERED BREATHING AND CHANGES IN
QUALITY OF LIFE WITH RAPID MAXILLARY EXPANSION**

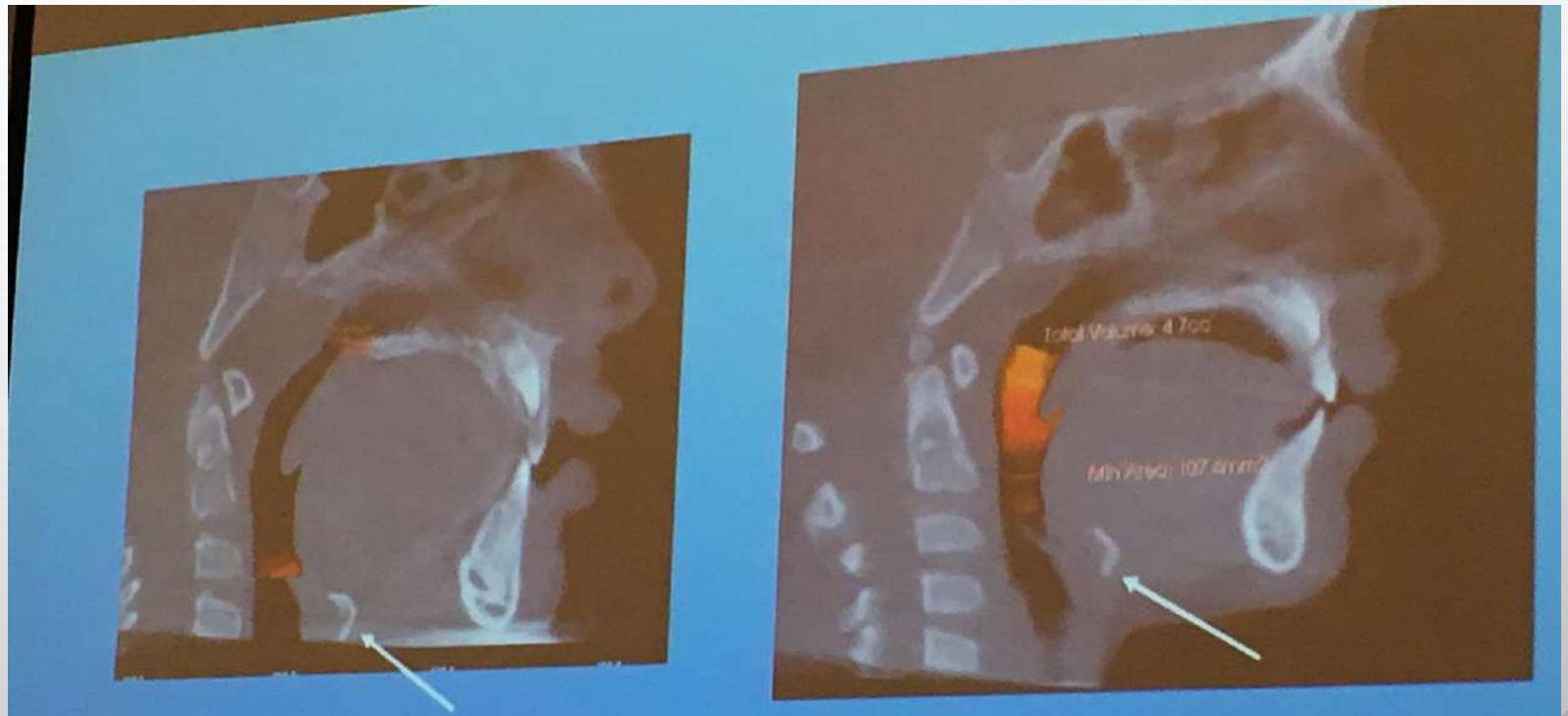
[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/24286909](https://www.ncbi.nlm.nih.gov/pubmed/24286909)

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[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/23449902](https://www.ncbi.nlm.nih.gov/pubmed/23449902)



7. VERTICAL POSITION OF THE HYOID



**HETEROGENEITY IN VERTICAL POSITIONING OF THE
HYOID BONE IN RELATION TO GENIOGLOSSAL ACTIVITY
IN MEN.**

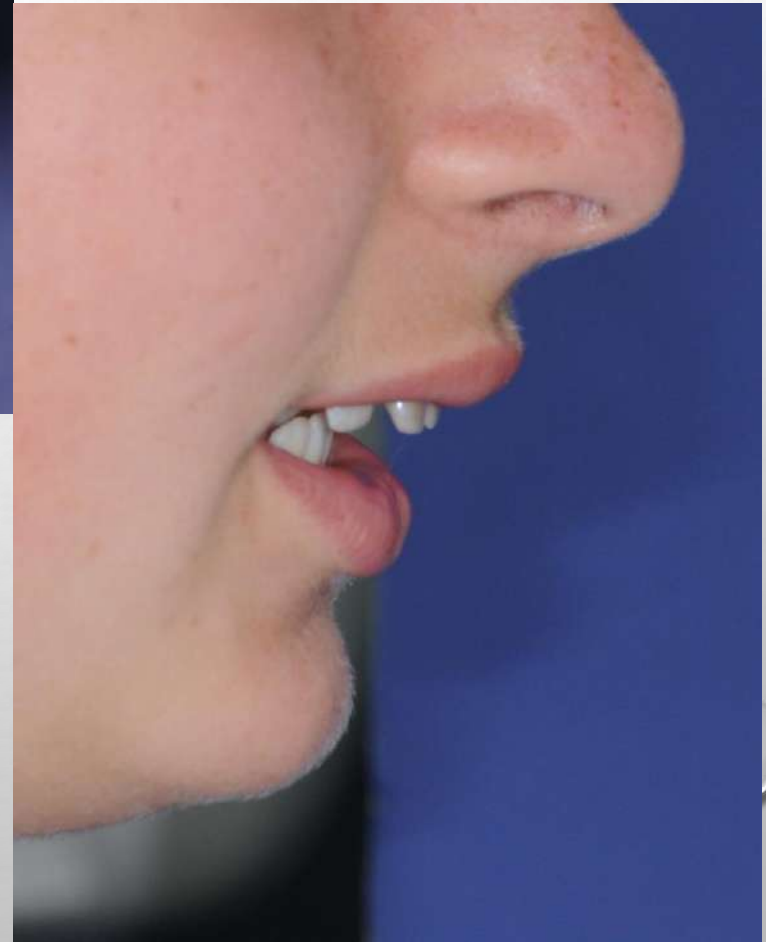
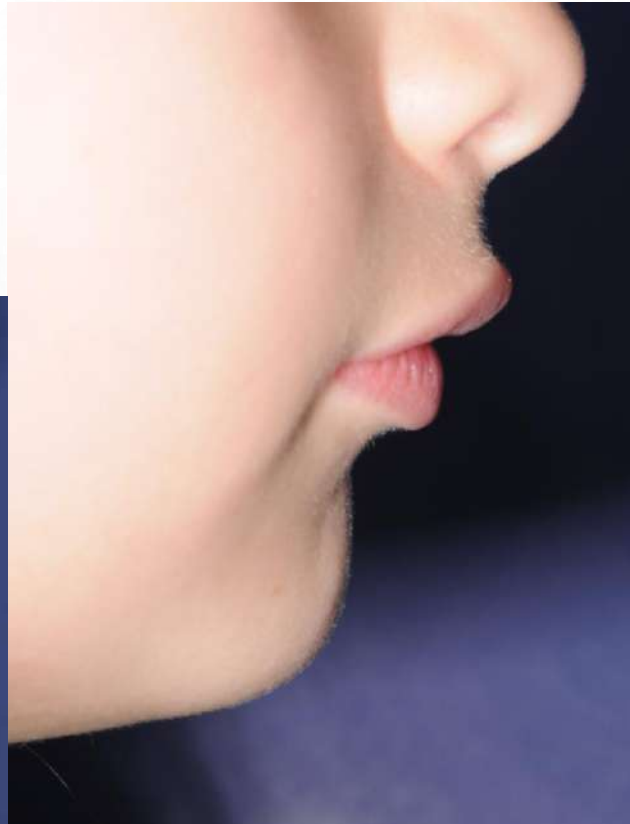
8. CROSSBITE AND OPEN BITE MALOCCLUSION



**SLEEP-DISORDERED BREATHING AND ORTHODONTIC
VARIABLES IN CHILDREN--PILOT STUDY**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/25242700](https://www.ncbi.nlm.nih.gov/pubmed/25242700)

9. RETRUDED MAXILLA AND MANDIBLE



**CRANIOFACIAL MORPHOLOGY IN PEDIATRIC PATIENTS WITH
PERSISTENT OBSTRUCTIVE SLEEP APNEA WITH OR WITHOUT
POSITIVE AIRWAY PRESSURE THERAPY: A CROSS-SECTIONAL
CEPHALOMETRIC COMPARISON WITH CONTROLS**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/23810049](https://www.ncbi.nlm.nih.gov/pubmed/23810049)

10. TEETH AGENESIS

IF THERE ARE MISSING TEETH, THERE IS
ABNORMAL GROWTH OF THE FACE AND
SECONDARY DECREASE OF SIZE OF UPPER
AIRWAY

GUILLEMINAULT C, BORDEAUX, FRANCE,
JANUARY 2016



**PEDIATRIC SLEEP-DISORDERED BREATHING: NEW
EVIDENCE ON ITS DEVELOPMENT**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/265
00024](https://www.ncbi.nlm.nih.gov/pubmed/26500024)

11. SCALLOPED TONGUE INDICATOR OF OSA

TONGUE SCALLOPING WAS ALSO ASSOCIATED
WITH PATHOLOGIC POLYSOMNOGRAPHY DATE
AND ABNORMAL MALLAMPATI GRADES

**THE ASSOCIATION OF TONGUE SCALLOPING
WITH OBSTRUCTIVE SLEEP APNEA AND
RELATED SLEEP PATHOLOGY**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/1
6360522](https://www.ncbi.nlm.nih.gov/pubmed/16360522)



12. GERD AT RISK FOR SLEEP APNEA

THERE IS A SIGNIFICANT ASSOCIATION BETWEEN DISTURBED SLEEP AND GERD AND THIS MAY BE DIRECTIONAL. SLEEP DISORDERS MAY INDUCE GI DISTURBANCES, WHILE GI SYMPTOMS ALSO MAY PROVOKE OR WORSEN SLEEP DERANGEMENTS.

**GASTROESOPHAGEAL REFLUX DISEASE AND SLEEP
DISORDERS: EVIDENCE FOR A CAUSAL LINK AND
THERAPEUTIC IMPLICATIONS**

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC2879818/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879818/)



13. RESTRICTED FLOW AFTER WISDOM TEETH EXTRACTION



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[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/26500024](https://www.ncbi.nlm.nih.gov/pubmed/26500024)