

How Mouth Breathing Affects Occlusion in Children

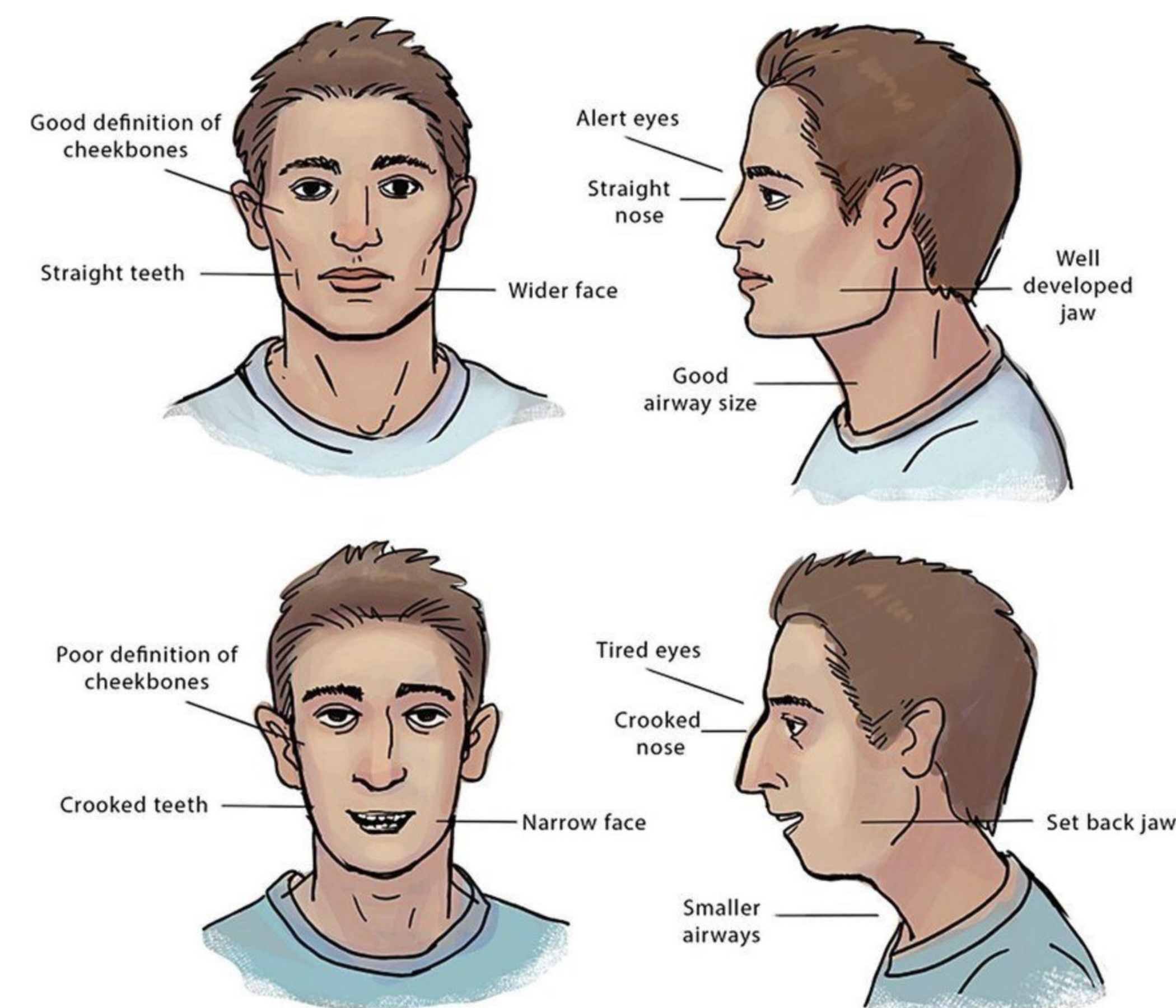
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INTRODUCTION

- Craniofacial development is influenced by both genetic and **environmental** factors.
- **Nasal obstruction** causes mouth breathing that leads to malocclusion.
- Clinicians need to understand how mouth breathing affects development in order to **educate** parents.
- Knowledge of correct resting mouth position can possibly **prevent extensive corrective maxillofacial surgery** in the future.

WHY THIS IS IMPORTANT

- To **prevent** more invasive procedures for the correction of malocclusion.
- **Awareness** of how nasal obstruction can affect facial growth.
- Early **intervention**.



FACIAL FEATURES OF MOUTH BREATHING CHILDREN

- Long face
- Dark circles
- Narrow nostrils
- Narrow maxilla
- Retrognathic jaws
- Gummy smile associated with class II or III malocclusion

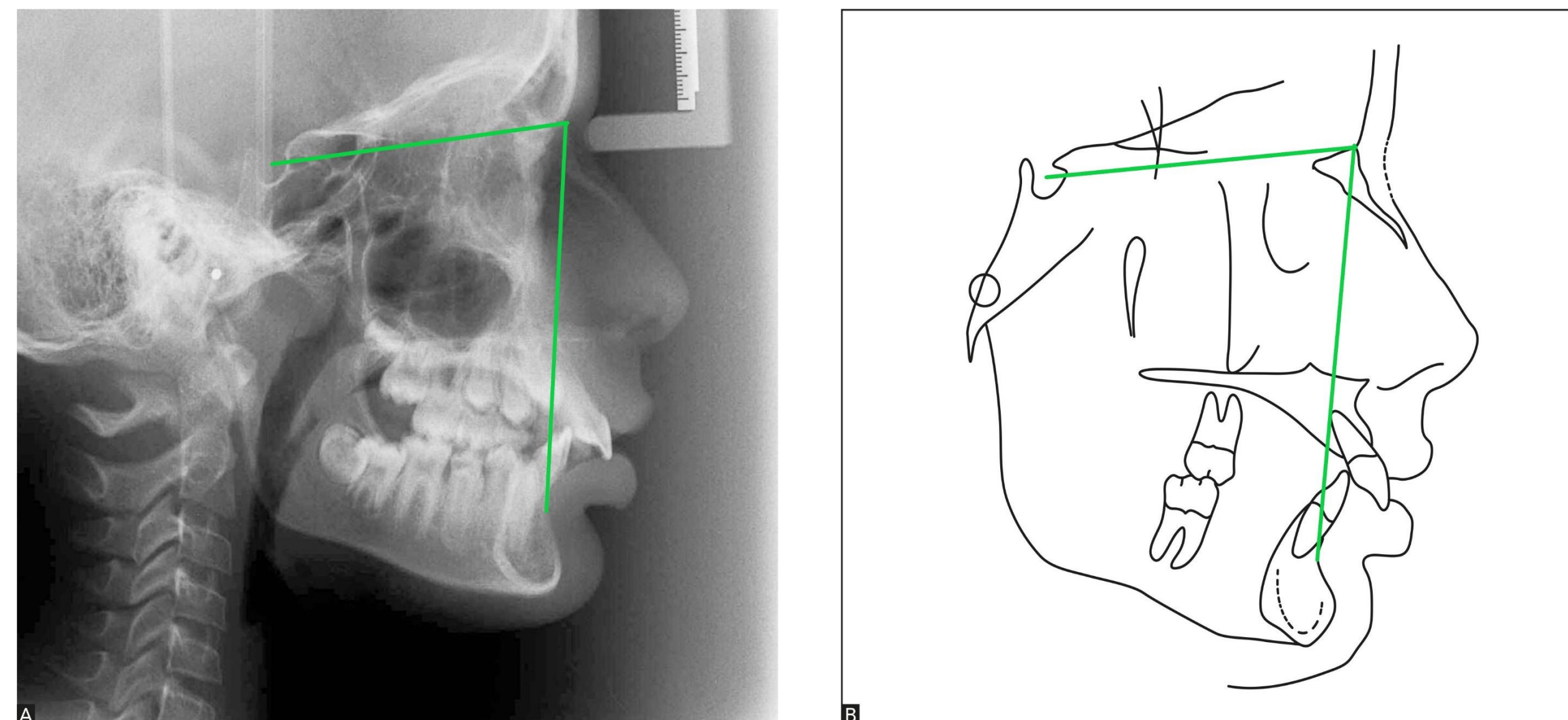
MANDIBULAR GROWTH

- Mouth breathing children have a **shorter mandible** by an average of 2.8 mm.
- Nasally impaired children have a higher chance of presenting with a **class II malocclusion**.

SNB ANGLE

Sella-Nasion to B Point Angle

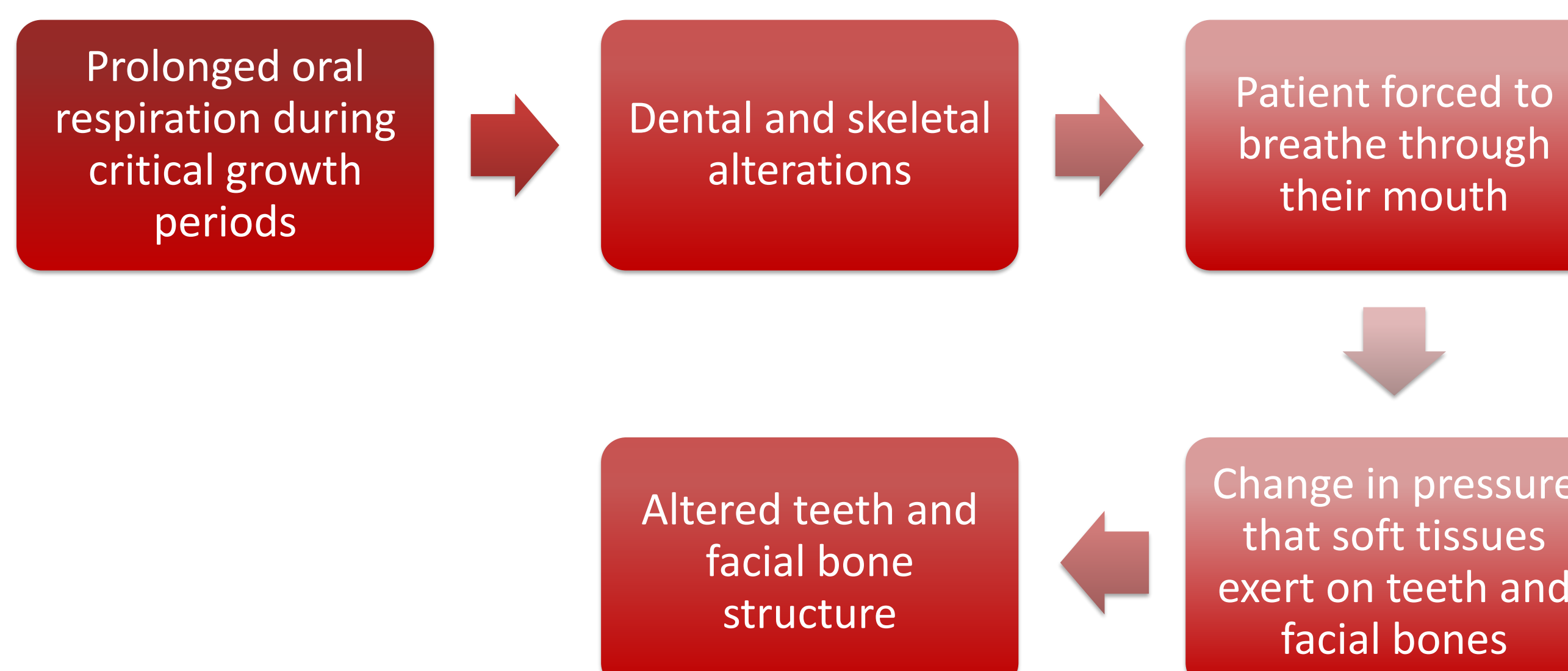
- Normal is $80^\circ \pm 2^\circ$



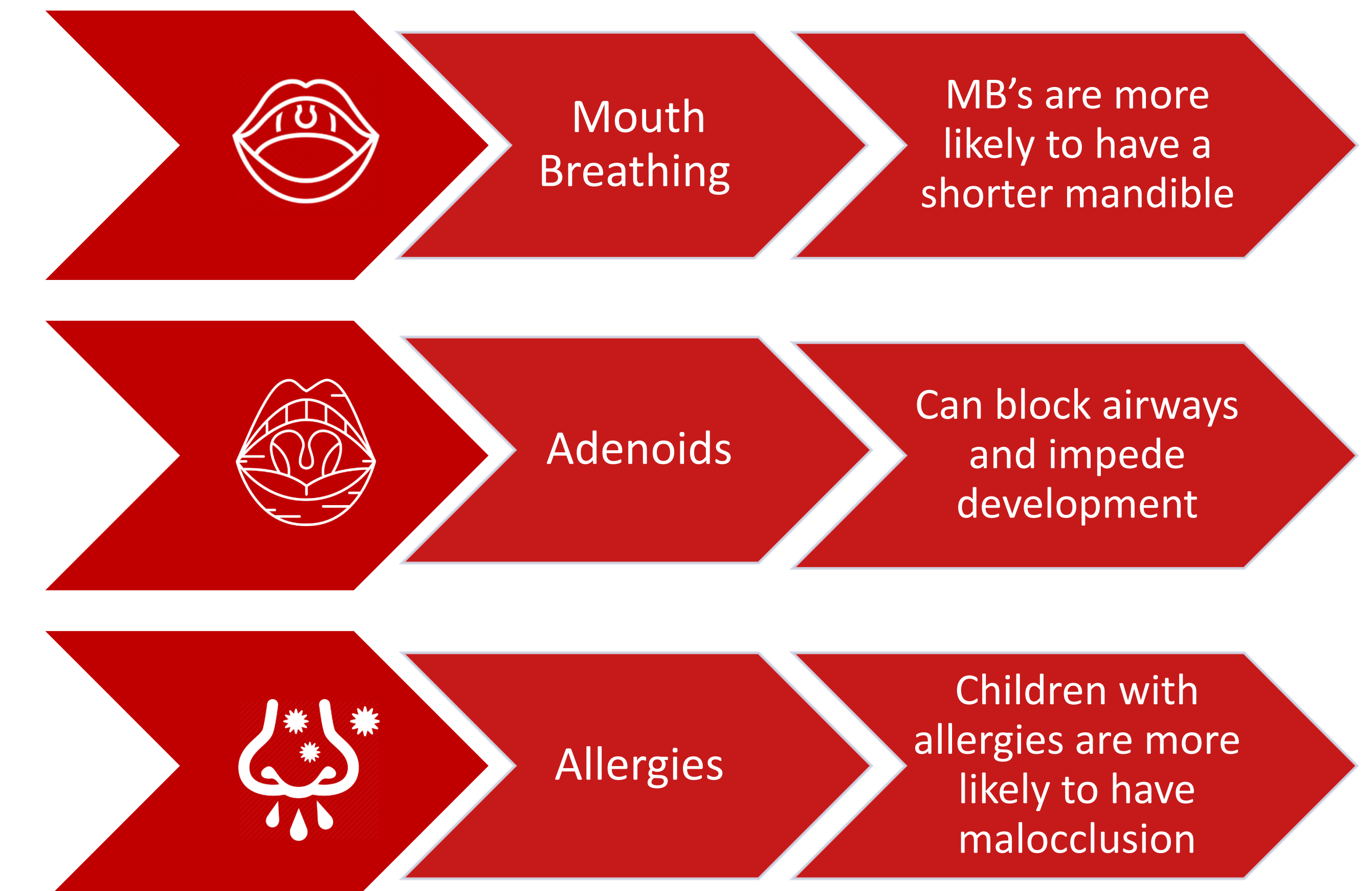
SNB Angle Averages

Reference	Nasal Breathing	Mouth Breathing
Berwig et al.	77.69	75.34
Souki et al.	76.78	75.72
Muñoz et al.	77.78	76.30

THE CAUSE



SUMMARY/CONCLUSIONS



- Mouth breathing children are more likely to have **shorter mandibles**.
- Children with **allergic rhinitis** were 3x more likely to develop posterior crossbite and increased overjet.
- Children were more at risk of developing **malocclusion** if they were mouth breathers.

WHAT WE CAN DO AS PROVIDERS

- **Early recognition** by a primary provider and parents
- **Early intervention** by specialists
 - Pedodontist
 - Orthodontist
 - Otorhinolaryngologist
 - Pediatrician
 - Allergist

REFERENCES

- Basheer, B., Hegde, K. S., Bhat, S. S., Umar, D., & Baroudi, K. (2014). Influence of mouth breathing on the dentofacial growth of children: a cephalometric study. *Journal of international oral health : JIOH*, 6(6), 50–55.
- Berwig, L. C., Ritzel, R. A., Serpa, E. O., da Silva, A. M. T., Mezzomo, C. L., & Côrrea, E. C. R. (2015). Usual Tongue and Lips Position in Anteroposterior and Vertical Growth Patterns. *Revista CEFAC*, 17, 107–113.
- Grippaudo, C., Paolantonio, E. G., Antonini, G., Saulle, R., La Torre, G., & Deli, R. (2016). Association between oral habits, mouth breathing and malocclusion. *Associazione fra abitudini viziate, respirazione orale e malocclusione. Acta otorhinolaryngologica Italica : organo ufficiale della Società italiana di otorinolaringologia e chirurgia cervico-facciale*, 36(5), 386–394.
- Luzzi, V., Ierardo, G., Viscogliosi, A., Fabbri, M., Consoli, G., Vozza, I., ... Polimeni, A. (2012). Allergic rhinitis as a possible risk factor for malocclusion: a case-control study in children. *International Journal of Paediatric Dentistry*, 23(4), 274–278.
- Muñoz, I. C. L., & Orta, P. B. (2014). Comparison of cephalometric patterns in mouth breathing and nose breathing children. *International Journal of Pediatric Otorhinolaryngology*, 78(7), 1167–1172.
- Souki, B. Q., Lopes, P. B., Pereira, T. B., Franco, L. P., Becker, H. M., & Oliveira, D. D. (2012). Mouth breathing children and cephalometric pattern: Does the stage of dental development matter? *International Journal of Pediatric Otorhinolaryngology*, 76(6), 837–841.