

# Letter to Editor

## Rashmdeep's Method: A Novel Method to Confirm Nasal Breathing

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### ABSTRACT

Mouth breathing has been a very prevalent oral habit, especially among children. Common etiologies behind this common occurrence can be physiologic enlargement of lymphoid tissue like adenoids leading to decrease nasopharyngeal airway or allergic rhinitis. The traditional or the latest methods used for diagnosing mouth breathing either are too subjective or cannot be performed in usual dental setups.

This article presents an innovative method to confirm whether patient can breathe through the nose. This can also be used to diagnose any unilateral nasal blockade.

**Keywords:** Mouth breathing, Nasal breathing, Oral habit, Nasopharyngeal airway.

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### INTRODUCTION

Mouth breathing has been a very prevalent oral habit, especially among children.<sup>1</sup> Common etiologies behind this common occurrence can be physiologic enlargement of lymphoid tissue like adenoids leading to decrease nasopharyngeal airway or allergic rhinitis.<sup>2</sup>

There are many methods commonly used by dental practitioner to diagnose this habit for example, observing the patient, mirror or cold mirror or fog test,<sup>3</sup> Massler's water holding test, Zwemer's butterfly test.<sup>4</sup>

While performing mirror test, the mirror is placed underneath the child's nostrils and checked for steam build up in the mirror face (upper or lower) due to breathing. Steam on the upper face indicates nasal breathing and on the lower or lower/upper face indicates oral breathing. For water retention test, ask the child to put some water in her/his mouth and keep the lips closed, without swallowing the water, for 3 minutes, and observe through the lips commissure if there is any effort along the time. The children who are unable to keep their lips closed can be considered oral breathers.<sup>5</sup>

Abreu et al in 2008 used a patient history protocol and physical examination protocol for identifying mouth-breathing children in their study. Both protocols included major and minor signs. Children were considered mouth breathers in their study, if they had two major signs or one major sign associated with two or more minor signs at the time of the pediatric consultation.<sup>2</sup>

However, clinical judgment is not accurate enough by these methods to confirm a diagnosis of nasal airway impairment. These methods' results are also affected by many factors like fan speed, temperature and humidity in dental operatory. In habitual breathers patient conscious also plays an important part.

An otolaryngologist may use complex tests such as, radiology, plethysmograph or airflow transducers to diagnose such conditions. According to some authors, there are strong positive correlations between rhinopharynx supplementary tests, such as X-ray findings, and clinical and surgical parameters.

X-rays are of low cost, simple and widely available and this has become the method of choice for initial assessment of hypertrophic adenoids by medical practitioners. Although it is routine practice to provide radiological findings together



**Fig. 1:** Hand glove cut to create a window on the thumb of the clinician

**Figs 2A and B:** Method to block one nostril and feeling the exhaled air from the other

with subjective opinions, many authors call attention to their limitations and recommend objective assessments, with the adenoid-nasopharynx ratio being the most reliable in routine radiological practice.<sup>6</sup>

For other authors, nasal endoscopy is a more trustworthy test than X-ray of the rhinopharynx for assessing hypertrophic adenoids; it is well-tolerated and can be carried out away from the hospital environment, which could increase its routine applications.<sup>7</sup>

But it seems that the only reliable method for determining the mode of respiratory function is to use a plethysmograph and airflow transducers to ascertain total nasal and oral airflow.<sup>8</sup> However, these methods along with other complex procedures mentioned above cannot be performed in usual dental setups.

This article presents an innovative method to confirm whether patient can breathe through the nose. This can also be used to diagnose any unilateral nasal blockade.

## TECHNIQUE

The glove at clinician's left thumb (for right-handed clinician) is trimmed with the help of pair of scissors as shown in the Figure 1. Patient is made to sit erect on the dental chair. Clinician sits in a 10'o clock position and the left hand is placed over patient's lips with exposed area of thumb just below nostrils. The fingers of left hand should be placed such that it approximates both the lips or covers the mouth in patients with incompetent lips.

Patient is not aware that a test for mouth breathing is being conducted on him. This test is presented to him as a routine oral examination. As the patient breathes the expired air from the nostrils can be easily felt on the thumb of the clinician. One of the nostril can be blocked with the help of the index finger of right hand and exhaled air from other nostril can be felt (Figs 2A and B).

This technique has following advantages:

- Patient is unaware of the type of test being conducted; hence it can be used in habitual mouth breathers.
- Any anatomical blockade can be thought of if no exhaled air is felt on thumb from both or single nostrils. Thereafter, appropriate referral can be made.

However following precautions need to be taken in conducting this test:

- A prior consent should be taken from the parent before performing this test.
- Thorough washing of the hand is required after performing this method.
- This test should be avoided in situations like:
  - Patient with runny nose
  - Asthmatic patient's
  - Patient with acute upper respiratory tract infection
  - Patient being carrier of other communicable diseases which spread through nasal discharges.

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