

## Are there any specific guidelines for identifying whether the hard palate is high-vaulted?

Dr. Mason's response: When I was a university professor in speech pathology, I taught the clinical perspective that the wider the maxillary posterior dental arch the flatter and lower the palatal vault, while the narrower the upper dental arch, the higher the hard palatal vault. Also, the narrower the posterior maxillary dental arch, the more often a posterior dental crossbite will be found.

In orofacial examinations, there is a "Rule of Thumb" that can be used in assessing the hard palate. The recommended procedure is as follows: The patient is instructed to put his/her thumb up into the palatal vault. It is best to guide the patient's thumb into the mouth and up against the palate since most children will barely insert the thumb into the mouth when instructed to do so. After placing the thumb correctly, ask the patient to close the lips around the thumb. Then, gently rock the thumb from side to side so the patient can feel if the thumb "fits". Finally, instruct the patient to keep the thumb in place and to open his/her mouth slightly so that you can visually inspect the thumb against the hard palate.

The patient's thumb will fit comfortably in the hard palatal vault if the vault is normal in height and width. If there is not enough room and the thumb becomes "squeezed" when inserted in the hard palate vault, the palatal vault will most likely be high and narrow.

Using a patient's own thumb is the preferred method since patients thumbs are a better size for their mouths than adult thumbs. As patients grow, so will their thumbs. Using your own thumb would require wearing a glove. It is also very difficult for the examiner to place his/her own thumb, with nail down, into the palatal vault when positioned in front of the patient.

Although the "Rule of Thumb" is a good tool to use to determine if the patient has a high, narrow palate, the finding of a high vaulted hard palate has a greater significance and the finding should serve a larger purpose. A high, narrow hard palatal vault should be considered by OMTs as a "red flag" to check for a dental crossbite, especially a posterior crossbite. If a crossbite is identified, a referral to a dentist is needed. Any crossbite that is identified may signal a possible need for maxillary dental arch expansion.

With experience, you will be able to subjectively determine whether a palatal vault is narrow and heightened just by looking at a patient's hard palate. You will also become proficient at identifying dental crossbites. These skills will become ingrained habits in clinical observations and will serve you well.

I remind clinicians that the hard palate grows and expands according to the V-principle of growth; that is, the hard palate expands like an upside-down V when viewing it from the oral cavity. As the V widens, the midline flattens in response to the amount of expansion and becomes more U shaped. The factors that shape hard palatal expansion and growth are controlled from events and structures from above the hard palate rather than from tongue "molding" functions within the oral cavity. (For more details, please review Myth #7 in the article "Myths that Persist About Orofacial Myology" found in the IJOM, November, 2011, and at OrofacialMyology.com/INFO, under the heading Myo-Research).

The key consideration in dentistry is how maxillary dental arch width relates to the lower dentition; that is, is there a posterior or anterior crossbite? Many orofacial myologists attach more importance to the height and shape of the vault of the hard palate rather than to the width of the maxillary dental arch. Since the height and shape of the hard palatal vault are of no consequence on their own, the finding of a high narrow palatal vault, when accompanied by a dental crossbite, can create bite alignment problems. Thus, identifying dental crossbites is an important part of OMT examinations.

No matter the height or width of the midline of the hard palate, most individuals are able to adapt in speech, swallowing and rest posture because the tongue is very adaptable to oral variations.

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