

Division of Pediatric Otolaryngology

VOCAL NODULES: INFORMATION FOR PARENTS

If your child has been diagnosed by an ear, nose and throat specialist (otolaryngologist) as having vocal nodules, it is important for you to understand their causes and treatment. You and others in your child's environment must play an important part in the healing process. Therefore, the following information is presented in order to explain the nature and management of vocal nodules, and the role you must play in the treatment process.

INTRODUCTION: THE VOCAL MECHANISM AND HOW VOICE IS PRODUCED

Your voice is produced in the larynx or "voice box" which is situated at about the level of your Adam's apple in the neck. The vocal cords (or vocal folds) are two small muscles, which are located within the larynx. During speech, we bring the vocal cords together and use the air from the lungs to make them vibrate. Sound is produced from these vibrations and the movements of the lips and tongue modify this sound to create the individual speech sounds.

THE NATURE OF VOCAL NODULES

Vocal nodules are callous-like bumps on the vocal cords. They can form on one or both of the cords. During normal speech, the vocal cords should press firmly together. However, if nodules are present the cords cannot close completely. Therefore, extra air escapes and the voice sounds hoarse and breathy.

Vocal nodules are caused by the misuse or abuse of the voice.

Vocal misuse can include the following:

1. The use of an incorrect pitch, volume or quality
2. Inadequate breath support
3. Excessive rate of speech

Vocal abuse is the most common cause of vocal nodules in children.

Vocal abuses include:

1. Excessive shouting, screaming, cheering or crying
2. Strained vocalizations – such as the sound used to imitate motors or animal noises
3. Excessive talking
4. Reverse phonation which is talking during inhalation rather than exhalation
5. Explosive release of vocalizations resulting in staccato-type of talking
6. Abrupt hard vocal attacks
7. Excessive coughing or throat clearing

Other factors that may possibly be associated with the development of vocal nodules include:

1. Chronic upper respiratory infections or allergies
2. Smoking
3. Air pollution;
4. Personality or general adjustment of the child.

Any combination of the above factors may cause vocal nodules to develop.

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THE NATURE OF VOCAL NODULES (continued)

Vocal abuse and misuse cause the vocal cords to close with excessive force (i.e. bang together). This may result in the formation of vocal nodules at the point of maximum strain or contact. As the nodules begin to form, a slight reddening can be noted on the margin of the cord. This is soon followed by localized swelling or thickening on the edge of the cord. Finally, a definite nodule or bump develops on the upper one-third of the vocal cords where the maximum vibration occurs. Nodules may range in size from the size of a pinhead to a split pea (one to three millimeters; keep in mind that the vocal cords are small.) At no time during the development of the nodules is there pain connected with this process. The only notable symptom of the presence of nodules is a breathy and hoarse quality to the voice.

THE TREATMENT OF VOCAL NODULES

The treatment of vocal nodules should usually include voice therapy or a home program, regardless of whether the nodules are surgically removed. The purpose of therapy is to eliminate the causes of the nodules and to teach the child more efficient use of his or her voice. It is important to note that unless the causes are eliminated, the vocal nodules will inevitably return, no matter how often they are surgically removed. This can be likened to corns, which continue to come back until better fitting shoes are worn.

The successful management of the child with vocal nodules is dependent upon the involvement of the parents and people in the child's environment in the remediation process. The first step is to identify the vocal abuse habits. The child must then be made aware of these habits in order that they may be eliminated. It may be necessary to establish a new set of rules regarding the way in which the child uses his voice.

These rules may include the following:

1. No screaming, yelling or shouting
2. The child must walk to where you can hear him rather than shout
3. The child may use a whistle on the playground to get the attention of the other children rather than yell
4. The child must take turns talking
5. Motor sounds or animal sounds are not allowed
6. The child must use a moderate volume at all times. (Not too loud, but no whispering either.)
7. Throat clearing is strongly discouraged
8. Singing should be discouraged.
9. No talking is allowed when the television, record player or radio is on. Talking should only be allowed in a quiet environment.

It is very important that these rules be enforced with consistency. That is, don't allow any exceptions. However, you should reinforce the appropriate vocal behaviors and not "nag" about the child's bad habits. Don't scold him when he breaks the rules; just don't let him get results-his way. Also, give him a lot of positive reinforcement when he conforms to the rules. The child must learn that appropriate behavior gets good results and inappropriate behavior "never wins".

It is also important that you set a good example for the child with your vocal habits. Don't expect him to refrain from doing something that he hears you doing. In other words, don't yell at him to stop yelling. It is also important that all family members follow the same rules. Don't single out the child with the voice problem. Be consistent with all family members in terms of discipline.

Your involvement and the continued follow-up by the otolaryngologist and speech therapist are essential components of the child's overall therapy program. Although you cannot be expected to do the whole job, your participation and encouragement can mean the difference between success and failure in treating the problem of vocal nodule