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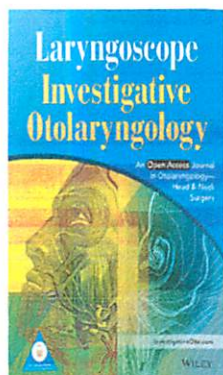


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WILEY

Regular meeting, January 27, 1915.

Orthodontia in Its Relation to Rhinology. DR. MERSHON.

President and Members of the Laryngological Society of Philadelphia: The orthodontist has long realized that some plans of his work was retarded or inefficient, did he not have the co-operation of the rhinologist in the treatment of these cases and it has been his custom to refer the patient to the rhinologist before he would undertake the correction of the dental irregularities and at the same time the orthodontist has had the growing belief that there are many phases of the orthodontic treatment that might be of assistance to the rhinologist in acquiring satisfactory and permanent results of his work.

He outlined some of the relations that exist, which are of mutual interest to the rhinologist and orthodontist. A large percentage of those cases coming to the orthodontist for treatment are those cases that have at some time been associated with nose and throat difficulties. Almost all the cases that the orthodontist has to treat have to do with a lack of development and I believe that the lack of development of the dental arch, closely associated as it is with the nasal arch, may be an even larger factor than we have been able to realize.

You, of course, always recognize the high, narrow arch with the protruding anterior teeth. If you will examine these further you will also recognize that the lower teeth in their relation to the upper ones are distally disposed, usually to the extent of a bicuspid. You will also notice that the lower anterior teeth are usually super-ert until they are in contact with the gum tissues of the palate. You also notice that there is an apparent and probably an actual lack of developmnt of the bone associated with the nasal tract, together with an absence of normal lip function. There is also an usual appearance of lack of general development with a corresponding absence of physical tone.

He divided our considerations under three heads:

1. The lack of development of the nasal tract.
2. The absence of normal lip function.
3. Habit.

He thought that in all cases of marked pernicious mouth breathing there is a lack of space in the nasal tract for the patient to acquire a sufficient amount of air for its use.

In the lack of nasal space you have three phases:

1. The pathological conditions of the nasal membranes and hypertrophy of the soft tissue. This phase is, of course, of no concern to the orthodontist.)
2. Cases of deflected septum, this I think may be made possible by the mal-development of the dental arch, such as an abnormally high palate, presenting an insufficient amount of room for a normally developed septum.
3. A lack of lateral development of those bones forming the outer walls of the two nasal tracts.

At this point the pertinent question arises as to whether there is anything that the orthodontist can do that may assist in the correction of the mal-development of these factors. The orthodontist knows by actual experience that there is practically no limit to the amount of de-

velopment that he may acquire with the proper use of forces upon the dental arch. And there are many evidences which seem to prove that the development of the dental arch also has its effect upon the development of those bones associated with the dental arch and therefore, step by step, the influence will be felt upon those bones which go to outline the nasal tract.

He believes that the suture of those bones comprising the nasal tract are capable of being influenced in a manner to give us an added area. In the treatment of these cases, we are chiefly concerned with patients during the period of most rapid development and we know that at this time the sutures are undeveloped and forces applied in the proper direction and over a proper duration of time would to my mind cause these sutures to be opened up and developed in a direction that would give us a much larger nasal tract.

The treatment of these cases to produce the desired results possess many factors of the utmost importance.

To begin with the age of the patient is one which must not be overlooked. I believe the best results are possible to be obtained up to ten years of age, however, I do not say that after puberty results are impossible—they are obtained at a much greater effort and diminishing in satisfaction as the patient grows older. It seems to be the best time to begin treatment where results of this kind are desired would be from four to seven years of age. Nature's normal period for the lateral development of the dental arch is during the time of the development of the permanent incisors, this should be completed at seven years of age. Any lateral development of the dental arch that has not taken place normally at five or six years of age, must be produced artificially, or never acquired. There is a pernicious idea existing in the minds of the Medical and Dental profession, even to the present day that any treatment of this sort should be deferred until the patient is approximately twelve years of age. This is a dangerous idea and results in a great deal of harm and should be uprooted as soon as possible.

Next the character of the work required to produce these developments artificially is one that requires a most careful consideration. It is humiliating to the orthodontist, to have to admit that up until a few years ago the character of his work in the correction of dental regularities, was such as to produce exactly the opposite results, to those which we desire. For instance the moving of teeth was done in such a way as to tip the crowns of the teeth outward, consequently at the same time the splices of the root or to be more definite the apical arch was contracted, therefore having a tendency to contract the nasal arch rather than to expand it and it is unfortunately true that a considerable orthodontic work is being done in the same manner at the present time. In order that the desired results should be obtained, it is necessary that the forces applied upon the teeth will be such as to carry not only the crowns outward but the entire root and therefore produce a stimulation in an outward direction of those bones associated with the roots of the teeth and in this manner to stimulate an outward development of the bones step by step until all of the bones forming the nasal tract and the base of the skull shall also be stimulated to develop outward in their lateral direction.

The rapidity with which this work is done is also a matter of very careful consideration. We know that bone development takes place very slowly and in order to acquire development of any amount, it must continue over a considerable period of time. Therefore the rapid movement of teeth, while it may be attended with good results as far as the relation of teeth, while it may be attended with good results as far as the relation influencing the development of those parts with which you are concerned.

This relation also has an important bearing upon the suture changes of which I have already spoken. A force brought to bear upon a suture, will be very quickly attended by changes—those changes in order to be permanent must be retained for a considerable length of time, until the bone building has taken place upon the edges of the suture.

The physical condition of the patient, is one which also requires careful attention. Every aid should be enlisted that will obtain the most satisfactory condition of all vital activities to insure the best bone development, otherwise our efforts will fail our highest expectations.

The relation of the lips is a condition that requires careful consideration. Long continued mouth-breathing together with the typical relation of the teeth associated with these cases brings about a mal-formation of the lips which has much to do with the prognosis of these cases. The upper lip is very much shortened because of the protrusion of the upper anterior teeth, while the lower lip, because of the lack of prominence of the lower anterior teeth, together with protruded superior incisors, is caused to roll outward and downward. It seems to me that these conditions must be corrected, if we are to hope to reestablish normal breathing.

DR. ROSS H. SKILLERN: I became interested in this subject about three years ago, as a result of my daughter's condition. At three years of age she was operated on for adenoids and tonsils, and two years later was reoperated upon. I sent her to Dr. Mershon to get her teeth straightened out. Nasal respiration was improved and she began to pick up. Not one of you here have operated and have not had the mother of the patient say that she was disappointed in the result. We are all familiar with this. Why do we have this facial deformity? It is primarily due to interference with normal nasal respiration. Nasal respiration has everything to do with the development of the nose and accessory sinuses. Lack of nasal respiration causes these deformities in the upper jaw. Adenoids have caused lack of nasal respiration, or inability to breathe properly through the nose. Why do we not cure our cases as soon as we take out the adenoids? The younger the person the more animal matter we have. The longer the nasal respiration is interfered with, the greater the deformity and the more difficult to restore the normal condition. I think now that we should work hand in hand with the orthodontists.

DR. ROWE: I know every statement to be very conservative; I would be more radical in my remarks. When the orthodontist has done his work there is very little left for the Rhinologist in respect to respiration aside from the removal of adenoids and tonsils. Nasal obstruction is associated with malocclusion. The question arises is there nasal obstruction in cases where there is no occlusion? Personally, I believe

that cases of nasal obstruction are comparatively rare where normal occlusion exists. The loss of a single tooth creates loss of development of the maxillary bones. I personally have never seen a case of nasal obstruction with normal occlusion. It was shown conclusively that one could anticipate the probable malocclusion of the permanent teeth.

Dr. HUGGINS: I wish to sing a word of praise to the orthodontists. I believe orthodontia to be the long sought for missing link. The orthodontist has taught us proper occlusion. We have never appreciated it. They have started to teach that it is possible to get air passage not by removing the bone, but by adding bone.

Dr. MENSION: When teeth are moved, the bone is not moved with it; this is a fact not clearly understood by dentists and medical men; pressure produces stimulation on the bone.

Dr. WEEKS: It has been my conclusion that sucking of the thumb will produce almost the typical conditions as produced by mouth breathing. If within six years after the latter complement of deciduous teeth are presented, you do not see spaces, lack of lateral development will occur.

Anaphylactic Reactions Occuring in Horse Asthma after Administration of Diphtheria Antitoxin. J. L. GOODALE, *Boston Med. and Surg. Jour.*, May 28, 1914, p. 837.

Goodale gives his researches on patients suffering from horse asthma in an effort to discover simple anaphylactic reactions, to determine whether diphtheria antitoxin can safely be administered. The first tests employed were the placing of a drop of antitoxin serum on the anterior end of the inferior turbinate and the second, the scratching of the lobe of the ear after a drop is placed on it.

In three out of eight cases subject to horse asthma typical irritative reactions were obtained in a few minutes and lasting two to three hours: in the nose a pale edematous mucosa resembling hay-fever; in the ear lobe an anemic border immediately about the scratch with redness and general swelling over the rest of the lobe.

Other cases not suffering from typical horse fever gave correspondingly atypical reactions. The author concludes that the series is not extensive enough to prove anything, but suggests that these reactions may be efficient bedside-tests where antitoxin is to be given to a patient susceptible to horse fever and allied diseases.

BERRY.