THE NECESSITY FOR PROPHYLAXIS AND RADIOLOGY IN THE PRACTICE OF ORTHODONTIA.

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THIS subject was selected because, first, I believe that the ultimate success of the Orthodontist is largely dependant upon how much importance he places upon the prophylactic care of his patients and how extensive he used the X-ray. Second, because I do not believe that the average Orthodontist is taking advantage of the fund of information at his disposal in either case. Third, because I wish to impress upon these men the great benefits to be derived from the safe and sane use of prophylaxis and radiology.

It is not necessary for me to dwell upon the necessity for the practice of periodontia. This has been established many, many years ago. The Periodontists have proved all their claims and I am certain that most every reputable practitioner of dentistry has been convinced, but I question whether every Orthodontist has been convinced of the necessity for prophylactic care during an orthodontic operation. If they have, then I am morally certain that many of them are not following out their convictions, notwithstanding the fact that there has been a great evolution the past decade with reference to it. Practically all appliances are constructed with that idea in view. There was a time, however, when appliances were constructed and placed in the mouth without much regard to cleanliness. In fact at one period within my memory it was the practice

of some men to place clamp bands upon the teeth without cement. Thank Heavens those times have passed, and no man would now dare to place and leave an uncemented clamp band upon a tooth. Personally I have always been an advocate of prophylaxis. If I remember correctly, it was in 1901, while in the general practice of Dentistry, that my attention was severely called to the work by Dr. D. D. Smith, who presented a paper and clinic at a Dental Society Meeting in southern Ohio. His equipment, or as much of it as could be secured, was immediately installed in my office, so when I graduated into the practice of Orthodontia, thanks to my impression and practical experience, I continued to advocate and use prophylaxis. An assistant has been employed in my office for several years to do prophylaxis and every effort is made to keep the mouths of our patients clean and healthy.

When a patient reports for treatment, a careful examination is made of all mouth conditions, and the same properly recorded. This has special reference to cavities in the teeth, pulpless teeth, abscessed teeth, deposits upon the teeth, irritated and inflamed gums, diseased condition of any soft tissues, swollen glands, or any thing of that nature. The mouth is put into as near a healthy condition as possible before any orthodontic appliances are placed upon the teeth.

The patients who need fillings are referred to their regular dentist. He may also do the prophylaxis and treatment of the gums if he so desires, otherwise that is done by my assistant.

I endeavor to place all appliances so that they will interfere as little as possible with the functions of the mouth, to construct them as to cleanliness, and so the soft tissues will not be irritated by their use.

When bands are placed upon the teeth, they should be so fitted that the peridental tissues will not be injured. The Periodontists have warned against this, and have called attention to the permanent damage that may be done the peridental membrane when bands are forced too far gingivally upon the teeth. The bands should also be fitted with regard to protecting the teeth at points where any part of the appliance will come in contact. In many mouths disintegration of the enamel will occur when this is not done.

After bands have been cemented into place, care should be used to remove all excess particles of cement; especially should any be forced under the gum margin. If not, it might be the source of considerable irritation and unpleasantness for the patient. All roughened surfaces of the bands should be carefully burnished or removed by polishing. The molar and bicuspid bands should be contoured as near like the natural teeth as possible so the bolus of food will be deflected from the gums in mastication.

Upon each visit of the patient to the office, which will average about once in two weeks, the mouth, teeth, and appliances are carefully cleaned. This is accomplished by the use of a soft brush, or rubber cup, with powdered pumice, the liberal use of warm water, and the spray bottles. Those parts of the appliances that are removable, are cleaned in the laboratory.

Regular prophylactic treatments are advised about every six weeks, and the

removal of all bands and appliances for this purpose about every six to eight months, with the exception of anterior bands, which are not necessary, except where there is some doubt as to the condition.

At the time prophylactic treatments are given, an examination of the teeth for cavities is made, and if any are found, they are marked on a chart, of which there are two copies. One is given the patient, with instructions to go to their dentist immediately, and the other is filed in the office for future reference.

During the entire orthodontic procedure the patients are instructed in the care of the mouth, and use of the tooth brush at home. By following out these methods the mouths of the patients are kept clean and healthy, permanent injuries to the peridental and soft tissues prevented, disintegration of the enamel reduced to a minimum, the early discovery of cavities assured, and many embarrassments to the orthodontist eliminated.

I would suggest that where a periodontist and orthodontist are not associated in the same office, that an arrangement be made between these specialists whereby the patients may receive the full benefits to be derived from such a combination. This I am certain would prove of mutual benefit to all concerned.

The thought has prevailed among certain of the profession and many of the laymen for some time that the appliances are responsible for every ill that may befall a child during an orthodontic operation. Physicians frequently arrive at a quick diagnosis when they observe appliances in the mouth. The orthodontists have been so intensely interested in the development and progress of orthodontia, that as a rule they have not taken heed of these accusations, and have not really taken the time to deny them. To those who are familiar with the progress and practice of modern orthodontia, comment is unnecessary. To those who are

not, may I say most emphatically such accusations are unfounded and untrue. Obviously I refer to those cases that are given proper orthodontic treatment and care by qualified men. Certainly great damage may be done in orthodontia, as well as periodontia, if the patients are treated by men who are not qualified to do so.

I have previously stated, and I wish now to reiterate it, that patients undergoing proper orthodontic treatment, suffer less nerve strain, have cleaner and healthier mouths, have less decay of the teeth, take better care of their mouths, and appreciate more the value of their teeth, than do patients who have not come under the care of an orthodontist.

To speak of the general use of the X-ray is redundant. You are already familiar with its value, and know its use to be indispensable. What I wish to do is to emphasize the necessity for its use in orthodontia.

From my observations I do not believe that the orthodontists in general are availing themselves of the use of the radiographs to the extent they should. This was formerly true of myself, but at present the radiograph is being used quite extensively in my office. I believed, as many did, that the only way to get satisfactory results, was to have the work done by a specialist in radiography. I still maintain that belief in certain complicated or obscure cases. However, the average case can be handled perfectly satisfactorily in your own office by a well trained technician, such a person may be a graduate dentist or not, as the case may be.

The modern dental X-ray apparatus has been developed to such an extent and has been so simplified, that the work of making the average radiograph is comparatively easy. I have found it advantageous to have the work done in my own office because, first, the patients usually prefer not to go elsewhere especially if quite young. Second. The or-

thodontist's time is conserved because frequently he will have to accompany the patient to the radiographer's in order that the correct views may be had. Third. The films can be developed before the patients leave the office and other views made if desirable or necessary. Fourth. The orthodontist becomes more familiar with the science of radiology and thus is better qualified to interpret the films. Fifth. Radiographs will be made more frequently because there is less inconvenience in doing so.

The object in speaking of these things is to encourage the more general use of the X-ray. Some men may find it more convenient and more to their liking to refer all cases to the radiographer. That is entirely a matter of choice. It doesn't make any difference, just so it is done.

For some time past I have made it a practice to make radiographs.

First. Of all patients applying for treatment, I consider a complete radiographic record in diagnosis as important as are the models and other data.

Second. Of children coming under my observation before any of the temporary teeth are lost.

Third. Of all unerupted teeth in completed cases.

Fourth. Of cases under treatment as frequently as deemed necessary.

Fifth. Of cases that develop unusual symptoms at any time or where cavities are suspected.

Since installing the Dental X-ray, I have found it convenient to make numerous radiographs that otherwise might not have been done, and in so doing I must confess that many embarrassments have been avoided. It is perfectly amazing the number of interesting and unsuspected conditions that will be discovered, some of which would prove disastrous to the physical welfare of the patient and to the reputation of the orthodontist.

In order to impress more emphatically upon your mind the necessity for the

liberal use of the X-ray, I have selected the radiographs of several cases, and have made slides from them, which I will now display upon the screen and which I hope will be of interest to you.

DISCUSSION.

J. Lowe Young.

I have listened to this very interesting and timely paper and what I say will be in the nature of an amplification.

All practical orthodontists, I am sure, will agree that we require X-ray diagnosis before beginning treatment. This is necessary both from the standpoint of missing teeth and to show the positions of the unerupted teeth. For a considerable time I have been having radiographs of the lower jaw taken extra-orally. I find it far less annoying to the young patients than where the film is held down in the mouth. It also gives the third molar development and if direction is properly worked out, the position of the upper third molar as well can be quite definitely. I do not consider a case of malocclusion finished until the lower problem is definitely settled. I am sorry that I have not resorted to this practice years ago.

A. H. Ketcham, Denver, Colo.

This paper is very valuable; and while I cannot add anything to it, I can commend and try to accentuate the points of prophylactic care and also the importance of the X-ray in diagnosis. I feel that the orthodontist is responsible for the prophylactic condition of the patient's mouth while he is treating cases of malocclusion.

A very valuable service rendered our patients is to teach them the proper procedure in brushing the teeth. My associates and I clean our patients' teeth thoroly at each visit; and, if they are not taking proper prophylactic care, our nurses drill them in tooth brush technic until they are proficient and acquire the tooth brush habit.

In regard to the X-ray. It is one of our most valuable aids in diagnosis, and should be used freely. In cases where there are temporary teeth present, the presence and position of the permanent teeth must be determined; pulpless teeth must also be checked up and the positions of the crowns of the third molars determined when they first begin to form.

Sometimes a case will apparently be finished; but, during the attempted eruption of the second or third molars, the anterior teeth will be forced out of alignment. An early X-ray diagnosis and removal of an impacted third molar, may save this relapse or sometimes a pulpless first molar may be removed and the second molar moved forward, liberating the impacted third.

In regard to missing teeth: A few years ago, I checked up missing teeth and found that about one out of ten of my little patients had one or more of the permanent teeth congenitally absent, and the one predominately absent was the lower second pre-molar.

W. C. Fisher, New York: I would like to ask Dr. Casto a question.

In the case of the removal of the temporary molar where he opened up the space, presumably to aid the surgeon to remove that molar, he found it necessary to remove the bicuspid immediately beneath. The question I would ask is,—what pathological conditions were found there necessitating the removal of the pre-molar. (Bicuspid.)

Harry E. Kelsey, Baltimore, Md.: I only wish to say in reference to the case of a boy which Dr. Casto showed in which the very early recognition of a cyst was disclosed by the X-ray and removed in time to obviate the necessity for losing any teeth, that, as he says, it came into my hands later on when his family moved to Baltimore, and neither at that time nor up to the present, about a year after the treatment

of his malocclusion has been completed, is there any visible evidence that such an operation had been performed, proving his contention that early recourse to the X-ray and other diagnostic methods would save many teeth and even large portions of the jaw.

S. S. Noble, Wichita, Kansas: I wish to endorse the use of the X-ray. Also I wish to say further to the men who have not purchased an X-ray machine that they obtain a machine that is just as convenient as the dental engine; not a machine that has to be placed in another room, but which shall stand behind your chair. You reach for the tube and adjust it to your patient as easily and conveniently and with as little waste of time as you would your dental engine.

I am not advertising anything. There are several machines that will do that very thing. They were recently constructed for that purpose, using the Coolidge dental tube for this kind of work. I feel, from experience, that it must be convenient without having to move your X-ray machine. Then you don't scare your little patients. You put it in position as easily or nearly so, as you do your dental engine. And then we use it as often as we want. Otherwise we will not use it as often as we wish to many times.

Julian Smith, Dallas, Texas: In the description of the case the doctor cited of the granulation disease. If he described the symptoms by which that disease could be recognized, I failed to get it. I think in a case that seems to be of as much importance in regard to unusual conditions as he recites there, that it would be valuable to us all if Dr. Casto could give us some of the symptomatology on this particular disease.

C. A. Hawley, Washington, D. C.: There is one case shown that is well worth while to take note of. That is the case in which a temporary tooth is discovered

beneath the tissue. I think there are very few cases recorded of that kind. I happened to have a few in my practice. In one, an upper second deciduous second molar was buried completely beneath the gums. No signs of it whatever. In another case, there were four temporary molars buried completely. I have never seen any explanation of how such a condition could occur. I think it is very interesting and want to make a record of it.

F. M. Casto: In answer to Dr. Young would say that I use the extra-oral plates. In many cases they are a distinct advantage and should be used whenever it seems necessary. Dr. Fisher asked what pathological conditions were present which necessitated the removal of the second premolar in the case of the impacted second temporary molar.

There was no active pathological condition present, the teeth were encysted but the cyst had not developed enough to cause any trouble. The second premolar had to be removed on account of its relative position to the temporary molar. This was a case of Dr. Stephans. In his desire to save the permanent tooth, he did not remove either one, at the first operation but attempted to loosen the temporary molar and then wait a few days in the hope that the teeth might change positions, so the premolar could be saved. However, it was found at the subsequent operation that the teeth were still in such relative positions that the removal of both was necessary.

Dr. Fisher: Was there any ankylosis?

Dr. Casto: No, there was not. Dr. Smith asked a question regarding the symptoms of an Adamantomata. It develops insiduously and on account of it being located in the cancellated portion of the jaw does not cause much disturbance until it has advanced to quite a considerable degree.

It almost invariably starts in the molar region. The progressive symptoms

would be—tenderness in masticating, pulpitis, probable death of some pulps, swelling or enlargement of the bone around the affected part, tenderness on palpation, destruction of the cancellated bone, the tumor gradually extending in all directions.

Later the cortical layer of the bone will be attacked and broken down and a thick, heavy discharge will begin; usually this is emptied into the mouth, but sometimes the discharge is on the lower border of the jaw. The patient will suffer systemic symptoms in accordance with the virulence of the attack. Diagnosis can only be verified by supple-

menting a pathological with a complete clinical examination.

I am glad to know that Dr. Ketcham has collected considerable data regarding the per cent of permanent teeth congenitally missing. In the cases he examined, which were, of course, more or less abnormal, he found about ten per cent to have congenitally missing teeth. This is quite significant. I might state in respect to Dr. Ketcham, that he really inspired me to use the X-ray so universally in my practice. He is one orthodontist who has constantly and persistently used the X-ray since he began the practice of orthodontia.

PRESIDENT'S ADDRESS.

By William A. Giffen. D. D. S., Detroit, Mich.

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THE National Society of Denture Prosthetists is a going concern. It has no watered stock. Its members are all preferred stock holders. No person can prevent us from criticising the management. We cannot be frozen out. We may get out when we choose.

Membership in this Society is certainly a good business proposition for all members of the National Dental Association who are especially interested in Prosthetic Dentistry.

I believe we shall get the best returns in the way of condensed knowledge on Prosthetic Dentistry our chosen profession can produce at the minimum cost. I believe that an unprejudiced analysis of this meeting will prove that this society has enthusiasm and efficient energy to make it a potent factor for dental

progress; that the progress the organization has made in its first year is about all that its members had a reasonable right to expect, but while the record of this society may be declared satisfactory and its future full of promise, the question is "How are we to utilize our forces in order to accomplish the greatest good."

Harmony is the most essential requirement, as internal dissension will wreck any institution, and the probabilities are that this society would not prove an exception to this general rule.

Another requirement which is just as important is efficient management of the society. In other words the members should interest themselves in the election of officers to the extent that they will vote for the election to office those men only who have a record for doing a good