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PRELIMINARY ANNOUNCEMENT OF  
CHICAGO MEETING

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The American Association of Endodontists will hold their February meeting in Chicago, February 7-8, 1948, at the Congress Hotel. A banquet Saturday evening will open the session, followed Sunday by a full day of scientific presentations.

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## *Nervarsen, A Dosed Devitalizing Tablet in Root Canal Work*

PROFESSOR O. MULLER\*

Arsenic trioxide is still widely used for devitalization of pulp tissue. Substitutes for this material, which is very toxic, have as yet not been found. In order to rationalize the use of arsenic, three questions will be considered in this paper:

1. What is a practical dosage for pulp devitalization?
2. How long can arsenic be left in contact with the pulp tissue so that it becomes devitalized without injury to the periodontal membrane?
3. What happens to the arsenic and where can it be found after devitalization of the pulp tissue?

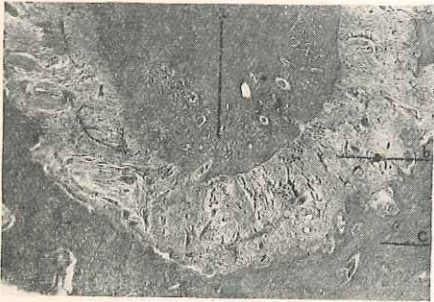


FIG. 1. Periodontium of a dog. The tablet laid ten days. No reaction.  
 a—Foramina at the apex.  
 b—periodontal membrane.  
 c—alveolar bone.

Obviously we must try to apply the smallest amount which is capable of devitalizing the pulp in a reasonable period of time. Past solutions or powder forms cannot be controlled as easily as a firm solid mass. The solid form has been found by combining gelytin and arsenic trioxide and has been described by Dr. Eckmann of the Swiss Serum Institute at Berne (Switzerland). The

\*Dental Institute of the University of Basle (Switzerland).

formula is enclosed in a gel and diffuses out when the surface is moistened. The whole mass has the appearance of white paper and little tablets can be formed in order to assure an exact dosage. The smallest dosage effective is 0.00012 G., but the results with this amount vary. A dose of 0.00079 G. or 0.0008 G. is the best for practical use. We have investigated this dosage during the past

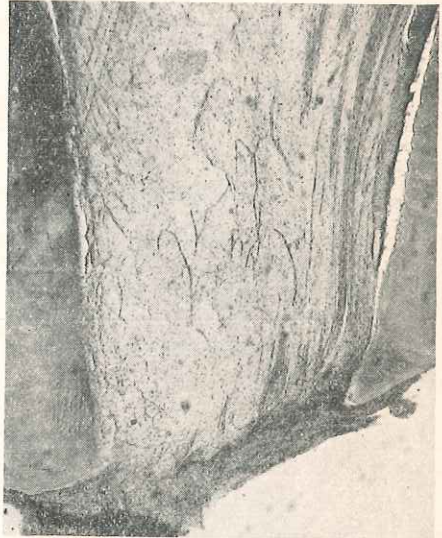


FIG. 2. Open foramen after devitalizing with Nervarsen. No reaction at the apex.

six years. These tablets are called Nervarsen tablets. When applied to the exposed pulp they diffuse into the pulp and cannot be found after devitalization. The result is quite different when other devitalizing medicaments like fibrous pastes or cotton pellets containing arsenic powder or solution are used. They are still present two to four days after they have been applied and the pulp has been devitalized. Apparently the action starts from the point of application



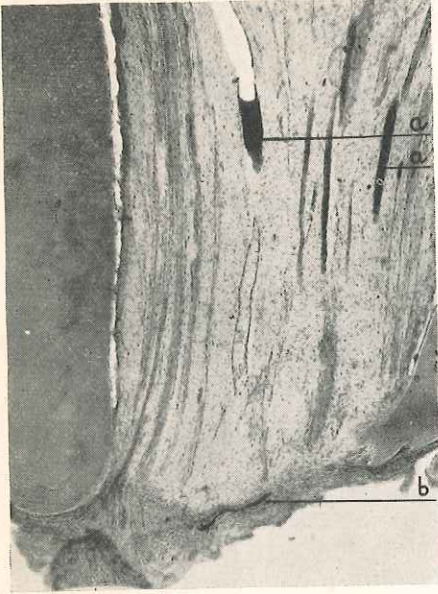


FIG. 3. Open foramen after devitalizing with Narvarsen in man.  
a—blood vessels with coagulum.  
b—epithelial cells proliferated in the periodontium.

and keeps on or beyond the apical foramen, while with the Narvarsen tablet the process of devitalization begins in the whole pulp tissue.

**The Practical Use of the Narvarsen Tablet:**

After removal of all decay from the cavity the tablet is picked up with a moistened instrument and placed upon the opening of the pulp. The tablet will adhere and then should be enclosed with a temporary cement. It should be left for three to six days; bicuspids, three days; molars, five to six days.

The effect of the Narvarsen tablet varies with the age of the patient, the amount of secondary dentin and the width of dentin between the tablet and pulp tissue. When it is not possible to lay the tablet in direct contact with the pulp, the floor of the cavity should be moistened so that the tablet can adhere and the arsenic dissolve. It is best to have a small exposure of the pulp, as stated, and place the tablet directly on it. If it is im-

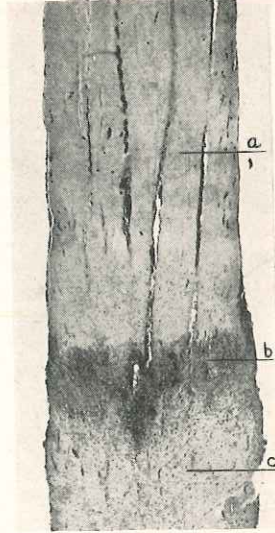


FIG. 4. Barrier in the apical region of the pulp.  
a—upper part devitalized.  
b—barrier.  
c—lower part with normal tissue.

possible to expose the pulp a second tablet may be necessary for two or three days. The value of the Narvarsen tablet over other medica-



FIG. 5. Upper part in Fig. 4, higher magnification. Complete devitalization. Pulp vessels destroyed.



FIG. 6. Lower part in Fig. 4, higher magnification. Normal living pulp tissue, no signs of devitalization.

ments containing arsenic is shown in the case of disease or inability of the patient to come to the office. The tablet can remain longer

because when the arsenic is consumed no further action is possible.

Investigations to study what damage will occur to the periodontal membrane were carried out on the periodontium of dogs. The periodontal membrane of dogs is more sensitive to injury than the human. Figure 1 shows the periodontium of a dog's tooth which has been devitalized by placing a Nervarsen tablet on the open pulp for ten days. There is no change in the periodontal membrane. In human teeth with the open foramen the action of the tablet does not reach the periodontium (Figs. 2 and 3).

In the apical region near the foramen a barrier is formed containing round cells (Fig. 4). In the upper part of the barrier the pulp tissue is completely devitalized (Fig. 5) while in the lower part toward the foramen the tissue is quite normal (Fig. 6).

Nervarsen has been used for many years routinely in the Department of Operative Dentistry of the Dental Institute of the University of Basle and during the war in the Swiss army. Our experiences have been very satisfactory.

## A Procedure for the Treatment of Pulp Involved Teeth

R. C. McDAVID, JR.

In presenting this subject, the main objective has been to set forth an exacting technique based on a compilation of the knowledge given us by many men during the past fifty years. One that has been used successfully in our hands and can be applied equally well by any operator who is willing to spend the time to effect certain basic principles (5). We consider these principles or cardinal rules to be four in number, as follows:

1. A thorough diagnosis or selection of cases.
2. Complete asepsis during treatment.
3. Complete cleansing of the major canal or canals.
4. Complete filling of the major canal or canals.

As far as diagnosis is concerned, therein lies one of the chief pitfalls for so many cases of the past. Many of those failures could have been avoided if only every effort had been made to properly analyze the possibilities for success before undertaking treatment.

Selection of cases requires many considerations. First of all, we obtain the cooperation and confidence of every patient. Pulp canal therapy is tedious work and tiring for both the operator and the patient. There is always the possibility of discomfort during treatment and at times unforeseen complications arise which force us to discontinue conservative treatment. It is of utmost importance that a thorough understanding be had with the patient of the



potentialities before treatment is begun. We do not limit ourselves to any location in the mouth as long as access can be obtained. Barring contra-indications which we are about to set forth, multi-rooted teeth are only a test of our patience and skill, but have the same possibilities for success as single rooted teeth.

We do not treat teeth for those patients with the debilitating diseases, for the obvious reason that we depend on the defensive measures of the body to assist in eliminating infection. The general health of the patient is of prime consideration and any individual with a lowered resistance, regardless of the systemic cause, is a poor subject for pulp canal therapy.

From a local viewpoint, as far as those teeth with periodontal conditions are concerned, our opinion is that if the condition is amendable and does not in itself warrant extraction, our chances of success are good. In those specific cases, it goes without saying that any tooth in which the canal or canals cannot be negotiated to their full length should be rejected. Broken instruments which cannot be removed or bypassed, perforation of the root, previous attempts at filling which cannot be removed, or calcifications which cannot be penetrated, all contra-indicate root canal therapy.

In entering the treatment phase, let me state, as have so many other writers, that the value of asepsis can never be over-estimated in endodontia. No other branch of dentistry requires more exacting rules of cleanliness especially in a surgical sense. The operator who still persists in the slighting of this cardinal rule is only inviting failure for himself and establishing more reason for lack of confidence in those men who are making such valiant efforts to raise the plane of pulp canal therapy. Not only must the field always be isolated by the use of the rubber dam and sterilized by the employing of suitable germicides, but everything that comes in contact with the field of operation must be surgically clean.

All instruments and dressings to be used should be kept separate from other instru-

ments in such a way as to maintain sterility. We use in our office a metal cabinet with removable trays, as introduced by Blayney at the University of Illinois many years ago, which can be set up for the complete operation and transferred directly to the bracket table. For sterilizing our delicate instruments which will be used in the canal, we use a formaldehyde germicidal solution as suggested by Tainter, et al (2). It has been tested extensively for bactericidal properties and we find that it preserves the temper and luster of the fine instruments so much more satisfactorily than does boiling. Instruments can be left indefinitely without fear of corrosion. For our absorbent points we use an ultra-violet light which will destroy the airborne bacteria—the only contaminating factor in a careful technique. The tray is equipped with a set of Kerr's sterilizing wells which can be used as containers for re-sterilizing solutions and as receptacles for the instruments while in use. As a re-sterilizing solution, we use the formaldehyde solution with alcohol as a neutralizing agent. As an extra precaution each instrument is passed through a flame quickly three times before use. We find that a jeweler's brush with brass bristles, which are less harsh than steel to the fine instruments, acts as a valuable aid in removing debris from the instruments which would render re-sterilization less effective. The brush itself can be sterilized by flaming.

As far as the rubber dam is concerned, it is a *must*. We have yet to encounter a case in which it could not be placed, regardless of the condition of the tooth, if saveable. In those cases with only the root portion remaining, in which a root clamp cannot be used, it may be necessary to adapt a band of 30-gauge german silver to the root and cement it in place, but once that is done the placing of the rubber dam is routine in succeeding treatments.

The treatment is as follows: After a careful study of as many roentgenograms as are necessary to determine the method of procedure, the teeth to be isolated are thoroughly scaled and polished, then they and the sur-



rounding tissue are swabbed with tincture of iodine. This is for the protection of the patient in the preventing of possible infection through irritation caused by placing the rubber dam. The dam is then placed and checked for any seepage that might be present. Many times a readjustment of the dam or a sealing with cavity varnish may be necessary to completely isolate the field. Upon ascertaining that there is no seepage, the exposed teeth and that portion of the dam in the field of operation are once more swabbed with iodine followed with alcohol. Next, entrance is made in the tooth through preferably the linguals of all anteriors and the occlusals or mesio-occlusals of posteriors. There are those exceptions in anteriors in which large mesial or distal cavities will give proper access, but never allow the reluctance to sacrifice tooth structure prevent good access. In certain molars it may even be necessary to cut away a good portion of the mesio-buccal wall in order to locate and gain access to the mesio-buccal canal. Reluctance to sacrifice tooth structure in the interest of accessibility is one of the chief causes of broken instruments and perforations. Before the pulp chamber is entered, all overhanging enamel is cut away and all carious material and old fillings removed. In anterior teeth we have even found it advantageous to remove all stained dentine whether carious or not to prevent much of that objectionable discoloration that we so frequently see. The cavity is then swabbed with phenol followed by alcohol and entrance made into the pulp chamber using a sterile number 4-6 round bur to enlarge the approach to the pulp chamber floor. One should proceed cautiously at this point so as not to mar the orifices of those very minute canals so often encountered in multi-rooted teeth. An extra fine smooth broach is used in locating those difficult-to-find canals as soon as possible. In vital cases, the coronal portion of the pulp should be excised with a sterile sharp spoon excavator and, if necessary, some hemostatic agent may be applied to give a good view of the field. In multirooted teeth, once all the canals have been located,

a small round or more preferably a pear-shaped bur may be used to mark each opening and serve as a guide for the instruments in the future. If so desired, a Gates-Glidden drill may be employed to enlarge not more than 3 or 4 millimeters of the orifice.

In reference to asepsis, all cases are handled with the same rigid precautions, but as far as the prefilling technique is concerned, vital exposure cases do not offer the same problems as do those degenerative or putrescent cases. Where the pulp is vital, we prefer to completely cleanse the canal at one sitting. The same thoroughness should be observed in cleansing, using the chemical aid that we will discuss later. Equal precaution should be taken to avoid penetrating the periapical tissues. The filling of the canal should be delayed preferably not more than three or four days, and in cases of necessity, may be filled immediately. The only difficulty we have encountered in immediate filling is inability to keep the canal dry so that a proper filling can be placed.

Where the patient presents with extreme pain and discomfort in those putrescent cases, it is necessary to reduce the acute symptoms before undertaking a thorough cleansing. We like to open the tooth under sterile conditions, irrigate the canal gently with warm sterile water, remove the bulk of tissue, and seal in a formocresol dressing. It may be necessary to repeat this treatment once or even twice daily before the acute symptoms subside, but we try to avoid leaving the canal open. If, because of severe pain accompanied by swelling, it becomes necessary to leave the canal open, we place a loose dressing of cotton in the opening to the canal to prevent occlusion by food. These cases are closely observed until the drainage has stopped or diminished to the point where the tooth can be sealed again. The policy of leaving the canal open for drainage over prolonged lengths of time is a poor one and to compare it with surgical drainage is pure folly. The surgeon can protect his site of drainage with a sterile dressing, but in pulp canal therapy we only



leave open a pathway for the ingress of the various streams of bacteria found in the mouth.

In those infected cases, regardless of whether the tooth presents acute symptoms or not, our first treatment is limited to a partial cleansing of the canal. Assuming that we have roentgenograms showing as accurate angulation as possible we select a barbed broach of a diameter which can be carried into the canal within 3-4 millimeters of the apex and mark it, using our roentgenogram as a guide. It is of utmost importance that this step be carried out as carefully as possible because we wish to penetrate no farther at the first treatment for fear of carrying infected material beyond the apex and into the surrounding tissues. This forcing of infected material through the apical foramen is the primary cause of pericementitis and can be a source of much discomfort to the patient. The one exception to this rule other than vital cases is in those with a draining sinus. The canal can be completely cleansed in these at the first sitting, but care must be used not to force the instrument farther than the apex for fear of penetrating nature's walled-off area. It is in the sinus cases that we have had most success in use of penicillin. We are using the sodium salt in physiological salt solution in concentration of 50-75 thousand units per cc. Where the foramen is open the solution can be forced through to exit from the sinus. Routine use seems to benefit little except in cases of a large foramen where high concentration can be secured in the periapical area.

Once we have established a measurement which will allow us to penetrate a safe distance short of the apex and accurately marked it on our broach, we begin the cleansing using as an aid double strength chlorinated soda, as suggested by Blass of New York University. We have found it to be an effective organic solvent as well as a germicidal agent. Progress into the canal should be made slowly and at each 5-6 millimeters interval of penetration, the canal should be gently but thoroughly irrigated with a 1% solution of chlorazene (4). This will

not only flush out any debris that accumulates, but will also aid in the sterilizing of the canal or remaining infected material. Mechanical cleansing is alternated with the flushing until the desired point is reached. A roentgenogram is now taken with an instrument in place to serve as an accurate measurement in the next operation. We then dry the canal with sterile absorbent points and place a minute amount of formocresol on an absorbent point in the canal. This is most important in that only a minute amount of formocresol or the germicide of choice should be used. This gives us the desired effect of reducing the bacteria without the danger of chemical change to the periapical tissues. For sealing between treatments we use a double layer of base plate gutta-percha, each layer sealed with chloroform, first placing a layer of sterile absorbent cotton over the pulpal floor. If extensive decay has occurred and left frail walls, we use a cement, of the temporary type over a single seal of gutta-percha, first filling the chamber with cotton.

At the next or second sitting which should be twenty-four to forty-eight hours later, we feel freer to complete the cleansing of the canal, as the germicide has had an opportunity to greatly reduce the potency of any debris remaining in the canal. Our ultimate desire is to instrumentate just beyond the apex so as to remove every vestige of infected material from the canal. I might add at this point that our interpretation of a thorough cleansing does not mean merely the passing of an instrument to the apical foramen so as to show as such in the roentgenogram, rather, it means the instrument, whether broach or file, has been used in such a way that all infected material has been removed down to sound dentinal walls. This is the best argument for an enlarging of the canal throughout its entirety and is as cardinal a rule as asepsis.

In routine cases, the third sitting twenty-four to forty-eight hours later, finds us ready to fill the canal or canals. Multi-rooted teeth, of course, may require additional sittings depending on the extent of difficulty encountered in negotiating the



canals. For filling we prefer gutta-percha points used with chloropercha for the majority of our cases, but find that guttapercha or silver points used with some form of germicidal cement serves better in some of those fine tortuous canals. In using the gutta-percha point with chloropercha, we select the largest point which can be passed to the apex and, as determined by the roentgenogram cut it just a fraction short of the apex, when it is firmly wedged in the canal. As a final preparation the canal is thoroughly dried with absorbent points. Then not more than 3 or 4 millimeters of the tip of the gutta-percha point is dipped into a thin chloropercha solution to which have been added ten grains of Aristol for each ounce, and carried to place (4). A roentgenogram is made at this time and should show our point at or only slightly beyond the apex. We never recommend the underfilling of a canal, but do not object to a limited overfilling although it may give rise to post-operative discomfort. The patient should be warned that there might be some soreness which will disappear most often in a few days. When assured of this seal of the foramen, we then wedge alongside this "key point" as many other points as are necessary to obliterate the canal and work them into a homogeneous mass with chloroform. This gives us that important seal at the apex which is very dense and not subject to contraction that takes place when chloropercha alone is used. In using the guttapercha points or silver wires in conjunction with a germicidal cement, the same wedging of the point at the apex as our objective is desired, but we want our point to pass to or slightly beyond the apex. The cement is mixed to a medium thin consistency and pumped into the canal so that we have it in advance of the point. When this is verified by a roentgenogram other points may be carried alongside the "key point" to complete the filling.

To complete the sealing of the tooth, we remove the canal filling to the approximate level of the gingival line, remove any stain that may have occurred during the treatment, being most meticulous in anterior

teeth, to fill the remainder of the canal and chamber with snow white zinc cement. This is most important in anterior teeth in preserving shade. The permanent filling can then be placed. Thus we complete most of our cases in two to four sittings extending over a period of six to ten days.

So much has been written concerning bacterial culturing in pulp canal therapy in the last few years that we can hardly pass it over without explaining our stand in not using it in our technique. Disregarding the facts that its use is time-consuming and costly to the vast majority of operators, we feel that if a sterile technique has been carried out with a thorough cleansing of the canal with suitable chemical aid and a placing of a filling which seals the apical foramen, that bacterial culturing is unnecessary. Lester R. Cahn (1) has put into words far better than could we our thoughts on the subject. To quote: "I think that the only benefit derived from this procedure is that it makes the operator have as sterile a technique as possible, and this is laudable. It may also be of academic interest to see the types of organisms that are present; otherwise I believe that the bacterial examination is a waste of valuable time." It is suggested as a reliable guide as to when to fill the canal. Its advocates naturally depend upon the last culture. Do they know the status of the canal at the time of filling, for some bacteria might have seeped into the canal between this point and the last culture? What difference does it make if a few bacteria remain in the canal or are present in the periapical lesion? So long as the canal has been chemically and mechanically debrided and has been filled with an inert material, the source of infection and reinfection has been removed. Deprived of pabulum in the canal the few contaminants will die, and if our theories are correct concerning the ability of the inflammatory exudate to combat residual infection, then this exudate will destroy remaining bacteria. Surgeons do not wait for negative cultures until they close the wound. Surgeons have faith in the defensive mechanisms of the tissues. Why shouldn't we?"



To sum up, we have made every effort to present clearly a technique which has been used with most gratifying results in our office. We fully realize that there are many variations from this which are equally sound in the hands and judgment of others; however, those cardinal rules—proper diagnosis, a sterile technique from beginning to end, a thorough cleansing of the canal or canals with suitable chemical aid, and an obliteration of the canal or canals must be followed.

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BIBLIOGRAPHY

1. **Cahn, L. R.** The Conservative Treatment of Periapical Disease. *Ann. Dent.*, I, March, 1933.
2. **Tainter et al.** Chemical Sterilization of Instruments. *J. A. D. A.* 31: 479, April, 1944.
3. **Walker, A.** Value of Bacterial Culturing in Pulp Canal Therapy. *J. A. D. A.*, 21: 1001, June, 1934.
4. **Walker, A.** A Definite and Dependable Therapy for Pulpless Teeth. *J. A. D. A.*, 23: 1418, August, 1936.
5. **Walker, A.** Treatment of the Dental Pulp Canal. *J. A. D. A.*, 19, 1959, November, 1932.

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**CORRECTION PLEASE**

The Editor wishes to apologize for an error in the September Journal of Endodontia. The discussion of Dr. Grossman's paper was credited to Dr. George C. Hare. Instead, the paper was presented by Dr. Raymond L. Hayes, Head of the Department of Oral Medicine, Howard University.

Please make this change in your Journal.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE  
ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF  
MARCH 3, 1933, AND JULY 2, 1946

Of JOURNAL OF ENDODONTIA, published Quarterly at Columbus, Ohio, for October 1, 1947.  
STATE OF OHIO }  
COUNTY OF FRANKLIN } ss.

Before me, a Notary in and for the State and county aforesaid, personally appeared J. Henry Kaiser, who, having been duly sworn according to law, deposes and says that he is the Editor of the Journal of Endodontia and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily, weekly, semiweekly or triweekly newspaper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form, to wit:

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(Signature of Editor): J. H. Kaiser, D. D. S.

Sworn to and subscribed before me this 25th day of September, 1947.

Harold S. Beggs.

(My Commission expires January 5, 1950.)

(SEAL.)