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The President's Page

Because of careful guidance by its officers, the AAE continues its steady growth and expansion of influence and is beginning to assume a valuable role in dental education and dental practice. Individually its founders and members have been enthusiastic supporters—someone called them "zealots"—for endodontia for many years and now by concentrating their energies effective progress can be made.

The 1947 meeting in Chicago was a successful one as gauged by attendance and by interest.

Noteworthy items of business were:

DECISION BY THE EXECUTIVE COMMITTEE TO RECOMMEND A "STREAMLINED" MEETING OF THE ASSOCIATION IN CONNECTION WITH THE ADA IN BOSTON, AUGUST, 1947.

REPORT BY DR. LUCAS OF THE MEMBERSHIP COMMITTEE THAT 31 NEW MEMBERS HAD JOINED THE ASSOCIATION IN THE PAST YEAR.

DETAILED REPORT ON SUGGESTED CONSTITUTION CHANGES BY THE COMMITTEE ON CONSTITUTION AND BY-LAWS. CHANGES WILL BE SUBMITTED TO THE MEMBERS FOR CONSIDERATION A LITTLE LATER.

RECOMMENDATIONS THAT THE COMMITTEE ON NOMENCLATURE OF THE ADA BE SENT DEFINITIONS OF THE WORDS ENDODONTIA, ENDODONTICS, AND ENDODONTISTS.

SUGGESTION THAT THE ADA BE ASKED TO INCLUDE A SECTION ON ENDODONTIA WITH THEIR SECTION ON PERIODONTIA.

As is always true, the AAE owes its success to an active group of its members, but there are always a few willing men who can be depended upon to direct the activities of the organization. Several names should be mentioned, but I shall withhold praise because we expect them to continue to work. No one is "retiring" from the AAE just yet!

One must, however, thank Dr. T. J. Hill for his valuable contribution to the Association as Secretary. It is hard to understand how Dr. Hill was able to impose the duties of secretary upon his already busy program but he did it capably and deserves commendation. President-Elect Grossman deserves special mention, too, because of his constant and energetic support. With him as chairman of the Executive Committee the AAE should have a successful future. We also want to thank Dr. Orban for serving as Editor during the formative period of the JOURNAL OF ENDODONTIA. We are sorry that he could not continue, but his successor, Dr. J. H. Kaiser, will be competent. Every member should cooperate with him to make the task easier.

The Improved Status of the Pulpless Tooth

By HARRY B. JOHNSTON, D.D.S.,
Atlanta, Ga.

(*Journal A. D. A. & Cosmos*, Vol. 25, 1938.)

The most important single thing in preventive medicine today is oral hygiene and the preservation of the teeth.—Sir William Osler.

The man who contends that all pulpless teeth should be extracted and he who says that none should be are merely on opposite ends of the same plank. The balance point lies about midway between them. Either extreme position is unreasonable, illogical and unethical. Therefore, both are unscientific and entirely untenable.

It is encouraging to note that the fad of radical exodontia is distinctly losing its momentum and probably will soon be given its proper place in dentistry. For many years we have had this orgy of extraction. Now, however, we are in the beginning of a period of real understanding of the physiologic and pathologic significance of teeth, as is evidenced by the protests arising from unbiased members of both professions.

Grossman warns that practices of the past can be condoned because of a lack of bacteriological knowledge, but that those of the present and future cannot be, because that knowledge is now available. The true practitioner of the healing art considers the immediate and ultimate welfare of his patient first, and therapeutic measures second.

In entering on a study of observations relative to the pathogenicity of oral foci, it might be well to define the term. Steadman defines it as "an infection confined ordinarily to a distinct location." This seems a clarifying definition; for it is immediately apparent that an encysted colony of bacteria, or one against which adequate local resistance has been established, cannot be regarded as harmful to the host. The common dental granuloma would naturally fall into this class, yet this is the phenomenon regarding which most of the fears of the focal infection theorists are expressed.

So much has been loudly said of the potential menace of periapical foci, demonstrable or otherwise, that one is impressed with the number of authorities who dissent on this subject. Ziskin states that, in spite of an exhaustive study of more than a thousand cases, he failed to find that a person with one or more pulpless teeth is more liable to contract a degenerative disease than one with no pulpless teeth. This finding is significant, and the number of cases is sufficient to be arresting.

The question now arises as to what should be done with these infected teeth if they are not extracted. How can these most necessary organs be beneficially retained for the patient? That this can be done cannot be denied because it has been done by Nature herself in the closure of the root openings with cementum, and by many careful operators in the successful sterilization and root filling of these teeth.

I place few prohibitions on the cases to be treated. For diabetes, nephritis, the tuberculous and syphilitics, I do not attempt to treat pulpless teeth, infected or sterile. Twenty years of this work has, to me, proved them to be inoperable, but as to the size of the area in other cases, I have yet to establish a limitation. We are not able to predict what Nature can do if we give proper assistance and not too much of it.

The success of the operation of pulp-canal filling has long since been established, and this notwithstanding the fact that only a minority of the profession practices it at this time. Our efforts to eliminate periapical infection by electrochemical means are far more successful than in any other infected field.

There is no known reason that infection should not be as easily conquered in this area as in any other part of the body; for it is true here, as elsewhere, that "the tendency

of all diseases is to recover." In this field, as in others, some assistance is required, and we need only to learn just what the local and systemic requirements are in order to permit perfect healing and sterilization of the lesion.

Hatton concisely states what takes place after successful treatment and filling of a pulp canal when he explains that the process is similar to the healing of a broken bone. First, there is a period in which the necrotic and damaged tissues are removed or resorbed. Secondly, there occurs a regeneration in which new tissues are formed in the apical region and about the filling material. The dentin and cementum of the apex are covered by new layers of osteoid cementum. Occa-

sionally, this layer even covers over the end of the root-canal filling. Nature uses the same means and methods here as elsewhere in the body. In the infected case, if by electrosterilization we destroy the nidus of infection and hermetically seal the canal, in the great majority of cases prompt healing and filling in of the area by normal tissue will follow. In the non-infected cases, as in pulpectomy, if the case is handled with care as to the sterility, all organic tissue removed from the canals and the canal hermetically sealed, the incidence of complete recovery and the permanent retention of that tooth is as high as for any other tooth in the mouth.

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The Window Method of Periapical Curettage

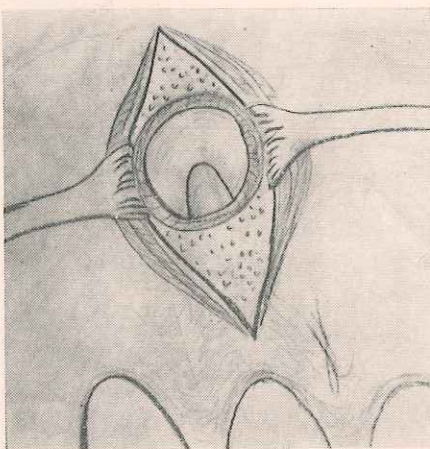
S. M. WEAVER, D.D.S.,
Cleveland, Ohio

In my practice the open window (fig. 1) apical curettage holds a prominent place in the treatment of anterior teeth and some other selected cases. If we suspect that we did not succeed in sterilizing all necrotic material around the apex it is advisable to expose the apex after root canal filling and to remove this necrotic material.

First, all root canals must be filled with a properly condensed material. In doing this, the collateral canals will more likely be filled, and with this technique I found it impossible in many cases not to force excess material through the apical foramen. Also, under these conditions, the patient usually had considerable post-operative disturbance, possibly due to mechanical irritation. I really believe a great many failures to fill the canal is directly due to fear of causing the patient pain, and hence the material is not thoroughly condensed.

I found by immediate removal of the granuloma, necrotic tissue, and the excess filling material through an open window, that these cases healed with perfect bone repair.

After thoroughly curretting the granuloma from the bone cavity, and freshening the



cementum of the entire exposed root surface with properly selected instruments, sulphani-
lamide in small pieces is introduced into the cavity, crushed with artery forceps and thoroughly mixed with the blood clot. This method is much easier and more successful in my hands than trying to insert a powder, especially where there is free bleeding.

I can find no logic for root amputation

unless the root shows signs of resorption, which is very rare in cases you would choose to treat, and then I would only curette until solid root structure was encountered, leaving a rounded surface. By root amputation you merely reduce leverage and strength of the tooth and open more dentin tubulae.

I have no radiographic evidence where any of the curettages have not readily filled in with bone and excess cementum. I use a liberal vertical incision immediately over and parallel to the long axis of the tooth (fig. 1). This incision does not sever the nerve supply to the gingival gum tissue and cause a prolonged numbness of this area, which does exist with the flap technique. One deep stitch is all that is necessary for closure, as there is no muscle pull.

Immediate curettage has this advantage; it shortens the number of treatments, for one can use stronger sterilizing drugs in the canal, knowing that if some is forced through, it will not cause trouble because it is removed immediately in the process of curettage.

For the last four years I have found it expedient and successful to reverse this procedure in what I would like to designate as "pre-curettage," applicable in selected cases. This technique is used in the following cases: transient or out-of-town patients, inability of patients to keep regular appointments, extremely large involved areas where drainage is inadequate, and cases that do not yield readily to orthodox treatment. The areas are curetted before the root filling is inserted with the following procedure: the incision is made, following the long axis of the tooth, as previously described. The area is thoroughly

cleaned of all granulomatus tissue and necrotic bone, the cementum covering the portion of root extending into this area is carefully freshened by scraping and the end of the root is smoothed slightly, endeavoring not to go through the normal cementum. In making the window through the buccal or labial plate, all overhanging margin of bone should be trimmed back and left smooth to facilitate healing when surgery is completed. Pack tightly with narrow sterile selvaige gauze after preliminary hemorrhage has been checked. Then apply rubber dam, with usual precautions of external sterilization. The canal, which has been previously opened and reamed to the desired size, is cleaned with paper points to remove all contents of the canal, using peroxide to boil out any blood or other debris. Thoroughly dry the canal. Remember the apical end of this tooth is embedded in dry, tightly packed gauze. Sterilize the root canal with phenol sulphonic acid, pumping it through the end of the root into gauze. Allow this to remain a few seconds, then remove excess with paper points and neutralize with sodium bicarbonate. After washing with alcohol and drying with paper points, fill with Callahan method, using rosin and chloroform and gutta percha points. Over fill and pack tightly. Remove rubber dam, then carefully remove the gauze and excess root filling protruding from the apex. Curett the walls of the cavity to induce a slight hemorrhage, then place the sulphanilamide and stitch as previously described.

Use wet cold packs for 20 minutes every 2 hours, several times to avoid swelling of the lip.

Review of Azochloramid for Dental Use

By D. GEORGE URSINI, D.D.S.,
New York City, N. Y.

There is an urgent need for proper endodontic therapy in order to obviate needless extractions and so reduce the size of restorations and the attendant strain on the supporting teeth; or to preclude the need of prosthesis at all. Too many anterior teeth have been sacrificed because of an inadequate sense of responsibility or a lack of technic of root canal treatment and filling; yet these teeth should offer, generally, a minimal problem. The general practitioner can perform good root canal treatment if he discreetly selects his case, being particularly cautious in his decisions where there is a history of rheumatic fever, arthritis, a congenital cardiac condition and diabetes, or if the patient is of generally poor health. Moreover, the operator must establish periodontal health about the tooth in question. Furthermore, he must evaluate the probable chances of success and risk in cases where the canals are tortuous and so fine as to present grave physical and mechanical impediments. He can succeed if he will but master an appropriate technic and will devote to it proper time. The author here wishes to state parenthetically that he himself is in general practice.

The latest edition of the Pharmacopoeia includes azochloramid (chloroazodin). This is a slowly chlorine-liberating compound with the formula $C_2H_4Cl_2N_6$. Dr. J. Krantz (1), Secretary of the Revision Committee of the U.S.P., has spoken very highly of this medicament, recommending it with emphasis to the attention of dentists. Dr. Thomas J. Hill (2), also a member of the Pharmacopoeia sub-committee, is very enthusiastic about azochloramid.

The author, as a member of a very small group of pioneers, began his research with azochloramid in 1933, and submitted his data, as did other investigators, to the American Dental Association (Council on Dental Therapeutics) in 1935, at which time Azochloramid was accepted. He has observed

the action of azochloramid alone and also alternately with sulfonamides, and in combination with them; but essentially he has worked with azochloramid alone because he has not obtained better results with the alternate or combined use of sulfonamides. This, of course, may be due to coincidence. But it is more probably due to the non-specific action of azochloramid on Gram negative and Gram positive organisms, aerobic and anaerobic organisms, etc. The author has not tried penicillin thus far in root canal therapeutics, and does not feel encouraged to do so yet upon reading the dental literature by diligent observers here (3) and abroad (4) which claims little or no success for penicillin in this field. (One or two recent accounts are more promising.)

The author has used, in the course of 27 years, beechwood creosote, tricresol, eugenol, oil of cloves, oil of cassia, phenol and oil of wintergreen, each individually, and in various combinations, as modifications or alterations of Dr. Black's original 1-2-3 dressing. He has, of course, used Callahan's method, Buckley's formocresol and phenolsulphonic acid, potassium and sodium, as well as some earlier chlorine compounds. Up to the time he used azochloramid, his best results were obtained by using oil of cloves and tricresol. The editor on Pathology, 1945 Year Book, seems to support this (5). With azochloramid, however, the writer has obtained better results in $\frac{1}{4}$ to $\frac{1}{2}$ the number of visits. The solution which he has used has been one of the compound dissolved in triacetin, and the strength has been from 1:500 to 1:125. The capillary attraction of triacetin solution is very good, and wetting of the canal to the abscessed area takes place, as well as penetration deep into the tubules of the dentine. The wetting is increased if the solution contains sodium tetradecyl sulfate (a trace). Sterilization, therefore, the solution contains: sodium tetradecylsulfate (a trace). Sterilization, therefore,

takes place through contact as well as through the slow liberation of chlorine from more remote parts. There are very few cases of any appreciable pericemental irritation and these yield promptly to refrigerant or counter-irritant treatments.

Before proceeding to the author's method in using azochloramid, a very brief evaluation of other methods of root canal treatment might be considered. Of the essential oils, eugenol and oil of cloves are, on the whole, anodyne and quite antiseptic. Oil of cassia (cinnamon) is a stronger antiseptic, I believe, but is quite irritating to the pericementum. Phenol, a fairly good antiseptic, is unfortunately caustic: destruction of the periapical tissues can and probably does occur; beechwood creosote is far less harmful but weaker. Tricresol is next best, in my opinion, to azochloramid. (I still regard tricresol with a kind of affection (5).) The potassium-sodium method can be hazardous at times because of the heat chemically evolved. Great skill is, undoubtedly, required for this otherwise good method. In the use of Callahan's and Buckley's sulphuric and phenol-sulphonic acids, respectively, we are again facing at times the dangers of chemical cautery. Buckley's formocresol, cautiously and wisely used, can be a good medicament. The objection is its occasionally unpredictable, capricious release of too much formaldehyde gas and the attendant very serious risks or dismal failure.

As for the sulfonamides, there are three different views; apparently all or any of which can be right in the right circumstance. Dr. N. Rosen (6) uses the sulfonamides and claims good results. Dr. H. Justin Ross (7) uses sulfanilamide and azochloramid combined, with satisfaction. He does this on the assumption that streptococci are the pathogenic micro-organisms. Thus far, I do not share these two views too enthusiastically (5), though I look with favor upon the physician's simultaneous systemic use of sulfonamides in different cases, especially acute cases. What possibilities lie ahead for sulfonamides, penicillin and possibly streptomycin, still remains to be seen in the future.

The author's method is as follows: the inexorable premise must be, of course, strict observance of asepsis throughout, in every detail, at each visit. Essentially the manner of proceeding is like that of Buckley (8), H. J. Ross (7) or J. Filguerias (9) in Rio de Janeiro. Since there is some immediate liberation of chlorine gas, the pulp chamber having been opened, a dressing of azochloramid in triacetin is placed about $\frac{3}{5}$ up the canal and sealed with gutta percha. Cement is then flowed over the gutta percha after desiccating carefully. At the next visit, the canal is cleaned and enlarged, dried, and a dressing is then placed to the end of the root if the outlook is promising. Of course, all the usual care to avoid irritation of apical tissues and not to force debris into the periapical area must be observed. If the response has not been fully satisfactory (slight odor, no marked diminution or absence of pus, etc.) the dressing is placed up $\frac{4}{5}$ of the length of the canal and again sealed as at the first visit. (It is best to blunt the dressing points slightly.) When, at the second, third or a later visit the root condition is clinically satisfactory, the root-canal should be bacteriologically tested by any approved method. If the canal is sterile on one, or preferably two tests, it may be regarded as ready for filling. The filling has been done in one or two ways after thorough desiccation of the canal: (1) with chloropercha and gutta percha points, or (2) with a paste of creamy consistency and with points of gutta percha or silver. This paste consists of zinc oxide, oil of cloves, azochloramid crystals, an oleoresin, occasionally a trace of aristol, phenol, or tricresol.

The solid portion consists of these proportions by volume:

Zinc Oxide (powdered fine), 93% to 98%
 Aristol (fresh) (occasionally) (4%)
 Azochloramid Crystals 2% to 3%
 (never to be exceeded)

The liquid portion is as follows:

Oil of Cloves 90%
 Oleoresin 8% to 10%
 Phenol (98%) (occasionally) (2%)

When the liquid and solid portions of this paste are mixed, the azochloramid does act in varying degree upon the other ingredients. This action upon the oleoresin and cloves is so negligible as to be discounted. However, some action upon the zinc oxide possibly does occur, but a compound of zinc is then formed which still releases chlorine, and so the halogen action is not lost. It is possible that the 2-3% proportion of azochloramid may thus be lowered somewhat, but enough remains locked physically in the matrix for potential release. Moreover, that part of the paste lying in apposition to the apical area, and partly in the dentinal tubules, slowly releases its chlorine into the apical area and the tubules. It acts upon bacterial matter and its moisture, and on devitalized organic tissue residuum. This conclusion was determined in this manner. A mix was made and all conditions of humidity and body temperature were established which exist in a canal when filled. Three or four days later, small portions of the paste were sprinkled on wet starch potassium-iodide paper. The characteristic reaction (deep blue color) showed the continued action of chlorine. The release of chlorine was consistently very slow. In many cases the chlorine action was observed even 7 days after.

It is this slow liberation of chlorine which explains the effectiveness of the medicament and the lack of pericemental irritation, a fine dual combination. Where aristol is occasionally included in the paste, the chlorine replaces the iodine in the aristol to some degree, liberating very small amounts of iodine. In more recent years I have included aristol less frequently, although results have been about uniform, either with or without aristol.

It must be mentioned here that a thick cement base must be placed over the root canal paste to prevent the chlorine from acting upon metallic fillings placed in the tooth. It is a wise precaution, also, not to place a metallic fitting until a week after root canal filling, for additional safety. The chief virtue of azochloramid is its low

reactivity, which makes it possible to destroy bacteria in the presence of organic matter in relatively low concentrations. For this reason, it is superior to the Dakin solution and chloramine-T.

I used the above described paste in those cases where, for one reason or another, a bacteriological test was not possible (length of time; economic consideration; sudden, unanticipated removal of patient, etc.) although the clinical condition and symptoms were absolutely favorable. I was rewarded by success in about 95% of these cases, as evidenced by radiographic checkups periodically done, and by an evaluation of objective and subjective symptoms. The use of this paste is equivalent to the application of at least one additional dressing for sterilization, without discomfort or chemical cautery; the paste fills the canal thoroughly; it is tenacious and hard.

It must be noted here that the 2-3% proportion of azochloramid crystals should never be exceeded, as, in higher proportion, the action can be caustic to some patients. The writer wishes to add that this paste has been so satisfactory that he has come to use it with increasing frequency, even in many cases where a negative culture was obtained at the visit prior to root canal filling. Some users of azochloramid may regard 2-3% a high concentration. I have not found it so in over 13 years. Some of the action of azochloramid is nullified by its physical retention in the set of the paste; the balance of the percentage has not proved to be too high. Even distribution of the azochloramid crystals in the paste is an important consideration. Not frequently, but occasionally, azochloramid has a tendency to give the tooth a yellowish cast. To prevent this occasional tint, I suggest a simple procedure. After the tooth has been opened at the first visit, the coronal portion and pulp chambers are thoroughly dried by sponging and by chloroform desiccation. The areas are now painted with a cavity lining impervious to ethyl alcohol. The chlorine medicament is then used. To wash away the azochloramid surplus later, ethyl alcohol is used, after

preliminary sponging, as it does dissolve the azochloramid in triacetin but not the cavity lining. This precaution may be used initially or at each visit. When the protection of the lining is no longer required and all trace of azochloramid has been removed from the pulp chamber or coronal portions of the tooth, the cavity lining may be washed away with several spongings of the lining solvent, manufactured for that particular lining. This precaution is most valuable in the anterior and lateral segments of the dental arch for esthetic reasons. I have usually lined treated teeth with a cement a shade or two less yellow than the tooth might generally require. Azochloramid stain can also be removed by a saturated aqueous solution of sodium sulfoxylate.

As has been remarked before, the number of visits to obtain a clinically and bacteriologically satisfactory status in the root has been reduced, in the writer's experience, to $\frac{1}{2}$ to $\frac{3}{4}$ the number of visits which other methods required. One to three visits usually yield a negative culture or clinically satisfactory canal condition.

To be sure, there are other methods of root canal therapy of high merit. No reference has been made to electrosterilization in the evaluation of other methods. The method of electrosterilization has been evolved by such diligent and scientific men that it is obvious that it must possess great merit. It may well be considered the best method. However, as H. J. Ross, I feel that it is not available to the greatest number of dentists and patients because it requires a greater expenditure of time, equipment and exactitude. The sterilization with azochloramid is not offered in challenge to other reliable methods but is portrayed as a method of good merit and worthy of trial by the conscientious dentist. It is relatively simple although any method, conscientiously executed, must require honesty, perseverance and exactness.

Periapical areas of varying size have been seen to fill in well with regenerated tissue in from $\frac{1}{2}$ to 2 years. The areas measured in diameter from 1 or 2, to even 4, 5 and 6 millimeters in a few instances. Success was achieved in approximately ninety-five per cent of these cases. In four cases apico-ectomy had to be resorted to. Again, it is sensible to repeat the need for thorough selection of cases, with proper evaluation of general and local health (10).

The author has used azochloramid in pulpotomy in children in a relatively small number of cases. He used to employ the method of C. J. Waas (11), obtaining (again with discrimination) reasonably good results. He altered the formula of the paste to cover the stumps to include azochloramid in place of paraforn: zinc oxide, powdered fine, 99 $\frac{1}{2}$ %, azochloramid crystals, $\frac{1}{2}$ %, mixed with oil of cloves or eugenol to make a moderately thin, creamy coating over the stumps. The rest of the procedure was the same as that of Dr. Waas. After administration of local anesthesia, the bulbous portion of the pulp is removed, the stumps are left intact. Sterile salt solution is used to wash the site of operation and camphorphenique is applied after drying. Then a dressing of eugenol or oil of cloves is sealed over the stumps for a week. At the next visit the paste is flowed over the stump, and cement, in turn, over the paste. I can not claim any greater success where azochloramid was used. The number of cases has been small and full and honest evaluation will require further observation. Needless to say, pulpotomy can hardly be regarded as fool-proof because of varying factors determining its outcome. However, conscientiously performed, under suitable circumstances, it can often be the procedure which precludes subsequent orthodontic treatment. I have found pulpotomy successful in about 65% of my cases to date.

There are other uses for azochloramid in aqueous solution: (1) the cold sterilization of glass (not metallic), examining lamps and transilluminating lamps, gutta percha points and other items, (2) post-extraction irrigations, (3) syringing of periodontal pockets, (4) irrigation and syringing in cases of Vincent's ulcerative infection. Azochloramid was widely used during the war in general

surgery, dentistry, etc., judging by the quantities bought by our armed forces and by the armies and navies of our allies (12).

Summary

Root-canal therapy is a necessary, valuable and exacting procedure. The general practitioner can perform good root-canal work if he will select a good method and give it the operational care it requires. The selection of the case is very important. The possible and probable local and systemic prognosis is determined not only by diligence and method but also by the patient's local and general health.

Azochloramid, which has received such favorable recommendation from men of capability and distinction, offers an excellent opportunity for good treatment. It is not presented in challenge, but as one of a small number of exceptionally good medicaments. It has been used and observed carefully by the author for thirteen years.

The writer has evolved a paste for root-canal filling which includes crystals of this chlorine compound, carefully and uniformly incorporated. This paste acts as the equivalent of at least one more sterilizing dressing. It is not irritating as the chlorine is very slowly liberated for 4 to 7 days after filling.

It assures the operator of optimal conditions at the time of root-canal filling and for the crucial period immediately following filling. The writer has also added azochloramid crystals in minute quantity to the paste used in pulpotomy (in children's teeth) with success in about 65% of the relatively small number of cases treated. Azochloramid has been used considerably in surgery and dentistry by our armed forces and those of our allies. It can also be employed for cold sterilization, syringing, etc.

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PRELIMINARY ANNOUNCEMENT OF AUGUST MEETING

A Suggested Program and Tentative Dates

AUGUST 2, 1947

6:30 P. M. Dinner and Business Meeting of Executive Committee.

AUGUST 3, 1947

9:00-10:30 A. M. Methods of Teaching Endodontic Technics.
10:30-12:00 M. What Should a Lecture Course in Endodontia Include?
2:00-3:00 P. M. Teaching in the Endodontia Clinic.
3:00-5:00 P. M. Visual Methods of Teaching Endodontia.
This is essentially an Endodontia Teachers' meeting but should interest the practitioner and clinician in endodontia as well.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE
ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

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STATE OF ILLINOIS)
COUNTY OF COOK)ss.

Before me, a.....in and for the State and county aforesaid, personally appeared Balint Orban, 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 paper, 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 Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher—American Association of Endodontists, 180 N. Michigan Ave., Chicago, Ill.

Editor—Balint Orban, 180 N. Michigan Ave., Chicago, Ill.

Managing Editor—Balint Orban, 180 N. Michigan Ave., Chicago, Ill.

Business Manager—T. J. Hill, 2085 Adelbert Rd., Cleveland, Ohio.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

AMERICAN ASSOCIATION OF ENDODONTISTS

President—E. G. Van Valey, 38 E. 61st St., New York, N. Y.

Secretary—T. J. Hill, 2085 Adelbert Rd., Cleveland 6, Ohio.

Treasurer—S. D. Green, 180 N. Michigan Ave., Chicago, 1, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is.....
(This information is required from daily publications only.)

(Signature of Editor): B. Orban.

Sworn to and subscribed before me this 25th day of September, 1946.

John R. Brannigan, Jr.
(My Commission expires October 29, 1949)

(SEAL.)