

The

ROYAL CANADIAN DENTAL CORPS

Quarterly



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The RCDC Quarterly

Published by authority of Brigadier-General BF Kearney

This publication serves as a means for the exchange of ideas, experiences and information within the Royal Canadian Dental Corps. Views and opinions expressed are those of the authors and are not necessarily those of the Director General of Dental Services or the Department of National Defence.

Editorial Board: COL JW Turner
LCOL G MacDougall
MAJ JVP Chatwin

Subscription Rates

The RCDC Quarterly may be subscribed for at \$4.00 per year by writing to:

Director General of Dental Services
for the Canadian Forces,
Canadian Forces Headquarters,
Ottawa 4, Ontario.

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PERIO-ENDO CONSIDERATIONS: COMBINED THERAPY

Major J.F. Begin, BA, DDS

The recognition in recent years of the intimate relation between the dental pulp and the supporting structures of the tooth has led to the development of a technique of combined perio-endo therapy. Both Periodontics and Endodontics are directly involved with the attachment apparatus of a tooth at the gingival and lateral wall areas and at the periapex.

Accessory canals of the pulp leading to a furcation area, and supernumerary canals at the apex and lateral canals leading to the periodontal ligaments, are not unusual. Cases present themselves where a periodontal pocket leads to the apex of a tooth causing a retrograde pulpitis, or where a pulpal abscess destroys the periodontium coronally.

Messinger and Orban¹ have reported successful pocket elimination by root amputation and endodontic therapy. Maxmen² reports healing of a periodontal pocket with bone regeneration following routine endodontic therapy alone. Hiatt^{3,4,5} and Bjorn⁶ have reported cases where periodontal pockets developed from pulp disease and the pocket elimination and regeneration occurred following combined perio-endo therapy.

Treatment Plan

In establishing a treatment plan, consideration of the above facts is important when x-rays reveal only one root of a multirooted tooth hopelessly involved periodontally. The remaining one or two roots may be salvaged by hemisection or root amputation and used functionally, and in some instances even as an abutment for a fixed or removable prosthetic appliance.

Grossman⁷ claims that in the case of pathology of the attachment apparatus in multirooted teeth the problem of diagnosis is increased. If pulp pathosis is causing the bone loss, endodontic therapy should bring about a regeneration of the supporting structures. However root canal treatment alone would not be sufficient if the bone loss is of periodontal origin. Endodontal treatment is nevertheless often required to facilitate periodontal repair in certain cases of periodontal involvement.

Indications for Combined Therapy

Some of the indications for combined therapy are as follows:

- a. a multirooted tooth hopelessly involved periodontally, but where one or two of the roots could be used as an abutment for a prosthetic appliance;
- b. a recurrent or chronic periodontal abscess leading to the apex of a non-vital tooth;
- c. a recurrent or chronic abscess which has caused destruction of surrounding bone and has led to gingival drainage;
- d. an area (furcation) which is impossible for the patient to keep clean and which is susceptible to root caries;

- e. cases in which infrapulp pocket treatment has not been successful;
- f. cases in which accessory or lateral canals lead to a formation of periodontal wall where the degenerated tissue of the pulp becomes an irritant to the periodontal structures;
- g. an inaccessible root canal in a multitrusted tooth.

The purpose of the treatment is to eliminate inflammation by removing the irritant and creating a healthy, useful and easily cleaned area.

The treatment plan depends on proper diagnosis.

- | | | |
|------------------|---|--|
| If the pulp is: | [| a. <u>vital</u> - Perform periodontal therapy first and if there is no healing, consider endodontic treatment. |
| | | b. <u>non-vital</u> - Perform endodontic therapy first and if there is no healing, consider periodontal treatment. |
| If the tooth is: | [| a. <u>single rooted</u> - Perform endodontic therapy followed by periodontal surgery. |
| | | b. <u>multirooted</u> - Perform endodontic therapy followed by periodontal surgery and either hemisection or root resection. |

Clinical signs which should alert the dentist aware of a condition which probably require combined therapy include the following:

- a. pockets near or leading to the apex and/or a furcation,
- b. fistulae,
- c. diseased teeth,
- d. slow healing of periodontal lesions,
- e. hypersensitivity,
- f. chronic sinus drainage,
- g. history of pulp involvement from occlusal trauma or restorative dentistry,
- h. expansion of accessory canals communicating with a periodontal lesion.

Before attempting treatment, the operator must consider the prognosis. He might ask himself the following questions:

- a. Are we merely attempting herculean, an analgesic exercise or beneficial therapy?
- b. What is the general condition of the mouth? Why not simply extract the tooth?
- c. Will there be adequate bone support and pocket elimination?
- d. Will the procedure enhance cleanliness?
- e. What degree of mobility exists?
- f. Is the tooth amenable to endodontic therapy? Are the roots and canals too curved?
- g. Is the pulp tissue calcified?
- h. Are the roots widely spread or fused?
- j. Is the tooth strategically located?
 - (1) Is it vital to some existing prosthesis such as a bridge?
 - (2) Will it preserve arch integrity and help avoid tooth replacement?
 - (3) Will it ensure a better prosthesis by providing a distal abutment for a partial denture or a bridge?

Having decided that an attempt to save the tooth is warranted the first consideration should be given to its stabilization. Though a permanent type stability could be achieved at this time with a cast splint, bridge, or with an analgesic splint

the posterior teeth, it should be sufficient to construct a temporary splint with ligature wire and a covering of a self-curing acrylic.

Endodontic therapy is the next step in the treatment and the dentist should be guided by the following generally accepted basic principles:

a. complete debridement of root canal

All necrotic material and organic debris must be gently but thoroughly removed from the canal.

b. complete disinfection

Endodontists now rely mostly for disinfection on thorough debridement and enlargement of the canal using sodium hypochlorite as an irrigating solution. In medicating the canal, the least irritating drug is usually the drug of choice. Methyl cresyl acetate (cresatin) is commonly used. If a more potent germicide is desired, CMCP is used.

c. obturation of the canal

The entire root canal should be filled laterally and apically as well as possible, taking into consideration the possibilities of lateral canals and accessory foramina. The roots to be retained are filled first, using silver or gutta-percha points, and the root to be amputated or sectioned may be filled with amalgam to a depth of about 4 mm. It is also possible to insert an amalgam at the stump site after healing is complete in cases where a silver point was used but a perfect seal was not obtained at the site of amputation.

An endodontic case is considered a success if: the tooth remains functional; there is no pain or fistula; root resorption does not progress and any radiolucent area at the apex does not enlarge. In the event that healing does not occur, apical surgery may be indicated; and if a faulty apical seal is noted, an apical amalgam may be placed.

Periodontal Surgery is performed on the following appointment. Since bacterial plaque has now been incriminated as the prime initiating factor in periodontal disease the patient should have been previously educated in oral hygiene and home oral physiotherapy. Only in the case of a well-motivated patient will surgery have any real beneficial value.

In the case in which endodontic therapy alone will suffice to clear up the periodontal involvement, no further treatment is required. However, in cases of deep pockets and infrabony involvements in a single rooted tooth, periodontal surgery in conjunction with the elimination of occlusal trauma is now indicated. A flap operation is required to facilitate removal of the old gingival attachment apparatus and gain access to the deeper structures. A complete root scaling to remove calculus and root planing to remove necrotic cementum is performed. The infrabony pocket is cleaned of all granulosomatous tissue and any required osteoplasty is performed at this time in order to ensure a good physiologic architecture on which the gingiva is dependant for its own contour and healthy form. The flap is repositioned, sutured, and covered with an oral bandage and periodontal dressing. One week later the sutures are removed and the dressing replaced until healing is sufficiently advanced to permit effective oral physiotherapy by the patient, usually between 14-18 days after the operation. The purpose of the dressing is to confine the healing tissues and prevent food impaction into the wound.

Multirooted Teeth - One Root Involved

When dealing with a multirooted tooth in which only one root is periodontically

involved, an evaluation must be made whether to proceed with a root amputation^{8,9} or a hemisection.

Factors to be considered include:

- a. the amount of sound healthy bone surrounding the remaining root,
- b. the degree of mobility,
- c. the cantilever effect;
- d. the degree of ability to keep the area clean, and
- e. whether dealing with an upper or lower molar.

The operator will probably favour a hemisection in the case of a lower molar and a root amputation in the case of an upper molar based on the above factors.

Once again, the endodontic therapy is performed first. A final diagnosis and treatment plan is made by probing the sulcus and the furcation, studying the x-rays, and determining the location for the root cut. The occlusion is checked and all prematurities and balancing contacts are eliminated. The tooth is reduced bucco-lingually. Surgical access is gained by elevating a flap and the cut is made at the expense of the root, just below the tooth contact point with the adjoining tooth. Complete and meticulous debridement of the pocket is accomplished, root planing completed, and the root stump is smoothed using a fissure bur and a scaler. The surgery is then completed as already described. A final polishing of the stump area using sand paper strips and a polishing cup with pumice and fluoride is delayed until soft tissue healing is complete.

The present state of knowledge makes the use of antibiotics a matter of personal choice. It should be kept in mind, however, that it takes approximately 17 days to obtain a new attachment apparatus of the connective tissue, that is, for the collagen fibers to become imbedded into the newly deposited cementum. The disintegration of the collagen fibers by bacterial toxins hinders this reattachment.

Some of the salient points to be remembered include the following:

- a. all granulomatous tissue must be removed from the pocket;
- b. the roots must be thoroughly scaled and planed;
- c. the bone ridge should have a good physiologic contour;
- d. the tooth stump must be sealed and highly polished;
- e. buccal-lingual occlusal reduction is necessary to improve the crown-root ratio;
- f. the occlusion must be checked since there should be normal stops in centric occlusion but no prematurities or balancing contacts.

In conclusion, it should always be borne in mind that "tooth function, individually or as a bridge abutment, is not as dependant on root size, quantity of attachment to bone, or the occlusal factor, as it is on pocket elimination, the establishment of adequate gingival contour and the attention to meticulous oral physiotherapy."

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2. Maxmen, H.A. The expanding scope of endodontics. *J. Mich. DH* 41:25, 1959.
3. Hiatt, W.H. Periodontal pocket elimination by combined endo-perio therapy. *J. Periodont.*, 1:152, 1963.
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6. Bjorn, H Experimental studies on reattachment. Dent. Pract., 11:351, 1960.
7. Grossman, LI Endodontic practice, ed 6. Lea and Febiger, Philadelphia, 1965, p. 476.
8. Saiman, L Root amputation, NYS. Dent. J., 24: 79-86, 1958.
9. Arvins, AN Technique of root resection of periodontally hopeless teeth included in multiple splint bridge. J. Dent. Med., 12: 79-81, 1957.

Editor's Note

Major JF Begin recently attended a post-graduate course in Periodontics at the National Naval Medical Center in Bethesda.



Members of the Periodontics Department of the U.S. Naval Dental School at the National Naval Medical Center in Bethesda, Maryland, assemble to congratulate Major Begin on completion of a seven-week course in Periodontics.

Major Begin (center) is presented with a certificate by Captain KL Urban, DC, USN, (left, center), Commanding Officer of the U.S. Naval Dental School. Looking on are (left to right) Captain NW Rupp, Head, Officer Academic Department; Captain WC Wohlfarth, Jr., Executive Officer; Commanders WC Moffitt, JJ Lawrence, Jr., JF Hardin; and Captain PF Fedi, Head, Periodontics Department.....
OFFICIAL U.S. NAVY PHOTOGRAPH.

THE SLIDING FLAP OPERATION - CASE REPORT

LCOL RA Fell, CD, DDS



A lateral sliding flap plastic procedure should be considered when the gingiva recedes creating a dehiscence exposing a root containing no filling material. Grupe and Warren¹ have devised a very effective plastic operation for covering the denuded root with gingiva removed from an adjacent tooth. Discussing esthetics in periodontal therapy Chaikin² points out that within an accepted criterion of a normalcy of 1, 2 or possibly 3 mm depth, a new sulcus made up of new tissue attached to the site will be formed. This procedure is the subject of the following case report.

Case Report

History: A 30-year old senior NCO presented with a 5 mm gingival cleft at the labial of the lower left central, photo 1, in Jan 1968. All other gingival tissues were in good health. There were no pockets. With the exception of a bridge to replace the lower left first molar all restorative work had been completed. The lower left third molar was impacted and the upper right unerupted. A high frenum attachment was noted but the probable etiology of the cleft was occlusal trauma.

Procedure: A sliding flap procedure was attempted to remedy the gingival defect. The tissue immediately adjacent to the cleft was excised, photo 2. There was little calculus and the exposed tooth surfaces were thoroughly planed. A vertical incision was made at the mesial of the lower left cuspid and carried well into the muco-labial fold, photos 3 and 4. A flap was raised of the tissue over the lower left lateral and repositioned with sutures to cover the gingival cleft defect area of the lower left central, photo 5.

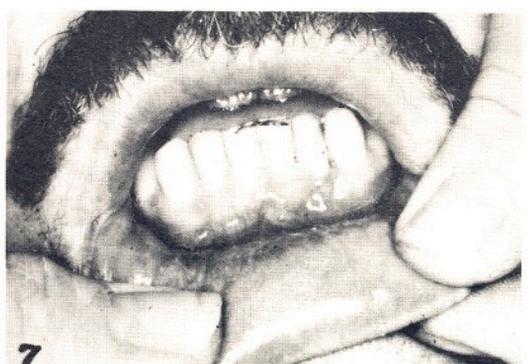
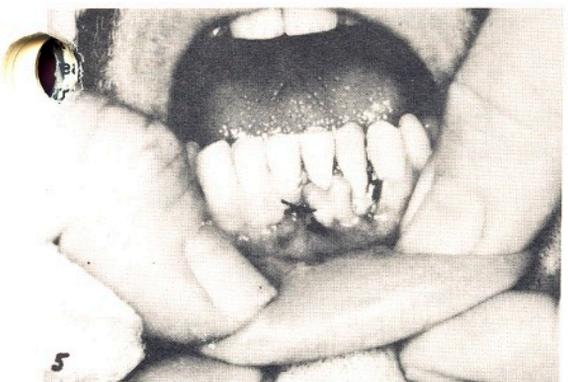
A periodontal pack was placed and reinforced with stainless steel wire, photo 6. The pack was left in place for seventeen days, being replaced once after ten days when good granulation was noted in the denuded area from which the flap was raised. Photos 7 and 8 show the condition when the pack was finally removed.

Discussion: The following post-operative observations are made of a gingival cleft repair procedure done by a simple office procedure. Less than three weeks were required for a good preliminary result. The gingival contour is good although there is a slight reduction in height of the gingival labial crest at the lower left lateral. Slight scarring is noted at the suture lines of the flap. Regeneration of new tissue in the denuded area is excellent. We hesitate to claim that re-attachment has been achieved in the central area, however, no pocket can be probed at the six month follow-up review.

Summary

A gingival cleft probably caused by occlusal trauma and the procedure used in its repair by a sliding flap procedure is reported.

1. Grupe, H.E., and Warren, R.F. Repair of gingival defects by the sliding flap operation. J. Periodont., 27:92, 1956.
2. Chaikin, B.S. Esthetics in periodontal therapy. D. Clin. North America, March 1967, pp 19-35.



TONGUE POSITION AND ITS IMPORTANCE TO THE RETENTION OF THE MANDIBULAR DENTURE

Captain E.F. Foley, DDS



Introduction

The position of the tongue plays an important role in the success or failure of the mandibular denture since it is one of the essential factors effecting retention and stability. The operator must be able to recognize the tongue position needed to maintain a seal during the major functions of the mouth. Approximately 70-75% of all patients have a normal tongue position and the remaining 25-30% have an abnormal or retracted tongue position. The latter develops early in life and apparently is the result of habit. When the natural teeth are present there is little effect on function. However, when teeth are lost it can be a serious problem to the stability of mandibular dentures.

Retention may be defined as the resistance of a denture to removal in a direction opposite to that of its insertion. This depends on interfacial surface tension and the intermittent functioning of a partial vacuum. In order to create this partial vacuum a border seal is necessary both in maxillary and mandibular dentures. However, it is usually more difficult to achieve a border seal in the mandibular denture since the seal area is harder to locate and has considerable movement during function.

The seal area of the mandibular denture is the floor of the mouth and the lateral throat form. The normal position of the floor of the mouth and the lateral throat form depend on the position of the tongue and move with it. If the tongue is in a normal position when the impression is taken, the floor of the mouth and the lateral throat form will be in a normal position also, and a border seal may be established that will be effective during the performance of the chief functions of the mouth.

Normal and Retracted Tongue Positions

The tongue takes part in the functions of sucking, swallowing, receiving food into the mouth, mastication and vocalization. These functions are most effectively initiated and carried out from a position of rest or what may be referred to as a normal tongue position. When food is placed in the mouth the tongue must assume the normal position to receive it. During the function of chewing it works in harmony with the teeth and the buccinator muscles. The act of placing food on the occlusal surfaces of the posterior teeth by the tongue begins from the normal position. It is obvious that, as with any group of muscles, the tongue has an optimum position from which it can easily start and effectively perform its functions. This is the normal tongue position.

Normal tongue position has the following characteristics:

1. it completely fills the floor of the mouth;
2. the lateral borders rest on the ridges which would normally represent the occlusal surfaces of the teeth; and
3. the tip or apex of the tongue rests on, or is just to the lingual of, the lower anterior ridge.

Patients with normal tongue position which is essential in effecting border

seal, are fortunate in possessing conditions conducive to the retention of mandibular dentures.

Retracted tongue position has these characteristics:

1. the tongue is pulled back and the floor of the mouth is exposed;
2. the lateral borders of the tongue are either inside or posterior to the ridges;
3. the apex of the tongue sometimes lies in the posterior part of the floor of the mouth or may be withdrawn into the body of the tongue.

Patient Education

Patients with a retracted tongue position have a difficult time wearing mandibular dentures since the floor of the mouth moves downward and backward as the tongue is pulled back, causing the seal of the denture to be lost. It is the responsibility of the dentist to point this out to the patient and to demonstrate to him the normal tongue position and its significance. Most patients can learn to keep their tongue in a normal position by simply being shown how. However, there are a number of exercises that have been developed by speech therapists in order to strengthen the larger muscles of the tongue and thereby hold it in a proper position. These are as follows:

Exercise 1

Swing the tongue sideways with great rapidity. The tongue should be out beyond the lower lip about 1/2 inch. This causes an alternating action of the styloglossus muscles while the tongue is held by the transversus muscles.

Exercise 2

Thrusting the tongue out and in, in rapid succession. This causes an alternating action of the posterior and anterior fibres of the genioglossus muscles.

Exercise 3

Thrusting the tongue out to its most extended position and pulling back quickly. This exercise strengthens the genioglossus, the styloglossus and the hyoglossus muscles.

These exercises should be practised twice daily for 5-10 minutes with the dentures out. The response of the patient will depend on many factors and unfortunately some patients will never master the "knack" of wearing mandibular dentures. However it is usually obvious to them that their failure to overcome their denture problems is not the fault of the dentist, but rather due to their own inability to master a normal tongue position.

The Relation of the Tongue to the Floor of the Mouth and the Lateral Throat Form

The floor of the mouth functions at many levels. The two extremes may be referred to as the high and low level. Somewhere in between is the normal level. Locating this level is necessary in establishing a border seal that will be effective during function. As already mentioned, the position of the floor of the mouth depends on the position of the tongue. When the tongue is raised to the roof of the mouth the floor is at its high level and when it is below the occlusal plane of the mandibular teeth the floor of the mouth is at its low level. With the tongue in its normal location the floor of the mouth is at its normal level. Therefore, the only way to determine the desired or normal level of the floor of the mouth is to have the patient place his tongue in the normal position.

The lateral throat form is that part of the mouth which limits the downward and backward extension of the lingual flanges of the mandibular denture. It is formed by the styloglossus and the palatoglossus muscles as they pass from the lateral wall of the throat into the side of the tongue. The lateral throat form moves as the tongue moves and the only way to record it in its normal position is to have the tongue in its normal position. Hence, to establish a usable seal area for the mandibular denture the tongue must be in a normal position when the impression is taken.

Occlusal Plane and Arch Arrangement

Since the tongue functions by touch and pressure, in contrast to the skeletal muscles, an edentulous patient is unable to keep his tongue in a normal position without something to guide it. This may be accomplished by building a wax rim on the impression tray. However, the wax rim must have the proper occlusal plane and arch arrangement to guide the tongue into a correct position.

There is a close relationship between the mandibular teeth, the buccinator muscles and the tongue during the function of chewing. If the occlusal plane of the mandibular teeth is too high it forces the tongue into a position that reduces its efficiency. Furthermore, a high position of the tongue causes the floor of the mouth to assume a higher position resulting in extra pressure on the lingual flanges of the denture, a tendency to dislodge it and partial loss of the border seal. An occlusal plane that is slightly lower than normal causes no problem for the denture patient.

The requirements for establishing an occlusal plane are as follows:

1. the occlusal plane in the region of the mandibular first molars is approximately three millimeters below the top of the retromolar pads;
2. the remaining plane anteriorly is parallel to the crest of the residual ridge;
3. as an additional reference, the top of the wax rim in the region of the mandibular first bicuspid should never be above the corner of the mouth.

The term arch arrangement is used to indicate the buccal-lingual relation of the teeth to either the crest of the ridge or the stress bearing area. The natural tendency is to set the mandibular posterior teeth too far to the lingual so that the arch is narrowed. This has the effect of crowding the tongue and reducing its effectiveness in functioning with the buccinator muscles. The mandibular posterior teeth should be set over the centre of the stress bearing area. When looking down on the occlusal surfaces of the posterior teeth, an equal amount of denture base should be seen on both the buccal and lingual sides of the teeth.

The Denture Base Outline

In order to fabricate a custom acrylic tray one must be familiar with the limits of a properly formed denture base outline. The labial flange from one buccal frenum to the other buccal frenum is most accurately trimmed by eye. The muscles of the lower lip are not conducive to border molding method because the muscle fibers are parallel to the oral orifice. The buccal flange from the buccal frenum to the retromolar pad is extended to cover the external oblique line. The posterior border is extended to completely cover the retromolar pad.

The distolingual extension of the lingual flange, which is limited by the lateral throat form, is the beginning of the seal area. This area is dependent on the position of the tongue. However, studies show that when the tongue is in the normal position this border extends downward and backward from the retromolar pad at an angle of approximately 45 degrees.

The length of the lingual flange must be such that it maintains contact with

the floor of the mouth when the floor is at its normal level. Studies indicate that the normal position of the floor of the mouth (determined by having the tongue in its normal position) is about the level of the mylohyoid ridge. An extension of the lingual flange of approximately 2 millimetres below the level of the mylohyoid ridge provides an effective border seal without impinging on the functions of the tongue.

Technique

- a. The preliminary impression is taken and a study model poured.
- b. An acrylic tray is fabricated on the study model and the tray is trimmed to a proper denture base outline.
- c. A wax rim is constructed on the tray. This must have the proper occlusal plane and arch arrangement (Fig 1).

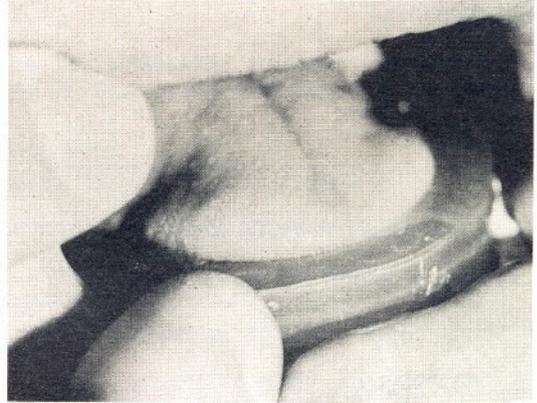
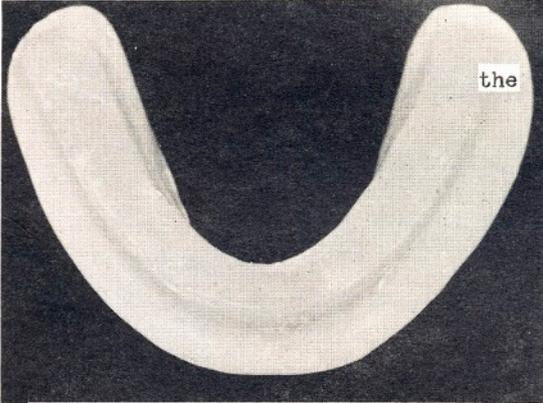


Fig 1 (upper left) - Wax rim on the custom acrylic tray

Fig 2 (above) - Tray with rim seated in mouth with tongue in normal position

Fig 3 (left) - Final impression showing post dam



- d. Impression paste is placed on the tray which is then inserted into the mouth and seated with moderate pressure. At the same time the patient is instructed to place the tip of his tongue on the anterior part of the wax rim thereby guiding it into a normal position (Fig 2).
- e. When the material has set the impression is removed and checked for pressure spots. The tray is relieved wherever it shows through.
- f. The impression is repeated by adding paste to the entire tray and maintaining proper tongue position.
- g. The impression is post-dammed with wax (Kerr's #4 Korecta wax) starting distal to the retromolar pad and running along the buccal aspect of the lingual flange to the opposite side and distal to the retromolar pad (Fig 3).

- h. The impression is tested for retention with the patient holding his tongue in the normal position.

Summary

Normal tongue position facilitates the retention of a mandibular denture. The normal tongue position places the floor of the mouth and the lateral throat form in the normal position. In order to have retention, a border seal area is necessary. The seal areas of a mandibular denture are the floor of the mouth and the lateral throat form.

Since the tongue functions primarily by touch and pressure, a wax rim simulating the occlusal plane and arch arrangement facilitates maintenance of a normal tongue position during impression making. All procedures leading to the completion of a lower impression should be done with the tongue in a normal position.

Acknowledgement

The author recently attended a course in Complete Denture Prosthesis at the University of Michigan from which much of the material in this article was derived.

SPACE SUPERVISION - MIXED DENTITION PERIOD

CAPT HA Pankratz, CD, BA, DMD



Space supervision is one of four rather specific areas of space management in the mixed dentition period. Each of the other three, namely space maintenance, space regaining and gross discrepancies are comparatively easy to define in terms of the conditions which obtain. Of the four, space supervision is the area which presents by far the greatest challenge to the clinician.

Definition and Diagnosis¹

Space supervision is a term applied when the following conditions present themselves in a mixed dentition:

- a. the mixed dentition analysis² produces doubt that there will be room for all of the permanent teeth;
- b. there may or may not be a space loss;
- c. there need not have been early loss of deciduous teeth;
- d. active treatment may be required;
- e. comprehensive applanancing may be required;
- f. the prognosis is neither good nor bad.

This list of conditions makes it obvious that space supervision cases will not likely emerge from the mixed dentition period in good order. The key to the diagnosis lies essentially in being able to exclude the simpler space maintenance, space regaining

or gross discrepancy conditions, and still recognize a Mixed Dentition Analysis which is at best questionable. Thus, space supervision depends upon the clinician's judgment and he must be convinced that the patient will have a better chance to develop a normal dentition with his help than without it.

Success with space supervision cases is dependent upon the clinician's knowledge of the details of the development of the mixed dentition and his timely application of that knowledge. An invaluable guide in this respect is contained in Nolla's studies of the Development of the Permanent Teeth (Fig 1 and Tables II & III). In addition to this comprehensive information, it is well to bear in mind that accelerated eruption of permanent teeth may be achieved if the primary predecessor is removed when the permanent successor reaches Nolla's Stage 8 of Calcification.

TABLE II.4A.—NOLLA'S 10 STAGES OF CALCIFICATION"

Compare the radiograph with the drawings and give the tooth a value accordingly. Should it lie between two stages, half-values may be used.

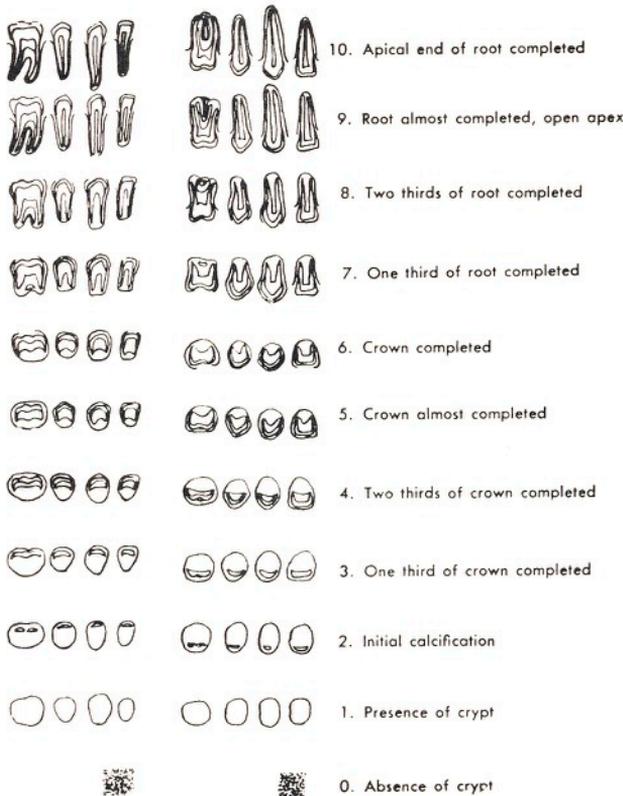


Fig 1

"From HANDBOOK OF ORTHODONTICS, 2nd edition by Robert E. Meyers, Copyright © 1963. Year Book Medical Publishers, Inc. Used by permission of Year Book Medical Publishers."

Treatment Objectives

- a. Provide an eruption sequence of 345 in the mandible and 435 in the maxilla.
- b. Keep the mandibular teeth erupting well ahead of the maxillary teeth.
- c. Maintain or produce a Class I molar relationship.

Treatment Program

<u>Step</u>	<u>Purpose</u>	<u>Timing</u>
1. extract $\overline{C\overline{C}}$	a. to align incisors b. erupt $\overline{3}$ before $\overline{4}$	$\overline{3}$ at stage 6 or 7
2. extract \overline{D} slice \overline{E}	a. allow $\overline{3}$ to erupt pointed distally b. hasten eruption of $\overline{4}$	when $\overline{3}$ eruption is affected by \overline{D}
3. place mandibular archwire and extract \overline{E}	a. prevent mesial drift of $\overline{6}$ b. erupt $\overline{5}$ before $\overline{7}$	when $\overline{4}$ eruption is halted by \overline{E}
4. place maxillary holding arch and extract $\overline{C D}$ together	a. to prevent $\overline{6}$ tipping forward b. to allow $\overline{34}$ to erupt together in a distal direction	just before the removal of \overline{E}
5. extract \overline{E}	a. to erupt $\overline{5}$ before $\overline{7}$	when $\overline{34}$ are in place and the molars are Cl I

The treatment program varies only slightly if space supervision is undertaken when a flush terminal plane or a mesial step occlusion existed in the primary dentition. If a flush terminal plane exists, then a decision must be made at steps 3 and 4 of the treatment program as to the means by which a Class I molar relationship will be produced. If there is space in the mandible for a late mesial shift then it is allowed to occur after $\overline{5}$ is in position. If sufficient forward growth of the mandible together with late mesial shift is not occurring, then it is necessary to actively tip the $\overline{6}$ distally to a Class I molar relation.

TABLE II.4B.—NORMS FOR MATURATION OF PERMANENT TEETH FOR BOYS (NOLLA²¹)

Mean stage of calcification for each tooth is shown in terms of the 10 stages of calcification.

Age, Yr.	MANDIBULAR TEETH (GROWTH STAGE)								MAXILLARY TEETH (GROWTH STAGE)							
	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8
3	5.2	4.5	3.2	2.6	1.1	5.0	0.7	—	4.3	3.4	3.0	2.0	1.0	4.2	1.0	—
4	6.5	5.7	4.2	3.5	2.2	6.2	2.0	—	5.4	4.5	3.9	3.0	2.0	5.3	2.0	—
5	7.5	6.8	5.1	4.4	3.3	7.0	3.0	—	6.4	5.5	4.8	4.0	3.0	6.4	3.0	—
6	8.2	7.7	5.9	5.2	4.3	7.7	4.0	—	7.3	6.4	5.6	4.9	4.0	7.4	4.0	—
7	8.8	8.5	6.7	6.0	5.3	8.4	5.0	0.8	8.2	7.2	6.3	5.7	4.9	8.2	5.0	—
8	9.3	9.1	7.4	6.8	6.2	9.0	5.9	1.4	8.8	8.0	7.0	6.5	5.8	8.9	5.8	1.0
9	9.7	9.5	8.0	7.5	7.0	9.5	6.7	1.8	9.4	8.7	7.7	7.2	6.6	9.4	6.5	1.8
10	10.0	9.8	8.6	8.2	7.7	9.8	7.4	2.0	9.7	9.3	8.4	7.9	7.3	9.7	7.2	2.3
11	—	—	9.1	8.8	8.3	9.9	7.9	2.7	9.95	9.7	8.8	8.6	8.0	9.8	7.8	3.0
12	—	—	9.6	9.4	8.9	—	8.4	3.5	—	9.95	9.2	9.2	8.7	—	8.3	4.0
13	—	—	9.8	9.7	9.4	—	8.9	4.5	—	—	9.6	9.6	9.3	—	8.8	4.9
14	—	—	—	10.0	9.7	—	9.3	5.3	—	—	9.8	9.8	9.6	—	9.3	5.9
15	—	—	—	—	10.0	—	9.7	6.2	—	—	9.9	9.9	9.9	—	9.6	6.6
16½	—	—	—	—	—	—	10.0	7.3	—	—	—	—	—	—	10.0	7.7
17	—	—	—	—	—	—	—	7.6	—	—	—	—	—	—	—	8.0

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TABLE II.4C.—NORMS FOR MATURATION OF PERMANENT TEETH FOR GIRLS (NOLLA¹¹)

Mean stage of calcification for each tooth is shown in terms of the 10 stages of calcification.

AGE, Yr.	MANDIBULAR TEETH (GROWTH STAGE)								MAXILLARY TEETH (GROWTH STAGE)							
	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8
3	5.3	4.7	3.4	2.9	1.7	5.0	1.6	—	4.3	3.7	3.3	2.6	2.0	4.5	1.8	—
4	6.6	6.0	4.4	3.9	2.8	6.2	2.8	—	5.4	4.8	4.3	3.6	3.0	5.7	2.8	—
5	7.6	7.2	5.4	4.9	3.8	7.3	3.9	—	6.5	5.8	5.3	4.6	4.0	6.9	3.8	—
6	8.5	8.1	6.3	5.8	4.8	8.1	5.0	—	7.4	6.7	6.2	5.6	4.9	7.9	4.7	—
7	9.3	8.9	7.2	6.7	5.7	8.7	5.9	1.8	8.3	7.6	7.0	6.5	5.8	8.7	5.6	—
8	9.8	9.5	8.0	7.5	6.6	9.3	6.7	2.1	9.0	8.4	7.8	7.3	6.6	9.3	6.5	2.1
9	10.0	9.9	8.7	8.3	7.4	9.7	7.4	2.3	9.6	9.1	8.5	8.1	7.4	9.7	7.2	2.4
10	—	10.0	9.2	8.9	8.1	10.0	8.1	3.2	10.0	9.6	9.1	8.7	8.1	10.0	7.9	3.2
11	—	—	9.7	9.4	8.6	—	8.6	3.7	—	10.0	9.5	9.3	8.7	—	8.5	4.3
12	—	—	10.0	9.7	9.1	—	9.1	4.7	—	—	9.8	9.7	9.3	—	9.0	5.4
13	—	—	—	10.0	9.4	—	9.5	5.8	—	—	10.0	10.0	9.7	—	9.5	6.2
14	—	—	—	—	9.7	—	9.7	6.5	—	—	—	—	10.0	—	9.7	6.8
15	—	—	—	—	10.0	—	9.8	6.9	—	—	—	—	—	—	9.8	7.3
16	—	—	—	—	—	—	10.0	7.5	—	—	—	—	—	—	10.0	8.0
17	—	—	—	—	—	—	—	8.0	—	—	—	—	—	—	—	8.7

Appliancing

The mandibular appliance of choice is the lower loop lingual archwire. It is removed when the lower second premolars are emerging from the gingiva.

In the maxilla a Hawley appliance with fingersprings may be used to good advantage to achieve the necessary distal tilting forces on the upper molars.

Any good orthodontic handbook will provide adequate instructions in the fabrication of these simple appliances. It must be borne in mind that the requirement for these appliances must have disappeared by the time the second permanent molar erupts into the arch.

Summary

Space supervision is an area of interceptive Orthodontics which may be successfully undertaken by the general practitioner. The recognition of the need for space supervision in any mixed dentition depends on the clinician's good judgement. The treatment objectives and the steps in the treatment program have been outlined.

1. Moyers, R.E. Handbook of orthodontics. 2nd Ed. Yearbook Medical Publishers Inc., 1963.
2. Brogan, H.W. Mixed dentition analysis. RCDC Quarterly, 8:9, Apr., 1967.
3. Nolla, C. The development of the permanent teeth. Ann Arbor, University of Michigan, School of Dentistry, 1952. Typed thesis.

Dentists should instruct patients to remove dentures for several hours daily in order to prevent papillary hyperplasia. Dentures and the oral tissues must be periodically examined in order to prevent the prosthesis from becoming a pathogen.

- Lambson, G.O., and Anderson, R.R.: Palatal papillary hyperplasia, J. Pros. Dent., 18:532, 1967.

SHOOTING DOWN UNDER

LCOL J.C. Brick, CD, DDS



The "World Series" of shooting for Commonwealth countries is the Empire Match. It is held annually in any one of the Commonwealth countries and in 1968 Australia was the sponsor. Canada sends a rifle team to England each year and occasionally to the United States. This year it was decided that a team should go to Australia. The news spread quickly in both New Zealand and Australia and as a result many invitations were received to compete in other matches to be held in Wellington, New Zealand, Tasmania, Sydney, Brisbane, Perth and other places.

The task of choosing a team belongs to the Dominion of Canada Rifle Association and just before Christmas I received an invitation to be a member. It solved the problem of what to do with my unused leave for the year.

The team consisted of fifteen shooters with representation from across Canada. The members assembled in Vancouver and on February 16th left Canada by Canadian Pacific Airlines. Canada was in a cold spell at the time; as soon as we left her shores the temperature began to rise. The first stop was Honolulu for a few hours and then a change of aircraft at Nandi in Fiji, where the temperature was 97 degrees at two a.m. with a gently falling rain.

The team arrived in Auckland New Zealand on Sunday morning, February 18th. And the date line had been crossed, Saturday the 17th never dawned for our group. Almostly gracious and warm reception was given to the Canadian team and this was to be our first sample of New Zealand hospitality. From Auckland we flew south to Wellington. The landscape was a surprise to everyone as the North Island is volcanic in pattern. Trees now grow up the sides of the old volcanoes and at present only one is still actively steaming. The New Zealand Airlines Pilot was most obliging and altered his course to show us points of interest. We arrived in Wellington at noon and at two p.m. the first shots were fired on the ranges.

The ranges at Wellington are in Trentham Army Camp. They are set out within a horse shoe of beautifully wooded hills that form a natural backstop. The grass is a lush green and is mowed every night by "woolly lawnmowers" that say baa-baa night and day. Having lived in Ontario and Quebec it is an amazing sight to see old cars with no rust. Cars are very expensive in New Zealand and consequently are very well treated and made to last. My own highlight was a ride out to the range in a 1926 Erskine. The car ran very well but the owner complained that he has had to re-upholster it three times. The matches went on every day until the following Saturday at five p.m. The next morning we had to leave the country, to our great disappointment, since our

Editor's Note:

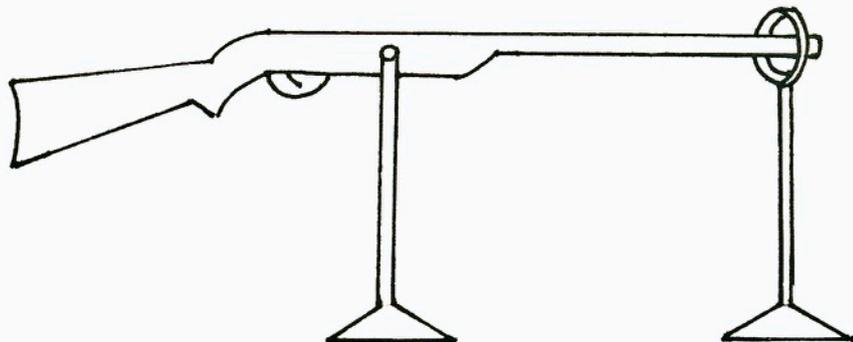
LCOL JC Brick is employed as Senior Staff Officer Dental Services, HQ Mobile Command. His interest in shooting began with an international match in Detroit, Michigan in 1936 and has continued since that time. During the intervening years he has competed in Canada, United States, Germany and England. In 1963 LCOL Brick was a member of the Canadian Army Regular Rifle Team representing the Canadian Army at Bisley, England. He is one of two officers in the RCDC entitled to wear the gold rifle awarded with the Letson Trophy (CAO 57-10).

schedule had been so tightly booked that it did not give us a chance to see this beautiful country or to accept the many personal invitations received. The Maori came to the rescue and put on a "hungi" for us. This is an outdoor cookout to end all cookouts. At noon they dug a pit and filled it with rocks which were covered with logs and a roaring fire was kept going for three hours. The ashes were then raked out and a side of a sheep was wrapped in burlap and placed in the pit on top of the stones. This was all covered with a layer of vegetables, more burlap and then filled in with earth. At seven p.m., with a few songs and ceremony the hole was opened and the food passed out. The food was very delicious with a heavily smoked flavour and was eaten from a board without the use of any mechanical devices. There were more songs, dances and chants by this really happy group of soldiers to close off a memorable evening. This celebration, in some way, compensated for our inability to stay in the country for a longer period.

The New Zealander is a very good marksman and has an excellent sense of sportsmanship. To give some idea of the high standard of the shooting, at one range I had a perfect score 50 out of 50. Several others did too, and to settle tied scores the shots are measured from the exact centre of the bullseye. My perfect score placed 41st on the prize list.

It was ANSET-ANA Airline next and over to Australia. This time the matches were being conducted in Sydney under the auspices of the New South Wales Rifle Association. Sydney is a large and beautiful city with a harbour measuring 900 feet deep in places. The ranges are located in a sea shore setting that is very pleasant. The breezes from the sea complicate the shooting but not as much as the signs along one low edge of the range which read "Keep Out - Tiger Snakes". We were assured that the snakes did not come out on the range but still when you are lying on a firing mound in shorts there does seem to be a "Oneupmanship of Gamesmanship" factor here.

From Sydney the team went on to the Katoomba Rifle Club located in Mountain City. It is the largest city in the world by area, encompassing 542 square miles. the population is about 5000, but I think that they are counting a few trees as well. It was an amazing range. It has only three firing positions and is 700 yards long. It is built up the side of a ravine so that each successive one hundred yard firing point is higher than the one in front. The 700 yard firing point is 200 feet higher than the targets. After the matches a civic reception took place in a very well appointed country club. The mayor and his council welcomed the visitors to Mountain City. We all returned to the ranges and planted two trees, a maple for the Canadian Team and a dogwood for the British Team. As this area is a dense forest of gum trees (Eucalyptus) these two will stand out as strangers. Incidentally, it would be difficult to speculate where they found a maple tree to plant.



Rifle Mounting For Blind Marksman

Time was fast approaching for the Empire Match. We flew down to Melbourne Victoria where the competition was to be held. When we arrived we received a challenge from the Royal Victorian Institute For The Blind Rifle Club. It turned out to

be a most interesting match. The sightless person fires from the standing position using an ordinary .22 calibre rifle. The target rifle is mounted on a swivelled post at its point of balance and the barrel passes through an iron ring about four inches in diameter. The rifle barrel is wired to give off an audible radio wave of a certain frequency and the iron ring is wired to give off a slightly different wave. When the rifle barrel is held in the dead centre of the ring the two waves cancel each other and there is absolute silence. At this exact moment the rifle is fired and a bulls-eye will be scored on a target that has been very precisely mounted in a frame 25 yards down the range. As we were a national team selected for shooting ability it was a slightly emotional experience to see these people enjoying our sport with a terrific enthusiasm. It was only natural that our captain called us aside and told us to shoot our best but the last two men were to keep the score down, and if it could be done discreetly, let the other team win. At the end of the second target we were trailing by five points and at the end of the match we were soundly trounced by 35 points. We asked our captain to elaborate further on the part about "easing up."

The team began five days of shooting that would culminate with the Empire Match. This match was fired at 300, 600, 900 and 1000 yards. Rain had not fallen in the area for nearly two years. The grass was very dry, a bright yellow in colour with a sheen like straw. The range faced out to be a beautiful ocean and the sky at all times was a cloudless blue. The temperature hovered around 100° with no humidity.



ON THE RANGE

It was a wonderful setting for an "umbrella and a cool glass", but a disaster for shooting. The glare from the grass caused a mirage that hid the targets which seemed to fade into the blue sky and sea. At 300 yards the Canadians were running away in the lead. At 600 yards the British Team started to close the gap. At 1000 yards the targets disappeared. It was necessary sometimes for the shooter to stand up to re-orientate himself with his target. But not so the Australians, they just shot on without effort. We were struggling to hit the target but they were calmly dropping their shots into the 30 inch bull's-eye. One Australian wag said that they could not see the targets either, they just remembered where they were. The superb shooting by the Australian Team under these conditions won the day for them. Canada, the present holder of the Empire Trophy, passed it on to a better team.

As mentioned earlier, we had numerous invitations to shoot in many cities. In order to accept as many as possible the team split up with members going to Hobart Tasmania, Sydney, Brisbane, Perth and a few other places with less familiar names.

As a break from shooting we spent a day picnicking in the Sir Colin Mackenzie reserve. The flora and fauna are so unlike ours. Bell birds give a performance like a carillon in the tree tops from dawn until dusk. The kangaroo and his small cousin the wallaby were very friendly people. The emu wandered around looking for handouts. I never knew him other than as a three letter word for a flightless bird in a crossword. The kookaburra, the koala with the inevitable little passenger, the duck billed platypus, all seemed to be from another civilization. The dingo dog was the nearest relative to our animals and he was a very unfriendly individual.

The time arrived for the journey home. The hospitality had been tremendous, Service authorities and Customs most co-operative. Our High Commissioner's offices and staffs helped us on innumerable occasions. We left Sydney, Australia at 96° heading for Montreal at 20° below zero. The engines hummed a little out of synchronization sounding like "GO AWAL - GO AWOL", but being a dedicated person I never let such a thought enter my head, as the team captain held all the tickets.



The Sir Colin
Mackenzie
Reserve

The RCDC News

Division News

Brigadier-General BP Kearney, Director General Dental Services, attended the Annual Meeting of the Board of Governors of the Canadian Dental Association 24-26 Jun 68 after which he attended the C.D.A. Convention.

Division Postings

COL GR Covey has replaced COL LG Craigie as Director of Staffing and Training.

LCOL WR Thompson proceeded to the University of Toronto to continue post-graduate work in Oral Surgery.

LCOL IA Richardson arrived fresh from a tour as CO 4 Fd Dent Coy in Germany. He will replace LCOL G MacDougall in the Directorate of Treatment Services with the latter moving over to the Directorate of Staffing and Training.

Sports

The sand traps were no problem for Sgt Norm Eady as all of his experience in playing golf on the Sinai Desert came to the fore when he won 2nd Low Net of "D" Flight in the CFHQ June Golf Tournament.

Sgt Ken Shergold captured 1st Low Gross of "A" Flight in the Annual Ottawa Area Inter-Mess Tournament, and repeated with 2nd Low Gross in the CFHQ June Tournament.

11 Dent Unit

Conferences and Meetings

COL GC Evans, MAJ C Gullekson and CAPT WH Dunnigan attended the Alberta Dental Association Convention 2-3 May 68 at the Chateau Lacombe, Edmonton.

Several Unit officers attended the Annual Meeting of the Canadian Dental Association 26-30 Jun 68 in Vancouver: on duty - LCOL JG Butler, MAJ PE Fafard and MAJ AL Kelland; on annual leave - LCOL Kettlys, MAJ Pyne, CAPTs Walls, Berezon, Ebert, Shearer, RB Andrews, Budzinski, Wilson, Lanctis and McNeil.

Training

CAPT BB Berezon and PTE Bernier JG accompanied 1 QOR of C to Norway on Exercise "Polar Express" 5-16 Jun 68.

CAPT HM Amos and CPL Clifton HB were aboard HMCS Columbia on a training cruise in California waters 4-21 Jun 68.

Retirements

CAPT Lorne Proudfoot has retired from the RCDC after 26 years of continuous service. Lorne came up through the ranks as a dental assistant and was commissioned in 1960 as a classified officer. His final appointment was Administrative Officer of No 11 Dent Unit. A Unit party was held at CFB Edmonton SGTs' Mess on 30 May 68 to honour him on this occasion and he was presented with an executive briefcase as a memento from all ranks of the Unit. He has accepted a position at the University of Alberta as assistant to the Registrar. His many friends wish him well in his new career.

Majors RJK Pyne and PE Fafard retired from the Service this summer after having had long and varied careers with the Canadian Forces.

An all ranks party of both active and retired RCDC personnel in the Victoria area was held for these officers and they were presented with bronze professional name plates to be used in their civilian practices. Members of the Corps wish them and their families the best of luck for the coming years.



Presentations on Retirement

LCOL Kettlys presents name plates to MAJ Fafard (l) and MAJ Pyne (r)

Major "Terry" Pyne served with the NPAM from 1935 and joined the CA(A) in 1941. His war-time service was with the RCA and he served in the United Kingdom, the Mediterranean theatre and North West Europe. He was awarded the MC while serving in Germany in 1945. Graduating in Dentistry from McGill University in 1951, he joined

the CA(R) and since then has served with the Corps with 11 and 15 Units, 35 FDU and with UNEF in the Middle East. Terry is going into private practice in Montreal.

Major Paul Fafard joined the CA(A) in 1942 and saw service in Europe as an infantry officer. Following the War he entered Dentistry at the University of Montreal graduating in 1951. Since that time he has served with the Corps in a variety of postings across Canada and with 1 FDU (1955). Paul has established a practice at Williams Lake, BC where the hunting and fishing are reported to be superb.

12 Dent Unit

Armed Forces Day

A shining mobile dental van was on display in CFB Gagetown with other exhibits for visitors on Armed Forces Day 8 Jun 68. PTE Kaye manned the display and is to be credited with the polish and cleanliness of the vehicle. One of the most interested visitors to the van was BGEN Drewry who, as senior RCDC officers know, is not unfamiliar with the Corps.

Sports



SGT Frank Martell of CFB Greenwood won the Annual Maritime Five Pin Championships held at Summerside PEI. He had the high average of 253 and the high single of 410.

SGT Martell with his trophies

SGT Glen Jennings also made the sporting news column by winning the Class "C" Event of the Opening Day Tournament held on 13 May 68 at Chester sponsored by the Halifax Garrison Golf Club.

Retirements

Major EMC Franklin is among those who have recently retired from the Armed Forces after many years of service. Claude served with the RCAF from 1940-45 and was awarded the DFC. Following the War he attended Dalhousie University and was commissioned in the Corps on graduation in 1952. It is understood that since his retirement he has again become associated with Dalhousie, this time in a teaching capacity.

Captain M Kostyniuk is retiring after continuous service with the Corps since 1941. Mike came up through the ranks as a dental assistant and clerk. He was commissioned as a classified officer in 1960 and his final tour of duty was Administrative Officer of No 12 Dent Unit. Apparently the call of the "great land" was too much for Mike and he has decided to settle in the West. Both of these officers have best wishes from their confreres in the Corps for a happy and successful future.

Farewell Party - A farewell party was held at Moosehead Breweries on 13 Jun 68 to present mementos and wish retiring and posted personnel the very best in their new environments.

13 Dent Unit

Accommodation

Upon completion of the new wing in April this year, No 13 Clinic at CFB Trenton became one of the largest and most modern clinics in the RCDC.

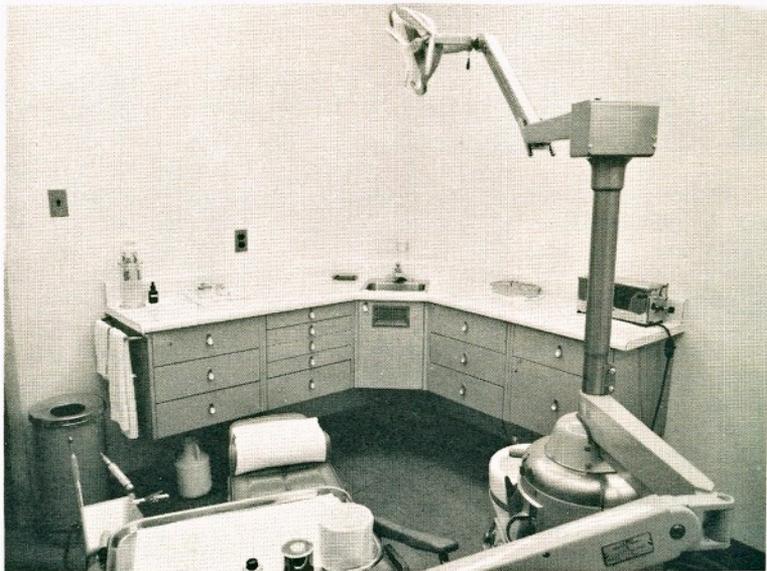
The new wing consists of six additional operating rooms, a large storeroom, a female change room, and has enlarged the clinic to an 11 operating room accommodation.

The installation of modulaire wall-mounted cabinets, folding doors, very good indirect lighting plus a redesigned orderly room and waiting room gives a pleasant appearance as well as having improved the working conditions.



SGT Schell EL at the reception desk of the new waiting room

Modulaire wall-mounted cabinets in one of the new operating bays



Meetings and Conferences

COL RHG Cunningham, CAPT DA Humphreys, CAPT RG Kerr and CAPT RE Warren attended the Ontario Dental Association Convention in Toronto 12-15 May 68.

MAJ AG Taylor of the RCDC School spoke to the Bay of Quinte Dental Society in the Oak Room of the Trenton Officers' Mess on 10 Apr 68. Subjects presented were, Pin-Retained Amalgams, Advanced Concepts of Operative Dentistry and MAJ Taylor's Easter Island trip. The presentation was received with much interest.

Special Events

Dental personnel in the Trenton area held an enjoyable social gathering on 20 Jun 68 at the social centre CFB Trenton to honour LCOL and Mrs Butcher, WO and Mrs Posyluzny and SGT and Mrs Schmelze prior to their departures on posting. WO "Frank" Heard was also presented with a momento and wished good fortune on civvy street when his call-out ceases this autumn.

14 Dent Unit

Briefing by DGDS

An informative briefing on the RCDC Preventive Dentistry Program was given by Brigadier-General Kearney to staff officers at TCHQ CFB Winnipeg 10 Apr 68. This program was received with enthusiasm and seen as a major attempt to cope with a problem heretofore unresolved.

Special Events

A farewell was given to LT Bowness 8 Apr 68 by personnel in the Winnipeg area when all gathered at the Curling Club to present him with a "Red River Cart" prior to his departure for Staff Course in Toronto and on posting to No 12 Dental Unit, Halifax.

The Annual Posting Party was held at CFB Winnipeg 14 Jun 68.

Clinic at Fort Churchill Closed

LCOL Anglin and CAPT Doyle visited Fort Churchill 14-15 May 68 at which time the dental equipment at No 8 Clinic was turned over to DFW. CAPT Buchholz, the last dental officer to be stationed at Churchill, together with his staff of CPL Bussell and Miss Beattie ceased duty in the area 1 Jul 68. The dental equipment will eventually be turned over to the Fort Churchill General Hospital for use by a civilian practitioner who it is hoped will become available in the near future.

Commendation - CAPT JJG Jacques

During a duty visit to CFS Sioux Lookout, CAPT Jacques performed dental examinations for all Station personnel. The oral soft tissue examination for one patient prompted him to perform a biopsy of an area of the tongue the results of which proved that the tissue in question was malignant.

In part, the commendation forwarded by DGDS read as follows: "The example set by CAPT Jacques in this early detection of cancer and the measures he instituted for its treatment provide a source of pride and gratification for all of us. He has quite possibly extended the life span of his patient; at very least he has spared him considerable disfigurement. I wish to add my commendation of his professional skill and behaviour to that expressed by the Commanding Officer of CFS Sioux Lookout."

15 Dent Unit

Professional Meeting - Preventive Dentistry

The Société Dentaire de Montréal held its May meeting at CFB St Hubert on 18 May 68. The theme of the professional portion of the meeting was "methods and procedures in Preventive Dentistry." The aim of the program was to establish better

public relations and contacts with the civilian dental organizations in the area.

The social meeting took place in the St Hubert Officers' Mess with a candle-light dinner and introductory speeches by the Base Dental Officer MAJ R Roy and the Dental Public Health Officer Dr P Guevremont. This was followed by a visit to the Base Dental Clinic with WO R DeBlois as the informative hygienist, MWO H Franzgrote as the demonstrating therapist and CPL M Arbour as the laboratory technician willing to sacrifice a long weekend Saturday evening for the cause of better public relations. CAPT G Charron had previously prepared the cavities and supervised the restorative procedures.

The following subjects stimulated a lively interest from the civilian dentists:

1. employment of the therapist and hygienist;
2. the Preventive Dentistry Program in the Canadian Armed Forces.

RCDC personnel were interested in civilian reactions to the team concept in the Corps. It may be well to have answers ready for arguments such as these, referring especially to the therapist: uneconomic for a single operator practice; would mean changing our whole dental organization; could not afford such an auxiliary; this would mean group practice; No ²³ Hollenbach, must make a note of that instrument; do you make your own models for demonstrations; are impressions taken by an auxiliary; when cement base is damaged to you correct it before filling; etc.

While WO DeBlois explained technical points about the auxiliary dental trades in the RCDC and MWO Franzgrote was busy restoring three multiple cavities under scrutinizing eyes in an overcrowded room, the dental officers were involved in intense discussions with their civilian colleagues and former university teachers explaining why the dental therapist has become an appreciated member of the dental team; and why in their opinion, such progressive personnel developments should become accepted by the dental profession as a whole. Ideas were discussed in recognition of auxiliaries in other fields, respective employment, training, technical skills, prerequisites, organization and control. The medical profession has set an example in co-operation which permits truly professional qualifications to be elevated to a level beyond the pure technical, which can be delegated. The dentist should be able to take a similar position to that which the medical doctor and engineer have successfully claimed for themselves for years.

Complimentary comments were made on the layout, design and cleanliness of the clinic facilities. Some of the visiting ladies and gentlemen became so interested that they almost forgot the dance in the Officers' Mess.

Special Events

Retirement Dinner - CAPT AM GAREAU

A Mixed Dinner was held 21 May 68 at CFB St Jean to "dine-out" CAPT and Mrs Gareau. COL and Mrs Cornish and many dental officers and their wives attended, plus over 100 from the Base. An RCDC plaque was presented to CAPT Gareau on behalf of the Corps officers and a bouquet of roses to Mrs Gareau.

It is pointed out that CAPT Gareau joined the Active Force 2 Sep 39 and has served with the Corps since 1940. He came up through the ranks as a laboratory technician and was commissioned as a classified officer in 1964. It is understood that Ben has accepted an appointment with the Dental Faculty of the University of Western Ontario. Best wishes from his friends in the Corps go with him in his new career.

Forensic Dentistry

MAJ JFA Marcil attended a murder trial 17 Jun 68 (not as a suspect) and was called upon to determine whether or not there was any relation between a skull and

dental documents concerning an ex-soldier who was shot seven years ago. After re-tracing the teeth in the skull, it was very evident that skull was that of the person whose dental condition was recorded in the dental documents. The lawyers felt that this information would be invaluable during the course of the trial.

The RCDC School

Change of Command



Colonel GR Covey (seated) outgoing Commandant of the RCDC School is shown with his successor Colonel LG Craigie during the recent Change of Command ceremony at the RCDC School. Colonel Craigie assumed command on 2 July, 1968.

The RCDC School Golf Tournament

The Annual RCDC School Golf Tournament was held at the Circled Pine Golf Course, Base Borden on 19 June 1968. LCOL AG Andrews, Chief Instructor of the RCDC School won the event of the day, The Fletcher Trophy, for 1st Low Gross.

Outstanding Candidate

The Chief Instructor of the RCDC School, LCOL AG Andrews presented the LCOLDH Protheroe Trophy to the outstanding candidate on the 721 Dental Assistant PL 3 course, CPL A Busse, on 19 April 1968. A miniature cup is given to the recipient for his retention.



Retirement

1 Dent Unit

WO CA Chartier retired from the Forces on 1 May 68. He served in the Corps from 1941-46 and rejoined during the Korean conflict in 1950. His last appointment was as Chief Clerk with No 1 Dent Unit.



A Unit party was held at CFB Rockcliffe to honour WO Chartier and extend best wishes on his retirement.

L to R - LCOL WH Harrington,
WO Chartier and MWO Riddel DW

Why Not Have Your Own Aircraft?

During the autumn of 1966, Captains Tukums and RD Andrews obtained their pilots' licences at the Rockcliffe Flying Club and the following year they purchased a 65 h.p. Taylorcraft. With CAPT Andrew's recent posting, CAPT Tukums became sole owner of the aircraft.

CAPT Tukums with his aircraft

Statistics

cruising speed - 85 mph
maximum altitude - 9,500 ft
over-all running cost -
approximately \$3.50 per hr
approximate value of aircraft
- \$3,000.00
flying time - as much as possible



1 Dent Eqpt Dep

Duty Trips and Visits

MAJ PL Griffiths accompanied LCOL Fletcher on a liaison visit to Halifax, St Jean, Trenton, Winnipeg and Edmonton.

Retirements

CWO EC Carpenter has retired from the Armed Forces after continuous duty dating from 1942. "Ernie" transferred to the Dental Corps in 1943 and served as a DA until he remustered to the Dental Equipment Repairmen's trade in 1952. His final appointment in the Corps was at No 1 Dent Eqpt Dep, Petawawa, as Warrant Officer in charge of the technical repair section. He has accepted a position with the Dental Faculty, University of British Columbia. Best wishes from his friends in the Corps go with him and his family in their new environment.

CWO AG Ponton joined the Active Army in September 1939. He transferred to the Dental Corps early in the War and served as a dental assistant. He accepted his release in November 1945. He enrolled in the Regular Force in 1949 becoming a storeman clerk - the trade which he pursued until his retirement. It is understood that Alex is entering business in Calgary and he is wished the best of luck in this new enterprise.

4 Fd Dent Coy

Change of Command

LCOL GE Windsor assumed command of 4 Fd Dent Coy on 6 Jul 68 replacing LCOL LA Richardson who has been posted to DGDS.

Conferences and Meetings

The regular Dental Officers' Professional Meeting was held 10 Apr 68. CAPTs Griesbach, Wood and Bellerose presented the highlights of the US Army General Dentistry Training Seminar, which they attended on 4 and 5 Apr 68.

On the same date the NCO Study Group met with presentations from CPL Tweed entitled "A Spoonful of Sugar" and CPL Audet entitled "Scuba Diving".

On 15 May 68 the dental officers hosted a professional meeting at the Officers' Club, at which RADC Officers of the British Army of the Rhine provided an excellent program with the following speakers:

COL ED Stanhope, MBE - Cases of Interest,
LCOL R Docherty - Two Part Partial Dentures, and
MAJ M Sheard - Removable Orthodontic Appliances.

On 29 May 68, the US Army Dental Officers at Rothwesten, near Kassel, hosted the professional meeting. COL Thompson spoke on "A New Concept of Preventive Dentistry" and Dr Hienrich Hornung, Public Health Officer for the City of Kassel, spoke on "Fluoridation". Kassel is the only community in West Germany with artificially fluoridated water.

Special Events

No 4 Fd Dent Coy Rotation Party was held in the 600 year old "St Georges Keller" in Soest on 10 May 68. It was a very enjoyable evening of good music, excellent food, and suitable momentos were presented to departing members - LCOL Richardson, MAJ Paturel, MWO Everett, SGT Christiansen, SGT Petersen, CPL Levesque, CPL Sykes.

Sports

A small bore rifle team consisting of CAPT Griesbach, WO Dion, SGT Schuh, SGT Wylie, CPL Audet, CPL Sykes and four personnel from 2 PPCLI, placed second in a NATO Small Bore Rifle Competition, on 29 Jun 68. The competition was sponsored by The German 423 Panzer Grenadier Battalion in Bremen, Germany.

35 Fd Dent Unit

Special Events

An all ranks dinner dance was held in Lahr on 10 May to say farewell to SGT Reg Malpas on his retirement and to members of the Unit who are returning to Canada. SGT Malpas was presented with a crystal vase and Mrs Malpas with a dozen roses. Gifts were also presented to the members rotating to Canada.

Sports

A golf tournament was held at Soest on 3 May between members of 4 Field Dent Coy and 35 Field Dental Unit. The weather and the golf course were excellent, which is more than can be said for the caliber of play, however 35 Field were the winners and avenged themselves somewhat for the curling defeat suffered in February.

4 Fd Dent Coy's report on this event has a somewhat different tone. It reports that MAJ Mason out-putted WO Minnelli on the 18th green to win low net.

Dent Det Cyprus

Leave

CAPT Nadeau enjoyed a tour of the Holy Land from 14-20 May 68, visiting places of Biblical interest such as Jerusalem, Bethelhem and Nazareth; and also the thriving, modern metropolis of Tel-Aviv.

In Memoriam

MWO RG Fortin died in hospital 10 May 68. This was a great shock to all of his friends and acquaintances and he will be sadly missed both in the Unit and throughout the Corps. He signed on with the Active Army in 1943 and joined the Regular Force in 1946. He served at various locations in Canada and had a tour of duty in Korea. Those who attended courses at the RCDC School while Roger was on staff will remember that he was always eager and willing to lend a helping hand. As a clinical technician he couldn't have shown more enthusiasm and zeal for his trade. His loyalty to the Corps could only be challenged by his unbending support to "Les Canadiens" as anyone who served with him or attended an RCDC Bonspiel will testify. A military funeral was held for him in Ottawa 13 May 68. Deepest sympathy is extended from all members of the Corps to his widow and children.

Professional Training

University of Toronto

LCOL WR Thompson	- Oral Surgery	- 1 Jul 68 - 30 Jun 69
Major IW Susser	- Dental Public Health	- 3 Sep 68 - 25 Jun 69
Major JJN Wright	- Periodontics	- 3 Sep 68 - 31 Aug 69

Walter Reed Army Medical Centre, Washington, DC, USA

Major NH Andrews	- Advanced Theory and Science of Dental Practice	- 27 Aug 68 - 27 Jun 69
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Training

RCS of S - Canadian Forces Base Barriefield

Sr NCO Course - 12 Jun - 31 Jul 68

CPLS Harkin PE, Thorburn JH, Hannah BF, McRae H, Longford MD, Nadeau IJP

Promotions

To Major	- JJLG Girard, RM MacDonald, FC Arpin, GD Dippel, JR Robertson
To Sgt	- CS Brown, TR O'Marra
To Cpl	- GR Burt, NG Jones, MGE Williams, WA Hurding

Welcome to the Corps

A cordial welcome is extended to the following personnel who have recently joined the Corps:

Sgt J Leonard, Cpl DT Langford, Pte (AF)(W) MML Dumont

<u>1968 DOTP GRADUATES</u>	<u>UNIVERSITY</u>	<u>POSTED TO</u>
CAPT KEH Rosengart	Alberta	CFS Holberg
CAPT RCA Fearon	Alberta	CFB Calgary
CAPT JF Stengl	Alberta	CFB Cold Lake
CAPT PE Arnold	Alberta	CFB Rockcliffe
CAPT DA Graham	Alberta	RCDC(S) Borden
CAPT DJ Morrow	Manitoba	CFB St Hubert
CAPT DW Pettigrew	Toronto	RCDC(S) Borden
CAPT HW Wilford	Toronto	CFB Winnipeg
CAPT EL MacInnis	Toronto	CFB Halifax
CAPT G Gunther	Toronto	CFB Halifax
CAPT PA Wood	Toronto	CFH Kingston
CAPT WEJ Nind	McGill	CFB Rivers
CAPT DE Gibbs	McGill	CFB Petawawa
CAPT JR Campbell	Montreal	CFB Valcartier
CAPT G Jalbert	Montreal	CFB Cornwallis
CAPT RP Meunier	Montreal	CFB Bagotville
CAPT JG Dessureault	Montreal	Ottawa
CAPT EG Schroeter	Dalhousie	CFB Gagetown
CAPT CH Hawkins	Dalhousie	CFB Greenwood
CAPT PFG Stirling	Dalhousie	CFB Uplands

Retirements and Releases

Majors DJ Carmichael, PE Fafard, EMC Franklin, RJK Pyne; Capts JHGR Charron, AM Gareau, M Kostyniuk, MB Kricken, EL Proudfoot, Dr JA MacGowan; CWOs EC Carpenter, AG Ponton; Sgts ES Knoll, RA Malpas, HM McCurdie; Cpls RF Abfalter, WE Bussell, GB Bristow, AL Estabrook; LCpl FW Crich; Cpls (AF)(W) LE Mattatall, (AF)(W) JM Mackie; Pte JOW Paquet; Ptes (AF)(W) MB Bond, (AF)(W) CJ Acres and MHM Levert

Vital Statistics

Births

Son - CAPT and Mrs JIPA Berthiaume, CAPT and Mrs JAA Boucher, CAPT and Mrs CJM Boston, CAPT and Mrs JG Dessureault, CAPT and Mrs CW Kearns, CPL and Mrs WETweed

Daughters - CAPT and Mrs AD Stewart, CPL and Mrs RK Delmage, CPL and Mrs WR McIntosh

Notice

Remember the Sixth Annual RCDC Golf Tournament to be held at CFB Borden 20-21 Sep 68.

Consolidated entries and fees should be forwarded to arrive at the RCDC School not later than 6 Sep 68.

Let's make this year's tournament the "greatest".