# The CANADIAN FORCES DENTAL SERVICES Quarterly

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# The CFDS Quarterly

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Twelfth Annual CFDS Bonspiel
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The Director General of Dental Services,
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# A Study of The Dental Condition of the Canadian Armed Forces in 1973 and its relationship with the Preventive Dentistry Program

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## INTRODUCTION

The Preventive Dentistry Program (PDP) is a planned, comprehensive and assessable system through which the Canadian Forces Dental Services (CFDS) provide dental care for the Canadian Armed Forces (CF). It was developed when it became apparent that the aim of the dental services to bring to and maintain our military forces at the highest possible level of oral health was not being fully met – an observation statistically verified through a series of studies conducted during 1966 and 1967.[1]

Embracing the entire spectrum of dental care, from prevention, through restoration to maintenance, the program directs all its activity towards specific annual goals, established at the clinic, unit and CFDS levels. The degree of success in meeting these goals is carefully monitored. The latest tabulations, as recorded in the 1972-73 Annual Report,[2] indicate that nearly 70 percent of Canadian Forces personnel are dentally fit whereas in 1969 only 15 percent could be so classified. Other data provide equally good evidence that this unique method of supplying dental care is of significant value in helping the military population attain a higher level or oral health than was heretofore possible. The Canadian Forces Dental Services thus takes considerable pride not only in fulfilling its primary role but also in contributing to the broad practice of community dentistry.

Following five years of experience, it was deemed necessary to re-evaluate the dental condition of the service community in order to objectively assess the value of the program and establish new baselines of the dental needs and experiences of the population. Only through such current and accurate knowledge can a meaningful appraisal be made of the modifications required to operate the best possible dental service for the Canadian Forces.

To this end a comprehensive study of the dental condition of the Canadian Forces was conducted in 1973. This article contains a distillation of the full report of the study, which will be published in the near future.

## AIM

The aim of the study was to determine the dental condition of recruits and serving members of the Canadian Forces in 1973 and to relate it to the condition prior to the initiation of the Preventive Dentistry Program.

## OBJECTIVES

The following objectives were established:

- to determine the validity of the sample population;
- to review previously established procedure timings and maintenance requirements;
- to determine the relative value of two methods of assessing oral hygiene;

- to determine the DMF index and the treatment needs and experience of the 1973 recruit, and to relate certain of these data to the differences between male and female recruits, recruits from the two recruit depots, and between recruits and serving members;
- to determine the DMF index and the treatment needs and experiences of the 1973 serving member, and to relate these data to years of service and age;
- to review CFDS treatment data, staff resources and patient commitment in order to identify trends or changes in patterns of care;
- to compare the PDP colour coding of the serving member sample with that of the CF in general, and to relate colour coding to frequency of participation in the PDP.

## BACKGROUND

The Canadian Forces Dental Services has the ultimate responsibility to ensure that all members of the Canadian Forces are in a state of dental health which will minimize the loss, by reason of dental disorders, of time and quality in the performance of their duties. For various reasons this responsibility has never been fully discharged.

In 1966 it was realized that a different approach was required and that, in order to devise one, it was necessary to determine the types and extent of treatment required. To this end four surveys were conducted:

- a recruit survey to provide detailed information about treatment experience, dental caries prevalence, periodontal disease, oral hygiene, malocclusion, social and economic background and the demand for treatment;
- a career serviceman study with similar aims;
- a patient participation survey to determine the usage of the dental treatment services; and
- an initial care and a maintenance care survey. The initial care survey determined the patient-chair-time required to complete each of the common treatment procedures and the average chair-time needed to bring a patient to a state of optimal oral health. The maintenance care survey determined the chair-time required to maintain a serviceman in that state for one year.

The parameters for those studies were issued in the *Dental Health Indices for the Canadian Armed Forces,*[3] and the surveys were conducted during 1966-67. Results were compiled in *The Dental Condition of the Canadian Forces – Report of a 2 year Study*[1] published in 1968. This extensive study (hereafter referred to as Study A), delineated the magnitude of the dental problem facing the CFDS. When treatment requirements of the population-at-risk were applied to the resources available it was apparent that the approach taken in the past would never overcome the problem. In response to this realization, the Preventive Dentistry Program was implemented on 1 April 1968 to involve the total service population in specified measures of prevention, programmed treatment and annual maintenance care. This program provided an integrated and comprehensive delivery system of dental services through which it was felt both short term and long term aims of the CFDS could be met.

The program was made flexible enough to permit modifications. It took into account not only the normal demand for treatment but also the increased activity in the obligatory requirements of the program.

Through Study A the oral health of the patient community of the CFDS was defined and baselines established for the care required at that time. Indirectly, the study has thus influenced the annual goals of the PDP and, in light of the five year span, it was considered necessary to bring the pertinent statistics up-to-date.

To this end a new study was developed to determine the dental condition of the CF in 1973 through survey procedures similar to those used previously. The data were collected in the knowledge that they would not only reflect changes brought about by activity of the PDP but also changes brought about by certain inherent differences between the service populations of 1967 and 1973 such as the size of the military population, sex distribution and demographic distribution of recruits. The value of the PDP in effecting change obviously cannot be quantified but may be demonstrated qualitatively through findings which can be explained only in terms of a significant increase in prevention and/or treatment rendered.

An evaluation was not made of the time required to *create* the increase of dental care which the study shows has occurred. It is self-evident, however, that it takes considerable effort to reach that portion of the population which resists dental treatment. The PDP requires that every possible effort be made to reach, educate and treat such members.

The study was designed to make reasonable demands in terms of personnel and equipment, and to intefere as little as possible with normal dental treatment. The parameters are consistent with those of Study A.

## METHOD

***Sample Selection.*** The recruit sample included all recruits enrolled in the CF from 1 Apr 73 until the requisite number was obtained at each depot – 240 at CFB St Jean and 420 at CFB Cornwallis – these numbers being relative to the annual intake at each location. Whereas the recruit sample for Study A was drawn from six depots, the CF now utilizes only two. All French speaking recruits are processed at St Jean and those whose mother tongue is English go to Cornwallis.

The serving member sample was formed through computer selection of 618 individuals whose Social Insurance Number ended in the numeral 3.

***Standardization.*** The Study Director standardized the two teams of examiner and recorder at each of the recruit depots whereas the examination of the serving member sample was standardized only through the instructions on the survey form and the direction that normal CFDS procedures be followed.

***Data Collected.*** Each member of the sample was examined in accordance with the detail in the survey form as reproduced hereunder. Except that an evaluation of plaque index has been added, the format is in general accordance with that used in Study A.

***Processing of Information.*** The author, who served as Study Director, tabulated the collected data. All bite-wing radiographs were interpreted by the same examiner as in Study A. Similarly this same examiner made the Decayed, Missing or Filled (DMF) tabulation, in which third molars and supernumerary teeth were not accounted for. In scoring missing (M) teeth in the surface (S) count, a posterior tooth was rated as three surfaces and an anterior tooth as two surfaces.

The data was grouped into 80 units of information for each sample member and transferred to computer cards. The results thus obtained from the computer program analyst have been used to compile the tables which appear in this article.

## FINDINGS

***Sample Data. Recruits-Normality.*** To determine the relative "normality" of the recruit sample, the Stanine scores from tests of their general mental ability were compared with the distribution in a normal population. A similar evaluation had been made of the 1967 recruit population and both findings appear in Table 1.

**TABLE 1 – RECRUIT SAMPLE "NORMALITY"**

| Stanine Score | Normal Population Percentages | 1967 Sample Percentages | 1973 Sample Percentages |
|---|---|---|---|
| 1 | 4 | 2.5 | 0 |
| 2 | 7 | 5.1 | 0 |
| 3 | 12 | 11.6 | 1.5 |
| 4 | 17 | 16.9 | 16.9 |
| 5 | 20 | 23.3 | 28.9 |
| 6 | 17 | 16.3 | 22.2 |
| 7 | 12 | 12.0 | 16.1 |
| 8 | 7 | 7.7 | 9.3 |
| 9 | 4 | 4.5 | 5.1 |

| SAMPLE NUMBER | |
|---|---|

# DENTAL CONDITION OF THE CANADIAN FORCES — 1973

This survey has been designed with instructions for completion in each serial. Please read the instructions carefully and complete as indicated. This will standardize the reports and relate them to "The Dental Condition of the Canadian Forces-Report of 2 year study" which was completed in 1967.

## 1. EXAMINING OFFICER

Name and Initials _____

SIN _____

Rank _____

Clinic Location _____

Date of Examination _____

Signature _____

## 2. DISPOSAL OF COMPLETED FORMS

This survey form and radiographs will be placed in the envelopes provided and forwarded to:

Director General of Dental Services

National Defence Headquarters

Ottawa, Ontario

K1A 0K2 Attn: DDTS–3

## 3. PATIENT INFORMATION

Check one – Recruit ☐ Serving Member ☐

Name and Initials _____ Rank _____ SIN _____

Date of Birth _____ Sex _____ Date of Enrolment _____

Place of Enrolment _____

Recruits only – Name of Hometown _____

How long in that area _____ years

From Serving Member records – Preventive Dentistry Color Code _____

Number of times phase I (or equivalent) received since 1 Apr. 68 _____

## 4. GENERAL INSTRUCTIONS FOR THE DENTAL EXAMINATION

a. The examination shall be completed by a dental officer.

b. Record the findings of the examination in Serial 6 on page 2.

c. Recruit documentation may be completed in conjunction with the condition on entry examination.

d. Radiographic findings will be co-related to visual findings during the examination and entered in Serial 6.

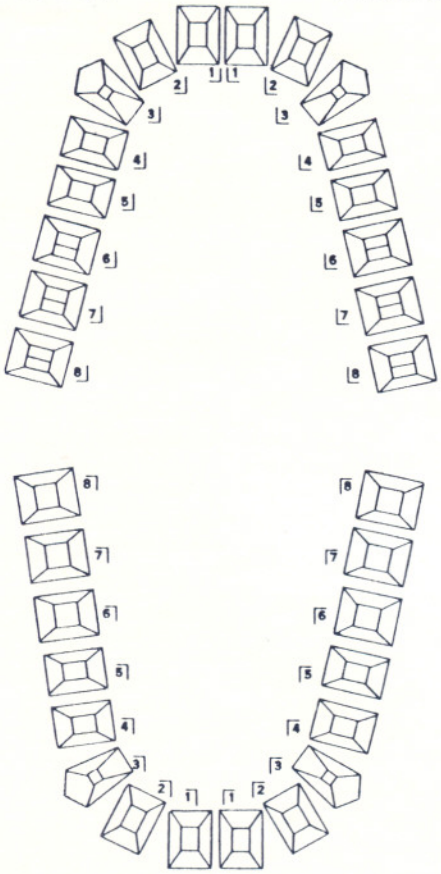
## 5. RADIOGRAPHS

Good quality bite wing radiographs (2 or 4 as required) will be taken covering cuspid to third molar area without overlap. They will be developed and read while the patient is available so that retakes may be arranged if necessary. Periapical radiographs are to be taken of third molar areas if third molars are not completely erupted. Edentulous patients will require third molar periapical radiographs.

## 6. DENTAL EXAMINATION

**A.**

Patient's right Patient's left



**B** REMARKS – (if required)

The dental examination will be recorded in Section A (opposite) and entries made as follows;

a. Restorations – outline and block in indicating material and using authorized abbreviations.

b. Caries – outline but do not block in, The DMF surface count is to be used in compiling statistics from this survey to ensure that involved surfaces are indicated. Criteria for indicating proximal surface caries involvement from the bitewing radiographs is for the caries to have penetrated the DE junction. Reading of radiographs will be standardized by use of loopes.

c. Tooth or roots requiring extraction – cover each tooth concerned with an X.

d. Missing teeth – draw a mesiodistal line through teeth concerned and indicate space closure or drifting that has occurred.

e. Non or partially erupted teeth including third molars to be noted and indicated on the record.

f. Indicate supernumerary teeth and draw at approximate location.

g. Impacted Teeth – indicate all impacted teeth noted on radiographs including third molars.

h. Removable Prosthetic appliances – note in the appropriate arch, the type and material used. Do not draw in or diagram the appliance.

j. Fixed bridges and crowns – outline and block in. Indicate the material used.

**NOTE 1.** CARIOUS LESIONS – are those which the point of the clev-dent #5 explorer will stick and resist removal. Lesions will be charted according to the surface affected. Erosion and abrasion with no evidence of caries will not be recorded nor will developmental enamel imperfections and hard stained enamel surfaces. Inter-proximal roughness or edges capable of holding the explorer point will be recorded.

**NOTE 2.** RESTORED TEETH – if recurrent caries is present at the margin of a restoration it will be recorded in the correct location.

**7.** ABBREVIATIONS TO BE USED: Avoid unofficial abbreviations.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ac | Acrylic | D | Distal | La | Labial | PE | Partially Erupted | | |
| A | Amalgam | En | Root Canal | Li | Lingual | PO | Post Operative | DENTURES: | |
| Br | Bridge | F | Foil | M | Mesial | Pro | Prophylaxis | CUD | Complete upper |
| Bu | Buccal | G | Gold | NE | Not Erupted | Ra | Radiograph | CLD | Complete lower |
| CC | Chrome Cobalt | Imp | Impacted | O | Occlusal | S | Silicate | PUD | Partial Upper |
| Ce | Cement | In | Incisal | P | Porcelain | Srg | Surgical | PLD | Partial Lower |
| CG | Cast Gold | I | Inlay | PC | Pulp Cap | WG | Wrought Gold | TD | Treatment Denture |
| Cr | Crown | J | Jacket | Pe | Periodontal | X | Extraction | | |

**8. ORAL HYGIENE ASSESSMENT** – Check one

| | |
|---|---|
| GOOD | |
| FAIR | |
| POOR | |

**9. THIS SECTION TO BE LEFT BLANK – FOR NDHQ USE**

| T | S | STANINE |
|---|---|---|
| D ____ | D ____ | |
| M ____ | M ____ | |
| F ____ | F ____ | |
| Total ____ | Total ____ | |

## 10. TREATMENT REQUIRED

This section will be used to show the treatment needed to restore the patient to optimal dental health. It is the treatment plan for the member and should be done in conjunction with the radiographs. The criterion for inclusion in the treatment required section may be considered as "what would I want done if this were my own mouth?"

**NOTE 1.** Remarks column may be used to show number of abutments required if a Br is indicated or any other information that may be used for determining the treatment timings.

**2.** The Pe column will show the estimated number of 1 hour appointments required to bring the member to an acceptable dental condition and should be calculated from the following tables.

### A. CONSERVATIVE TREATMENT

| CONDITION | TIME |
|---|---|
| (1) Diagnosis and treatment planning with x-ray survey | 1.0 appointments |
| (2) Marginal Gingivitis or Generalized Gingivitis | 1.0 to 2.0 appointments |
| (3) Generalized Gingivitis – with pocket formation necessitating packing and curettage | 1.0, 2.0 or 3.0 appointments per quadrant |
| (4) Abcesses | 1.0 to 2.0 appointments |
| (5) Necrotizing ulcerative Gingivitis (Vincent's) | 1.0 to 2.0 appointments |
| (6) Oral Physiotherapy and Maintenance phase | 1.0 to 2.0 appointments with follow, up, 0.5 appointments. |

### B. PERIODONTAL SURGERY

| CONDITION | TIME |
|---|---|
| (1) Gingivectomy, Gingivoplasty or Osteoplasty | 1.5 to 3.0 appointments per quadrant dependent upon healing necessitating repacking. |
| (2) Flap Operations | 3.0 to 4.5 appointments |
| (3) Mucogingival Techniques | 3.0 to 4.5 appointments |
| (4) Splinting | 0.5, 1.0, or 1.5 appointments with follow-up |
| (5) Occlusal Equilibration | 1.0, 2.0 or 3.0 appointments |

**REQUIRED TREATMENT TO BE SHOWN IN THE TABLE BELOW**

| Procedure | Number | Remarks |
|---|---|---|
| Examination | | |
| Radiographs | | |
| Extraction – single erupted tooth | | |
| Extraction – single unerupted tooth | | |
| Restorations – Multiple surface amalgam | | |
| Single surface amalgam | | |
| Silicate/plastic | | |
| Inlay (cast gold) | | |
| Crown (indicate type) | | |
| *Bridge (Fixed) (Note 1) | | |
| Repair fixed bridge | | |
| Complete denture | | |
| Removable Partial denture | | |
| Denture rebase | | |
| Prophylaxis | | |
| *Hours of Periodontal treatment excluding prophylaxis (Note 2) | | |
| Root Canal (number of roots) | | |
| Other (specify) | | |

# CANADIAN FORCES PLAQUE INDEX

**A. INSTRUCTIONS**

(1) The index will be determined by a dental officer or dental therapist

(2) Disclosing solution is to be used and will be applied with a cotton swab. Solution to be made from catalogue item 6505-21-853-4628 Erythrosine, Dental Disclosing, powder, 6 gm package

(3) Teeth to be examined are indicated on the diagram

(4) If indicated teeth are missing – substitute as below and note on the diagram:
   a. Molar/bicuspid – nearest tooth of the same type in the same arch.
   b. Incisor – nearest incisor in the same arch or cuspid if there are no incisors (see B example).

(5) To score: Encircle – M/1 if plaque contacts gingiva on mesial proximal surface
   – F/3 if plaque contacts gingiva on the facial surface
   – D/1 if plaque contacts gingiva on distal proximal surface
   – L/2 if plaque contacts gingiva on the lingual surface
   – O/3 if there are areas of plaque unrelated and not continuous with plaque at the gingival margins

(6) Sum of encircled numbers is the teeth score.

(7) Plaque Index is the sum of tooth scores (see B example)

(8) Record Plaque Index in section "C".

**B. EXAMPLE**

PLAQUE INDEX

NAME Adam E.V. SIN 106-750-228 DATE 3 Apr 73

| TOOTH | AREA | | | | | SCORE |
|---|---|---|---|---|---|---|
| L7 ✓ | (M/1) | F/3 | (D/1) | (L/2) | (O/3) | 7 |
| 1⌋ | (M/1) | F/3 | (D/1) | L/2 | O/3 | 2 |
| 4⌋ | (M/1) | F/3 | (D/1) | (L/2) | O/3 | 4 |
| 6⌋ | (M/1) | (F/3) | (D/1) | (L/2) | (O/3) | 10 |
| T1 ✓ | M/1 | F/3 | (D/1) | (L/2) | O/3 | 3 |
| ⌈4 | (M/1) | F/3 | (D/1) | (L/2) | O/3 | 4 |
| TOTAL for all teeth (Plaque Index) | | | | | | 30 |

**C. PLAQUE INDEX**

NAME..... SIN..... DATE.....

| TOOTH | AREA | | | | | SCORE |
|---|---|---|---|---|---|---|
| ⌊6 | M/1 | F/3 | D/1 | L/2 | O/3 | |
| 1⌋ | M/1 | F/3 | D/1 | L/2 | O/3 | |
| 4⌋ | M/1 | F/3 | D/1 | L/2 | O/3 | |
| 6⌋ | M/1 | F/3 | D/1 | L/2 | O/3 | |
| ⌈1 | M/1 | F/3 | D/1 | L/2 | O/3 | |
| ⌈4 | M/1 | F/3 | D/1 | L/2 | O/3 | |
| Total for all teeth (Plaque Index) | | | | | | |

The 1967 sample approximates the "normal" but the 1973 sample is slightly above average. This shift may be because the 1973 standards for recruiting at the time of sample selection were higher than normal. Although a correlation between mental ability and dental condition has not been established, the "above-average" status of the 1973 recruit sample may form a slight bias.

*Recruits – Sex.* The expanded role of the female in the CF is attested to by inclusion in the recruit sample of a significant number of female recruits.

*Recruits – Age.* On checking with CF statistics for all recruits, it was found that the 1973 recruit was older and better educated, indicating that the young Canadian is remaining in school longer.

Enrolment in the CF depends upon rate of unemployment, attractiveness of the Forces, and recruitment activity.

The average 1973 male recruit was 19.3 years old and the female recruit was 20.5 years of age. In comparison, the 1967 sample had an average age for male recruits of 18.4 years and female recruits of 19.3 years.

Overall, the average recruit in the 1973 sample was nearly one year older than his counterpart in 1967.

*Recruits – Origin.* The province of origin of the recruit sample was reviewed and the distribution compared with that of the entire Canadian population. The proportion of recruits from Quebec, the Atlantic provinces and British Columbia was found to be higher than in the Canadian distribution.

The intake of French speaking recruits is significantly higher than it was in 1967.

*Serving Member – Age.* The ages of serving members varied from 19 to 55 years, with an average of 34.3 years. As might be expected, there was a strong relationship between age and length of service, which varied from 1 to 34 years with a 14.1 year average.

*Serving Member – Validity of Sample.* The percentages of the various ranks in the serving member sample was found to be in statistical accordance with the distribution throughout the CF.

It had been established that the sample would be considered representative if a minimum of 85 percent of those selected were examined. The sample was composed of 86 percent of the potential 618 members.

***Personal Care Indices.*** *Plaque Index.* Plaque indices indicate oral hygiene status and potentiality toward disease and do not reflect a periodontal state or constitute a disease baseline as such. Primarily an educational and motivational tool, their chief fault is that they reflect the dual subjectivity of the clinicians assigning and interpreting the index. Because of this subjectivity and the difficulty of standardization, they are best used in clinical studies and in individual patient progress measurements.

Various plaque and hygiene indices[4,5,6,7,8] were examined and features from several incorporated into the index used in this survey. The weighing is toward the facial and lingual aspect of the dentition in order to demonstrate gross deficiencies in oral hygiene habits. A weighing toward the interproximal would, primarily, have pointed up the lack of use of dental floss. This index has a range of 0–60, the higher the number the greater the amount of plaque.

The results indicate the serving member to have less plaque than the recruit and that the female has less plaque than the male.

*Oral Hygiene Assessment.* The oral hygiene assessments used are as subjective as plaque indices and involve ratings of "good", "fair" or "poor". The findings indicate that overall, the oral hygiene is better in 1973 than it was in 1967.

The plaque index is correlated to the oral hygiene assessment in Table 2.

The inference is that an oral hygience assessment of "good" exists with low plaque indices, and an assessment of "poor" is associated with indices over 40. There may have been a tendency on the part of the examiner to be less tolerant of the serving member sample than the recruit sample in assessing oral hygiene by both methods.

***DMF Indices.*** The dental condition of populations can be compared by means of the DMF index. This system of measurement is of considerable value in comparing different samples of similar age groups in a young population. The surface count is more accurate than the tooth count but its usage presents problems. For example a missing tooth cannot represent a precise number of decayed surfaces and study directors arbitrarily assign a value of from 2 to 5 surfaces to a missing tooth. To

**TABLE 2 – PLAQUE INDEX – ORAL HYGIENE ASSESSMENT CORRELATION**

| Oral Hygiene Assessment | Sample | Average Plaque Index |
|---|---|---|
| Good | Male recruit | 30.8 |
| Good | Female recruit | 27.0 |
| Good | Serving member | 18.0 |
| Good | Total sample | 24.1 |
| Fair | Male recruit | 31.8 |
| Fair | Female recruit | 35.3 |
| Fair | Serving member | 25.5 |
| Fair | Total sample | 29.2 |
| Poor | Male recruit | 45.5 |
| Poor | Female recruit | 45.0 |
| Poor | Serving member | 38.5 |
| Poor | Total sample | 42.9 |

attain greater objectivity the DMF Teeth (or (T)) count was utilized in the present study. Surface count served merely to verify the DMF (T) findings.

Third molars were not used in the count, and carious teeth and surfaces were recorded as "D" even though a restoration was present. A missing anterior tooth was counted in the DMF Surface (or (S)) count as two surfaces and a missing posterior tooth as three surfaces.

*DMF Index – Recruits.* The DMF Index for the 1973 recruit sample is presented in Table 3.

**TABLE 3 – DMF – ENTIRE 1973 RECRUIT SAMPLE**

| DMF (TEETH) | | | DMF (SURFACE) | | |
|---|---|---|---|---|---|
| | Mean | s | | Mean | s |
| Decayed | 7.611 | 4.53 | Decayed | 11.064 | 8.60 |
| Missing | 4.656 | 6.39 | Missing | 12.794 | 16.74 |
| Filled | 3.022 | 4.13 | Filled | 7.441 | 10.28 |
| Score | 15.289 | | Score | 31.839 | |
| Tooth range | 1-28 | n=670 | Surface range | 1-72 | |

DMF indices for the various segments of the recruit population are presented in Table 4.

**TABLE 4 – DMF – 1973 RECRUIT – BY SEX AND LOCATION**

| | | DMF (TEETH) | | | | DMF (SURFACE) | | | |
|---|---|---|---|---|---|---|---|---|---|
| Recruit | n | Decayed | Missing | Filled | Score | Decayed | Missing | Filled | Score |
| Male Cornwallis | 315 | 8.199 | 2.715 | 3.325 | 14.239 | 11.661 | 8.515 | 8.892 | 29.068 |
| Female Cornwallis | 113 | 4.956 | 3.044 | 6.053 | 14.053 | 6.186 | 8.283 | 13.283 | 27.717 |
| Total Cornwallis | 428 | 7.345 | 3.035 | 4.044 | 14.424 | 10.219 | 8.455 | 10.040 | 23.714 |
| Male St Jean | 217 | 8.304 | 7.507 | 1.110 | 16.921 | 14.447 | 20.424 | 2.581 | 37.452 |
| Female St Jean | 25 | 6.160 | 7.720 | 2.080 | 15.960 | 10.680 | 21.040 | 5.040 | 36.760 |
| Total St Jean | 242 | 8.083 | 7.529 | 1.211 | 16.823 | 14.058 | 20.488 | 2.835 | 37.381 |

St Jean recruits have a statistically higher DMF score than those from Cornwallis, verifying a finding in Study A that the incidence of dental caries is higher in Quebec, British Columbia and the Maritime provinces. Inasmuch as the St Jean recruits represent over one third of the total recruit population, their higher DMF index influences the index for the entire sample. This observation helps explain why the 1973 recruit population showed a significant increase in DMF over the recruit sample

of 1967, which contained a much smaller percentage from Quebec.

The DMF (T) for male recruits in both studies are presented in Table 5.

**TABLE 5 – DMF (T) – MALE RECRUITS**

| | DMF (T) 1973 | | DMF (T) 1967 | |
|---|---|---|---|---|
| | Mean | s | Mean | s |
| Decayed | 8.242 | 4.55 | 7.165 | 4.08 |
| Missing | 4.854 | 6.55 | 4.486 | 5.53 |
| Filled | 2.424 | 3.76 | 2.935 | 3.91 |
| Score | 15.520 | | 14.586 | |

The DMF index of the CF is compared to those from other North American studies of young adults in Table 6.

**TABLE 6 – DMF(T) – YOUNG ADULT MALE – NORTH AMERICA**

| Study | Age | D | M | F | DMF(T) |
|---|---|---|---|---|---|
| Canadian Forces 1973 | 18-24 | 8.2 | 4.9 | 2.4 | 15.5 |
| USA National Health 1960-62[9] | 18-24 | 2.1 | 5.0 | 7.2 | 14.4 |
| Ontario Colleges 1973[10] | 17-25 | 2.3 | 1.6 | 7.7 | 11.7 |
| Canadian Forces 1967[1] | 18-24 | 7.2 | 4.5 | 2.9 | 14.6 |

Part of the variation in the DMF (T) figures in Table 6 can be accounted for by regional differences. As noted previously, the CF sample contains a high proportion from an area of high caries incidence whereas the Ontario Colleges Study involves only students from that province, which has a low caries incidence. The USA study involves a much broader distribution and shows closer correlation with both CF studies.

Table 6 also indicates that the male enrolling in the CF has had little treatment experience compared to other groups of the same age. Previous studies indicate that socio-economic status is not a factor in caries incidence but that the F/DMF index or amount of treatment received varies directly with the socio-economic standard of the individual.[1,10]

*DMF Index-Serving Members.* There was no significant difference between the DMF (T) of the male serving member and the female.

The DMF index for teeth and surfaces of the 1973 Serving Member and the DMF (T) of the 1967 serving member is presented in Table 7.

**TABLE 7 – DMF – SERVING MEMBER**

| | DMF (Teeth) 1973 | | DMF (Surface) 1973 | | DMF (Teeth) 1967 | |
|---|---|---|---|---|---|---|
| | Mean | s | Mean | s | Mean | s |
| Decayed | 1.72 | 2.42 | 2.13 | 3.45 | 2.71 | 2.93 |
| Missing | 7.48 | 7.37 | 20.48 | 19.21 | 7.92 | 7.52 |
| Filled | 7.93 | 5.20 | 18.63 | 14.23 | 7.30 | 5.32 |
| Score | 17.13 | | 41.24 | | 17.93 | |
| | n = 532 | | n = 532 | | n = 604 | |

A comparison of the DMF (T) scores of the two surveys shows a reduction of 0.8 DMF(T) which is statistically significant to the 0.5 level and may be attributed to a reduction of decayed and missing teeth which has not been offset by an equivalent increase in the number of filled teeth. This finding may be the result of increased primary prevention.

*Treatment Requirements.* Individual treatment plans to bring each member of the recruit sample to a state of optimal oral health were developed without regard to caries rate, oral hygiene or personal interest. Sub-samples were identified and the treatment required for each sub-sample was adjusted to represent a sample size of 1,000. Procedural timings and treatment detail as developed in Study A were applied.

Table 8 summarizes the number of procedures and clinical man-hours required to bring 1,000 members of each sub-sample to a state of optimal oral health.

**TABLE 8 – RECRUIT TREATMENT REQUIREMENTS**

| Sample | Sample Size | Treatment Procedures * for 1,000 Recruits | Clinical Man-Hours for 1,000 Recruits |
|---|---|---|---|
| 1973 Cornwallis Male Recruit | 315 | 14,047 | 7,539.26 |
| 1973 Cornwallis Female Recruit | 113 | 9,849 | 5,535.89 |
| 1973 St Jean Male Recruit | 217 | 13,999 | 7,654.22 |
| 1973 St Jean Female Recruit | 25 | 10,520 | 6,415.45 |
| 1973 Male Recruit (total) | 532 | 14,072 | 7,603.89 |

*"Procedures" represent various types of treatment and cannot be related directly to the timings.

The male recruits from both Cornwallis and St Jean required a similar number of treatment procedures and amount of treatment time. In general, the female recruit is in a better dental condition than the male.

The average 1973 male recruit requires 7.6 hours of clinical treatment to bring him to a state of optimal oral health.

Table 9 is a summary of the treatment time and procedures required to bring 1,000 serving members to optimal oral health. The 1973 sample was broken down into two sub-samples.

**TABLE 9 – SERVING MEMBER TREATMENT REQUIREMENTS**

| Sample | Sample Size | Total Procedures Per 1,000 | Clinical Man-Hours Per 1,000 |
|---|---|---|---|
| Serving Member – 1967 | 604 | 12,668 | 5,932.40 |
| Serving Member – 1973 | 532 | 11,059 | 4,391.56 |
| Serving Member *(Red Coded) – 1973 | 381 | 9,761 | 2,893.47 |
| Serving Member *(Non Red Coded) – 1973 | 151 | 15,061 | 5,948.41 |

*"Red coded" indicates that the member meets the standard for dental fitness which is; free from pain, free of active oral disease and fit, in the judgement of the dental officer, to carry out his military role without need for other than emergency dental care for one year.

To bring him to a state of optimal oral health, the average serving member in 1973 requires 4.39 clinical man-hours of treatment, of which an undetermined portion is represented by an annual maintenance factor which will be dealt with under the heading of "Discussion".

The 1973 serving member is in better dental condition than the 1967 serving member, primarily in terms of the basic restorative and surgical branches of dentistry. There is also a reduction in the reported need for periodontal treatment which is largely offset by an increase in prophylaxis requirements. These observations suggest that a change in the subjective assessment of the examiners has occurred.

*Treatment Patterns.* The treatment experience of both recruits and serving members was reviewed. Sixteen percent of the serving members required no treatment whereas less than 1 percent

of the male recruits were so assessed.

The amount of completed treatment visible at the time of examination is presented at Table 10. This treatment does not necessarily represent the past or total treatment experience. For example, more partial dentures have been produced than are being worn, a finding which is particularly prevalent when dental care is provided at no cost to the patient.

**TABLE 10 – OBSERVED COMPLETED TREATMENT PER 1,000 SAMPLE MEMBERS**

| Treatment | Recruits | Total Serving Members | Red Coded Serving Members |
|---|---|---|---|
| Complete dentures | 93 | 162 | 163 |
| Partial dentures | 49 | 122 | 124 |
| Amalgam Surfaces | 6,796 | 16,620 | 18,067 |
| Acrylic/Silicate | 935 | 3,962 | 2,111 |
| Crowns | 43 | 173 | 207 |
| Inlays | 0 | 122 | 127 |
| Bridges | 3 | 92 | 124 |
| Endodontics | 13 | 77 | 78 |
| Sample size | 669 | 532 | 387 |

## THE PREVENTIVE DENTISTRY PROGRAM

*General* – The PDP incorporates two phases – Phase I being the preventive portion and Phase II the treatment portion – and combines these into a "Total Program" which involves achievement of specific goals as set forth in annual objectives.

One of the observations raised early in the program was that the heavy emphasis placed on prevention might reduce significantly the time available for and delivery of restorative treatment. In view of the staggering amount of restorative treatment represented by both the serving members and the annual intake of approximately 10,000 recruits, it was thought that such emphasis on prevention could well become a major factor in failing to attain the overall aim of the program, which is to bring as high a percentage as possible of the CF to a level of dental fitness.

Although there was every reason to believe that such has not been the case and that the aim of the program was being admirably met, this survey permitted a statistical analysis of the observation. To this end the following data were collected:

- dental personnel resources (number of dental staff providing treatment);
- patient commitment (number of members of the CF); and
- amount of treatment provided.

These data are presented at Tables 11 through 14 and include entries for the years 1965 to 1968 in order to establish a base line prior to implementation of the PDP in 1968.

The patient commitment, resources or treatment cannot be related to either civilian practice or other armed forces because of various factors such as the training and operational commitments, varied locations and patient loads, various sized clinics, and the administrative responsibility. However, these factors are relatively consistent within the CFDS from year to year and the figures cited are relative to each other.

*Resources.* The personnel resources as represented in Table 11 include dental officers engaged strictly in administration.

*Commitment.* The patient commitment has been reduced considerably since 1965 as shown in Table 12.

*Treatment.* Tables 13 and 14 contain the amounts of treatment provided over the same period.

## TABLE 11 – PERSONNEL RESOURCES

| Year | Dental Officer | Dental Laboratory Technician | Dental Therapist-8 (Expanded Duty) | Dental Therapist-6B (Hygienist) | Dental Clinical Assistant | Civilian Therapist |
|---|---|---|---|---|---|---|
| 1973 | 181 | 72 | 10 | 27 | 151 | 4 |
| 1972 | 189 | 77 | 10 | 28 | 160 | 4 |
| 1971 | 199 | 74 | 9 | 26 | 164 | 5 |
| 1970 | 185 | 82 | 10 | 29 | 159 | 5 |
| 1969 | 191 | 82 | 11 | 36 | 175 | 5 |
| 1968 | 192 | 84 | 13 | 31 | 179 | 5 |
| 1967 | 192 | 84 | 11 | 34 | 193 | 5 |
| 1966 | 182 | 85 | 11 | 28 | 200 | 5 |
| 1965 | 180 | 82 | 9 | 25 | 206 | 5 |

## TABLE 12 – PATIENT COMMITMENT

| Year | Service Patient Commitment |
|---|---|
| 1973 | 82,500 |
| 1972 | 85,000 |
| 1971 | 89,500 |
| 1970 | 93,500 |
| 1969 | 98,500 |
| 1968 | 101,500 |
| 1967 | 105,500 |
| 1966 | 107,500 |
| 1965 | 114,000 |

## TABLE 13 – TREATMENT RENDERED – 1

| Year | Amalgam Restorations | | Anterior Restorations | Crowns or Inlays | Bridges | Complete Dentures | Partial Dentures |
|---|---|---|---|---|---|---|---|
| | Surfaces* | | | | | | |
| 1973 | 186,269 | | 51,284 | 1,958 | 1,723 | 2,423 | 2,638 |
| 1972 | 190,643 | | 49,937 | 1,905 | 1,625 | 2,596 | 2,712 |
| 1971 | 194,528 | | 43,168 | 1,924 | 1,784 | 2,681 | 2,800 |
| 1970 | 191,507 | | 35,519 | 2,057 | 1,443 | 3,018 | 3,302 |
| | Multiple** | Single*** | | | | | |
| 1969 | 76,172 | 50,078 | 34,571 | 2,213 | 1,638 | 3,253 | 3,775 |
| 1968 | 75,979 | 50,819 | 35,300 | 2,309 | 1,812 | 3,255 | 4,015 |
| 1967 | 72,510 | 50,358 | 34,199 | 2,518 | 1,814 | 3,336 | 4,326 |
| 1966 | 77,211 | 57,894 | 37,509 | 2,375 | 1,928 | 3,678 | 4,855 |
| 1965 | 71,978 | 55,316 | 33,979 | 2,122 | 1,706 | 3,477 | 4,806 |

*'Surfaces' means actual number of surfaces restored.
**'Multiple' means more than one surface restored.
***'Single' means only one surface restored.

**TABLE 14 – TREATMENT RENDERED – 2**

| Year | Extractions * | Endodontics | Examinations ** | Radiographs |
|---|---|---|---|---|
| 1973 | 26,595 | 2,877 | 104,277 | 123,760 |
| 1972 | 28,751 | 1,752 | 104,457 | 118,212 |
| 1971 | 30,767 | 2,418 | 94,465 | 115,976 |
| 1970 | 33,740 | 1,795 | 97,646 | 133,353 |
| 1969 | 37,196 | 1,909 | 105,288 | 153,998 |
| 1968 | 39,725 | 1,945 | 98,821 | 124,602 |
| 1967 | 39,864 | 1,682 | 106,514 | 111,307 |
| 1966 | 45,287 | 1,426 | 120,424 | 101,954 |
| 1965 | 46,922 | 1,111 | 111,202 | 97,837 |

* Impactions are not included.
**Includes annual examinations as required by the PDP and those for personnel enrolling in or released from the CF.

***Observations.*** The treatment timings established in Study A were applied to the various procedures listed in the foregoing two tables and the following variations noted in the time spent on those procedures in 1973 as against 1965.

- Endodontics consumed an increased treatment time of 3,700 hours
- Anterior restorations – an increase of 6,400 hours
- Extractions – a decrease of 4,900 hours
- Complete dentures – a decrease of 1,700 hours
- Partial dentures – a decrease of 3,000 hours
- Crowns and inlays – a decrease of 250 hours
- Although it is impossible to apply timings to amalgam restorations for the entire period, the pure numbers from 1965 to 1969 are reasonably constant as are those from 1970 to 1973. It is concluded, therefore, that the time spent in these procedures has also remained relatively constant.

The combined observations indicate that as much treatment time is being rendered in 1973 as there was in 1965, even though the proportion of time spent in specific procedures has changed.

Although a "cause and effect" relationship between these findings and the PDP cannot be verified, these statistics establish that THE PREVENTIVE DENTISTRY PROGRAM HAS NOT CAUSED A REDUCTION IN THE RESTORATIVE TREATMENT RENDERED BY THE CFDS.

This means that today's 82,500 service member population is receiving approximately the same amount of treatment as the 114,000 service member population of 1965 or, to put it another way, the average 1973 service member is receiving about 26% more dental treatment than did his 1965 counterpart. Furthermore, he is receiving the added benefits of a preventive dentistry program.

It is also noteworthy that all this is being produced by fewer resources of dental manpower.

The only significant change in the provision of dental care for the CF member during the period was the implementation of the PDP. Therefore, it may be inferred that the program is largely responsible for these achievements. The key factors may be prevention, planned treatment, motivation of dental staff and service members, or all of these, but in any event the continuation of this total service appears to be justified.

***Treatment Patterns.*** Since the initiation of the PDP many notable changes have been manifest in dental treatment patterns. Some of the factors involved in these changes are:

- fewer missed appointments – believed to be the result of an increase in the appreciation of oral health by the patient and the increased interest in this regard of all commanding officers;
- streamlining of educational and preventive procedures;
- fewer dental emergencies;
- a monitored annual dental examination negates the need for examination at other times and

provides a means for early recognition and elimination of potential emergencies;
- increased productivity of dental staff through increased motivation and programmed treatment;
- improved oral hygiene of the patients, resulting in improved working environment and a concomitant reduction of time expended in dental procedures.

*Phase I.* Phase I of the PDP involves an annual examination, prophylaxis or self-preparation procedure, the application of a topical fluoride and radiographs as required. The dental records of the serving member sample, approximately 85 percent of whom have served since 1968, were checked to determine the number of times the Phase I had been recorded since April 1968 when the program began. The following tabulation was made:

| | | |
|---|---|---|
| Members with Red coded charts | – | 2.92 Phase I's |
| Members with Blue coded charts | – | 2.13 Phase I's |
| Members with Yellow coded charts | – | 1.46 Phase I's |
| Members with uncoded charts | – | 1.23 Phase I's |

The dentally fit patient (RED CODED) received more Phase 1 treatments than the other patients, suggesting that either fitness results in interest or interest results in fitness.

*Coding.* The PDP utilizes a system of colour coding in which the colour RED signifies the serviceman is dentally fit by the standards of program fitness. BLUE denotes that he requires three hours or less treatment time to bring him to a state of dental fitness while YELLOW indicates that the members is included in the program but requires over three hours of treatment time to make him dentally fit.

The colour coding of the sample serving members is compared with the coding of all CF personnel in Table 15. The dental documents of members on terminal leave, or who are otherwise beyond the CFDS area of responsibility, are not available for verification of coding and hence augment the "other" classification in the "Total Forces" column of Table 15 and form a bias on all the figures in that column. It has been calculated that about half of the 9.2% thus recorded is attributable to such unavailable documents. Inasmuch as most of these documents are indeed coded and a high percentage are RED or BLUE, the actual percentage of members in the red and blue categories is significantly higher than recorded in Table 15.

**TABLE 15 – PREVENTIVE PROGRAM COLOUR CODING OF SERVICE MEMBERS**

| Colour Code | Serving Member Sample | Total Forces |
|---|---|---|
| Red | 72.7% | 67.7% |
| Blue | 18.2% | 17.4% |
| Yellow | 6.6% | 5.7% |
| Other | 2.5% | 9.2% |
| Total | 100.0% | 100.0% |
| | n = 532 | n = 82,000 |

## DISCUSSION

*Samples and the DMF Indices.* The 1973 recruit is 0.9 years older than his 1967 counterpart, and that difference has an effect on certain findings (e.g., number of erupted third molars). It also has a slight influence on the DMF score, as DMF increases with age.[11] Study A disclosed that the recruits were "from among the lower socio-economic strata of Canadian society and, as the demographic survey showed, have little appreciation of the need for dental care". This survey supports that finding.

*Treatment Level Index.* This is the relation of filled surfaces (i.e., treatment received) to the total DMF score and as such is a measure of the extent to which a sample has had its treatment requirements met.

The treatment level index for the female recruit was found to be nearly double that of the male recruit in both of the locations, indicative of the difference in their assessment of the value of dental care; a finding that could be anticipated from clinical experience. This variation may alter the resources required for treatment services should female recruitment be high.

***DMF Indices.*** The significantly higher DMF score of recruits from St Jean (DMF 16.823) as compared to the recruits from Cornwallis (14.424) is meaningful. Similarly the difference between the total male recruit DMF index of 1966-67 to that of 1973 (14.586 to 15.520) invites consideration. Both observations may be explained through the fact that 40.8% of the 1973 male recruit sample was from the province of Quebec, (which has a recognized higher caries incidence) whereas only 16.7% of the 1966-67 sample originated in that province. The high score of missing teeth and low number of fillings of the St Jean recruits, when compared to those from Cornwallis, suggests a reluctance on the part of the St Jean recruit to undergo restoration and to elect extraction or else that there is a tendency for the dentists in their background to extract rather than restore teeth.

***Maintenance Care.*** The annual maintenance of optimal oral health requires 1.99 hours of treatment for members of the CF.[1] Studies of maintenance time by other researchers have cited a higher requirement. For example, Pelton[13] found that 2.8 hours were required annually to maintain fitness.

Although the maintenance responsibility of the PDP is for a level of oral health that is less than optimal, the time-consuming preventive measures which that program requires are of such order that the 1.99 hours may well be as inadequate allotment for maintenance care.

Furthermore the figure of 1.99 hours, as determined in Study A, is based on a seemingly invalid assumption in that the timings allotted for the necessary maintenance procedures were derived from a study of routine incremental treatment and not maintenance treatment. Inasmuch as maintenance care frequently involves placement of single, difficult restorations as opposed to the relatively large number of restorations that can be placed during one appointment of incremental dental care, it appears likely that the expenditure of time per restoration in maintenance care is in excess of that required for incremental care. It follows, therefore, that the 1.99 hour figure may be low and a survey specific to the time required for *maintenance* care appears to be required.

A further possible bias in all treatment timings cited in this study exists in that they are related to the receipt rather than the delivery of treatment. For any one hour of dental treatment that a patient receives, several man-hours may have been expended by the clinical and laboratory staff. Admittedly, a precise determination of such expenditure would be difficult to establish, but the concept must be borne in mind in any evaluation of the resources required to meet a treatment commitment.

***Treatment requirements.*** Dental officers have stated: "We no longer have the number of extractions that we once had and there are fewer persons on emergency parade." This observation is borne out by the survey. There are 1,532 fewer extractions of erupted teeth required for every 1,000 recruits than there were in 1967, which fact allows more time for restorative dentistry.

The number of recruits with unerupted teeth requiring extraction was also significantly larger in 1967 than found in the current study (2,083 vs 785). This finding is believed to be due primarily to differences in the study techniques in that:

- The original study considered all unerupted teeth as requiring extraction, whereas the 1973 study limited extraction of unerupted teeth to those which were considered to be impacted.
- A panorex radiograph of each recruit was available only in the 1973 study.
- Inasmuch as the average 1967 recruit was nearly one year younger, it may be concluded that the 1973 recruit had more 3rd molars in place than his 1967 counterpart since third molars erupt at approximately 18 years of age. A similar variation was noted by a study of the dental status of Naval recruits in USA.[12]

In order, therefore, to compare the treatment timings established by the two studies, the 1967 totals for extraction of unerupted teeth were adjusted to conform with the 1973 findings. This resulted in lowering the previously established treatment time of 8.87 hours to attain optimal oral

health to 7.94 hours. The corresponding 1973 figure is 7.60 hours, a reduction in treatment time of 0.34 hours.

In addition to the reduced requirement for extractions, the data indicate that less periodontal treatment time is required for the 18-21 year old than was previously recorded, despite the fact that there is considerably greater emphasis placed on periodontia now than there was six years ago. One can only surmise that the examiners believe that these young persons require education rather than treatment. Instruction time was not included in the time evaluation of this study.

Treatment required by serving members is also considerably less than in 1967, primarily restorations and extractions. The decrease in periodontal treatment is largely compensated for by a recorded increase in the need for prophylaxis, plaque control procedures and self-maintenance of periodontal health.

The serving member of 1973 requires 4.39 hours of treatment for optimal oral health. This compares with 5.93 hours in 1967 and 6.50 in 1960.[1] The increase of fitness thus indicated may be due to:

- motivation provided by the PDP;
- primary prevention gained through the program;
- dental resources are proportionately at a slightly more favourable level than they were because of the reduction in the size of the CF;
- less treatment required for recent recruits;
- improved clinic accommodation and equipment.

*Dental Fitness.* The acceptance of a fitness level less than optimal is warranted through the role of a military force and from a purely practical standpoint. Such acceptance makes it possible to establish and maintain the great majority of the patient load at a relative "emergency-free" level and ready to fulfil an operational role on short notice. Approximately 70 percent of the CF are now dentally fit and thus available for operational roles. The remaining 30 percent require considerable treatment time to bring them to a state of fitness and are those patients who are difficult to find and who do not readily accept dental treatment. Hence, they represent a challenge of some magnitude and for these and other reasons it cannot be assumed that they all will ever be brought to even this less than optimal level.

**TABLE 16 – TREATMENT TIMINGS – MEMBERS WITH RED CODED RECORDS – 1973**

| Procedure | Timings for 1,000 Members |
|---|---|
| Exam | 169.67 hours |
| Radiograph | 68.09 |
| Extraction (erupted) | 46.43 |
| Extraction (unerupted) | 148.90 |
| Amalgam (multiple) | 295.03 |
| Amalgam (single) | 112.14 |
| Synthetic | 78.68 |
| Inlay | 16.81 |
| Crown | 119.42 |
| Bridge | 1,014.94 |
| Repair Bridge | 7.09 |
| Complete Denture | 45.67 |
| Removable Partial Denture | 506.25 |
| Denture Rebase | 17.36 |
| Prophylaxis | 390.00 |
| Periodontal Treatment | 840.00 |
| Root Canal | 16.93 |
| TOTAL | 3,893.47 hours |

Looking ahead to the time when the aim of the CFDS can be raised to embrace the concept of optimal oral health, Table 16 represents the time required to bring 1,000 red coded serving members to that level. (See also Table 9.)

Table 16 indicates that the average red-coded member of the CF requires 3.9 hours of treatment to bring him to a state of optimal oral health. However, to more precisely determine the workload involved in bringing the average red-coded member to the higher level it must be taken into account that this figure of 3.9 hours does not refer to a man who is dentally fit *at this moment.* The "average member" to whom it *does* refer *was* dentally fit anywhere from 0 to 12 months ago and, since he *is* "average", we can assume he was dentally fit six months ago.

Part of the 3.9 hours of treatment he needs now represents the time required to reaffirm him at a level of dental fitness. For lack of timings specific to maintenance of *dental fitness,* the timings for maintenance of *optimal oral health* must be applied i.e. 1.99 hours annually. However, *that* figure (1.99 hours) represents the time needed for a man, 12 months after he was assessed as optimally fit, to maintain or reaffirm him at that level.

Since the man represented in Table 16 is assumed to have been dentally fit approximately six months before the survey, the percentage of the 3.9 hours of treatment which he requires that is represented by the maintenance factor can, with considerable justification, be cut in half and reduced from 1.99 hours to 1.0 hours. Therefore, the treatment time required to bring a *newly created* red-coded (dentally fit) member to a state of optimal oral health is 2.9 hours. Admittedly this determination contains various assumptions, but it represents a better approximation than has heretofore been possible.

The recall system carried out by the CFDS as a part of the PDP involves a time commitment which has not been accounted for in this survey. Similarly the time spent in Phase I of the PDP, which includes plaque control instructions, obtaining plaque indices, topical fluorides and chairside education, has not been determined.

## CONCLUSIONS

1. The 1973 recruit is nearly one year older than the 1967 recruit and his general intelligence is higher than his 1967 counterpart.
2. The DMF (T) of the male recruit increased slightly since 1967.
3. Recruits from St Jean have a higher DMF (T) rating that those from Cornwallis.
4. Female recruits have a much higher treatment level index (F/DMF) than male recruits.
5. Cornwallis recruits have a higher treatment level index that St Jean recruits.
6. The DMF (T) of the 1973 serving member is slightly lower than that of his 1967 counterpart and his treatment level index has increased slightly.
7. The 1973 recruit requires 7.6 hours of treatment to bring him to a state of optimal oral health, which is 0.34 hours less than his 1967 counterpart.
8. The 1973 serving member requires 4.39 hours of treatment to bring him to a state of optimal oral health, which is 1.54 hours less than his 1967 counterpart.
9. The red coded serving member requires 2.9 hours of treatment to bring him to a state of optimal oral health.
10. The 1973 serving member received 26 percent more treatment time than did the 1965 serving member.
11. The amount of time devoted to restorative treatment by the CFDS has remained relatively constant since 1967.
12. There has been a distinct shift in emphasis among the various types of treatment rendered by the CFDS. Fewer extractions are being performed and fewer dentures constructed, whereas the number of endodontic procedures and anterior restorations has risen sharply.
13. The value of the PDP as a systemized method through which dental fitness can be attained and maintained within the CF is attested to by the findings of this study.
14. The timing of 1.99 hours of treatment per year to maintain a CF member in a state of optimal oral health requires verification and/or a determination of time required to maintain dental fitness is needed.

15. Timings for the various dental procedures performed during routine incremental dental care as established in Study A are probably low.
16. Treatment timings based on the expenditure of time by dental personnel rather than chair-time for the patient would produce a more realistic baseline.
17. The plaque index as currently established and utilized cannot provide a valid baseline to evaluate the oral hygiene of the CF population.

## SUMMARY

A study of the dental condition of the Canadian Forces was conducted by means of surveys of recruits and serving members, and by a review of data from dental records in order to identify changes in treatment requirements and experience which has occurred since 1967 and, insofar as those changes relate to the serving members, to qualitatively assess the degree to which the Preventive Dentistry Program has contributed to those changes.

The average recruit has a higher level of intelligence and is almost a year older than his 1967 counterpart. A higher percentage of recruits than formerly come from Quebec and, that province being an area of high caries incidence, this may be the reason that the treatment level index of the current new entries into the Canadian Forces is below that reported in other studies of similar age groups. Within the sample this index was higher for females than males and for English speaking than for French speaking recruits. Analysis of DMF indices reveal a significantly higher score for the recruit population than was reported previously.

Today's new entry requires slightly less dental treatment to bring him to optimal oral health whereas the serving member's requirement for such treatment is significantly reduced from that of the 1967 member. This latter finding is accounted for in part by the demonstrated increase in the amount of dental treatment, per member, that is now provided by the CFDS; the remainder can be attributed to an increase in primary prevention. Both these increases are considered to be direct results of the Preventive Dentistry Program which, this study clearly demonstrates, is a delivery system through which the Canadian Forces Dental Services are bringing their patients to a higher level of oral health than was previously possible.

## ACKNOWLEDGEMENT

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## CADET LEAGUES EXPRESS APPRECIATION

Prior to commencing detailed planning of this year's preventive dentistry program for the 15,000 cadets attending summer camps throughout Canada, a letter was sent to the three sponsoring organizations which control cadet activities. The letter outlined our past activities in this regard and solicited support of the program. It read, in part, as follows:

*Each summer for the past few years the Canadian Forces Dental Services have conducted a Preventive Dentistry Program for all service cadets attending summer camps. The program has been given in addition to the emergency dental care normally provided for the cadets.*

*The approach to dental health is preventive and educational in nature and is similar to the program offered to Regular Force members. It has been well received by both cadets and instructors, with 15,566 participants in 1972 and 15,440 in 1973.*

*It is proposed to conduct a similar program in the summer of 1974 and therefore it is desired to have the concurrence of the cadet leagues.*

Responses were so gratifying that we take this opportunity to pass them on to those who have expended so much time and effort on the program.

On behalf of the Navy Cadet League of Canada, the General Manager, W.J. Hodge wrote in part:

*... we wish to commend you for this most important program and to recommend the continuation of the program in future years.*

His counterpart for the Army Cadet League of Canada, W.J. Brown expressed that organization's sentiments as:

*The Army Cadet League of Canada is aware of your program and endorses it fully. You have our full concurrence in continuing the program, and if we can assist in publicizing your efforts, we would be pleased to do so.*

Arthur Macdonald, their Executive Director, confirmed the approval of the Air Cadet League of Canada in this manner:

*The Air Cadet League of Canada extends appreciation to the Canadian Forces Dental Services for conducting this program and we hope that it will be continued at future Air Cadet summer camps.*

## TWELFTH ANNUAL CFDS BONSPIEL

This year's bonspiel was another success for the CFDS thanks to the participation of approximately 200 serving members, former members and associates. Esprit-de-corps was notable throughout the competition, with many old friends reunited and other friendships started by Thursday evening, when forty teams assembled in Borden for the opening festivities.

The curling began early Friday morning and, when the keen competition drew to a close Saturday night, the Wansbrough winners were again the fellows from B.C. - Capts Jim Fennell, Don Graham, Barry Kendell and Doug Watson. "B" Event went to John Clint and crew from Eastern Ontario, while "C" Event was won by "Sec" Kennedy and rink from the University of Western Ontario.

The wind-up party on Saturday precipitated an unrestrained expression of Corps comradeship, with everyone joining in the easy banter handed out by our "star" rink and other notable jokesters. A new dimension was added to this year's bonspiel in the presentation of a two-piece trophy. The horse's head, for the best unit-showing in the bonspiel, was won by 11 Dental Unit. Our four generals, who curled together for the first time and represented the Division in Ottawa, were awarded the other end of the trophy. They failed to make the finals and thus had the poorest record. A special word of thanks goes to Dr Andy Andrews for his donation towards the new trophy which he obviously enjoyed presenting, particularly the part which went to his former bosses.

To those on staff at CFDSS who helped in so many ways, the entire CFDS owes

its thanks. Thanks also go out to all participants, for without curlers we wouldn't have had the fine bonspiel we all enjoyed this year.





*1. "A" Event won by Capts Fennell, Graham, Kendell and Watson. Trophy presented by BGen Baird (retired).*

*2. "B" Event won by Mr J Clint, Mr R Goodwin, Sgts Danyluck and Hope. Trophy presented by BGen Craigie.*

*3. "C" Event won by Mr F Kennedy, Mr T Batten, 2Lt Button and Capt Pollock. Trophy presented by CWO Morris (on left).*

*4. "Horse's Ass" Trophy won by the "Four Stars" - BGens Baird, Kearney, Evans and Craigie. Presented by LCol A Andrews (retired).*

*5. "Horse's Head". LCol Taylor accepting trophy for 11 Dental Unit.*


1~2 MARCH
SCORE

# C.F. DENTAL SERVICES SCHOOL NEWS

*by Chief Warrant Officer W.D. Morris, CD*

*GOINGS AND COMINGS*

Members of our staff have spent a busy winter on temporary duty assignments in support of the accreditation program of the Canadian Dental Association Council on Education. Col Richardson, LCol Reynolds, Maj Morley, Capt Haines, CWO McDonald and Sgt Albertson all took one or more trips to evaluate the dental programs at such various locations as Kelowna; the Nova Scotia Institute of Technology, Halifax; Holland College, Charlottetown; Kelsey Institute, Saskatoon; Confederation College, Thunder Bay; and Canadore College, North Bay.

As a counterbalance to all this sporting around the country by our personnel we have welcomed numerous visitors to the School. Col Thompson from Trenton was the principal instructor for the Officers Clinical Course and was supported by guest lecturers Dr Andy Andrews from Oakville, LCol Turcotte from Valcartier and Dr PT Smylski from Toronto. Other recent visitors were CDHA and ODHA Presidents Mrs S Clark and Mrs R Atkins who were guest lecturers to the Dental Therapist PL6B Course.

# 1 DENTAL UNIT NEWS

*by Sergeant MY Fletcher, CD*

*THE SERVICE LOOKS AT PREVENTION*

Such was the topic of their presentation when, during the afternoon session of the Ottawa Dental Society meeting in March, LCol Chatwin, Maj Marcil, WO King and Sgt Fletcher combined forces to provide the large turnout of civilian dentists with some insight of our current activity in preventive dentistry, the use of the Plaque Index and the prevention of periodontal disease. Of particular interest to the many former members of "The Corps" was the modern ADEC field equipment now used in our dental services - a far cry from the old field-chair and A-Kit.

*WOMEN'S LIB?*

Sgt Donna Hollins was selected to attend a two-week drill instructors course in February. Donna reports that the follow-up wine and cheese party was the right antidote for all those blisters and aching muscles.

*SANDY SOUGHT*

A farewell luncheon was held to honour Sgt Sandy Kirley on her release from the CF - but where was the guest of honour?? Oh well Sandy, from all of us goodbye, good luck and may ye fare well.

*IT AIN'T FAIR!*

Ms Mary Ellen Jensen, who is half-way through her dental hygienist course, may have to study, but that didn't stop her husband Al and their two boys taking a break from household duties to catch two weeks of golfing and sun in Florida. Oh well, Mum, guess you'll have to wait for next year.

*LADY IN WAITING*

WO June Patterson was presented with a baby's high chair by the NDHQ clinic staff. June is busy at home these days playing that "waiting game".

*TD TRIPS*

MCpl Lyall Kallman was back to CDLS (London) once again in February. Lyall reports that "installations of equipment in the relocated clinic are now completed". Translated, that means: "Guess that just about takes care of everything I wanted to see in London".

*GETTING AWAY FROM IT ALL*

When Mother Nature promised us an early spring, Maj Yvon Cyrenne and his wife Marie were not to be denied their skiing. They promptly left for the French Alps where they enjoyed perfect skiing conditions ... WO Henry King and family decided that Florida was the place to go to beat the winter woes, as did Thelma Jewers and husband Tony, as did Trudy McNamee and husband Harold ... Capt Bob Bowes and wife Dibby returned from a trip to India with many interesting

photos and enthusiastic comments ...Capt Myron Cherun and wife Marlene decided to savour the Mexican sun and spent two weeks at Acapulco.

*Bob and Dibby Bowes and acquaintances*

CFB CHILLIWACK AWARD

*MWO McFadden presents Cpl Cudmore with a certificate of service from the CFB Chilliwack Community Council where Wayne served as a Councillor prior to his posting to Ottawa.*

*CURLING*

Sgt Ethel Snippa was a member of the 2nd place team for the Women's National Curling event held in March ... The annual Ottawa/Petawawa Bonspiel was once again a day of good fun and rivalry. It was only fitting that Petawawa, being the host team, should take back the horse's *derriere* and this they obligingly did.

*THE HORSE'S DERRIERE AND ACQUAINTANCES. (LtoR) Front row: CWO Lawson, Sgt Dumas, Sgt Tremblay, Maj Cyrenne, WO Clarke, MWO Sullivan, Mrs Sullivan, Sgt Hollins, LCol Windsor. Middle row: Sgt Sabine-Paisley, WO King, MWO McFadden, Cpl Duffield, Mrs Marion, Maj Marion, WO James, Cpl Bosnell, Cpl Lambert, Cpl Clarke. Back row: WO McPhee, MCpl Kallman, Capt Charlebois, Lt Lamontagne, Cpl Kossakowski, WO Wadden, Maj Fisk, Cpl Brosha, Cpl Thompson, Maj Gunther, MWO Jones, Sgt Gardiner, Cpl Christenson.*

DGDS INSPECTION, 1 DENTAL UNIT. *(AFTER THE LUNCHEON BUT BEFORE THE CRITIQUE.)* *(LtoR) Maj Marcil, Maj Cyrenne, Capt Charlebois, LCol Chatwin, Capt Boulanger, BGen Craigie, Capt Bowes, LCol MacDonald, Capt Rowat, Maj Gunther.*

# 11 DENTAL UNIT NEWS

*by Sergeant R.W. Boyd, CD*

*HEADQUARTERS*

LCol Taylor is back in the shop after attending the 2nd phase of his French language course. He says he thoroughly enjoyed the course and is anxiously awaiting the 3rd phase.

*RENOVATIONS*

Word has been received that $60,000 has been approved for renovations to the HQ Building which will include a new laboratory, a Preventive Dentistry Centre and facilities for the dental equipment repair technician.

The expansion of the Comox clinic has almost been completed and, after a rather chaotic winter of no heat, interrupted electrical power and constant construction noises, the staff will be happy to return to normal routine.

*SYMPOSIUM*

Ninety-two dentists with civilian and military practices throughout British Columbia gathered recently at CFB Esquimalt to attend the Second Annual Dental Care Symposium sponsored by the Victoria Dental Society and 11 Dental Unit.

The group was welcomed by Capt (N) Hayes, the Base Commander. The professional program got under way with a lively presentation by Dr Ron Jordan, head of the Department of Restorative Dentistry at the University of Western Ontario. His topics were: *Acid etching and its use with anterior composite restorations; pit and fissure sealants; management of deep carious lesions using indirect pulp capping techniques; and, a comparison of amalgam alloys.*

Dr Jordan surprised many of his audience by presenting evidence that Sevriton used with the acid etching technique is superior to the composite filling materials. He also proposed that Dispersalloy was superior to other amalgam alloys.

Following this interesting presentation, the meeting was moved to Work Point Barracks Officers' Mess where table clinics on numerous subjects were presented by various members of the Victoria Dental Society.

The group later enjoyed cocktails and a five-course Mess dinner. One of the highlights of the dinner was an illuminous drum display, conducted in total darkness by the 3 PPCLI Corps of Drums. This entertainment was followed by the traditional salute to the band by LCol A Taylor, who drank two ounces of straight rum from a silver goblet.

It was the unanimous opinion of those who participated in the Symposium that it had all been a tremendous success and we look forward to enjoying similar professional and social activity during next year's meeting.

*SPORTS*

Cpl Duncan skipped a servicewomen's curling team to second place at CFB Winnipeg in the zone championships ... Cpl

Creelman competed in the Zone 1 service-women's badminton tournament held at CFB Esquimalt 28-29 Jan. She captured 2nd place in the singles event and, with her partner, took 1st place in the doubles ... Maj Graham entered the men's curling playdowns in Richmond in January, winning one game and losing two. Later that month he placed third in the second event in a bonspiel in Hope ... Capt Fennell skipped his mixed team into the Island finals played on the weekend of 15 Feb.

The rink skipped by Capt Fennell won the CFDS Bonspiel "A" Event for the second consecutive year. The CWO Greco team caught the 3rd prize in "C" Event. As a result of this unit success and the fact that 11 Dental Unit fielded 17 curlers and one observer, the Commanding Officer, LCol Taylor was presented the "head" of a two-part "horse" trophy. Those who contributed to our winning the west end of the west-bound horse report they had an excellent time and no serious casualties during a most enjoyable bonspiel.

A unit fishing derby was held in February. Sgt Gratton landed the largest salmon and Capt Hansen won a prize for the most salmon caught. LCol Harrington came into the money for landing the largest non-salmon. To spare envy on the part of our out-of-province readers, we will not reveal the numbers and weights of the catch.

# 12 DENTAL UNIT NEWS

*by Captain D.E. Fraser*

*GOODBYE HAROLD*
*GOODBYE HAROLD*

On 28 February local unit members gathered in the Windsor Park Community Centre to bid farewell to MWO Harold Kirby and Sgt Harold Roberts on the occasion of their retirement from the CFDS and the Canadian Forces. A mixed party is planned later to honour these members for their long and devoted service.

*A WINNER AND A LOSER*

Cpl Baird, dental assistant at CFB Gander won the beard growing contest during that station's winter carnival in February. He was also a member of the team which captured the Carnival broomball championship for the Corporals' Club. Not to be outdone, the station dental officer, Capt Moore reports he helped the Officers Mess lose the beer drinking, volleyball and broomball contests!

*TERRY TAKES A TRIP*

Although relocating one's household a mere hundred miles away is usually a fairly simple procedure, MWO Therrien found his move from Chatham to Gagetown both complicated and upsetting. The problems began when the moving company smashed an aquarium, lost some of his fish, broke his clothes dryer and killed a cat! As a result, Terry spent the first weekend feeding fish in Oromocto, while his wife fed their children in Chatham. Both parts of the family were in motels as it was uncertain exactly where the furniture was located at the time. Terry is convinced that all this resulted from a mid-winter move and is most grateful that it wasn't transcontinental!

*FAMILIARIZATION COURSE HELD*

On 11 January a one-day course was presented by the staff of the Dockyard dental clinic to 19 medical assistants attached to ships. These tradesmen received instruction in preventive and

*WO Peverill being "gonged" with the CD by Maj Gray*

emergency procedures and in document disposal. The course was well received and WO Dawson reports that the ships' personnel now have a better understanding of dental objectives.

*B DENT Os GATHER*

The Base Dental Officers of 12 Dental Unit travelled to CFB Halifax for their conference 7-8 February and all concerned demonstrated ingenuity, know-how and considerable luck to arrive in snowbound Halifax on time for the first round of discussions. During the successful gathering, the delegates were hosted by Col and Mrs Protheroe. For those unfortunates who have never tasted Mrs Protheroe's delicious cooking the B Dent Os feel sorry.

*TABLE CLINICS AT DALHOUSIE*

Col Protheroe, LCol Houde, Maj Jolly, Maj Andrews, Capt Valois and Capt Fraser visited the table clinic exhibition at Dalhousie University on 13 February. The third year dental students and the dental hygienist students were responsible for the clinic presentations. 2Lts Leblanc and Cormier demonstrated their abilities while Mrs Maillet - the wife of 2Lt Maillet, a fourth year student - was a member of the hygienist duo who won first prize for their display.

*A WINTER'S TALE*

Maj Klaus Buchholz recently spent a night sleeping on the couch. It all started when he left the clinic in mid-afternoon, because of a severe snowstorm, and started out to pick up his two sons at high school. Klaus soon discovered that traffic was backed up on all streets and, as the snow intensified, stalled and abandoned cars made it impossible to travel homeward. Five hours after his departure from the clinic, Klaus arrived back at his starting point, after travelling only two miles and idling for a full tank of gas. He spent the night sleeping in his office, without company or blankets. Rumour has it that on seeing a snowflake fall, Maj Buchholz now heads for home.

*THE MURRAYS IN REVUE*

Capt Cliff Murray and his wife Glenda were singing and dancing for charity in Halifax during the first week in February. They were in the cast of a musical revue that raised more than $12,000 for

the Junior League of Halifax's Community Trust Fund. Both of them were exhausted but happy following a month of hard work.

*TEMPORARY DUTY*

Capt Hudgins and Sgt Thorburn, who was replaced by Sgt Mackie, recently spent four weeks in Puerto Rico providing dental services for fleet personnel on Exercise Squadex. They were working in the USN clinic at Roosevelt Roads and Capt Hudgins reports that he received a great deal of assistance and hospitality from USN dental personnel. The dental team has now joined HMCS Preserver and are headed for Haiti where the dental and medical teams have been requested to do some examinations.

*12 Dental Unit HQ Staff (well, most of 'em - Sgt McMurtry the chief clerk and Sgt Longford, senior DEMT, are missing). Seated: Mrs MacLean, our steno; standing: Capt Fraser, AO, Col Protheroe, CO, MCpl Shave, DEMT.*

*SPORTS IN BRIEF*

Majs Bill Gray and Daryl Brown were on opposing teams in the British Consol curling playdowns to represent Nova Scotia in the National Championship ... Maj Gray, Capt Bullock, Sgt Whynott and an unidentified curler were involved in the Branch Junior playdowns at Liverpool N.S. 12-14 February ... Capt Bradley of CFB Cornwallis played hockey in the zone finals at CFB Gagetown 17-21 February ... LCol "Crusher" Brogan scored a goal in an "Old Timers" hockey game between Base Gagetown and the Town of Oromocto ... Cpl Deon "Foxy" Allen was half of the Base Doubles Badminton Champions and represented CFB Gagetown at CFB Halifax in the regional championships ... Scott Murray, 15-year old son of Capt and Mrs Murray recently won six of seven events to become the Nova Scotia High School Gymnastic Champion. Scott is now on the Nova Scotia Canada Games Gymnastic Team, and will be busy during the coming summer participating in various gymnastic events throughout Canada.

*BONSPIEL A CINCH FOR HINCH*. Some arrived in private cars, some even in a not so private helicopter, but the majority were aboard the bus from Halifax as, during the afternoon of the last day of January, forty-five curlers arrived in Cornwallis for the fourth unit annual bonspiel. It turned out that those who rode the bus had the most interesting ride since rumour has it that that vehicle made several unscheduled stops en route, including one at the main gate of Cornwallis, where a 20-foot telephone pole was sheared off at the ground. Occupants of the bus will be interested to know that the mate of the pole in question has since been removed by more scientific methods.

For the first time the bonspiel received outside support. The Ash Temple Company donated a trophy to the winner of the first event, which was presented by Jack Mullins, a member of that company and who, ironically enough, was on the winning team. Another donation was made by LCol Cliff Smith of Ayerst Ltd.

*Top. "A" Event winners were skipped to victory by Maj Art Hinch (ret'd). Team members were Capt Jack Mullins (ret'd), Maj Jim Jolly and Maj Noel Andrews. Jack Mullins presented the "Prophy Trophy" on behalf of Ash Temple.*

*Middle. For the first time in four years Sgt Phil Whynott dropped from "A" Event. Phil is shown receiving the "B" Event trophy from Col Protheroe. Assisting Phil to victory were Capt Clay Bullock, Cpl Buck Buchanan and Capt Henry Ferber.*

*Bottom. The "C" Event was won by a Med/Dent foursome. Col Protheroe presented the trophy for this event to MWO Stu Brown while Cpl Chuck Schnare, CWO Ray Barrett and MWO Stan MacLean look on.*

*Col Protheroe throws the first rock to open the Fourth Annual 12 Unit Bonspiel. LCol MacDonald and Sgt Whynott are prepared to sweep while the unit curlers watch to see how it's done.*

*During the presentation dinner which followed the bonspiel, Col Protheroe took the opportunity to present CWO Ray Barrett with his Chief Warrant Officer scroll.*

# 13 DENTAL UNIT NEWS

*by Lieutenant J.W. Shore, CD*

*CANADIAN PENITENTIARY SERVICE*

Sgt NJ Hope of the Kingston Detachment recently organized a competition to select a senior laboratory supervisor for the Regional Dental Laboratory of the Canadian Penitentiary Service. In October of last year, Norm conducted a similar evaluation for the Solicitor General's department with respect to technicians at the junior level. The initiative and efficiency he has displayed in these undertakings is commendable.

*MIDDLE EAST*

Sgt NL Highfield, Trenton Detachment, returned from his tour of duty in the Middle East on 13 Feb. Nelson enjoyed his tour immensely and now has a good collection of "war stories" to relate.

Sgt JD Cormie from Trenton has been selected to contribute his laboratory skills to the efforts of the Canadian Peace Keeping Force in the Middle East. Doug departs in mid-April and at present is engaged in instructing his wife Barbara how to operate the family car. Good luck on both counts, Doug.

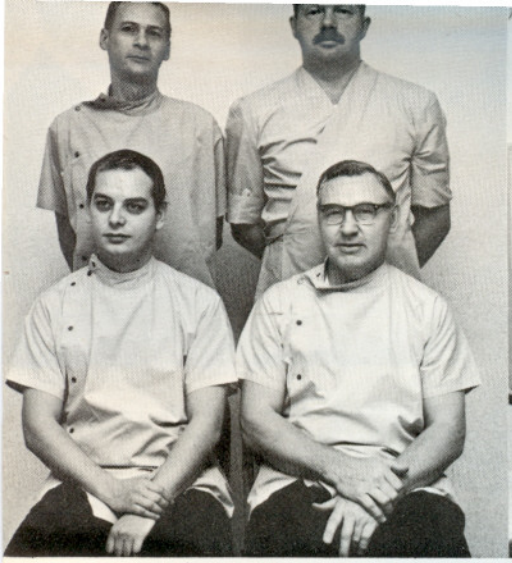
*NORTH BAY WINTER CARNIVAL QUEEN*

The CFB North Bay Winter Carnival was held 19-23 February. Various members of the dental detachment and their dependants were engaged in numerous activities which contributed much to the success of this event. Margaret, the wife of Sgt P Bosch, was selected as the Carnival Queen.

*AU REVOIR*

Three of our officers are taking their releases on completion of their obligation to the Canadian Forces. Capt RJ Burns of the Toronto detachment will be setting up practice in Brockville while Capt GE Rocque of Petawawa plans to accept an associateship in the Pembroke area and Capt DB Smith of Trenton will be offering his services to civilians in Belleville. We wish them every success as we do Cpl MR Ellsworth who was formerly at our Toronto clinic and recently took her release to better pursue her role as a wife and mother.

*WO JE Clarke is presented with his first clasp to the CD by LCol GE Windsor, Base Dental Officer, Petawawa.*



London Dental Detachment. Seated: Capt RPE Alberti, Maj L Dombowski. Standing: Sgt RM Haiplik, Sgt JR Ritchie.

RMC Kingston Dental Detachment. Miss T Moore, MCpl JE Thompson and Capt HA Chestnut.

# 14 DENTAL UNIT NEWS

by Sergeant A. Gray, CD

*VISIT*

Cpl B Hansen, BGen Craigie and Maj JL McNeill discuss a (finger) point during the DGDS's recent visit to Moose Jaw.

*AWARDS*

Sgt NC Petersen being presented with the Clasp to the CD by Col RH Annis, CFB Moose Jaw base commander. Norm's career has been long and varied and includes tours aboard two aircraft carriers, the MAGNIFICENT and the BONAVENTURE.

*SPORTS*

Cold Lake detachment has formed a clinic physical fitness club under the leadership of Sgt John Walker. The club meets three to five times a week at the gymnasium where they participate in exercises, finishing off with a two-mile run. This should help bolster their claim to being the most physically fit clinic in the CFDS ... The *MEDLEY MOLARS* hockey team were challenged in January by the Cold Lake IS&IE Lab team. With their propensity for filling every cavity they see, it was no surprise when our boys won the game by a resounding 6 to 5 score ... Serving and retired Dental Corps personnel and their wives participated in the Edmonton detachment annual mixed bonspiel in the Namao Curling Club on 23 February. A total of 14 rinks from Edmonton, Cold Lake and Calgary curled. The Garth C Evans Trophy for "A" Event winners was taken by the Jack Fraser rink from Cold Lake with the Dr Singer Trophy for "B" Event going to Gordon Huff's rink, also from Cold Lake and skipped by Harry Ayerst. *(Without going as far as intimating that another government department was responsible, it is regretted that photographs of this historic event were lost in the mail.*

*... Editor)*

# 15 DENTAL UNIT NEWS

*by Lieutenant M. Gelinas*

*SALON CAREER SHOW*

A Salon Career Show was held at Place Bonaventure in Montreal in early February as part of a recruiting drive. The objective was to present career opportunities to students at various levels. Maj Nadeau coordinated CFDS participation, and four dental officers with four clinical assistants manned our display. With regard to its success in terms of recruiting, only time will tell.

*SPORTS*

Capt Y Ayotte sparked the CMR Officers Mess hockey team to victory in a recent game against the Base Valcartier officers ... Capt N Roy participated in the Quebec Region badminton playdowns in March.

*THIRD ANNUAL BONSPIEL*. Six rinks took part in our annual unit bonspiel held at St Hubert on 4 February. Once again the competition became a "grudge match" between LCol Begin's rink from St Jean and Matt Hall's rink from Unit Supply. The St Jean rink carried off the honours. It's easy to see who gets the most practice.

*Left. Participants in 15 Dental Unit third annual bonspiel.*

*Right. The winning rink: Capt Roy, third; LCol Begin, skip; Capt Ayotte, lead; Capt Larose, second.*

# 35 FIELD DENTAL UNIT NEWS

*by Sergeant B.F. Hannay, CD*

*TEMPORARY DUTY*

Capt M Bouris and MCpl T James spent a week in late November providing dental treatment to personnel in Prestwick, Scotland. It was a very rewarding trip in terms of both work and sightseeing. A portion of the latter is depicted in the photograph.


*FIELD TRAINING*

Dental treatment was provided during Exercise Grafenwohr, 9 Jan-15 Feb by Capts Bouris, Graham and Greenacre who were assisted by Sgt Bernier, MCpl James and Cpl Bowering.

*SPEED RESTRICTIONS*

Speed restrictions in Germany were lifted in March. Once again there is no speed limit on the autobahns and on other major roads you can proceed legally up to 62 miles per hour.

# DENTAL DETACHMENT CYPRUS NEWS

*by Sergeant D.W. Griffiths*

*FAREWELL TO THE ISLAND OF LOVE*

The winter sojourn on the "Sunny Isle" is drawing to an end for Capt DM Spencer, Sgt Ron Lindsay and Sgt Dave Griffiths. The tour included much hard work as evidenced by the numerous patients rotating back to Canada with shiny new fillings and prosthetic appliances.

On the lighter side, the staff have participated in many activities that will make for fond memories. Pictured is the No. 1 Cavity Assault Team in readiness to do their after-hours thing. Sgt Ron "Flipper" Lindsay is looking for a puddle in order to test his equipment before trying the "Blue Med", Capt Spencer is still looking for a challenger worthy of his time and effort on the tennis courts and Sgt "Tiny" Griffiths is trying to get rid of the ball, in addition to some unwanted extra calories. All three partook in various sports and other activities during their tour and, in this way, made many new acquaintances including those from other contingents serving on the island.

Now it is time to say farewell to the "Island of Love" as Capt Spencer returns to CFB Gagetown, Sgt Lindsay to Ottawa and Sgt Griffiths to Winnipeg. We all wish the new team of Capt Paul Lavallee, Sgt Earl Borden and Sgt Ed Barnes a hearty welcome and hope that they enjoy themselves as much as we have during our six month tenure.

*A "PINKIE" REPORTS*

A recent report from Capt FJ Marentette (late of CFDSS), whose mailing address is now Camp Shams, Cairo, relates how the first rotation is making out. He writes in part:

"The whole adventure had a rather shaky beginning with a 3½ hour bus trip from St Hubert to Uplands. We approached Cairo at approximately 1800 hrs and all was in darkness - no lights except in the Camp Shams complex which is generator-supplied. We circled in a holding pattern for an agonizing 45 minutes, at the end of which the pilot finally advised us we couldn't land and were enroute back to Lahr. Our eventual arrival at the airport in Cairo was uneventful. We immediately boarded Polish trucks and were whisked away to Camp Shams. Being the first rotation draft of "pinkies", we were greeted by much hustle and bustle, cheering, hand-shaking and the like. Those people whom we were replacing boarded the same vehicles and left for their trip home on the same aircraft. Consequently I've never had an official handover.

As far as living conditions are concerned, I've never had it so good in the "boonies" or on exercise. Conditions are better than they were for me in Cyprus in '64. We have a superb Food Services staff and rations, an excellent welfare, Canex and tours program, passable accommodation in tents and good films from Canada.

There's only one gloomy prospect. We are probably going to move to Ismailia by June to a former RAF camp. I was on a recce there two days last week to establish Adm Coy accommodation, and the general conditions leave much to be desired. All in all, though, it's a good tour."

* * *

Capt J Lemieux, a charter member of our detachment in the Middle East, expresses his reaction to his tour there in the following manner.

"J'ai bien aimé l'étape commune d'instruction militaire il y a quelques années, mais je ne voudrais pas la recommencer. Il en est de même pour mon séjour en Egypte. C'est pour moi une expérience formidable, mais j'espère ne la vivre qu'une seule fois.

Tout ce qui nous apparaissait très difficile au début est devenu une routine acceptable après quelques semaines; comme la poussière, les nuits fraîches, le sac de couchage, se faire la barbe en plein air le matin dans un bassin d'eau, la gourde comme seule source d'eau courante, les toilettes à ciel ouvert, etc.- tout cela nous apparaît normal après quelque temps. Il est à noter que nous sommes heureux de revenir au camp après quelques jours de congé afin d'y retrouver nos bons repas canadiens et nos douches "super chaudes". De fait, nous les Canadiens vivons plus confortablement que la majorité des gens du pays même si nous vivons sous la tente.

Si nous allons en ville, partout nous sommes bien accueillis. Les Egyptiens nous estiment au plus haut point et ce n'est pas seulement pour notre argent car si nous nous montrons intéressés à eux et que nous essayons de dire quelques mots en arabe ils sont prêts à tout nous donner même s'ils ne possèdent que très peu. Ils sont offusqués si on n'accepte pas leur thé ou leur bière Stella; d'ailleurs il vaut mieux accepter car les deux sont très acceptables.

Ici la vie peut être monotone si on se contente de manger, dormir, faire son travail quotidien, regarder les films présentés chaque soir au mess des officiers. Par contre si on a l'occasion de se trouver des divertissements à l'extérieur du camp la vie devient plus agréable. Par exemple, dans le domaine du sport, j'ai quelquefois sur semaine l'occasion de jouer au tennis au "Gézirah Sporting Club" sur l'île située dans le Nil en plein centre du Cairo. Il y a aussi les voyages; avec une autorisation de congé mensuel de 48 heures il est possible de visiter des centres touristiques tels que Luxor où sont situés la Vallée des Rois et le temple de Karnak ou encore le barrage d'Assouan connu à travers le monde. Ces endroite sont à ne pas manquer pour qui vient vivre ici. Bien sûr les pyramides et le sphinx sont très près de nous et nous pouvons y aller toutes les fins de semaine si nous le désirons. L'endroit est idéal pour faire de l'équitation dans le désert; une balade peut durer

cinq heures et nous permet d'aller prendre une bière à "Sahara City" pendant que les chevaux reprennent leur souffle. Le décor est unique à travers les dunes de sable éclairées par un soleil égyptien bien différent de celui qu'on a au Canada.

Aussi, Alexandrie, Suez, Ismaîlia et Port-Saîd sont d'autres endroits intéressants à visiter et il est possible de s'y rendre tout en étant de service puisqu'il est permis de visiter les autres détachments canadiens qui s'y trouvent pour vérifier la condition d'hygiène dentaire des militaires.

Faire partie de la première équipe dentaire à travailler sous la tente est une expérience unique. Mais de plus nous vivons avec l'équipe méedicale à laquelle nous nous rapportons pour la première fois depuis que le service dentaire des forces armées existe; nos relations sont excellentes et très enrichissantes.

Nous avons maintenant autant de patients des contingents étrangers que de Canadiens et notre première constation est que nous, Canadiens, sommes les plus avancés au point de vue de prévention et traitement; la condition dentaire de nos Canadiens se révèle supérieure dans son ensemble. Je compare nos Canadiens aux patients qui ont passé à la clinique dentaire nous venant des contingents finlandais, autrichiens, indonésiens, suédois, polonais, irlandais, sénégalais, ghanéens et népalais.

Enfin, pour un dentiste canadien errant, l'Egypte ce n'est pas si mal!"

# 1 DENTAL EQUIPMENT DEPOT NEWS

*by Lieutenant J.J.L. Lamontagne, CD*

*VISITS*

Maj Fisk and CWO Lawson, in Borden recently, made final arrangements for 1DED to assume the accounting of dental materiel for the CFDSS. Good timing of the visit allowed them to stay on to enjoy the CFDS Bonspiel ... In March MWO Everett and Cpl Duffield spent an afternoon at St Joseph Rural Apostolate in Combermere (near Barry's Bay, Ontario) where they instructed the maintenance staff on the installation and maintenance of a complete two-chair clinic, donated to St Joseph's by a Toronto dental supply company.

*FOREWARNED IS FORE-ARMED*

Maj Fisk has announced that he plans to retire this summer. Exact date is not yet known.

*SPORTS*

Cpl AM Wilson, manager, and the Petawawa Atom All-Stars travelled to Sarnia to compete in the Silver Stick Tournament. They won the Silver Stick (North America Champs) for the Class Three Atoms ... The 1 DED annual ice fishing derby was held 22 February. The weather was mild and (ho hum) there isn't much else to add except that Lt Lamontagne won first prize for catching the one and only fish (in the lake?) ... Maj Fisk curled in Ottawa 18 January in the British Consols Division II playdowns. He also entered a rink in the Centennial Plus Seven Bonspiel held in Petawawa recently, where he lost the finals of the "A" Event to a rink from Ottawa. He fared better, however, in the Deep River Men's Open on the weekend of 8-10 March. With Lt Lamontagne as lead, the combination proved successful in the "B" Event ... Personnel at 1 DED underwent the semi-annual PT test (Aerobics) in February. All of those eligible to run passed with a "good" rating.

# DENTAL SERVICES NDHQ NEWS

*DIRECTOR OF DENTAL TREATMENT SERVICES*

The promotion of Colonel John C. Brick to that rank became effective on the first of March this year and his numerous friends extend their best wishes on achieving this well-deserved

recognition of his outstanding qualities for leadership.

Following wartime service as an officer with the Essex Scottish Regiment, Col Brick returned to the University of Toronto where he received his Doctorate in 1949. His career with the dental services, which embraces the intervening years, has been a distinguished one and his more recent appointments include that of Commanding Officer 35 Field Dental Unit in Europe and his current position as director of Dental Treatment Services in Ottawa.

As a corollary to his early experience with the "Fighting Arms" and his sustained interest in the martial arts, Col Brick has developed considerable expertise in the field of small arms of all types and possesses an extensive library on the subject as well as a sizable collection of historic weapons. By no means a mere scholar of these subjects, Col Brick is also a skilled marksman, and on several occasions has represented Canada at Bisley and in other international competitions.

## Professional Training

DALHOUSIE UNIVERSITY

*Periodontia, 25-26 January*
Maj GD Petrie, Capt JE Lavalee

*Endodontia, 16-17 February*
Capt WO Donald, Capt JP Levy

US NAVAL GRADUATE DENTAL SCHOOL

*Removable Partial Dentures, 21-25 Jan*
Maj FC Arpin

WALTER REED ARMY MEDICAL CENTER

*Oral Pathology, 4-8 March*
Capt DM Moore

LETTERMAN ARMY MEDICAL CENTER

*Postgrad. Periodontics, 25 Feb-1 Mar*
LCol JJH Wright

## Canadian Forces Training

CF DENTAL SERVICES SCHOOL

*Oral Surgery, 23 Jan- 6 Feb*
Maj R Carver, Capts FV Jackson, DF Clark, DA Meredith, JR St Louis, F Giesbrecht

*Dental Therapist PL6B, 9 Jan-26 Jun*
Mrs M Jensen, Sgts H Kalmet, HB Clifton, DW Mason, A Busse

*Dental Clinical Assistant PL6A, 9 Jan- 6 Feb*
Sgt I Winsor, MCpls EF Barnes, JL Pouliot, RA Gayler, TA James, VG Frank, MFF Audet, Cpls FN Boosamra, CJ Rheault, JP Chasse, MM Kent

*Dental Clinical Assistant PL3 6 Mar - 10 May*
MCpls JJR Jobin, RA Portuondo, WD

Jackson, NA McLeod, REF Christiansen, Cpls RR Kossakowski, JAR Neveau, WE Blackley, JGL Girard, LE Petley, JOJP Laperle, KA Bosnell, JW Christensen, BH Davis, JR Levesque, Ptes JGN Moir, TC Rocco

CF SCHOOL OF MANAGEMENT (ARNPRIOR)

*Middle Management, 18 Mar-5 Apr*
Capt WO Donald

CF SCHOOL OF INSTRUCTIONAL TECHNIQUE

*Instructional Technique 1*
Capt RS Haines, *7-23 January*
MWO EMB Everett, *17 Mar-5 Apr*

*Instructional Technique 4*
MWO R Todd, *18-29 Mar*

CF STAFF SCHOOL

*Junior Staff Course, 6 Feb-12 Apr*
Capt JG Chagnon

CFB BORDEN

*Base Defence Duties, 14-25 Jan*
Cpl GG Bowser

CFB PETAWAWA (2 CBT GP SIG SQN)

*Winter Indoctrination, 7-18 Jan*
Capt PD Higgins

# Training with Industry

TICONIUM COMPANY, ALBANY NY

*Advanced Ticonium Techniques 17-22 Feb*
CWO KE Laurence, MWOs EE McFadden, DC Hughes, Sgt H Marckwort

# Promotions

*Colonel:* JC Brick

*Major:* MF Pilon, KR Morley

*Warrant Officer:* MJ Hall

*Sergeant:* EF Barnes, I Winsor, MG Williams, JE Fréchette, GG Hildebrandt

*Master Corporal:* JE Thomson, GC Beaulieu, CM Martell, JP Oakley, L Petkow-Awromow

*Corporal:* JG Bernier, JE Genest, PD Young, LC Martyn

# Honors and Awards

*FIRST CLASP, CANADIAN FORCES DECORATION*
WO JE Clarke, Sgt NC Petersen

*CANADIAN FORCES DECORATION*
WO LG Peverill, Sgt RA Garnhum, Maj HJ Nadeau

# Welcome • Bienvenue

*A cordial welcome to the Canadian Forces Dental Services is extended to:* Cpl RR Kossakowski, Cpl JOJP Laperle, Cpl JW Christensen, Cpl BH Davis, MCpl REF Christiansen, Pte TC Rocco, Pte JGN Moir, Pte JAR Neveau, Cpl WE Blackley, Cpl JGL Girard, Cpl LE Petley, Cpl JR Levesque, Sgt WL Garnett, MCpl RA Portuondo, MCpl WD Jackson.

# Farewell • Au Revoir

*The best of luck to:* WO DB Wood, MWO HC Kirby, Sgt RW Roberts, Cpl MR Ellsworth, Cpl GL Brophy, Sgt DH Hardy, Sgt JN McKenzie, WO MA James, Sgt SJ Kirley, Mrs J Verhoege.

# Vital Statistics

MARRIAGES

*There were no marriages reported this quarter. The Editor is apprehensive. Surely the supposed decline of this noble institution hasn't reached the ranks of the Dental Services?*

*However, BIRTHS don't seem to be similarly affected:*

*DAUGHTERS:* Capt and Mrs DF Clark, Capt and Mrs J Delong, Cpl and Mr Boulanger.

*SONS:* Capt and Mrs HV Ferber, Capt and Mrs RY Gish, Maj and Mrs W Budzinski, Maj and Mrs VJ Lanctis.

*CONDOLENCES*

*Deepest sympathy is extended to* Sgt EJ Schultz and Sgt J Thorburn on the loss of their fathers; Cpl EW Creelman on the loss of her father; and Sgt CE Schmelzle on the loss of his father-in-law.

Colonel Gordon Benjamin Shillington, CD DDS BSc FICD
(Retired)

One of the best-liked and most able officers ever to wear the insignia of the Royal Canadian Dental Corps died on 14 February 1974.

Colonel "Gord" Shillington was born in Blenheim, Ontario in 1910, graduated from the University of Toronto in 1934 and joined the Canadian Dental Corps in November 1939. He served continuously from then until his retirement in 1963, at which time he held the position of Deputy Director General of Dental Services. After several years of civilian practice in Manotick, Ontario, he and his wife Edith took up residence in Freeport, Bahamas.

Many of his old "Corps" friends had the opportunity to reminisce with Gord during BGen GC Evans' retirement dinner last October. We knew he had not been well for some time but little thought we were seeing and speaking to our affable and respected confrère for the last time.


FRENCH SPEAKING MADE EASY. The above photo was submitted with only the caption and the site identified as the Paris Flea Market. Responsible reporting requires a fuller explanation, and inasmuch as our publishing deadline precluded an authenticated report on this bizaare bazaar service, the following detail has been extracted from a non-existent manuscript which forms part of the recommended reading of a local level 3 language course.

Such merchandising has its origin in a venture developed during the French Revolution by one Monsieur Goule de Goulu, a moonlighting "bourreau d'état". He undertook to alleviate a social inequality of the day by providing the edentulous peasantry with artificial "plates" - at no expense to himself, his suppliers being the beheaded and equally toothless aristocracy who reluctantly served as the clientele of his primary profession. From the beginning it was a self-service operation, the transaction conducted on an "as is-where is" basis, without guarantee of fit or available refund. Little has changed in the commercial aspects of this low cost denture service, and the merchants of today maintain close liaison with "les infirmiers de Paris" and its mortuaries.

There is absolutely no proof that the staff of the unidentified dental unit in Europe which provided the photo is in any way connected with this business.