

Alumni Bulletin

SCHOOL OF  
DENTISTRY

Spring Issue, 1982

Indiana University

Alumni Bulletin

School of Dentistry  
ALUMNI BULLETIN

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**Spring Issue, 1982**

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# Indiana University School of Dentistry ALUMNI BULLETIN

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*A free and non-profit bulletin issued by Indiana University School of Dentistry, Indianapolis, Indiana, for the purpose of keeping its alumni informed of the activities and progress of the School.*

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# Promoting Geriatric Dentistry

*Christopher Brown, Diane Buyer, and Jeffrey D. Buttrum\**

During its short history of approximately three years, the Indiana University Student Chapter of the American Society for Geriatric Dentistry has rendered oral health services to elderly patients in nursing homes and other settings. The Chapter has grown from two members in 1979 to 18 in 1981, and large numbers of health professionals, dentally related and otherwise, have been provided with information concerning gerodentics. Continued effort on our part will determine whether our programs will be truly effective in improving oral health care for the elderly. Such improvement is urgently needed on a wide scale (nationally, in fact) because of the "graying of America": the demographic phenomenon which finds the elderly forming a larger proportion of our total population each year.

The growth and projected continuation of our chapter's activities does indicate a mounting concern for gerodentics. Until Spring semester of 1981, all work with the A.S.G.D. was voluntary. At present, however, the program in geriatric dentistry is considered so effective by the school that participants are receiving credit toward the extramural experience required for graduation. Several problem areas remain to be dealt with, and they will be discussed in this article, along with the program's accomplishments.

The objectives of the I.U. Student Chapter of the American Society for Geriatric Dentistry are:

- 1) To provide information on gerodentics to dental and non-dental organizations, through audiovisual presen-

tations, lectures, publications, table clinics, and letters of introduction.

- 2) To promote gerodentics at Indiana University and other dental schools by means of personal contact, correspondence, and publications.
- 3) To establish dental care programs in geriatric facilities by conducting "in-service" seminars for the staff concerning early detection of oral cancer, making monthly visits to nursing homes, and developing in-service oral health programs in conjunction with dental hygiene students.
- 4) To determine the dental facilities and availability of consulting dentists in Indianapolis area nursing homes through questionnaires and surveys.

Representatives from the I.U.S.D. group have given lectures and/or audiovisual demonstrations concerning gerodentics to 10 facilities in our area, including nursing homes, multi-service centers for senior citizens, nutritional centers, and low cost housing projects for the elderly. In addition, articles concerning gerodentics have been published in these media: Dental Student (April, 1981), "The Elderly Need Care Too"; Special Care Journal (Spring 1981), "Meeting the Needs of the Elderly"; Massachusetts Dental Journal (February 1981), "Geriatrics: The Dental Challenge"; and the I.U.S.D. Newsletter, various short articles concerning our group activities.

Table Clinics have been presented as follows: National Convention of the A.D.A. (Fall 1980); Indiana Dental Association (Spring 1980, 1981); "Designing an Optimal Environment for the Elderly" - sponsored by the I.U. School of Nursing (May 1981); Senator Lugar Health Festival (June 1981); and "A

\*All three of the authors are members of the Class of 1982 at IUSD.

Look at Geriatrics,” sponsored by I.U.S.D. Continuing Education Dept. (June 1981).

Letters of introduction concerning our A.S.G.D. Chapter have brought requests from 25 area nursing homes for in-service programs for staff members, oral screenings of patients or presentations on patient information. Letters of acknowledgment and appreciation for our work in geriatrics have also been received from Congressman Andrew Jacobs, State Senator Charles Bosma, Mayor William Hudnut, the Little Red Door Agency, the State Board of Health, and the Marion County Health and Hospital Corporation.

Representatives from the Indiana Central Council on Aging and the Indiana Commission on Aging have met with our officers to discuss the activities and concerns of the A.S.G.D. and the possibilities of integrating the services provided by both groups. Likewise, we have been asked to participate in a South-Side Indianapolis community discussion on different facets of health care for the elderly in our community. In the Fall of 1981 our Chapter was represented in a round table discussion on geriatrics sponsored by the Continuing Education Department of the Indiana University School of Dentistry and the Dental Alumni.

Several universities have contacted our Chapter expressing a desire to establish new student chapters of the American Society for Geriatric Dentistry. Included are Ohio State University, University of Cincinnati, University of Louisville, and University of Maryland, along with universities in Puerto Rico and the Netherlands. Our group was also invited during the past year to function in an advisory capacity for dental hygiene students planning to develop in-service programs for nursing homes which previously had no dental programs.

Responses were received from 51 of the 100 nursing homes which were asked to complete a questionnaire. The questionnaire and some of the answers follow:

- |   |                  |                 |                          |
|---|------------------|-----------------|--------------------------|
| 1) Do you feel there is a need for greater patient dental care?   | <i>Yes</i><br>42 | <i>No</i><br>8  | <i>No response</i><br>1  |
| 2) Do you have a dental chair available at your facility?   | <i>Yes</i><br>2  | <i>No</i><br>49 | <i>No response</i><br>0  |
| 3) Would you be willing to provide transportation to the I.U.S.D. for dental treatment if it was deemed necessary by a dentist? | <i>Yes</i><br>12 | <i>No</i><br>30 | <i>No response</i><br>9  |
| 4) Do you have a consulting dentist?  | <i>Yes</i><br>48 | <i>No</i><br>2  | <i>No response</i><br>1  |
| 5) Would you desire an in-service patient oral care demonstration or patient oral screening by our group?                       | <i>Yes</i><br>25 | <i>No</i><br>15 | <i>No response</i><br>11 |

On the whole, we have been reasonably satisfied with our progress in providing information to dental and non-dental organizations. Although our slides and lectures are not as professional as the commercially produced geriatric teaching modules, the integration of the two provides a customized program that is working quite well. In addition, we



Chris Brown is shown with the chapter's table clinic.

hope that the continuing publication of articles on gerodontology by members of the I.U.S.D. Chapter will reach a large number of readers, and that concrete actions to improve the dental care of the geriatric population will result. Further articles are planned. Likewise, table clinics have proven to be an excellent way of providing information to many individuals. At the 1980 meeting of the American Dental Association, information concerning gerodontology was distributed to people from 38 states and 5 foreign countries. At the 1981 Indiana Dental Association meeting, our group presented three student table clinics and two of these won top honors (ranking second and third among the overall entries). We were also asked to return the following year for an update on our progress.

So far we have provided in-service programs and patient oral care information to six nursing homes, and we intend to continue until we have visited each of the other 19 homes that have asked us to do so.

Contacts that we have made with state and local officials and with established groups working with the elderly form a very important part of our program. The State Board of Health, Marion County Health and Hospital Corporation, and the Little Red Door have all been very cooperative. Others who have proven helpful to our efforts are Dean Ralph E. McDonald, Associate Dean Robert L. Bogan, and Dr. Robert Derry, Director of Continuing Education at our School.

With reference to problems that we have encountered, a great deal of time is needed to thoroughly plan in-service programs, meetings, etc., and too often the load falls on just a few people. Efforts should be made to recruit as much additional help as possible. There is at this time one faculty advisor, Dr. William Borman, who is at the school one day per week. More diversified programs could

be created if more advisors were available for consultation. Often our meetings lack the planning which would make them truly efficient. Efforts to correct this situation are in progress.

The increasing number of inquiries from other schools about starting chapters indicates a growing concern for gerodontology among students in other parts of our nation and overseas as well. We are in the process of developing a program with suggested guidelines to offer these schools. Most of the inquiries that we receive from schools seem to result from personal contact by members of the A.S.G.D., either at professional meetings, schools, or our table clinics. All sources indicate that the most successful contact is in person or by mail, personal contact being the best.

The in-service programs that we perform at geriatric facilities provide information on care for the ambulatory, non-ambulatory, and even the comatose patient. We inform the staff of normal and abnormal oral conditions and encourage them to seek professional advice when faced with an unfamiliar situation. The care of dental prostheses is also included. Again, these programs are accomplished using slides, films, models, and demonstrations. There is always a question-and-answer session at the end.

The number of requests for in-service programs from nursing homes is beginning to cause a backlog. We are in the process of contacting the staff dentist (if available) of each home and working with him. The State Board of Health and the Marion County Health and Hospital Corporation have also been advised of the situation and attempts will be made to integrate all of our services. The ultimate goal is to establish a long-term dental program in these homes.

In one Indianapolis nursing home, Hooverwood, we have an on-going dental care program. The home is visited at

*(Continued on page 86)*

# Varied Memorabilia Illustrate History of I.U. Dental School\*

A recent informal survey of portraits, plaques, memorial exhibits, and other memorabilia in the School of Dentistry and elsewhere on campus has brought to light a surprising number of such items of interest to faculty and staff members, students and others wishing to know more about the distinguished history of our school. The following is an account of these materials under the headings "Portraits and Other Art Work," "Seminar Rooms in the Dental School," "Plaques and Certificates" and "Memorial Exhibits."

## Portraits and Other Art Work

A portrait of Dr. Drexell A. Boyd, long-time teacher of Operative Dentistry, who also served for years as chairman of the Operative Dentistry Department, is on display in the Dental School Library. The portrait was purchased by the Class of 1939 and painted by Dr. Rolando DeCastro, of the Dental School faculty.

A life-size oil painting of IUPUI Chancellor Emeritus Maynard K. Hine, who served as Dean of the Dental School from 1945 to 1968, is on display in the Student Union Building. It was painted by the portrait artist, Dr. Donald Mattison, who was Dean of the Herron Art School at the time. Another portrait of Dr. Hine, purchased by the Indiana University School of Medicine Alumni Association and painted by Edmund Brucker, is on display in the Administration Building on the IUPUI Campus.

On the third floor of the Dental School are portraits of Dr. David A. House, Chairman of Fixed and Removable Partial Prosthodontics from 1917 to 1925;

Dr. Ert J. Rogers, Chairman from 1925 to 1950, and Dr. John F. Johnston, Chairman from 1951 to 1965. Likewise the Dental Hygiene Clinic on the third floor displays a portrait of A. Rebekah Fisk, Director of Dental Hygiene from 1949 to 1969, presented by Sigma Phi Alpha, the honorary Dental Hygiene sorority, along with three plaques which were presented to her. Also, a plaque presented by Sigma Phi Alpha lists the dental hygiene students earning the highest academic average from 1961 on.

A large mural which depicts the progress of dentistry from prehistoric times to the present is on display in the foyer of the latest addition to the Dental School. This mural, which was painted by Dr. Rolando DeCastro, includes likenesses of Drs. M. M. House, Howard Raper, William Morton and Horace Wells, F. R.



Bust of Dr. Maynard K. Hine

\*Reprinted from the School of Dentistry Newsletter for January-February, 1982.

Henshaw, Ray Maesaka, LaForrest Garner, R. W. Phillips, Jack Carr, P. G. C. Hunt, Robert Bogan, Dean Ralph E. McDonald, John F. Johnston, Pierre Fauchard, Hippocrates, John Greenwood, Paul Revere, Sam Patterson, W. C. Roentgen, I. L. Furnas, G. V. Black, William Heiskell, A. Rebekah Fisk, and Maynard K. Hine. Next to the mural is a bronze plaque presented by the Dental School student body to Dr. DeCastro for his "unselfish dedication in the creation of this mural."

A porcelain vase in the Dental School Library was presented to Dr. John N. Hurty on March 12, 1918. Dr. Hurty was a long-time teacher of Indiana Dental College, although his main activity was serving as health commissioner for the State of Indiana for many years.

A bronze bust of Dr. P. G. C. Hunt, chief administrative officer of Indiana Dental College in its early years, is on display in the Dental Library. Dr. Hunt died in 1896. A bust of Dr. Hine, which was purchased for the Dental School by the Alumni Association, is also in the library.

### Memorial Exhibits

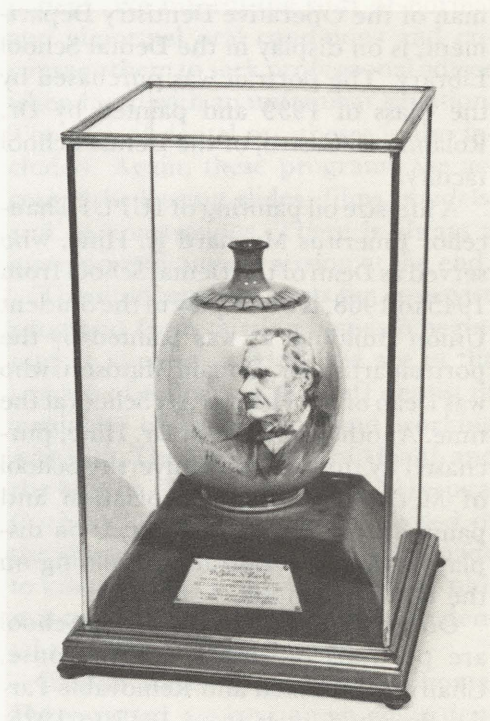
The John F. Johnston Memorial honors this distinguished teacher who set high standards for his undergraduate and graduate students. He was the author of several well accepted textbooks which have been translated into three foreign languages, and received many honors for his contributions to dentistry. The John F. Johnston Study Club made up of former graduate students continues to meet annually. Many of his students are chairmen of departments in other dental schools.

A collection of articulators, given to the Dental School by Dr. Noble G. Wills, a loyal Indiana Dental College alumnus, is located on the fourth floor of the Dental School.

The Dr. M. M. House Memorial Museum on the fourth floor is named for the internationally known prosthodontist who was a teacher at Indiana Dental College from 1918 to 1923. He then went to California and continued his research in tooth forms. When he died his museum was given to the Dental School, and Mr. Ivan Welborn, who had long served as his technician, mounted the material that Dr. House gave the Dental School, including a portrait and several other pictures.

### Seminar Rooms

One of the Seminar Rooms (S118) is devoted to displaying some of the honors received by Dr. Joseph F. Volker, and includes various plaques he received. Dr. Volker is currently Chancellor of the University of Alabama. He was graduated from Indiana University School of



Vase presented to Dr. Hurty



**The Dr. John F. Johnston Memorial**



**A portion of the Dr. Maynard K. Hine seminar room**

Dentistry in 1936 and later became Dean of the Dental School at Tufts, and then at the University of Alabama.

The Howard Raper Seminar Room (207) on the second floor of the Dental School contains the library of Howard Raper and his gifts to the University, which include several early x-ray tubes, angulation meters, and several filing cabinets full of his papers. Dr. Raper was a 1906 graduate of Indiana Dental College and taught here for several years. He was a pioneer in dental radiology, wrote one of the first texts, and taught the first course in the field.

Memorabilia donated by Dr. John Buhler, graduate of Indiana University School of Dentistry in 1935, are in a Seminar Room on the first floor of the Dental School (S119). Dr. Buhler was a member of the faculty of I.U.S.D., then Temple University, and finally became Dean of the Dental School of the University of South Carolina.

Many of the plaques and certificates which were given to Dr. Hine by various dental organizations are on display in the Hine Seminar Room, which is on the first floor of the most recent addition to the Dental School.

The Timmons Room on the fourth floor has on display many plaques and certificates received by Dr. Gerald Timmons which he donated to the Dental School. A 1925 alumnus of IUSD, Dr. Timmons was Acting Dean in 1938-39 and later served as Dean of Temple University. The Timmons room is S426.

### Plaques and Certificates

A bronze plaque in memory of three outstanding teachers at Indiana University School of Dentistry, Dr. Frank C. Hughes, Dr. Ert J. Rogers, and Dr. John L. Wilson, was purchased by the Class of 1926 and is mounted in the third floor hall.

Dr. George Edwin Hunt, Dean of Indiana Dental College from 1899 until his

death July 11, 1914, was honored by a bronze plaque which was purchased by the Dental Profession of Indiana, and mounted near the Michigan Street entrance of the School.

The Indiana State Dental Association presented the School of Dentistry with a bronze plaque listing all presidents of the Association from 1858 to 1958. Another bronze plaque in memory of John Gurney Byram and in appreciation of his services to the dental profession as a teacher, author and scientist, was presented by the Dental Profession of Indiana. These plaques are also mounted near the Michigan Street entrance.

Dr. Frederic Henshaw, who served as Dean of Indiana Dental College and then Indiana University School of Dentistry from 1914 to 1938, was honored by a plaque purchased by the Dental Profession of Indiana which is also mounted near the Michigan Street entrance.

Dr. Harry J. Healey, founder of the Department of Endodontics and for forty years a distinguished teacher of the Indiana University School of Dentistry, was honored by a bronze plaque which is on display in the third floor Dental Clinic at the Dental School.

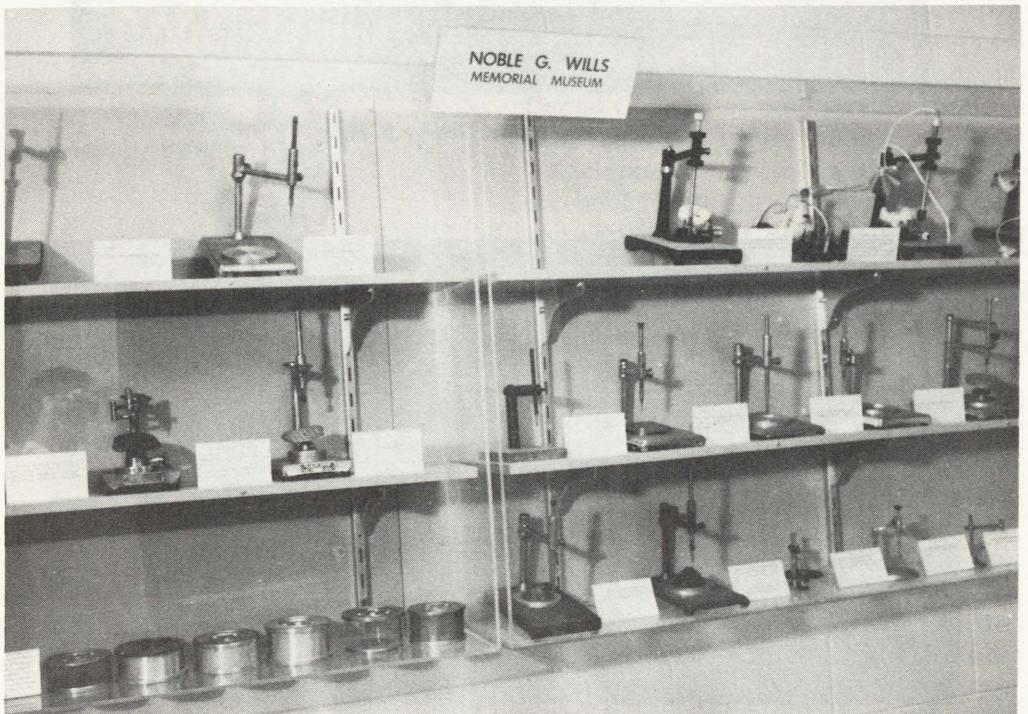
A bronze plaque purchased by the Indiana Dental Association to honor the Indiana dentists who lost their lives in World War I is mounted near the Michi-



Plaque honoring Drs. Hughes, Rogers, and Wilson



**The Dr. M. M. House Memorial Museum**



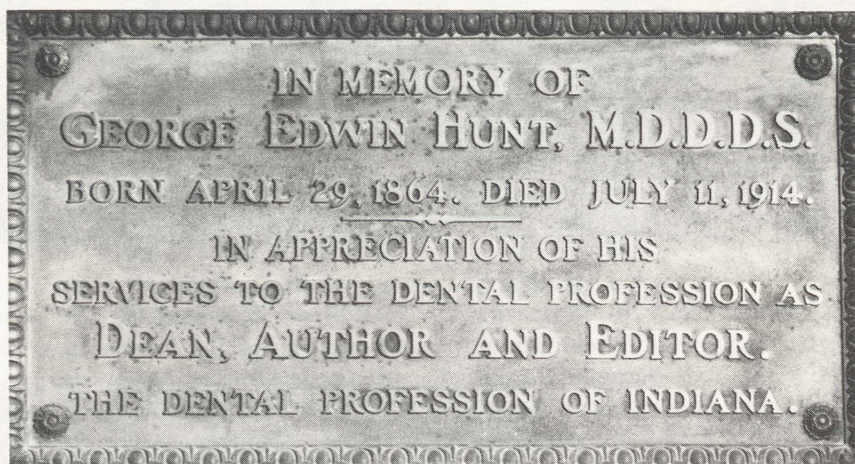
**Articulator Collection donated by Dr. Noble G. Wills**

gan Street entrance of the Dental School.

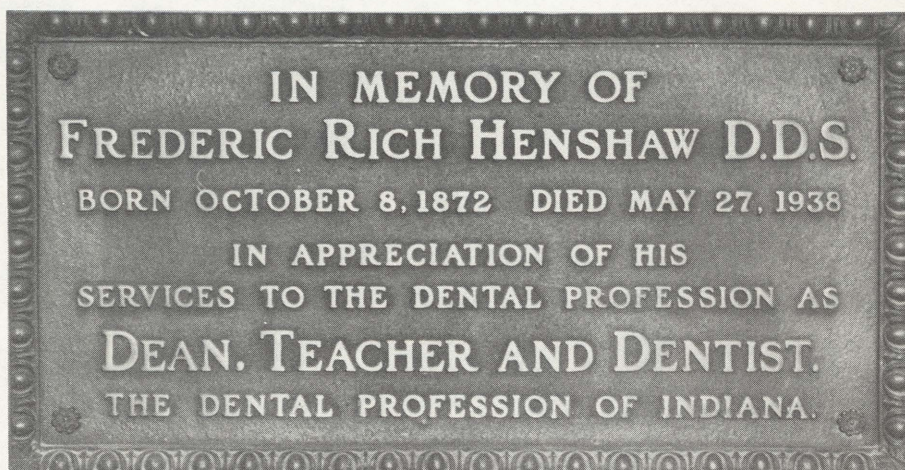
Plaques on display in the Library include a plaque listing the faculty members who had been chosen by each class for meritorious teaching in 1958, 1959 and 1977, purchased by the Class of 1959. The Class of 1978 purchased a similar plaque. Also, Cuban dentists who fled from communism and enrolled in Indiana University School of Dentistry presented a plaque to the Dental School expressing appreciation for the welcome they received here. Indiana University

School of Dentistry Alumni Association sponsored a plaque commemorating alumni who gave their lives in the service of our country from 1968 on.

On display in the Dean's Office are a number of certificates and plaques and various gifts presented to Dean Ralph E. McDonald by students and alumni of the Dental School. The Dental Illustrations Department contains a collection of certificates and citations given to Mr. Richard Scott, Director of Dental Illustrations.



Plaque honoring Dr. George E. Hunt



Plaque honoring Dr. F. R. Henshaw

The Dental Library has been given many books by alumni and friends as memorials.

Just east of the Dental School is a memorial for Louis V. Mazzini. The text on this monument is "Serologist, researcher, humanitarian." He was given the name "Indiana's Mazzini" by Dr. Thurman B. Rice, Indiana State Board of Health Commissioner during World War II. The memorial honors Dr. Mazzini for his development of an inexpensive, rapid, sensitive, and dependable slide test for the detection of early, latent, and congenital syphilis, and for the detection of false positive cases. Patent rights were donated to the Indiana University Foundation. The monument is mounted on a granite slab on the Dental School grounds facing Michigan St.

Anyone who knows of an exhibit of interest that may have been missed in this survey is requested to get in touch with Dr. Maynard K. Hine in Room 202A.

## Glory Days of Basketball Described in Old Yearbook

Indiana University's illustrious athletic history is well known to many sports fans at the Dental School, but relatively few know that Indiana dental students once played a tough intercollegiate schedule in basketball.

In 1919, for instance, the team representing Indiana Dental College (predecessor of IUSD) played such teams as Butler, DePauw, Wabash, Earlham, Franklin, and even IU. Reporting on the game with IU, the IDC yearbook noted that it was played at the Indianapolis YMCA and that the dental students led, 10 to 1, early in the game, before the roof fell in.

## "Class History" Recalls Dental College Days

An excerpt from the brief "History of the Junior Class" (1914-15) at Indiana Dental College, as published in the student yearbook, *Ident*, follows:

Each one of us came to school with a notebook in hand, a pencil in the pocket, and a staring, faint idea as to what was to come. A few weeks went by slowly, each one sauntering back to his seat, occasionally counting the seats or stopping to look for a certain number on the old locker door, so as to be sure that he was not sitting at the other fellow's desk. . . .

In the ensuing month we received a fairly good introduction to the work that was before us. We knew what it meant to see Dr. Wheeler come into the room with his market basket, filled with bones, in one hand and probably the Femur in his other hand. How we used to shudder when he shook that bone into our faces. Probably one could occasionally hear a whisper, "I wish the bell would ring."



Bust of P. G. C. Hunt

# Dealing With Oral Complications In Irradiated Cancer Patients

*Jack E. Schaaf\**

Radiation therapy is a useful method of treating many types of malignancies of the head and neck area. It has the advantage of producing a relatively good cosmetic result since no major tissue excision is undertaken, and it has the ability to destroy microscopic areas of tumor which could not be seen or removed by conventional surgery.<sup>1</sup> However, radiation therapy can produce both temporary and permanent side effects for the patient.

About 13% of all cancers which occur in the United States have the potential of requiring radiation therapy directly to the oral cavity or in very close proximity to it. Oral cancer accounts for about 5% of all malignancies. Leukemias and lymphomas represent another 8% of the cancers and frequently produce disease in the head and neck area.<sup>2</sup> Therefore, the dental profession must be aware of the side effects of radio-therapy and be prepared to prevent, minimize, or treat these problems. Cancer patients have frequently been ravaged by both surgery and radiation, and our understanding of their problems can undoubtedly improve their chances of survival. Working in conjunction with the patient's physician, the dentist can assume an important position in the multi-disciplinary treatment of a patient with head and neck cancer.

## **Xerostomia**

Xerostomia, which may prove to be either temporary or permanent, is one of the first problems the patient may encounter.<sup>3</sup> The radiation produces its

most detrimental effects on the acinar portion of the gland, inducing a reduction in the quantity of saliva, an increased viscosity and acidity of the secretions, and possible fibrotic changes in the gland. The severity of this side effect is directly related to the amount of salivary gland tissue within the radiation beam and will usually be worse if bilateral ports are used.<sup>4</sup>

Prevention of xerostomia is occasionally possible, but being prepared to provide treatment is frequently the more realistic approach. Sometimes, but not often, prevention can be accomplished by metal or lead shields. Usually, however, we must be content with the symptomatic treatment of the condition. Although a 50% glycerine-50% water solution is an acceptable supplement, several companies have recently produced artificial saliva solutions such as Orex\* and Moi-stir\*\* (Fig 1) which are easier to use and provide favorable results for the patient. These solutions can be used as needed by the patient to alleviate the xerostomia.

## **Radiation Mucositis**

Mucositis results from the disruptive effects of the radiation on the rapidly metabolizing and multiplying basal cell layer of the oral epithelium. This layer is the source of mature epithelial cells. Since the turnover rate of the oral mucosa is about two weeks, it will take approximately that long for the changes to

\*Dr. Schaaf is Assistant Professor of Oral Diagnosis/Oral Medicine and Radiology.

\*Orex- King's Specialty Company  
P.O. Box 207; Fort Wayne, IN. 46801  
\*\*Moi-stir- Kingswood Labs, Inc.  
P.O. Box 744; Carmel, IN. 46032

occur. The severity of the mucositis depends on the amount of radiation given and the period of time over which it was administered.

The clinical appearance and symptoms usually change in severity with time. Initially, the mucosa appears congested and loses its glistening quality. Later, a whitish membrane frequently forms on the mucosal surface. This inflammation usually regresses over a period of time. Since taste buds are epithelial structures, the patient will frequently complain of a loss of taste.<sup>4</sup>

There is generally no way to prevent radiation mucositis, but there are several treatments to reduce the severity of the symptoms. The membranes can be kept clean by frequent, gentle debridement with a mixture of salt and baking soda. The previously mentioned artificial saliva will be helpful in lubricating the surfaces. Topical anesthetics may be necessary if severe pain is present. All dental restorations and prosthetic appliances must be closely evaluated to insure that they are not irritating to the

tissues. The patient should be cautioned to avoid alcohol, cigarettes, and spicy foods. Dietary supplements or dietary changes will usually be necessary if the patient cannot tolerate conventional foods. Baby foods, breakfast drinks, vitamins, and forced fluids should be recommended. Regular foods processed through a blender or food grinder will allow a relatively normal dietary intake with minimal mastication. Finally, secondary infections, which are frequently fungal in nature, can be treated with the appropriate antibiotics, usually administered topically.<sup>4</sup>

### Trismus

Trismus may result after radiation therapy. This dysfunction is due to the fibrosis which occurs in the muscles of mastication. The condition is usually most severe in patients receiving bilateral radiation which passes through the muscles.<sup>4</sup>

Prevention of trismus, rather than its treatment, is the most desirable objective. A patient undergoing radiation therapy should be instructed to open his mouth as wide as possible twenty times. This simple exercise should be performed three times a day for several weeks after the radiation is completed.<sup>4</sup> If trismus is already present, the patient can be advised to force an increasing number of tongue blades between the teeth. This procedure will usually allow the patient to regain at least a portion of his opening potential but should be accomplished gradually.

### Radiation Caries

Radiation caries, which characteristically involves the cervical portions of the teeth,<sup>4</sup> has multiple etiologies, with reduced salivary flow probably representing the chief cause. This deprives the dentition of one of its most important self-cleansing mechanisms. Poor oral hygiene, which results from an inability



Fig. 1 OREX and MOI-STIR. Two commercially available saliva substitutes.

to clean the teeth or the psychologic depression which frequently follows a diagnosis of cancer, also contributes to the incidence of caries after radiation. Direct damage to the teeth by the radiation has been proposed as a third possible cause of this cervical caries.<sup>4</sup> Knowing the exact etiology of radiation caries is not as important as understanding that it is the dentist's responsibility to anticipate this type of caries and to provide the patient with the information and therapy necessary to prevent it.

Preventing radiation caries poses a challenge to both the dental professional and the patient. This condition was once thought to be a normal sequela of radiation, and all the teeth were extracted before the radiation treatment was commenced. Today, it is known that radiation caries need not occur if the proper procedures are instituted.

The first step in prevention is a thorough prophylaxis even before radiation therapy is started. It will be easier for the patient to keep smooth and polished dental surfaces clean. Also, from the beginning, it is essential that the dentist display genuine concern to the patient regarding the individual's own oral hygiene. Patients must be made aware of the critical importance of effective oral hygiene procedures, and the results of their efforts must be checked at regular intervals. Intense oral hygiene instruction should include not only brushing and flossing techniques but also an explanation to the patient on why the teeth must be kept clean.<sup>4</sup>

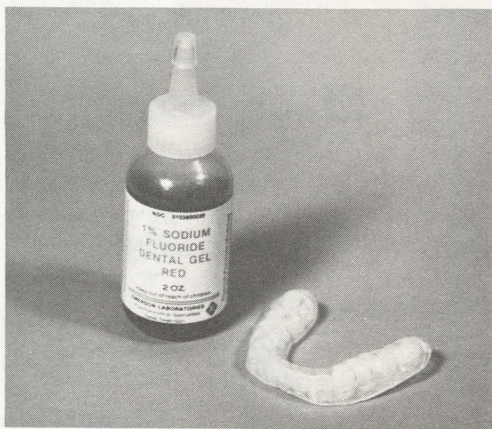
In addition, soft acrylic mouth pieces should be constructed to serve as fluoride carriers. A 1% sodium fluoride gel should be applied to clean teeth with the carriers for five minutes a day. (Fig 2) This home fluoride application should continue indefinitely because the caries may begin when the treatments are stopped. This therapy will also prevent the dentin sensitivity which frequently accompanies radiation.<sup>4</sup>

If the patient is first seen with active radiation caries, the condition can usually be controlled. After oral hygiene procedures have been reviewed for the patient, conventional restorations can be used to repair the defects. The topical fluoride gel should be used for 10-15 minutes three times a day if the caries is already present. This increased exposure of the teeth to the fluoride will control sensitive dentin as well.<sup>4</sup>

### **Osteoradionecrosis**

Osteoradionecrosis is the potentially destructive necrotic process which occurs in bone after radiation therapy. Since bone is more dense than soft tissue, it absorbs more radiation which results in the thickening of the blood vessel walls and a compromise of the blood supply to the bone. As a consequence of this vascular damage, the bone has impaired metabolism, increased susceptibility to infection, and practically non-existent repair capacity. Radiation, trauma, and infection are necessary for the occurrence of osteoradionecrosis.<sup>4</sup>

Prevention of this process involves an evaluation before the radiation is started, along with the control of intraoral infection and trauma. Before radiation, the patient must undergo a thorough dental



**Fig. 2 1% Sodium fluoride gel and fluoride carrier used to prevent or treat radiation caries and dentin sensitivity.**

and periodontal examination. Teeth with a questionable prognosis should be removed. Ideally, all extractions should be performed with as little trauma as possible 10-14 days before radiotherapy begins. This is not always possible, but any extractions should be done only after consultation with the patient's physician. In general, teeth should not be extracted from irradiated bone because this action would subject the bone to both trauma and infection. However, such extractions are sometimes necessary, and they can usually be accomplished safely after consulting with the radiation therapist, prescribing antibiotic premedication, and using sutures to gently approximate the edges of the extraction wound.<sup>4</sup>

The patient should have frequent recall appointments to check for malignant recurrences, oral hygiene effectiveness, and the onset or increase in severity of dental or periodontal disease. These regular office visits enable the dentist to administer frequent prophylactic therapy and to halt the progression of caries or gingival disease before it results in infection or necessitates extraction. If pulpal problems occur, endodontic therapy can be safely performed, and other oral infections can be aggressively treated with topical or systemic antibiotics.

Finally, the dentist is responsible for controlling irritation from both endogenous and exogenous sources. Broken teeth, which cannot be restored or extracted, can be endodontically treated and smoothed to lessen soft tissue irritation. Partial and complete dentures must be regularly checked because the normally harmless denture ulcers which they may induce can rapidly produce infections which lead to necrosis of bone.

The conservative treatment of osteoradionecrosis is usually indicated and will frequently control the disease. The infected areas should be frequently debrided and irrigated with hydrogen peroxide solutions. Zinc-peroxide packs can be applied to the areas and systemic antibiotics should be prescribed. Radical treatment involves surgery which frequently necessitates the removal of a large portion of bone and may produce greater cosmetic problems for the patient than the original cancer therapy.<sup>4</sup>

### Summary

The dentist can offer a valuable service to a patient who has undergone radiation therapy. No other health scientist has a better understanding of oral biology, and no other health professional is better trained to treat or prevent the oral side effects of radiation. The dentist should work with the surgeons, radiation therapists, and counselors of the patient to minimize the effects of radiation and restore, if possible, the tissues disrupted or destroyed by the malignant disease or its therapy. Oral hygiene instruction, reduction of tissue trauma and infection, and the prevention or treatment of radiation side effects should be the goals of the dentist.

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# Part-Time Dental Teaching: A Practitioner Comments

Charles L. Steffel, Assistant  
Professor of Endodontics\*

**Q.***What was your own attitude toward part-time teachers when you were a dental student?*

**A.** It is difficult to make a broad statement about a group of men and women as large and diverse as the part-time faculty at the dental school. But that in itself is one of the strengths of the part-time faculty. When I was a student, observing the different ways in which individual instructors would approach a certain problem proved to be a helpful and enriching experience. Each instructor would have a favorite procedure or technique that he would be most helpful with in the clinic. This individuality of the part-time faculty was a benefit to me as a student. However, one thing they all did have in common was a perspective of dentistry based on practical experience and a knowledge of the "real world." Since my goal was to practice in that "real world," their experiences often gave classroom sessions more relevance to me.

**Q.***It is often suggested that one of the substantial contributions that part-time faculty members can make in dental education is to give dental students contact with the "real world." Please comment on this point.*

**A.** Perhaps one of the greatest differences between the "real world" and the dental school is in the attitudes of the patients one encounters in these

two different environments. Most of the patients the student will see in school are friendly, cooperative people who are actively seeking dental treatment. In supervising students' treatment of patients in the endodontic emergency chair, however, I often have the opportunity to help them with someone who may have delayed dental care due to fear and anxiety. These patients come to the school in pain, but often reluctantly. These patients, who are found more commonly in the "real world," can be very threatening to a student's confidence and self-esteem. But in my office, I see this type of patient often, and have developed techniques to gain their trust and allay their fear. Using my experiences from private practice, I enjoy helping the student successfully treat these fearful, anxious patients. The experience is beneficial to both the patient and the student, and can be an important achievement in the student's dental education.

**Q.***It has been said that a person never knows anything so well as when he has to teach it. Please comment.*

**A.** This point is well taken. When you become a teacher you open yourself up to questions and inquiry that you don't often face in private practice. Things that you do so routinely, without much forethought or reason, may be questioned by those students you are teaching. When I was a graduate student in Boston, I had many friends and students who were interested in the bleaching of tetracycline stained teeth. As I began to teach them the

\*Dr. Steffel, a 1978 graduate of IUSD, completed his graduate training at Boston University. These comments about service as a part-time faculty member were provided in response to questions from the Editors.

technique, they would often ask why I used a certain material or method. For a time my only answer was that this was the way I was taught, and that this method has been successful in my practice. But this inquiry led me to investigate those methods I was using. My master's thesis was based on those questions, and I developed an animal model to identify the most successful methods of bleaching. I had to modify my routine when my research found some more effective methods. Now that I am back in Indiana and teaching bleaching here at the school, I continue to learn from the students' questions and their work. This helps me to continue to improve my own technique.

**Q.** *Do you find that sharing of professional information, experiences, and opinions plays a part in the benefits you derive from your part-time teaching assignment?*

**A.** Very definitely yes. It's always helpful to share opinions and "pick the brains" of my colleagues in the department. The faculty in the Endodontic Department is small, but it is easy to find many diverse views on how to approach a certain clinical problem. But teaching at the school offers even more in this respect. I often have the opportunity to share experiences with many of the visiting faculty who come to the school for special courses and continuing education, such as Dr. Frank Weine. I have also been able to consult with faculty in other departments for their help in dealing with such problems as combined endoperio lesions, or the anticipated restoration of endodontically treated teeth. It has been said that the isolation of solo practice is one of the most difficult problems in dentistry. Teaching part-time at the

school is a tremendous opportunity for someone to break out of that isolation, and share the expertise of many others.

**Q.** *Has the information or perspective gained through part-time teaching had any specific carry-over applications in your own practice?*

**A.** Teaching at the dental school keeps you on your toes. Questions from the students keep me constantly reviewing my own philosophy and clinical methods. Discussions and consultations with fellow faculty members are a great way to keep up with new developments in dentistry. For example, I had never used the Gow-Gates injection technique until I had discussed its use with some colleagues at the school.

**Q.** *Have your experiences as a part-time faculty member stimulated you to do additional reading in the professional literature?*

**A.** I always try to keep up with the literature. But when I come to the dental school, I have access to one of the finest and most complete dental libraries in the country. Not only does our library have a vast collection of books and periodicals, but the video tape collection is extensive, and those tapes are a great way to familiarize yourself with a new clinical procedure. The new computer search system makes it very easy to acquire a thorough bibliography when looking for references on a particular subject. Although these facilities are available to all IUSD alumni, coming to the dental school to teach part-time brings these resources right at hand. The librarians are always anxious to help me find materials whether they are for a lecture I am preparing or for my own personal use.

**Q.***Some people believe that involvement in teaching can "keep a person young" through contact with your students. Has your experience born this out?*

**A.** Well, I don't consider myself that old, at least not yet. But I do enjoy the contact with the students. Not only in the clinics and lecture halls, but also at some of the extracurricular activities like class picnics and the intra-mural sports program. But I must admit, playing basketball with a group of dental students can sometimes make me feel quite old.

**Q.***What are the chief satisfactions that you derive from "getting through" to a student (or students) with the result that a procedure or point of information is mastered?*

**A.** How do you describe the joy of teaching? That is a difficult question to answer. It is gratifying to know that you've made a difference in someone's life. That because of something you do or say, that person will become a better dentist. I can say that, as each year goes by, and I've had the opportunity to reach more and more students, the satisfaction continues to grow. I look forward to the day when some of my students will become teachers, and the knowledge that I have given to them, is passed on to their students, and someday to their students.

**Q.***What are some memorable questions that students have asked you?*

**A.** Dental students are always curious about materials and methods that are not taught at the school. Endodontics is a rapidly changing field, full of both innovations and fads. I have had the opportunity to lecture on one innovation that is very important to me, the

warm gutta percha technique that I use in my practice. I am often amazed at the intelligence and perception that the students display. Most students are not naive, and when given all the facts, are quick to see through the hype and advertising claims made by some of the fad and gimmick manufacturers. When a student leaves the school, no one will be there to tell him which instrument to buy or which material to use. But by honestly answering his questions about those materials and techniques we don't use in the school, I feel we are better preparing him to make an intelligent decision.

**Q.***How would you summarize the overall advantages of service as a part-time faculty member at the Indiana University School of Dentistry? Would you recommend that a colleague accept a part-time teaching position?*

**A.** I would definitely encourage my colleagues to consider part-time teaching. As I have mentioned before, it is a great opportunity to share ideas and opinions with others on the faculty. There is the enriching contact with the students, as well as the vast resources that the library and other school departments have to offer. Teaching gives you the chance to break up the stress and monotony of private practice. But most of all, there is the joy of teaching, the knowledge that you were able to help someone, and that you made a difference in someone's life. If we are to continue to provide the people of this state with the finest dental health care, we must continue to provide the best dental education at IUSD. This is something we can do first-hand, by becoming part of the faculty at IUSD.

# Our 3500-Mile Tour Inside The U.S.S.R.

*Henry C. Heimansohn\**

My wife Hilda came home one day in August, 1981, from her job as staff nurse at the Hendricks County Hospital with the news that another nurse had received a brochure from RN magazine regarding a nurses' tour of Russia. She wanted Hilda to go with her. Hilda wanted to know if it was OK with me for her to go with her friend to Russia. I told her that it would be fine, of course, but secretly I wished I could go, too!

Then in a few days Hilda announced that her friend was canceling out on the tour, which was sponsored by the State University of New York Nursing School in cooperation with the Russian Ministry of Health, and wanted to know if I would like to go instead. I accepted in three seconds! I also enrolled in the course associated with the tour. After attending I.U. I think I can do anything!

Next, I went to our Danville library to study maps of Russia and read about it. The only book they had was a 1953 volume by John Gunther entitled "Inside Russia." Only one store or library in Indianapolis had language tapes on Russian and that was a store in the Glendale Shopping Center. Russian is derived from Greek, I found out, and very difficult to learn in reference to my pre-dent German courses. It also is very melodic and more applicable to poetry than English is.

One doesn't just tour Russia like the USA. Everything is furnished including meals, new buses, plane rides if needed, and pretty Intourist girl guides who are specially trained in English. There are many tour groups but few Americans. Most of the tours are in Moscow or

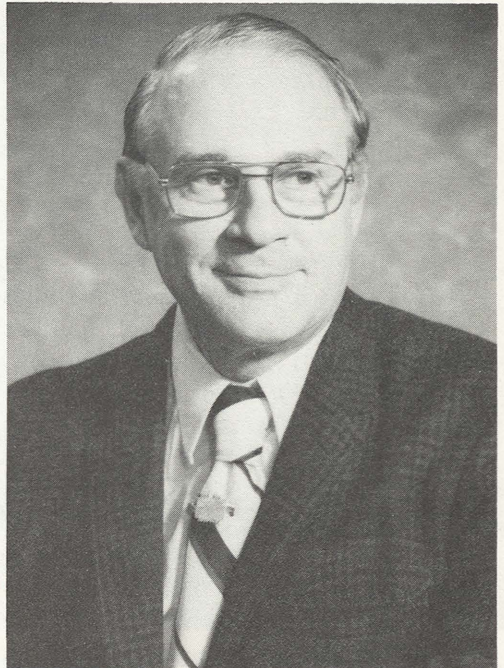
Leningrad, but few include the Caucasus region.

We were allowed one camera and I took about 700 slides and pictures. In Moscow we visited one of the 300 Polyclinics which supply free medical and dental care to all Russians on outpatient basis. The one we visited was a long white four-story building. It was old on the inside and appeared to have had much usage.

The Russians don't believe in elevators, so we went into this Polyclinic and walked up four flights of stairs to a large conference room.

## **Interpreter Provided**

There under a large picture of Lenin, the administrator, a competent-appearing middle-aged woman physi-



**Dr. Henry C. Heimansohn**

\*Dr. Heimansohn, a member of the Class of 1950, practices in Danville, Indiana, and is Dental Director of Indiana Boys School.

cian answered our questions via our pretty young interpreter, Laura. Then we toured the building.

I discovered there was a three-chair dental clinic in one end on the main floor and proceeded to take pictures. Our group left and I still took pictures, not knowing that the others were already in the bus and getting more impatient by the minute!

In Moscow we also did some sightseeing, including a visit to the Kremlin and Red Square. The largest ballet in the world is in the Kremlin and our group attended that evening. Hilda and I at intermission both got our feet caught in the escalator and it finally stopped and we pulled our shoes out of it. There was a long line of Russians behind us.

Our Intourist guides all seemed to be "type A" as they were always getting on and off buses and planes and visiting sites in a big hurry. This made it difficult to take pictures.

For 100 US dollars, one receives 71 rubles. John Gunther said that in the 1950's he received 4 rubles per dollar.

Our Aeroflot Russian plane would depart from Dulles Oct 6th, so we left two days before and drove up to avoid the hassle with flying and the aircraft controllers' strike. Our friends had all warned us we were going to a dangerous place and would be arrested by the KGB!

### **Departure Described**

Russia has no ticket counter at Dulles and the British Airways booth handles the passengers that are going to Moscow. Our group was loaded into a bus and driven out to the Aeroflot plane, seated and then for a half hour nothing happened until two pretty Russian hostesses came out and passed out apples. One of our nurses said that in Dulles she thought there were two KGB men following us. Then the plane took off for Moscow via a 45-minute stop at Gander, Newfoundland.

Our chief problem on the trip was that the Russians fed us too much. The trip to Moscow takes 11 hours and because of time differences we awoke at 2:00AM Indianapolis time and the sun was coming in the windows of the plane. Moscow is 8 hours ahead of us.

We had been advised by our travel agency to bring our own toilet tissue and bathroom stoppers. Naturally we were pleasantly surprised to find ourselves in a huge new 24-story modern Intourist hotel in Moscow called the Hotel Cosmos. They even had a computer on every floor (which I don't think was connected).

With the exception of the Polyclinic in Moscow, our main medical tour was in the Caucasus—a mountain range in Southern Russia next to Turkey and Iran and 1500 miles south of Moscow. The region includes three small republics about the size of Indiana: called Georgia, Armenia and Azerbaijan; We stayed in the respective capitals of Tbilisi, Erevan and Baku.

### **Hospital Visited**

In Tbilisi we visited a 1500-bed general hospital about the size of Methodist Hospital, Indianapolis and built in 1972. In Erevan we made a surprise visit to the largest Pedodontic clinic in the USSR (Armenia has twice the birth rate of other republics in the USSR). The ad-



**A dentist in a Moscow clinic.**

ministrator, Dr. Harry Horowits, took me in his private office and had me sign his register. I also put in a reference to Indiana University School of Dentistry!

In our nursing course the next day at our hotel, we discussed the previous visitation to the dental clinic, as was our custom. As I was one of only two men in the course, I usually hid in the back and tried to be as inconspicuous as possible. In this case, however, I was asked to go to the front of the room and lecture on the Russian dental system compared to the USA Dental system. In retrospect I believe that I went too much in depth on this subject as I was soon discussing myofunctional therapy, causes of malocclusion, fluoridation and similar subjects. In any case, most of the nurses were taking notes and some came up to me afterwards and thanked me for the lecture and said they had never had some of these things explained before.

This was almost a scene from Fantasy Island, my standing before a group of 90

US nurses in the center of Russia lecturing on the respective Russian and USA dental systems.

To get from Tbilisi to Erevan, we took a hectic 200-mile bus trip over very mountainous country. We stopped at Lake Sevan, the largest fresh water lake in Europe. Erevan is across the border from Turkey and Mount Ararat of Noah's Ark fame which we could see from our hotel window.

### Accent on History

There was much history throughout the tour and we saw many of the "onion top" churches as well as many very old sites.

At Erevan, the group was divided in half to fly to Baku. We were in the last half which proved to be a mistake as there was a mixup in the plane schedule and as a result we spent 6 hours in a cold drafty old airport without food.

At Baku we visited a Urology Center where kidney transplants were done. We



Dr. Harry Horowitz, Administrator of the Children's Dental Clinic, Erevan, Armenia, is shown with one of his staff dentists (left) and a member of the U.S. nurses' tour.

also visited historical sites such as the Fire Worshipper's Temple which dates back to 5000 BC. Also the Maiden's Tower, near where Marco Polo passed in his travels.

At Baku also in Lenin Square, thousands of Russians were parading and practicing for the celebration of the Revolution on Nov. 6th.

Then the medical part of our tour was over and we flew to Kiev, which is probably the most modern city in Russia. In 1941 the population was 600,000 and after liberation from the Germans in WW2, the population was 100,000. Most buildings were destroyed except historical structures because the Germans did not think they would leave. Here we visited Tolstoy's home, Ukrainian Museum, Site of unknown soldier, Czar's palace, etc. There was a new 100,000 seat sport stadium next to our hotel. The population of Kiev is now 2.5 million.

### **Farewell Party**

In Kiev, we had a farewell party for our guides with exotic foods, dancing, vodka, and wine, and everyone in general was feeling good especially since the Russian Government was paying for it.

John Gunther said in his book that the Russians always do everything big and I certainly agree with this. The Kremlin was 10 times larger than I imagined it would be. One has trouble finding the entrance to a subway in New York but not in Moscow as the entrance is a large building at every station.

The people are very dedicated. Since the Russian System can turn out professionals at will because everything is paid for, they have more physicians, dentists and engineers than we do. Russia is a strange mixture of the very old and very new.

For example, one may still see peasant women sweeping sidewalks in Moscow. Some stores use an abacus for calculations instead of a cash register. There is no such thing as fast food places or drug

stores as we know them. Their "Antekas" (pharmacies) sell only drugs.

The Russians dress up for everything. For example, in the Antekas the clerks would wear white gowns and caps similar to our nurses in surgical rooms.

There is a labor shortage in Russia due to the millions of casualties in World War II.

How large is Russia? John Gunther says that the width is more than the distance from New York to Moscow. It is not all cold, either; where we were in the Caucasus, grapes are raised.

We were all rather tired by this time and needed some relaxation. We also saw a Russian Folk Festival with native costumes and 50 men dressed in peasant costumes played Banduras which is a kind of extra large balalaika.

This tour was a very exciting experience and a once-in-a-lifetime experience for all concerned. For all of us the actual Russian situation was much different from what we had pictured before we left.

In Baku we went to a special party in the inn where Marco Polo was supposed to have tied his camel to the wall. We sat at a low table with exotic foods and drinks.

Because of the plane fiasco at Erevan, the head of the Russian Intourist flew down from Moscow and met us at this party to apologize. He spoke excellent English, came with his wife and son-in-law and was dressed very casually with suit and open collar. He started making toasts in English and soon everyone forgot what the original problem was! There was a 3 piece band in an open courtyard and we quickly formed a Conga Line and were shouting and dancing, I am sure they could hear us in Iran!

### **Some Observations**

Some general observations about Russia: Russia is not your typical vacation

*(Continued on page 86)*

# Dental Remedies of the Past

Roberta M. Hilderbrand\*

Some time ago I was fortunate to have the opportunity to clean out the cluttered basement of an old drug store in Shelbyville, Indiana. For more than 100 years a drug store had been located at this site. Among my finds were several packages of preparations pertaining to dentistry. Many of the packages contained advertising circulars or "stuffers" along with the preparations.

This article reports on some of the items that I found, which reflect a somewhat more primitive time in terms of analgesics, oral hygiene aids and other items available to the public. Most of the nostrums were manufactured from about 1870 to 1920. What follows is a sampling of the information and claims found on the labels and in the advertising circulars for the various preparations, grouped under the general headings of "Analgesics," "Miscellaneous Remedies," and "Oral Hygiene Aids."

## Analgesics

### Dr. Acker's Baby Soother

The W. H. Hooker Company manufactured this item, along with Dr. Acker's English Blood Elixir, Dr. Acker's English Pills, Dr. Acker's English Remedy for consumption, and Dr. Acker's Dyspepsia Tablets. Among the remarkable claims for Dr. Acker's Baby Soother were the following:

The most dangerous period in the entire life is the first three years, and many parents become murderers by reason of their criminal carelessness toward their children. Cholera infantum, windy colic, and teething pain often become

neglected until too late. Dr. Acker's Baby Soother will relieve on every occasion. This we guarantee. It contains no opium, no morphine, nothing but what is pure, pleasant, and soothing. Thousands of children are alive today who were on the borders of the grave and were saved by this really wonderful compound. No Mother can afford to be without it.

The company did not give a formula for the product. However, one analysis stated that the preparation contained no alkaloids and the alcohol content was unknown.<sup>1</sup>

### Katharmon

The Katharmon Chemical Company advertised this preparation to be non-irritant and non-poisonous. It also said the preparation was antiseptic, prophylactic, detergent and germicidal. The company claimed that the product would allay pain and destroy fetor, and advised that it could be used for many ailments, such as quinsy, cough, sore throat, earache, running of the ear, burns, burning feet, skin diseases, old sores, indigestion, diarrhea, chapped hands, dyspepsia, and flatulency. The product was also advertised as a dental preparation that was said to be "especially efficacious as a toilet article for the cleaning of the teeth, and the correction of bad odors due to affections of the stomach and the teeth." The following recommendations were for the dentally related use of Katharmon:

#### Painful Gums

Frequent rinsing of the mouth with Katharmon checks the pain immediately.

#### Dr. ACKER'S BABY SOOTHER.

The most dangerous period in the entire life is the first three years, and many parents become MURDERERS by reason of their criminal carelessness toward their children. Cholera Infantum, Windy Colic, and Teething pains often cause death because neglected until too late. Dr. Acker's Baby Soother will relieve on every occasion. This we guarantee. It contains no opium, no morphine, nothing but what is pure, pleasant and soothing. Thousands of children are alive to-day who were on the borders of the grave and were saved by this really wonderful compound. No mother can afford to be without it.

\*Mrs. Hilderbrand, an Assistant Professor in the Department of Periodontics, is a registered hygienist and received the Bachelor's degree from I.U. in 1972. She is a former employee of a Shelbyville pharmacy.

#### Mouth Wash and Deodorizer

As a cleanser of the teeth it is unsurpassed. It relieves a foul breath at once. Use it in its pure state.

#### Foul Breath

Half-teaspoon three times a day will remove all disagreeable odor from the breath.

#### Pain after Extraction

A quantity held in the mouth will relieve pain at once.

#### Toothache

Saturate a piece of cotton with Katharmon, apply to the cavity, or hold a small quantity over the affected tooth.

#### Nursing Sore Mouth of Women

Wash mouth out well with boiled water, then apply a mixture of Katharmon one part, water three parts, honey one part. The company states that Katharmon is advertised to the medical profession only.

### Bon-Sol

The Henry K. Wampole Company was known for the Tonic and Stimulant that it prepared and marketed during the 1880s and well into this century. Bon-Sol was said to contain Alcohol 15%, Menthol, Eucalyptal, Thymol, Methyl Sulicylate, Aromatic Oils, Glycerine, Boric Acid, and Benzoic Acid. The Company claimed that it was an antiseptic, germicide and deodorant. The product was also said to be non-poisonous and non-irritating to the skin and mucous membranes.

The Company stated: "Among the numerous uses for Bon-Sol we stress the following":

#### Mouth Wash

Use Bon-Sol full strength. Leaves a clean taste in the mouth that is pleasant and lasting.

#### Minor Irritations of the Gums.

Following extraction and other dental work, Bon-Sol has been found highly effective for minor irritations of the gums and for soothing injured tissues.

It is sold on its proven merits.

### Dr. Fenner's Golden Relief

The M.M. Fenner Company manufactured Golden Relief along with such

other preparations as Dr. Fenner's Fit Remedy, St. Vitus Dance Remedy, Eye Salve, Backache Plaster, Pleasant Worm Syrup, Cough-Cold Syrup, Family Ointment, and Sennatoria. The company also made M.M. Fenner Company's Kidney Pills and Doctor Fenner's Blood and Liver Pellets. The following are typical of the claims for "Golden Relief":

A Great Family Medicine recommended to relieve Pain and Inflammation (Inside or Outside)

Golden Relief is to relieve Inflammation.

Remove the Inflammation and generally there will be no Pain.

Dr. Fenner's Golden Relief is most excellent for relieving pain in any part of the body - inside or out. It frequently does this in a very few minutes. We consider this medicine a great blessing to humanity and think no family would be without it once knowing what it will do.

"Heat is Life: Cold is Death" (Dr. Thompson). Golden Relief is warming.

Following is a partial list of ailments that the preparation purportedly was effective against: Rheumatic joints and limbs, lumbago, sciatica, pain in heart muscles, heart failure (faintness), palpitations of the heart, kicks, jams, wire fence cuts, old ulcers, headache, rusty nail in foot, gunshot or powder wounds, diarrhea, cholera morbus, bellyache, bloating, colds, quinsy, asthma, forming fevers, ague, inflammations, and earache. It also was recommended for tender and bleeding gums, toothache, cankers, cold sore, sore mouth and sore throat.

The company stated that the product contained no opium or morphine. It was described as "hot and peppery to the throat, but perfectly safe and harmless if taken as prescribed." It contained alcohol 70% by volume, chloroform seven drops per fluid ounce and essential oils.<sup>2</sup> For tender and bleeding gums, the buyer was advised to add a teaspoon to one-third cup of sweetened water and use it as a wash several times a day.

### Mrs. Winslow's Soothing Syrup

The wording on the bottle states that this preparation was made by "Curtis & Perkins". Later the Anglo-American Drug Company took over and dropped the "Mrs." from the name. The advertising trade card that I have for the "soothing syrup" carries a calendar for 1887, as well as the following statements:

Should always be used for children teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the Best Remedy for diarrhea. Twenty-Five Cents a bottle.

This preparation became known as one of the "morphine-containing baby-killers".<sup>1</sup> Prior to passage of the 1906 Food and Drugs Act, none of the contents in a bottle of patent medicine had to be listed on the label.<sup>3</sup> After the act became effective on January 1, 1907, the contents had to be listed, but there still were no restrictions on the use of narcotics or alcohol in patent medicines. Not until the Federal Narcotic Act of December 1914 (the Harrison Narcotic Law) were there any rules governing the use of narcotic drugs in patent medicines.<sup>3</sup> However, as late as 1916 morphine was found in this preparation. In 1917 the company gave the following formula for the preparation: Senna, rhubarb, sodium citrate, sodium bicarbonate, oil of anise, fennel, caraway, coriander, glycerin and sugar syrup.<sup>2</sup> The company was still manufacturing the compound in 1935 under the name "Winslow's Soothing Syrup."

### Phenol Sodique

Phenol Sodique, manufactured by Hance Brothers & White Inc., was a black, strongly alkaline liquid with a cresol-like odor. It contained phenols and sodium hydroxide. The advertising circular states that the discoverer of Phenol Sodique was awarded the Montyon Prize of Encouragement by the Institute of France in 1861. The manufacturer made the following claims for the product:

### A Nationally Used Antiseptic

#### The First Thought in Accidents

Should be in every workshop, home, factory, and medicine closet.

Used successfully for more than fifty years in treatment of all conditions where an antiseptic is indicated.

The company claimed that Phenol Sodique was different from most antiseptics because it was non-alcoholic and alkaline, and thus did not possess irritating or corrosive properties. The product was described as "an antacid, non-corrosive, non-escharatic, mildly astringent, stable, and prompt in effect."

The firm recommended this antiseptic for all of the following ailments: burns, bites, stings, poison ivy, carbuncles, boils, eczema, frost bite, cuts, bruises, lacerations, hives, sunburn, prickly heat, nasal hemorrhages and piles or hemorrhoids. Directions for oral use of Phenol Sodique were:

#### Pyorrhea or Bleeding Gums

Add a few drops of Phenol Sodique to moistened tooth-brush as a dentifrice; after which rinse the mouth with a solution of one part Phenol Sodique to four parts of water twice daily.

#### Sore Throat - Mouth Wash

Many contagious diseases are contracted through the mouth - Phenol Sodique as a throat gargle or with an atomizer, three parts warm water to one part Phenol Sodique used every four hours will give great relief. Many infected sore throats and common colds can be prevented by gargling each evening, thus destroying the germs which accumulate during the day or during epidemics of contagious diseases.

#### Toothache

Toothache promptly yields to an application of Phenol Sodique made directly to the exposed nerve end. Moisten a pledget of cotton with Phenol Sodique and apply in the cavity of the tooth.

The manufacturer further stated that Phenol Sodique would be beneficial in the treatment of Canker, Cold Sores, or Cracked Lips. The user was advised to "keep the sore moist with a solution of

one part of Phenol Sodique with two parts of water."

**Miscellaneous Remedies  
For Toothache and Other Pain**

**Ma-le-na**

The Malena Company described this medicine as "the Best Remedy on Earth," and said it could be taken either internally or externally. Dosage was a half teaspoon mixed with sugar, taken several times a day: "Allow to melt in mouth and pass slowly down the throat."

**Tuttle's Family Elixir**

The Tuttle Elixir Company recommended this old-timer for almost anything and everything, such as pain in the side, cholera, "la grippe," lameness, joint affections, earache and toothache.

No directions were given for its use as a toothache preparation. The elixir contained 30% alcohol.

**Cooper's Quick Relief**

The Cooper Medicine Company gave

these directions for the use of Quick Relief: rub gums hard with Relief; saturate a little cotton with it and place in hollow of tooth; also rub outside of jaw.

The preparation contained 31% alcohol, capsicum and oil of sassafras.

**Dr. Jones' Liniment**

M. Spiegel & Sons, Inc., recommended this liniment for all of the following discomforts; corns, callouses, bunions, rheumatism, neuralgia, headache, backache, bruises, sprains, chilblains, colic and all bodily pains.

The manufacturer listed toothache, but no directions for its use were given.

The company stated of this preparation; "Used on man and beast". A picture of a beaver appears on the label. This was the trade-mark belonging to the company. A likeness of the animal is embossed in the glass on the back of the bottle.

**Low's Liniment**

This preparation was first manufactured by Dr. D.B. Low and it was named Dr. Low's Electric Liniment.

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always use **Phénol Sodique** during and after dental work. Sore mouth and tongue produced by excessive smoking can be treated in the same manner. **Phénol Sodique** ointment should be used for chapped and cracked lips and hands.

In the treatment of *Catarrh* it serves a most admirable purpose; for while aiding in cleansing the nasal passages of mucus it is at the same time bland, soothing and healing to the inflamed tissue, being antiseptic and deodorant.

It is best employed in a nasal douche, night and morning, using a solution of about one part of **Phénol Sodique** to eight parts of hotseawater; or it may be used in an atomizer spraying the nasal passages. We prefer the use of the douche as the better method.

**DOMESTIC ANIMALS**

**Phénol Sodique** is used in the same proportions for smaller animals as human beings. Stronger solutions may be used for the larger animals. Poisonous antiseptic solutions should never be used, due to the natural inclination of all animals to lick sores.

**PHÉNOL SODIQUE SUPPOSITORIES**

After much experimenting we are enabled to offer **Phénol Sodique** Suppositories, which combine the remedial properties of **Phénol Sodique** in combination with other remedial agents in a form convenient for application in the treatment of piles or hemorrhoids.

The introduction of this suppository was induced by numerous requests from our friends of the medical profession who have found **Phénol Sodique** an efficacious remedy in these cases.

Offering **Phénol Sodique** in this form to the public we feel that we are offering a remedy that will not fail to give the sufferer quick relief in these painful conditions.

**PHÉNOL SODIQUE OINTMENT**

Combining the antiseptic properties of **Phénol Sodique** with other remedial agents in a bland neutral base so incorporated that with each treatment **Phénol Sodique** is evenly applied to the affected part. It will be found most soothing and healing in the treatment of rash, eczema, pimples and certain other skin affections of an eruptive nature, and for burns, scalds or wherever a bland healing and soothing ointment is indicated.

**PHÉNOL SODIQUE SOAP**

Made from the purest of vegetable oils, combined with our well-known antiseptic **Phénol Sodique**. This soap will be found to be a valuable adjunct in the treatment of many skin diseases, and as a toilet soap it is unrivalled. Used daily it will help to eradicate poxes and other blemishes and leave the skin smooth and healthy. Nothing so nice for baby's bath.

**HANCE BROTHERS & WHITE INC**  
MANUFACTURING CHEMISTS PHILADELPHIA U.S.A.  
PROPRIETORS OF PHÉNOL SODIQUE PREPARATIONS  
TRADE-MARK REG. U. S. PAT. OFF.

**PHÉNOL SODIQUE THREE SIZES**      **PHÉNOL SODIQUE SOAP**  
**PHÉNOL SODIQUE OINTMENT**      **PHÉNOL SODIQUE SUPPOSITORIES**

**MONTYON PRIZE OF ENCOURAGEMENT**  
AWARDED BY THE **INSTITUT DE FRANCE 1861**  
**PHÉNOL SODIQUE**  
TRADE-MARK REG. U. S. PAT. OFF.

Inert matter water not more than 96%      Relative germicidal strength 0.87

**A NATIONALLY USED ANTISEPTIC**  
**The First Thought in Accidents. Should be in Every Workshop, Home, Factory and Medicine Closet**

Used successfully for more than fifty years in the treatment of all conditions where an antiseptic is indicated. **Phénol Sodique** differs from most other antiseptics in that it is non-alcoholic and is alkaline, consequently does not possess the irritating or corrosive properties which are often associated with preparations recommended as antiseptics.

The Medical Institute of France awarded the discoverer of **Phénol Sodique** the Montyon Prize of Encouragement, demonstrating the high regard in which **Phénol Sodique** has always been held by the medical profession.

**PHÉNOL SODIQUE**  
Is antacid. Is prompt in effect. Is stable. Is non-corrosive. Is non-exsiccant. Is mildly astringent. Is conveniently applied. Is not of an offensive odor. Is miscible with water and alcohol in all proportions. Its prompt application will, in the majority of cases, procure remedial and prevent serious complications.

**A FEW OF THE USES OF PHÉNOL SODIQUE WITH METHOD OF APPLICATION**

**ABRASIONS**  
Wash with one part **Phénol Sodique** in three parts of water. Follow application of solution of **Phénol Sodique** with iodine.

**BURNS, SCALDS AND BLISTERS**  
Apply to the injured surface and wash lightly with cold water. Do not expose blisters. Soothe the discharges with one part **Phénol Sodique** in four parts

It was recommended for the speedy relief of rheumatism, neuralgia, pain in the face, side or back, cuts, sprains, diarrheas, headache and toothache. The preparation was recommended for external and internal use. It was also advertised for use on horses and cattle. The claim was that "it excelled all others in use."

The liniment contained 69% alcohol.

### Low's Liniment

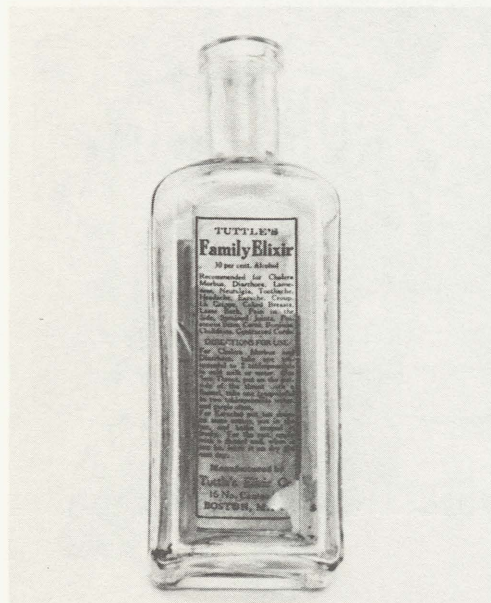
This preparation was first manufactured by Dr. D.B. Low and it was named Dr. Low's Electric Liniment. Later Smith Kline & French, Company made the liniment.

The company recommended it for the speedy relief of rheumatism, neuralgia, pain in the face, side or back, cuts, sprains, diarrheas, headache and toothache. The preparation was recommended for external and internal use. It was also advertised for use on horses and cattle. The company claimed that "it excelled all others in use."

The liniment contained 69% alcohol.

### Chamberlain's Pain-Balm

The Chamberlain Medicine Company recommended this pain-balm for



rheumatism, lame back, neuralgia, sciatica, lumbago, gout, sprains, swelling, lameness, cuts, bruises, scalds, wounds, lacerations, chilblains, frostbite, sore throat, headache, backache, cramps of the muscles, pains in the chest, and toothache. The company also recommended keeping the Pain-Balm away from fire and light.

### St. Jacobs Oil

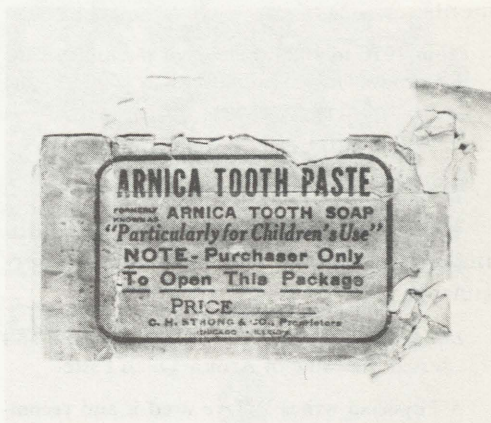
The Wyeth Chemical Company manufactured this preparation. It contained chloroform, aconite, turpentine, camphor, oil of camphor, and oil of thyme. The company recommended it as being useful wherever an efficient counter-irritant or rubefacient was needed. For toothache, these directions were provided: "Moisten a piece of cotton with St. Jacobs Oil, and place in cavity of tooth and rub on gums."

It was recommended that the oil was to be used externally only, and not near fire or flame. The bottle was to be kept well corked.

### Oral Hygiene Aids

#### Arnica Tooth Paste

This cake of toothpaste, manufactured by C.H. Strong & Co., was packaged in a flat tin, then wrapped in paper which carried the statement: *Note: Purchaser Only To Open This Package.* The ap-



parent intent was to keep the product from becoming contaminated by anyone other than the purchaser. Evidently, each family member was to own his own tin of paste because on the lid of each tin there was an indentation where initials could be scratched.

The company gave the following directions for using Arnica Tooth Paste:

Dampen the brush and rub freely across the surface of the paste. Brush the teeth and gums. Use morning and night.

These directions have special interest because not many companies of the time are thought to have advised people to brush the gingival tissue. Claims by the manufacturer included the following:

It whitens and beautifies Teeth and sterilizes the mouth.

It imparts a most Delightful Perfume to the Breath.

The manufacturer seemed to be concerned with inflation and the economics of the day, as these statements show:

This dentifrice is particularly adapted for children, as it is concentrated, non-abrasive, cannot spill, leak, break, or otherwise be wasted.

A druggist has commented - "Use Arnica Tooth Soap to reduce the high cost of living, because one box lasts three times as long as other kinds of dental preparations."

The small parts of cake remaining in the bottom of the box can be removed with a clean knife and spread or pressed on top of a new cake.

The company also made these statements:

From 1916 to 1920 the cost of manufacturing this product increased more than 100%. Regular price, 50¢ per package.

Our circular "How To Obtain Refills" - will be sent upon request.

The following rather vague testimonials were part of the campaign of persuasion:

Eminent authorities have advised the use and attested the value of Arnica Tooth Paste.

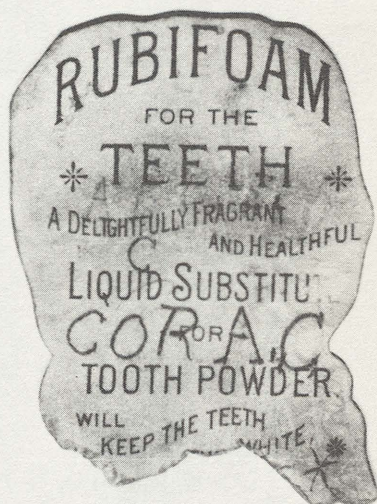
A Physician writes: "Have used it and recom-

mended it to scores of patients for the last twenty years. Have never found anything so good".

Professor Lewis B. Allyn, Chemist, has analyzed and endorsed Arnica Tooth Soap.

Rather surprisingly, the firm was clearly open for suggestions from the consumer, as this statement indicates:

If you have used this dentifrice for 15 years or more, please send your name and address and suggestions for any improvement in the box or contents.



The manufacturer also claimed widespread popularity for Arnica Tooth Paste in stating "more than 9,000,000 Packages Used."

### Rubifoam for the Teeth

E. W. Hoyt & Co., made the following claims for its product:

Will keep teeth white.

Removes all uncleanness, prevents decay, preserves, beautifies, is deliciously flavored, free from acid.

Men, women, and children approve of it.

It is sold by all druggists, 25¢.

### Sanitol Tooth and Toilet Preparations

The Sanitol Chemical Laboratory Company manufactured a complete line of tooth and toilet preparations. Among the dental preparations were tooth paste, tooth powder, liquid antiseptic, and toothbrushes for adults and children.

The following are excerpts from the firm's literature:

#### Sanitol Tooth Paste

An ideal tooth preparation, keeps gold fillings well polished.

Perfectly cleans the teeth and prevents tooth troubles.

In a tube, no waste, convenient for travelers. Price 25¢ per tube.

#### Sanitol Tooth Powder

An antiseptic and absolute cleanser that preserves the health of the teeth, prevents tooth decay and keeps the teeth white.

It acts differently from all other tooth powders. Price 25¢ per can.

#### Sanitol Liquid Antiseptic

The unequalled mouth wash for the teeth and mouth

Kills the germs of decay, purifies the breath, delightfully flavored and cooling.

An antiseptic recommended by dentists. Two sizes.

*(Continued on page 87)*



# The Herpesviruses

*Charles J. Palenik and Chris H. Miller\**

Few humans pass through life without contracting at least one type of herpesvirus infection. The lesions produced usually are self-limiting, but can be intensely painful. However, such infections in the neonate, debilitated or immuno-suppressed patient can result in permanent disability or even death. Since these viruses are often transmitted through respiratory tract secretions, they pose a threat to the dental staff.

## **Virology Review**

Over 70 members of the herpes group have been shown to infect a broad variety of animal species; however, only five distinct viruses commonly affect humans. These are the Epstein-Barr virus (EBV), varicella-zoster virus (VZV), cytomegalo-virus (CMV) and the herpesviruses (HSV) Type 1 and Type 2. Herpesviruses are similar in their physical shape and their ability to assume extended periods of latency. However, the microscopic pathology and clinical symptoms produced are quite diverse. In addition, there is often a stark difference between primary and recurrent states of infection. Herpesviruses are 150-200 nm in diameter, and their protein coat is covered with a virulence-related envelope. The different viruses appear similar when observed under an electron microscope and contain sufficient double-stranded DNA to code for 80-100 proteins. Their ability to form specific enzyme-proteins needed for virus multiplication offers a unique opportunity for anti-viral chemotherapy. Agents which inhibit viral growth without

damaging human cells are presently under clinical investigation.<sup>1</sup>

## **The Infection Process**

A wide variety of cells are susceptible to infection by herpesviruses. The extent of such infections is dependent on such variables as age, gender, sexual conduct, nutritional status, racial/ethnic background, immunological capacity, mode of transmission and even the amount of viral inoculum.<sup>1</sup> In addition, primary infection, latent state and reactivation (recurrent disease) stages can involve different cell types and locations even when only one type of herpesvirus is involved. The disease process in herpetic infections involves viral-directed cell death or tissue damage related to the immune response. Herpes simplex viruses (HSV-1 and HSV-2) usually will infect epithelial cells. HSV-1 is normally associated with oropharyngeal lesions, while HSV-2 tends to infect genital mucosa and surrounding skin. This division of site specificity is becoming less apparent because of changing sexual practices. Primary lesions may spread throughout the body in the immuno-suppressed individual. Both types of HSV cause recurrent infections because of their ability to invade local nerve tissue. HSV-1 assumes latency in the trigeminal and cervical ganglion, while HSV-2 infects the sacral ganglia. Reactivation will cause lesions to form in the areas served by these nerves.

The varicella-zoster virus causes chickenpox, usually in young children. Shingles is a reactivation form of the primary disease which usually occurs later in life. Primary infections usually occur in children, but can occur in adults. There is a total of about 200,000 cases per year in the USA. The virus initially

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infects the mucosal epithelium of the upper respiratory tract and then spreads via the lymph fluid and blood (a primary viremia). The viruses are trapped by the reticuloendothelial system where they tend to multiply. A second larger viremia occurs which carries the virus to the capillary endothelial cells and eventually to the skin. The result is multiple fluid-containing vesicles on the skin. The virus appears to remain in the dorsal root ganglia for long periods of time. Years later the virus may become reactivated, thus causing vesicles to appear on the skin supplied by the affected nerves. The eruption is usually unilateral with the trunk, head or neck most commonly involved.

Cytomegalovirus (CMV) can damage salivary glands, kidneys, liver and other organs and is presumably spread by close contact with secretions from infected persons (e.g. saliva or respiratory droplets). CMV is also transmitted congenitally from infected women. This results in numerous seriously retarded infants being born each year in the USA.<sup>1 2</sup> The Epstein-Barr viruses (EBV) cause infectious mononucleosis and are strongly associated with Burkitt's lymphoma in Africa and nasopharyngeal carcinoma among certain ethnic Chinese groups.<sup>1</sup>

With the exception of VZV and EBV, primary infection with a herpesvirus does not always guarantee immunity to reinfection or reactivation. In fact, repeated primary infections by CMV and HSV are somewhat common. Antibodies made during an infection may modify the disease but do not prevent reinfection. Although a slightly different strain of the virus can be involved in a reinfection, it is most likely that reinfection results from the ability of the virus to establish in superficial areas. These locations are not exposed to a great degree to the protective effects of the immune system. Cell-mediated immunity is important in limiting ongoing primary infections and reactivated infection.

After a primary infection, the virus may remain in the nerve tissue. A variety of stimuli have been blamed for reactivation of the latent virus, and these include: sunlight, fever, emotional stress, pressure on a nerve, allergies, menstruation, hormonal imbalances and localized antibodies. Escape from the effects of antibodies present in tissue fluids probably occurs because the virus travels directly from cell to cell without being released into the body's circulating intracellular fluids.<sup>1 3</sup>

### Herpes Simplex Viruses

Because of the variety, importance and frequency of occurrence orally, a more extensive discussion of herpes simplex infections would be in order. The herpes simplex (hominis) virus group can be divided into two distinct types, herpes simplex virus, Type 1 (HSV-1) and herpes simplex virus, Type 2 (HSV-2). The two types differ somewhat in their clinical and epidemiological behavior. Differentiation can now be regularly made on the basis of nucleic acid content and antigenic/biochemical differences. The normal mode of transmission is also different.

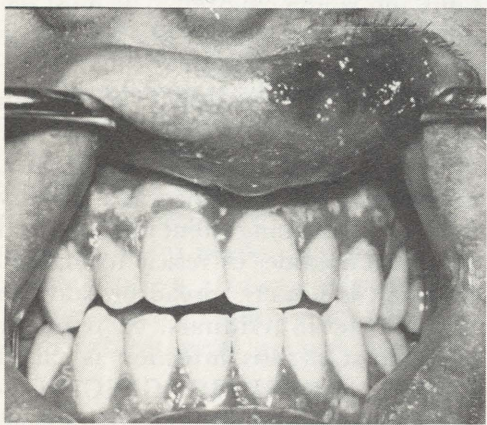
Herpes simplex virus, Type 1 (HSV-1) is restricted primarily to the intraoral and perioral tissues and the skin above the waist. It most commonly affects infants and young children. The most significant dentally-related disease will be outlined and discussed.<sup>4</sup>

HERPETIC STOMATITIS is an acute inflammatory infection of the mucous membranes of the oral cavity. Like all herpesviruses there is a primary infection, a life-long latent infection and recurrent episodes of vesicle formation. Infection is usually spread by saliva to susceptible individuals. A primary herpetic stomatitis infection is called ACUTE HERPETIC GINGIVOSTOMATITIS and is most common in children (6 months to 5 years), but can occur at any age. About 4-6 days after

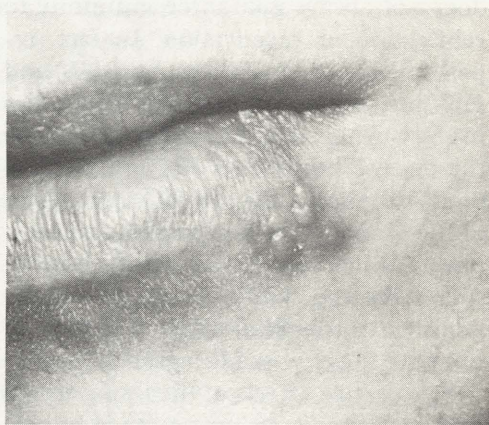
infection there is an abrupt onset of fever (102° - 104°F) and restlessness is common. Oral lesions appear 12-96 hours later and a wide-spread gingivitis normally occurs. The mucosa becomes marked with vesicles which quickly rupture, leaving tender, 1-3 mm shallow yellow-gray colored ulcers. These lesions tend to coalesce and are often surrounded by a red halo. The extensive spread and pain involved causes the individual to resist eating and drinking (Figure 1). Drooling is common in children and allows the virus to spread to perioral skin areas. Symptoms last 12-14 days, but the gingivitis persists longer. Adult primary infections are similar, may be less severe, but often involve the pharynx and tonsils. Fortunately, a limited number of primary HSV-1 infections (10-20%) demonstrate overt symptoms. Development of symptoms seems to be related to the amount of viral inoculation, age and general health status. Whether symptoms develop or not, the virus will assume a state of latency in the sensory ganglia of the second and third division of the trigeminal nerve. Between 50-90% of adults with latent infections shed viral particles periodically. However, 30-50% of adults actually demonstrate clinical lesions. The recurrent form of herpetic stomatitis is called **HERPES LABIALIS** or more commonly

"cold sores". The appearance of such lesions is preceded by a short prodromal period in which the affected area starts to burn/itch and then becomes painful. Raised papules quickly become vesicles which crust over in 48 hours. Complete healing without scarring is usually complete in 6-10 days. The outer one-third of the vermillion border of the lip is most commonly affected (Figure 2). Most people suffer 1-2 episodes per year; however, monthly afflictions are not uncommon. Recurrent lesions generally reappear at the same site/area and the reactivation stimuli (such as heat, diet, stress, sunlight, etc.) are usually the same for a given individual. The greatest number of virus particles are shed in the first 24 hours of clinical symptoms. HSV-1 is commonly present in the saliva of ongoing recurrent cases. In addition, 1-5% of adults without symptoms are orally shedding viral particles.<sup>1 4 5</sup>

**HERPETIC WHITLOW (PARONYCHIA)** is a generally benign digital infection which commonly affects medical or dental personnel. Inoculation occurs through a break in the skin via HSV-1 bearing saliva or by direct contact with a herpetic lesion. Autoinfection can occur, especially if nail-biting is a problem. After 3-7 days of incubation, multiple vesicles appear near the end of the infected finger (Figure 3). Usually just



**Fig. 1. Acute Herpetic Gingivostomatitis.** (Courtesy of Dr. Jack E. Schaaf)



**Fig. 2. Recurrent Herpetic Stomatitis, Herpes Labialis** (Courtesy of Dr. Jack E. Schaaf)

one finger becomes involved. There is intense local pain and swelling and some persons experience fever. The finger rapidly becomes debilitated. The vesicles tend to coalesce; however, such lesions should not be incised because this will often lead to secondary bacterial infections. Treatment is limited to isolation of the finger and to the use of analgesics. Lesions and pain usually resolve in 18-20 days. Recurrent, equally painful lesions are not uncommon. The use of gloves would eliminate such painful experiences.<sup>4 6</sup>

In developing nations, HSV-1 causes the most common types of corneal infections (DENDRITIC KERATITIS) and is the most important ocular virus as to morbidity and mortality. HSV-1 particles enter the eye via aerosols/particles or more commonly by direct contact onto the cornea. Vacuoles quickly form and coalesce. The disease is more severe in children with attending pain and redness. The resulting ulcer offers the sensation of the presence of a foreign body in the eye. If left untreated, the infection may spread to the stroma. Recurrent lesions are common (25% in 2 years) and can lead to progressive scarring.<sup>7 8 9</sup>

Herpes simplex virus, Type 2 (HSV-2) causes primary and recurrent lesions in both male and female genital tracts. Primary GENITAL HERPES is usually a

venereally transmitted infection. Painful vesicles/ulcers form on the vulva, vagina, cervix and surrounding skin. Similar lesions develop on the glans penis, prepuce and penile shaft. Inguinal lymphadenopathy is common and painful in both sexes. Constitutional symptoms, such as fever, malaise and headache, are also common. Although very painful, the disease is usually self-limiting. Pain diminishes in about 10-14 days, but healing may take up to 2-3 weeks. There is usually no scarring involved. Recurrent episodes are generally less severe, yet painful lesions still persist for 1-1½ weeks. There are an estimated 300,000 new cases of genital herpes each year in the United States.<sup>10</sup> The highest incidence occurs in the child-bearing age group. If genital herpes is present in the mother, then the child should not be delivered vaginally. Unfortunately, it is known that two-thirds of the infants with NEONATAL HERPES were born of mothers without symptoms. A rapid detection system needs to be established. In addition, genital herpes causes a significant amount of premature births (before the 32nd week), thus the more prompt the detection, the greater will be the benefit. Neonatal herpes victims face a grave future. Untreated mortality is about 80% with most of the survivors suffering severe psychomotor/ocular damage.<sup>11 12</sup> Recently, HSV-2 has been offered as an etiological agent of CARCINOMA OF THE CERVIX<sup>13</sup> and VULVAR CARCINOMA *IN SITU*.<sup>14</sup> However, more extensive research is needed to properly estimate the relationship of HSV-2 to these forms of cancer.

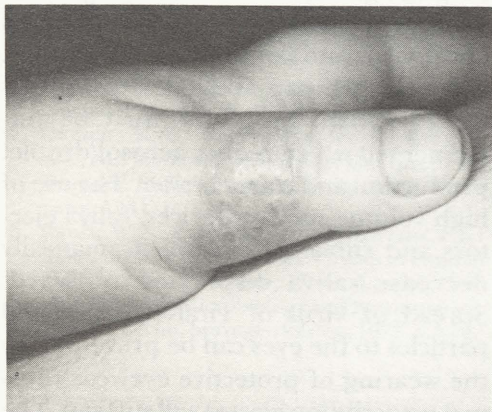


Fig. 3. Herpetic Whitlow (Paronychia)  
(Courtesy of Dr. Paul E. Starkey)

### Attempts at Treatment

Because herpes infections, especially the recurrent forms, are such common occurrences, a large number of home remedies and over-the-counter medications have been popular. In addition, a number of common and exotic drugs/

injections and diets have been evaluated in clinical trials. Unfortunately, the vast majority have demonstrated limited effectiveness when tested in properly controlled studies. In many cases, such as with acute gingivostomatitis patients, treatment is primarily supportive. The primary concern is the maintaining of adequate nutritive intake and the prevention of dehydration. There may be a need for antibiotic therapy to prevent secondary infections. The use of corticosteroids is contraindicated. Topical anesthetic sprays, solutions or rinses can afford the patient some degree of comfort.<sup>15</sup>

Because of the wide scale effect of the herpesviruses, many intensive programs are presently being conducted, seeking a viable herpesvirus vaccine. However, presently no accepted vaccine systems exist. Several effective anti-herpes drugs are known; however, they are effective only against a limited number of infections. Iododeoxyuridine (IUDR) is an effective topical agent against HSV-1 infection of the eye. IUDR, however, seems not to be very effective against oral-facial lesions.<sup>16</sup> Adenine arabinoside (ara-A, Vidarabine) when administered early reduces mortality and nerve damage in HSV encephalitis. Vidarabine is also licensed for use against HSV and VZV in immunosuppressed and neonatal patients. However, these drugs tend to be toxic. A new drug, acyclovir, [9-[hydroxyethoxy-methyl guanine], is a unique type of anti-viral agent. It appears to be effective in some types of infection.<sup>17 18</sup> It has also been advocated that acyclovir could be paired with interferon therapy to create a more effective treatment system.<sup>1</sup> After infection of human cells, herpesvirus direct the production of large amounts of several substances (e.g. enzymes and structural proteins) which are needed for viral multiplication. Therefore, virus-infected cells contain a variety of enzymes and structural entities not found in normal cells.

When the drug acyclovir enters the cell, it is activated only if a viral-induced enzyme (a thymidine kinase enzyme in the case of HSV) is present. This specific enzyme phosphorylates (activates) the acyclovir, which then inhibits synthesis of virus DNA and prevents viral multiplication. Acyclovir is activated to anti-herpesvirus levels only in infected cells; thus normal cells do not activate the agent in large enough amounts to be harmful.<sup>19 20</sup> Clinical trials are being conducted on acyclovir and other agents in the hope of eliminating/reducing the effects of this stubborn group of viruses.<sup>21 22</sup>

### **Treating the Herpetic Patient**

Treating patients suffering with primary acute herpetic gingivostomatitis should be delayed until all clinical symptoms have resolved. Unless an extreme emergency exists, the perioral pain and the heightened chance of infection are too great to chance routine operations. However, dental practitioners can safely treat patients with recurrent herpes simplex infections. Safe treatment is predicated upon the implementation of a few simple, inexpensive modifications in operatory practices. If lesions are present or infection is suspected, it is strongly recommended that high quality surgical gloves be worn during treatment. This will prevent the penetration of the virus into skin abrasions or defects. Because the virus is shed into the patient's saliva, methods must be implemented which reduce aerosol/droplet production and transmission. The use of high volume suction devices, saliva ejectors and rubber dams will dramatically decrease saliva dispersion outward. Spread of virus or viral-contaminated particles to the eyes can be prevented by the wearing of protective eyewear (normal prescription glasses will suffice). The ultimate decision as to the initiation of treatment is a matter of professional

judgement. However, it is comforting to know that the chances of cross-infection can be almost totally eliminated if protective methods are routinely employed by both the dentist and the office auxiliaries.

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## Ms. Mason Wins Award For Educational Achievement

Ms. Myra Mason, Minority Affairs Officer for the School of Dentistry, was honored recently with an Educational Achievement Award presented by the Center for Leadership Development in cooperation with the Indianapolis Chamber of Commerce. The presentation was made at a Minority Business and Professional Achievers Recognition Awards dinner at the Indiana Convention Center.

Ms. Mason's award was based on her background of public school and community college teaching, as well as her work at the School of Dentistry and her general community involvement.

# Visitors Tour Institutions And Other Extramural Sites

An interesting option that is open to dental students planning for their extramural experience in the four-year curriculum is service in a dental clinic within a State or Federal institution or at other sites besides the customary private practice setting. In early January of this year Dean Ralph E. McDonald, Associate Dean Ralph G. Schimmele, who has charge of the Extramural Program, and Professor Paul Barton, Secretary of the School of Dentistry Faculty Council, visited several such sites in Central and Western Indiana.

The sites visited and the students involved were: LaRue Carter Hospital (Ms. Vicki Burge and Mr. Chris Kesling), Veterans Administration Hospital (Steve Tempel), and Citizens Ambulatory Health Center (Ms. Jane Heyde), all in Indianapolis; Indiana Youth Center and Indiana Boys' School, Plainfield (Mr. Terry Mahoney and Mr. Bruce McDowell); and U.S. Penitentiary, Terre Haute (Mr. Gary Metzler).

Upon completion of their period of service at the sites visited, the student participants were asked to comment on the value of the experience and they reported excellent acceptance by patients as well as by colleagues. They also said they would recommend such experience to their classmates. Other questions elicited comments like these from the students:

The administration (of the clinic) was very friendly and helpful. I felt very comfortable working at the center. . . . A normal day included fillings, extractions, exams, and prophys. I was allowed to do the exams and prophys and any fillings or extractions that were not difficult. (*Jane Heyde*)

If this was the first time in (for a patient at the clinic) we performed a

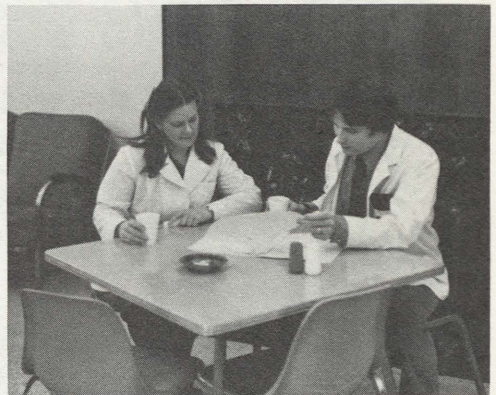
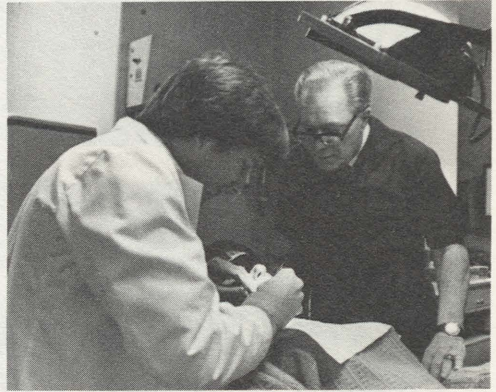
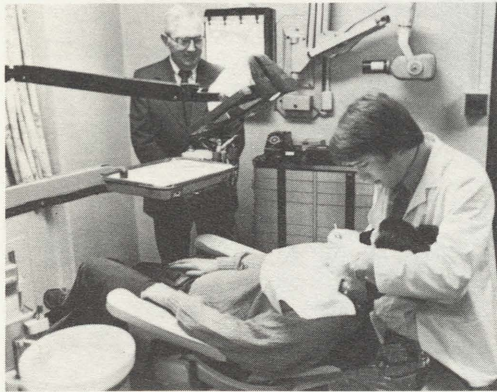
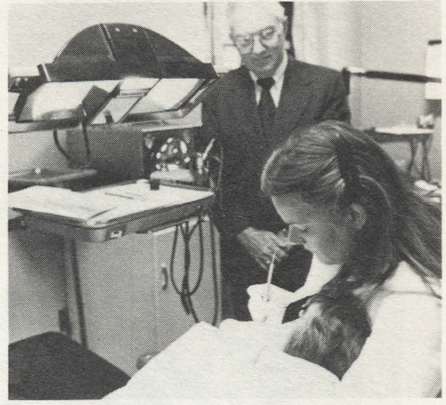
routine dental exam and took bitewing radiographs. If any problems were seen upon examination, an appointment was made to correct them. Most of the patients were easy to get along with. All in all it was a good experience, especially in learning to handle these patients psychologically. (*Chris Kesling*)

Each institution has its own set of rules and its own unique problems which differ from private practice problems. I would recommend that two or more weeks of a student's extramural program be spent in an institution which has dental care facilities. . . . Learning to accept each patient's handicap and communicating in positive terms for achieving productive treatment is challenging. (*Vicki Burge*)

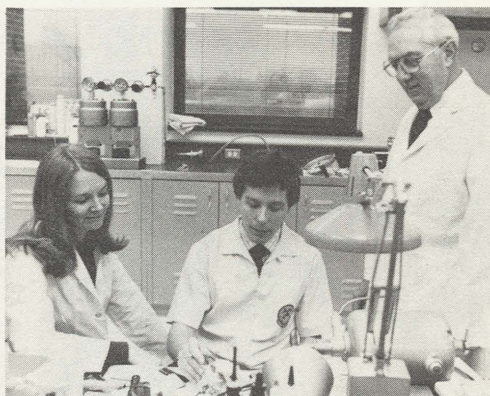
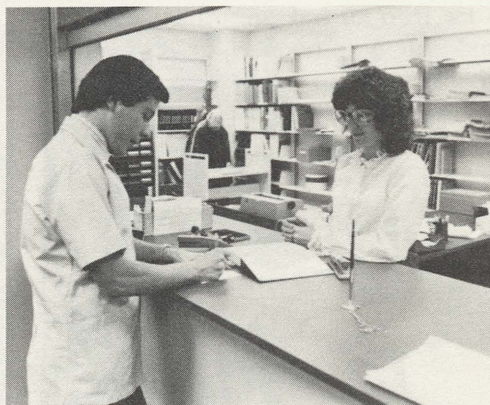
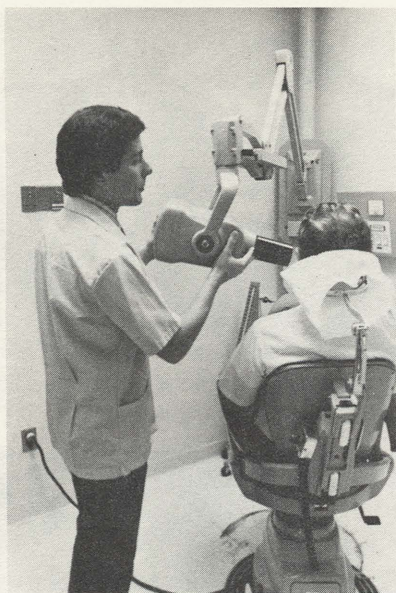
To a man, and woman, they (institutional administration and on-site colleagues) were all very helpful. An institutional experience is a good chance to see a considerable number of practitioners work in a closed area. . . . I can think of no patient who said anything to indicate that my presence bothered him. (*Steve Tempel*)

Both the staff dentist and the administrator went out of their way to make us feel at ease. . . . The extra experience in operative dentistry is really helpful. There is a difference between institutional dentistry and private practice. Because of the funding situation compromises must be made in regard to ideal dental treatment. This is important also in dealing with patients in private practice who cannot afford expensive and ideal dentistry such as extensive crown and bridge. (*Bruce McDowell*)

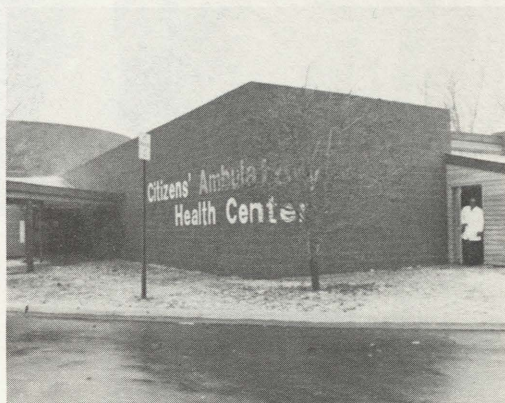
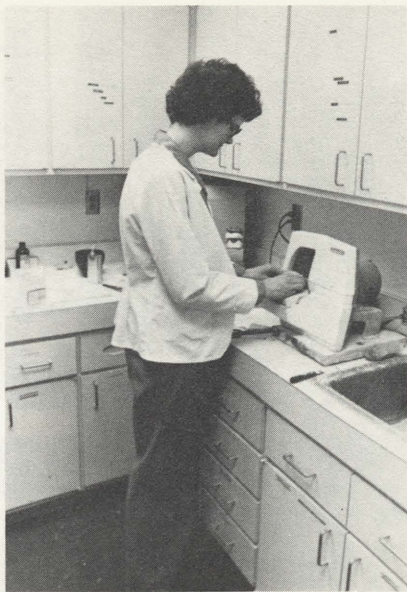
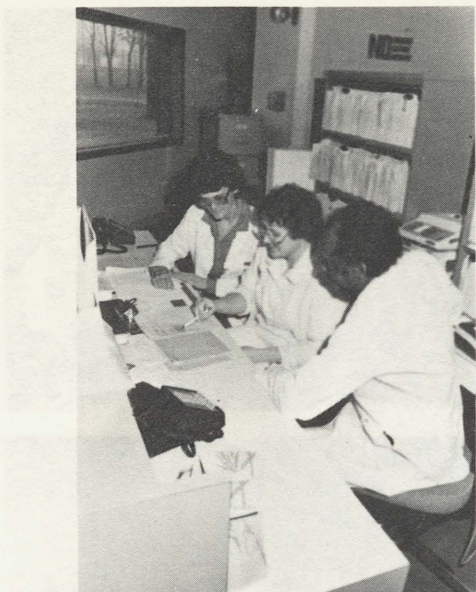
At the Youth Center I arrived at 8:30 a.m. and generally a patient was



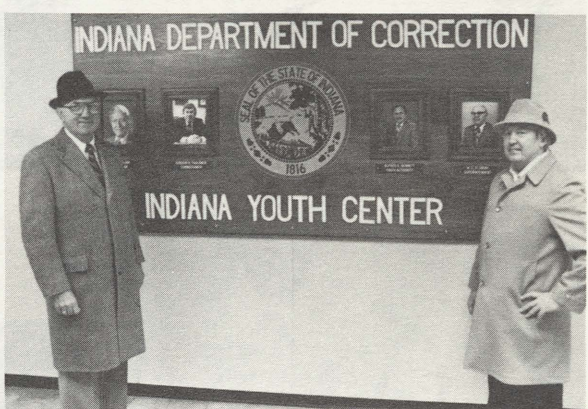
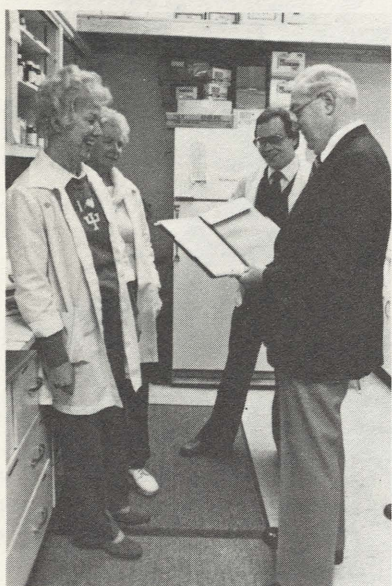
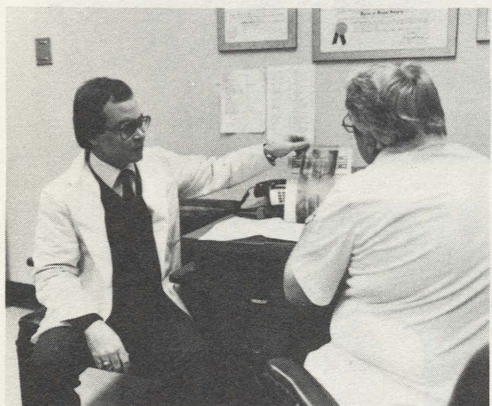
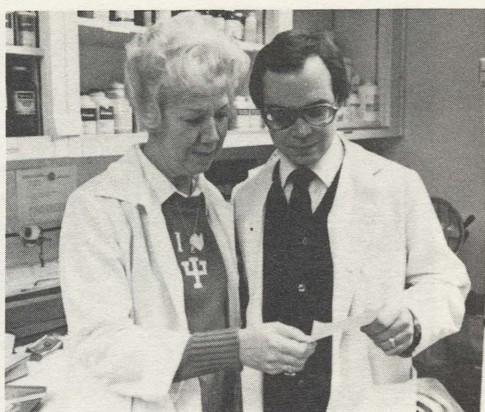
**Fourth Year Dental Students Vicki Burge and Chris Kessling are shown in the Dental Clinic at LaRue Carter Hospital with Dean Ralph E. McDonald and Dr. David Amos (right center) during a recent series of visits to institutional extramural sites by Dean McDonald and Associate Dean Ralph G. Schimmele (top left). All photos of the visits are by Mr. Clyde Thomas. Page Layouts: Dr. Rolando DeCastro.**



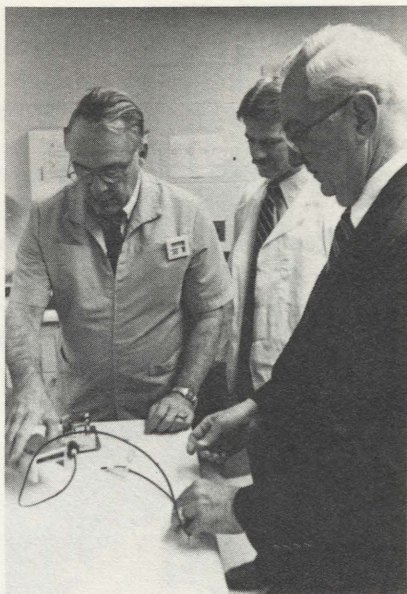
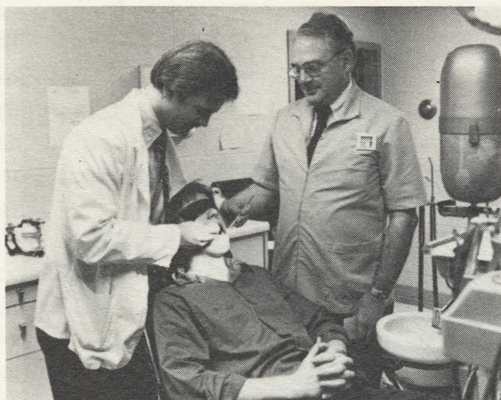
At the Veterans Administration Hospital, Third Year Dental Student Steve Tempel is shown with Dr. Richard Smith, Dental Director (lower left photo), checking out a book with Ms. Debbie Thompson of the library staff (right center), and with Dean McDonald and Dr. Mary Anne Bain, V.A. Resident (lower right).



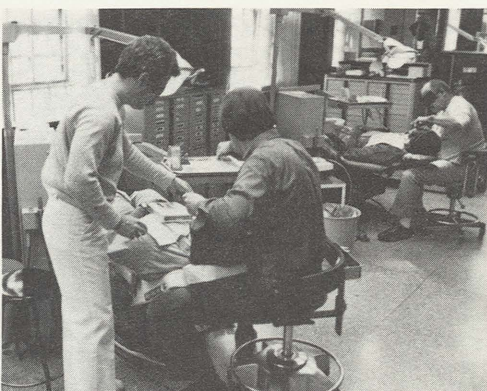
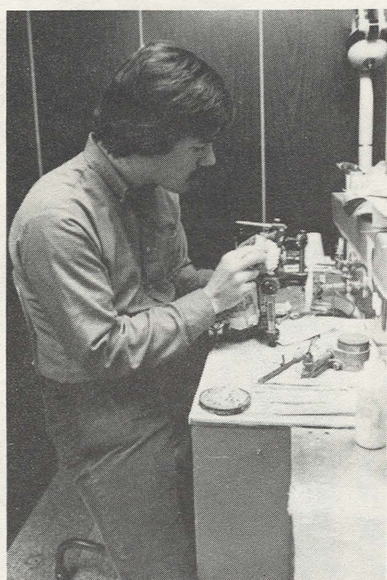
**Ms. Jane Heyde, Fourth Year Dental Student, is pictured with Dean McDonald (center left) during her extramural experience at the Citizens Ambulatory Health Center. At right center Dean McDonald confers with Dr. Reuben White, Dental Director, and the lower left photo shows Jane with a patient and Dr. Cardinal Casey. At top left she reviews records with Dr. White and receptionist Cathy Funke.**



At the Indiana Youth Center in Plainfield, Dean McDonald and Dr. Schimmele chat with Dr. Louis Kelley and Fourth Year Student Terry Mahoney (right center). At top left Terry treats a patient as Ms. Darlene Owens assists. At top right Terry is shown with Ms. Shirley Carder, R.N., in the Pharmacy, and in the lower left photo Terry and Dean McDonald chat with Ms. Carder and Ms. Worley, R.N.



**Fourth Year Dental Student Bruce McDowell is shown with Dean McDonald and Dr. Henry C. Heimansohn (left center and top right photos) and with a patient (top left) in the Dental Clinic at the Indiana Boys School. The bottom right photo shows Bruce in the pharmacy.**



**Fourth Year Dental Student Gary Metzler treats inmate patients (right center and lower right) at the dental clinic of the U.S. Penitentiary at Terre Haute, and carries on laboratory work (left). The top left photo shows Dean McDonald with Mr. Ray Lippman, Warden of the Penitentiary.**

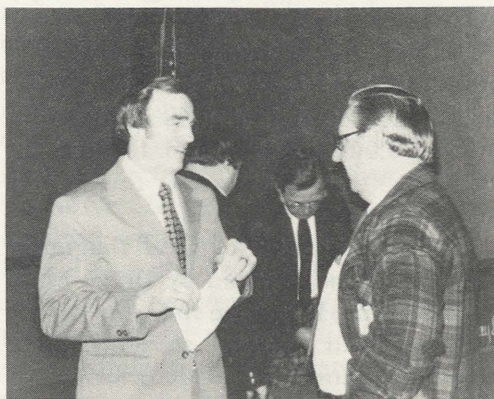
seated in the operatory assigned to me. My assistant advised me of the treatment that had been planned for the particular patient. Usually we saw three patients in the morning for operative procedures and any emergency cases. From 12:30 to 1:00 we diagnosed and charted 12 to 25 new patients. The afternoon went like the morning, with three patients, on the average, scheduled for operative procedures, with occasional oral surgery or emergency consultation. (*Terry Mahoney*)

On the average I treated approximately five patients a day. I did no prophys or lab work at all. The pace was rather easy but the work was interesting. I gained confidence in many ways as a result of the dentist's encouragement and patients' appreciation of my ability to render various types of dental care (operative, perio, endo, complete denture, partial denture, oral surgery, much patient psychology) in a clinical setting where instruments, materials and the type of patient being treated were new and different for me. My clinical skills were challenged and utilized. The most fascinating aspect of the experience in my opinion was the daily adventure of dealing with inmates. They treated me well, but some made rigorous demands on my ability to relate to patients as feeling-thinking human beings. I believe such challenges enhance one's appreciation of life. (*Gary Metzler*)

The following School of Dentistry alumni are now serving as directors of dental programs at the sites visited and extended their hospitality to the visiting group. Dr. David T. Amos (Class of 1955), LaRue Carter Hospital; Dr. Merle C. Drew (Class of 1950), U.S. Penitentiary; Dr. Henry C. Heimansohn (Class of 1950), Indiana Boys' School; Dr. Louis E. Kelley (Class of 1962), Indi-

ana Youth Center; and Dr. Reuben L. White (Class of 1963), Citizens Ambulatory Health Center. Dr. Richard F. Smith, dental director at the VA Medical Center, is a University of Iowa graduate. Also on hand during the VA visit were Dr. Mary Anne Bain and Dr. Jim Potts, both IUSD graduates in 1981 and both now serving as residents at the VA.

Other staff dentists who also provided guidance to our students in their extramural experience were Dr. Cardinal Casey (Class of 1958 at IUSD), Citizens Ambulatory Health Center; and Dr. Karl Meyer (a University of Illinois graduate), U.S. Penitentiary.



**From Jack Carr's Collection**

# Oral Diagnosis/Oral Medicine: The Department's Role

*E. Byrd Barr and Paul A. Zitterbart\**

It is 8:30 o'clock on a weekday morning in the Oral Diagnosis Clinic on the first floor of the Dental Building on the campus of the Indiana University Medical Center in Indianapolis. The first of the 25-50 prospective patients who will visit the clinic on this day are beginning to arrive. They will be screened by instructors to determine what their dental problems are and whether their treatment needs are consistent with the educational requirements of the students' curriculum. (Child patients are screened in the Pedodontic Clinic on the second floor.)

Facilities of the Oral Diagnosis Clinic include the following: 12 cubicles for examination and treatment, two Panograph machines in an additional cubicle, and a records division, where charts on some 50,000 present and former patients are filed (charts over three years old are kept on microfilm).

The Department of Oral Diagnosis/Oral Medicine, headed by Dr. S. Miles Standish, also has office space for faculty members and graduate students; three operatories for the Oral Medicine Clinic, used primarily by faculty and graduate students; and a research laboratory presided over by Dr. Abdel H. Kafrawy, Associate Professor of OD/OM, and Ms. Shirley Shazer, Histo-Technologist.

In addition to the daily influx of individuals who come to the OD Clinic seeking to be accepted as dental patients, each day finds many previously accepted patients arriving at the many clinics of the school for treatment of various den-

tal disorders. A large pool of patients is required to provide the dental students with the experience they will need before going out into practice. In recent years the number of patient visits recorded annually in the Oral Diagnosis Clinic has hovered around the 13,000 mark.

Persons wishing to be considered for treatment must make an appointment, which can be obtained by calling (317) 264-3547. At the initial screening appointment, prospective patients are examined by an instructor before the need for radiographs is determined. The instructor informs the patient if he or she is acceptable and provides a rough idea of the amount of treatment needed and the approximate cost according to need. Full-mouth radiographs may then be taken unless the patient already has satisfactory recent films from another dentist.

In complex cases (e.g. full mouth rehabilitation, large number of crowns, extensive fixed bridges, etc.) the examining faculty member may have the chart returned for further study after radiographs are taken, consultation may be obtained from the appropriate department(s), if necessary, and then the case may be submitted to the Director of Clinical Dentistry for final review. Although many practitioners believe this type of case to be a good teaching experience, it has been found that the pre-doctoral student may become frustrated and disillusioned because he is unable to treat the case properly due to lack of experience; and because of the extensive number of appointments and time involved. Therefore, most of these complex cases are accepted for treatment only by graduate students at the dental school.

\*Dr. Barr is Associate Professor and Dr. Zitterbart is Assistant Professor of Oral Diagnosis/Oral Medicine.

Once a patient has been accepted, the case is assigned to a student who works up a complete treatment plan and performs all necessary dental care. Those not accepted will be notified either during the screening appointment, or by mail, and urged to seek treatment in private practice. Radiographs can be sent to the dentist upon written request. If these films must be duplicated, there is a charge for this service. On occasion, patients can be accepted for partial treatment to fulfill special student requirements, or if their economic status or general health will not permit complete treatment.

After a new patient has been assigned for routine treatment, the student makes an appointment in the Oral Diagnosis Clinic for a comprehensive treatment plan. During this appointment the student takes complete medical and dental histories; checks blood pressure; examines soft and hard tissues, noting any abnormalities or unusual findings; charts existing conditions and restorations; interprets radiographs and takes study models, if necessary for that case. Depending on the case, the student may also be required to take additional radiographs, perform various pulp tests, or probe and chart the condition of the periodontium. An instructor is available if needed to assist with or demonstrate any procedure.

Having gathered all necessary information about the patient, the student prepares a tentative treatment plan. The findings and recommendations are then reviewed with an instructor while the patient is present. Together they discuss the proposed treatment plan along with alternative plans, in an effort to provide the patient with the best possible treatment while still meeting the special requirements and desires of that patient. Hopefully, when the student and patient leave the clinic, they will have a good understanding of the type of treatment

needed, and the proper sequencing of that treatment.

Another function of the Oral Diagnosis Department is to serve as the emergency treatment clinic. This service is available not only to previous and current dental school patients, but to all persons seeking emergency dental treatment. Treatment is provided by third year dental students who are assigned to the clinic each semester, although many students also volunteer to gain additional experience.

While providing this service to the community, the students gain valuable experience in learning to identify problems of the patients (e.g. pulpitis, necrotizing ulcerative gingivitis, cracked tooth syndrome, etc.), and in giving appropriate emergency treatment. Radiographs, pulp tests, the patient's subjective complaint, etc. are all used in arriving at a diagnosis. The student is encouraged to have a tentative diagnosis and proposed treatment before consulting with an instructor. In this manner, the student gets a feeling for how dentistry is practiced in the "real world".

The Oral Diagnosis Department is also involved with the Dental Hygiene and Dental Assisting Programs. During each semester, these students are assigned to the clinic where they work directly with dental students in the treatment of the emergency patient or in the process of treatment planning.

The Oral Medicine Clinic, the graduate component of Oral Diagnosis/Oral Medicine, exists as a referral service for patients with difficult diagnostic problems. The referring dentist or physician will be contacted and advised of the findings of the examination and recommended modes of treatment.

Other Faculty members of the OD/OM Department are:

Dr. David Dickey, Clinical Chairman  
Dr. Byrd Barr

*(Continued on page 87)*

# Department of Pedodontics: The Medical-Dental History

*Francis E. McCormick, Associate Professor of Pedodontics*

It is critically important that every dentist be prepared to identify patients who will require considerations different from those in effect for the so-called routine, healthy patient. For this reason, all practitioners should periodically review their office procedure for the medical and physical evaluation, not only of new patients, but of all patients in the practice. A simple questionnaire form which is at the same time concise and reasonably thorough can be of considerable value in carrying out such a review. This article describes the MEDICAL-DENTAL HISTORY form recently adopted for use in the Department of Pedodontics of the Indiana University School of Dentistry, with some background on how the form was developed. It is not being presented as the "ideal," merely as an example of one approach. Salient features of the form will be considered, with discussion directed primarily toward a few of the major criteria utilized in its development.

The revision was undertaken because the form which had been used by the Undergraduate Pedodontic Clinic for several years had some deficiencies which were of concern. One obvious omission was the lack of a reference to hepatitis, although one question did refer to any history of "liver or kidney involvement." The potential for transmission of hepatitis to the dentist, office personnel, or other patients in the practice makes it imperative that patients with a history of this condition be identified. Patients with a history of hepatitis are usually aware of the fact but may not recognize it as a "liver involvement." It therefore was felt essential that the word "hepatitis" be included in the question-

ing. This problem, along with a few other omissions or ambiguities, prompted a concentrated effort to develop a more adequate form.

Like all other clinics in the school, the Undergraduate Pedodontic Clinic is a teaching facility which has close affiliation with other clinics. It was necessary that the total chart conform as closely as possible to the chart used in the adult clinics of the school, even though the information included in the child's chart may vary in many respects from that in the adult chart. The chart forms, in addition to providing records, must in a dental school environment be utilized as a teaching tool, and some degree of uniformity is essential to avoid total confusion.

## **A Standardized Form**

The Undergraduate Pedodontic Clinic is also a part of the Department of Pedodontics which encompasses the Graduate Pedodontic Clinic in the dental school and the Riley Dental Clinic at Riley Hospital. Although these are all teaching clinics, educational objectives differ from clinic to clinic, and the type of patient seen in each clinic is different. However, there is also considerable interchange of personnel, particularly faculty members and students, within these clinical areas. A standardized chart form for the entire department has obvious advantages and the revision therefore was a joint effort of the directors of each clinical area within the department in consultation with other faculty members within the department and throughout the school.

As the reader examines the form which accompanies this article, it is important to keep in mind that it was developed for use in a teaching institution. Yamare and Simon, writing in *The Dental Assistant* (June 1976), said it well: "As a training discipline, dental schools use health questionnaires that are lengthy and detailed; whereas the health questionnaires used in the office of an oral surgeon may be brief." Compromises were made as work progressed on this questionnaire. Items considered necessary by all participants were retained, but many items which might have been included were omitted in the interest of space. The final product was a result of trying to fulfill four primary criteria: thoroughness, brevity, expandability, and ease of review.

Nearly all modern references on the subject of medical evaluation teach the systems review format. Since the dental student at Indiana is taught to review systems, and since that approach does provide for thoroughness, it was the approach selected. Key questions were included for each system. The first year dental student, the dental assistant student, and the dental hygiene student (all of whom are routinely involved in obtaining the history for certain patients) probably need to have available more specific questions than more advanced students would need, to assure that adequate information is being received. The questions were therefore designed with key words and phrases included to assist the least experienced students.

Brevity and thoroughness often seem incompatible. Pedodontic textbooks contain examples of the child's medical questionnaire which include questions relating to parental history, pre-natal history, natal history, etc. There is no argument about the value of these questions. However, in an effort to restrict the length of this questionnaire (the dental school patient's chart quickly becomes unwieldy), we wanted to confine it to one

page printed on both sides. Since the patient in the Undergraduate Pedodontic Clinic is screened by the faculty before being accepted for treatment, any severe medical, physical, or behavioral problems are essentially eliminated from consideration at this level. The Pedodontic Resident entering the graduate training program receives early comprehensive indoctrination in management of the medically and physically handicapped child. Hospital records are available for the Riley patients. Therefore, in the interest of brevity and uniformity, some important questions that might have been included were eliminated from this form. Certain demographic information (address, parent's name, etc.) was excluded because it appears on another form in the patient's chart.

### Space Provided

Every effort was made to provide sufficient space for additional information to be written wherever applicable. Thus the form has the capability of including information beyond a simple yes or no answer wherever needed. This is critical for the Riley Hospital and Graduate clinics, where the patients are likely to present a wider variety of conditions. An occasional undergraduate patient may even present an unsuspected or recently diagnosed problem. Therefore frequent review, as well as initial thoroughness, is in order. At the beginning of each treatment visit, even if the last visit may have been as recent as two or three days, the parent is verbally questioned to determine if the patient's medical status has changed since the last visit.

Perhaps the most important feature of this record is the fact that it can be quickly located and accurately reviewed. In the clinical teaching situation the faculty members staffing that clinic are ultimately responsible for the welfare of the patient, the student, and the staff. At

# **MEDICAL-DENTAL HISTORY** **Department of Pedodontics**

Date\_\_\_\_\_

Child's Name \_\_\_\_\_  
LAST FIRST NICKNAME

Place of Birth \_\_\_\_\_ Birth Date \_\_\_\_\_ Sex \_\_\_\_\_

Child's Physician/Pediatrician \_\_\_\_\_

Address \_\_\_\_\_ Telephone \_\_\_\_\_

Date of last medical examination \_\_\_\_\_

## **MEDICAL HISTORY**

**GROWTH AND DEVELOPMENT** Any learning, behavioral or communication problems? No ☐ Yes ☐

**CENTRAL NERVOUS SYSTEM** Any history of cerebral palsy, seizures, convulsions, fainting or loss of consciousness? No ☐ Yes ☐  
Any history of injury to the head? No ☐ Yes ☐  
Any sensory disorders? (Seeing, Hearing) No ☐ Yes ☐

**CARDIO-VASCULAR SYSTEM** Any history of congenital heart disease or heart damage from rheumatic fever? No ☐ Yes ☐  
Any history of anemia, bleeding or other blood disorders? No ☐ Yes ☐

**RESPIRATORY SYSTEM** Any history of pneumonia, asthma, shortness of breath or difficulty in breathing? No ☐ Yes ☐

**GASTRO-INTESTINAL SYSTEM** Any history of stomach, intestinal or liver problems? No ☐ Yes ☐  
Any history of hepatitis or jaundice? No ☐ Yes ☐

**GENITO URINARY SYSTEM** Any history of urinary tract infections, bladder or kidney problems? No ☐ Yes ☐

**ENDOCRINE SYSTEM** Any history of diabetes? No ☐ Yes ☐  
Any history of thyroid disorder or other endocrine disorders? No ☐ Yes ☐

**SKIN** Any history of skin problems? No ☐ Yes ☐

**EXTREMITIES** Any limitations of use of arms or legs? No ☐ Yes ☐

**ALLERGIES** Is your child allergic to any medications? No ☐ Yes ☐

**MEDICATIONS OR TREATMENTS**  
Is your child currently taking any medication? No ☐ Yes ☐  
If yes, Medication(s) Dosage Times Per Day

\_\_\_\_\_  
\_\_\_\_\_

Has your child ever received radiation therapy (X-ray treatments)? No ☐ Yes ☐

**HOSPITALIZATIONS**  
Has your child been hospitalized? No ☐ Yes ☐  
Hospital 1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_  
Date \_\_\_\_\_  
Reason \_\_\_\_\_

**IMMUNIZATIONS** Is your child presently protected by immunization against Diptheria, Whooping Cough, Tetanus No ☐ Yes ☐  
Polio No ☐ Yes ☐  
Measles and German Measles (Rubella) No ☐ Yes ☐

### DENTAL HISTORY

Does your child have a toothache or other immediate dental problem?

No ☐ Yes ☐

Has your child ever had a toothache?

No ☐ Yes ☐

Has your child had any injury to the mouth, teeth or jaws (fall, blow, etc.)?

No ☐ Yes ☐

Is this your child's first dental visit?

No ☐ Yes ☐

If no: Date \_\_\_\_\_ Dentist \_\_\_\_\_

Reason \_\_\_\_\_

Has your child ever had an unfavorable dental experience?

No ☐ Yes ☐

Related comments:

### DENTAL DISEASE PREVENTION

How often does your child brush? \_\_\_\_\_ times per \_\_\_\_\_

No ☐ Yes ☐

Does your child use dental floss?

Does someone:

Assist your child with brushing and cleaning the teeth?

No ☐ Yes ☐

Inspect for thoroughness following the procedure?

No ☐ Yes ☐

Does your child use a fluoride toothpaste?

No ☐ Yes ☐

Has your child ever had a fluoride treatment?

No ☐ Yes ☐

Has your child ever taken a fluoride supplement or vitamins with fluoride?

No ☐ Yes ☐

Drinking water source:

City water supply ☐ Name of City \_\_\_\_\_

Private Well or other than city ☐ Has a fluoride analysis been done?

No ☐ Yes ☐

Date of analysis \_\_\_\_\_ Fluoride content \_\_\_\_\_

SIGNATURE (Parent or Guardian) \_\_\_\_\_

### FOR STUDENT COMMENTS

Elaborate on any significant responses.

MEDICAL CONSULTATION RECOMMENDED? No ☐ Yes ☐ Date Requested \_\_\_\_\_

PURPOSE FOR CONSULTATION:

STUDENT SIGNATURE \_\_\_\_\_

### ANNUAL REVIEW OF MEDICAL-DENTAL HISTORY

If history remains essentially unchanged, sign below.

Date \_\_\_\_\_ Parent \_\_\_\_\_ Student \_\_\_\_\_

Date \_\_\_\_\_ Parent \_\_\_\_\_ Student \_\_\_\_\_

A new history form should be completed at least every 2 years.

any given time a single faculty member may have the responsibility of directing the activities of several student operators. That instructor must be able to perform a quick but thorough review of each patient's medical history before authorizing treatment. Not only is this form assigned a specific location within the chart folder for easy location, but it has also been printed on distinctive pink paper for easy recognition. The "yes" answers for questions relating to the patient's medical status are the "red flags." The "yes" column has been placed at the outer right hand edge of the page. A quick glance at this column almost instantly reveals the presence or absence of potential problems.

### Items Differ

There are items on this questionnaire that do not appear on the adult form, such as the question relating to growth and development. This question is meant to give us insight, not only into the overall physical well-being of the child, but also into the mental development. A "slow" child who is six years old will require a much different approach in the office than the "normal" six-year-old. Wright, in his book *Behavior Management in Dentistry for Children*, discusses the effect that hospitalization may have on the child toward subsequent dental visits. The question on hospitalization therefore has a double significance. Not only is this information pertinent in the physical evaluation of the patient, but it also may alert the dental team to modify their routine as they prepare to lead the child through the dental appointment. Of course, the Dental History asks about previous dental experience, and at this point, the astute interviewer can obtain valuable information regarding the child's anticipated behavior as well as parental attitude.

The section on Dental Disease Prevention not only provides information

about the child's home care regimen but, just as important, serves as a subtle aid for parental instruction. This may be the first time that parents have even considered the fact that they have any responsibility in "assisting" or "inspecting" the brushing procedure. It also serves to remind the dental student that we have a responsibility to instruct the parent in proper home care procedures for the child.

The child's exposure to fluoride is important information. It gives the practitioner an insight into additional preventive measures that might be considered. Again, however, it serves as a reminder to the dental student that we need to be aware of the potential benefits, as well as hazards, of fluoride. Especially it reminds us that, although many community water supplies are fluoridated, many others are not. It reminds us that a water analysis for fluoride (W.A.F.F.) program is available through the Indiana State Board of Health, and that an analysis is essential if we are considering a systemic fluoride supplement for this child. (The reader is referred to the September/October 1978 issue of the *Indiana Dental Journal*; *Prescription Fluoride: A New Program for the Indiana Dentist* by Mercer and Roberts.)

### Summary

The Medical-Dental History form recently adopted by the Department of Pedodontics for use in its three teaching clinics was designed to provide information related to patient care and to serve as a teaching device in clinics with a wide variation in patient population and teaching objectives. Several individuals were involved in its development and mention should particularly be made of the contributions of Drs. Ted Lynch and Jim Weddell at the Riley Dental Clinic, David Hennon of the Graduate Pedodontic Clinic, and Ron Nirschl, now

(Continued on page 88)

# Notes From The Dean's Desk

*Ralph E. McDonald*

Someone once said: "If we stop to consider when to begin, it may be too late to act."

Dr. James L. McDonald and his Teaching Committee of the School of Dentistry did not hesitate to act in beginning the traditional flurry of activities for the academic year of 1981-82, but opened the year with an expertly-planned annual Teaching Conference, held at the Canyon Inn, McCormick's Creek State Park, on September 9-10-11. The theme stressed "Evaluation and Quality Assurance" and featured these speakers: Dr. Richard Pugh, Associate Dean For Research and Research Training, Department of Education; Dr. Gary Ingersoll, Associate Professor of Education; Dr. Mary Deane Sorcinelli, Consultant to the Office of Learning Resources; and, as dinner speaker, Dr. Dean F. Berkley, Professor of Education, all of the Bloomington Campus. The Conference roster again this year reflected the enthusiasm and interest of our faculty with a listing of 132 participants.

The annual Fall Conference of the School of Dentistry's Alumni Association was held on the Bloomington Campus on September 17-18-19, 1981. Among Conference highlights was a Continuing Education program planned by Dr. Robert H. Derry, Director of Continuing Education, and presented by Dr. Ben J. Fisher, Dr. Carl W. Newton, and Dr. Malcolm E. Boone, with a program theme of "Potpourri of Dentistry."

In the Fall of 1981 the School of Dentistry again participated in a Campus-wide United Way Drive. A total of 142 contributors gave a total of \$7,625.40, which represents an increase of \$1,420.20 over last year. Given the state

of the economy and the inflation rate prevalent at this time, I am proud of Dentistry's record.

During the 1981-82 holiday season, the School of Dentistry's Christmas Committee, consisting of Mrs. Evelyn Ritter, Ms. Monica Moffa, Mr. Richard C. Scott and Mrs. Lee Fisher, Chairman, planned and presented a Christmas Party for faculty, students and staff. Mr. Richard Flaherty, of Parking Services of IUPUI, donned the traditional red and played "Santa." Among many special guests were Miss A. Rebekah Fisk, Assistant Professor Emeritus of Dental Hygiene, who had recovered from a broken hip, and Mrs. Marjory H. Carr, who retired in June, 1981 from her post as Director of our Dental Assistant Program.

Dr. Norris L. Richmond, Professor of Operative Dentistry once again organized and led a choral group in an outstanding rendition of Christmas carols. This pivotal part of our Christmas program has become a tradition and is received with enthusiasm.

Dr. Rolando DeCastro, Director of Art and Professor of Oral Anatomy, has once again brought honor to our School for his very impressive Dental Health Exhibit at the Children's Museum. The exhibit depicts the mouth as a "Germ City," until a toothpaste "train" enters carrying the dental team and oral hygiene supplies. When the train emerges, of course, "Germ City" has been converted into a normal healthy mouth. This telling work of art was actually the culmination of a considerable period of planning and work on the part of Dr. DeCastro, and fund-raising by the Women's Auxiliary of the Indianapolis District Dental Society.

## Winning Exhibit

Another exhibit, again created by Dr. Rolando DeCastro for the Continuing Education Department, has won (for the second time) the "First Place" award of the American Dental Association at the Kansas City meeting. The exhibit this year depicts the "History of Dentistry." In the past our Department of Continuing Education has won a "Second Place," "Third Place," and "Honorable Mention" awards at earlier meetings.

National Board Examination results have indicated that for the fifth consecutive year dental hygiene students on the Indianapolis Campus have been in the highest percentile of scores. During this five-year period, 100% of the students have been successful in passing, an honor shared by only four other schools of the 205 reporting.

Word has been received that Dr. John S. Kishibay, a former graduate student in orthodontics, has received the coveted Milo Hellman Award, the highest research recognition in the specialty. The award is traditionally presented to the person who is considered to have conducted the best research for that year in the area of orthodontics, growth and development, or associated fields. Dr. Kishibay won the award for his master's thesis research at our School entitled "The Neurotrophic Influence on Craniofacial Development Subsequent to *In Utero* Unilateral Transection of the Trigeminal (V) Nerve." Dr. Kishibay, who is now a Ph.D. candidate at U.S.C., also received a \$1,000 cash award and will present a lecture based on his research at the May meeting of the American Association of Orthodontists in Atlanta.



Dr. Norris Richmond (right) directs the choir at the annual Christmas party of the School of Dentistry.

One of our fourth year students, Scott A. Young, was elected First Vice-President of the Student American Dental Association and in that role, participated in the Student American Dental Association meeting in Kansas City and other meetings throughout the year.

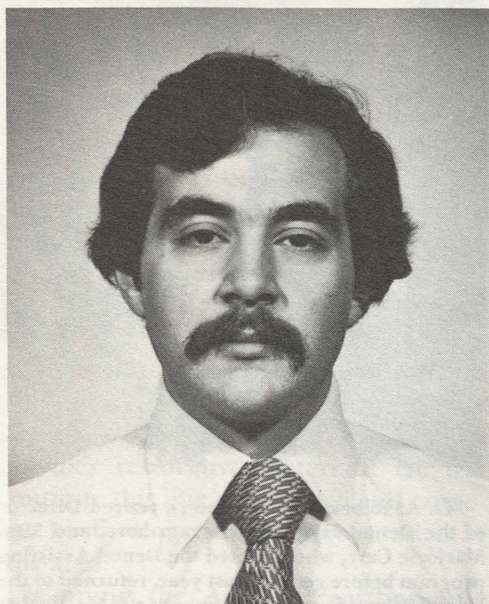
The W. B. Saunders Company has just published the eighth edition of the text "Science of Dental Materials," authored by Dr. Ralph W. Phillips, Associate Dean for Research. The first four editions were authored by Dr. Eugene Skinner and Dr. Phillips joined him as co-author for the fifth and sixth editions, becoming the author for the seventh and eighth editions following Dr. Skinner's death. This is one of the two most widely sold textbooks in dentistry, with the previous edition translated into five languages. Major contributions to this 700-page text were made by members of the Dental Materials Department and certain other dental school faculty.

### Changes in Title

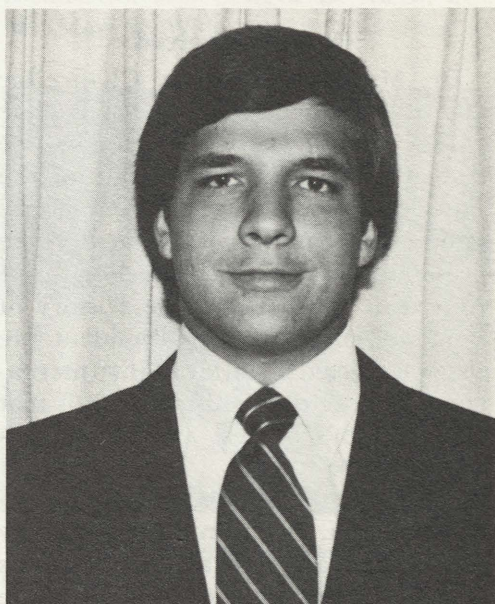
Changes in administration titles have been announced as follows: Dr. George

K. Stookey, Director of Oral Health Research Institute; Associate Dean Ralph W. Phillips, Associate Director of the Institute; and Dr. Arden Christen, Chairman of the Department of Preventive Dentistry. While the Oral Health Research Institute and the Department of Preventive Dentistry have had a close working relationship in teaching and research in the past, it is hoped that these new appointments will result in continued success and even greater achievement in many cooperative programs.

Dr. Leonard G. Koerber, Director of the Disadvantaged Dental Student Opportunity Program, has received funding for a second three-year period from the Department of Health and Human Services. The purposes of the program, with Ms. Myra Mason serving as Minority Affairs Officer, are to identify interested minority individuals, counsel them through their pre dental studies, work with them through the admissions process, and provide academic, financial, and social support through their dental student years. Funding for this year is \$48,839.



Dr. John S. Kishibay



Scott A. Young

Dr. Rosario H. Potter, Professor of Oral Facial Genetics, has been informed by Dr. Jerry Niswander, Chief of the Craniofacial Anomalies Program Branch of NIDR, that her "Major gene" (Pima Indian) genetic research grant has been approved. This is her second funded, HHS grant this past year (the first was one on Canadian Twins, funding for which started March 1, 1981). Funding for the "Major gene" grant will amount to: 1st year, \$41,754; 2nd year, \$45,049; and 3rd year, \$36,596. Dr. Potter has indicated that this work will represent entirely new areas in quantitative dento-facial genetic research.

Also receiving funding of a grant was Dr. George K. Stookey, Director of Oral Health Research Institute, who has received a \$80,400 grant for the training of dental students in research over the next five years. Each year, eight students from the class which has just completed the first year of dental school will be selected for a three-month summer program of instruction and experience in various areas of dental research. The award will allow for stipends to the trainees and will also allow for the purchase of supplies.

### Honors Received

Dr. Maynard K. Hine, Chancellor Emeritus of Indiana University-Purdue University at Indianapolis, attended the annual meeting in Kansas City of the American Dental Association and several associated organizations. While there, he presided over the annual meeting of the American Academy of the History of Dentistry, of which he is President. He also was elected a Master of the International College of Dentists, which is that organization's highest award, and seldom given.

Dr. Ralph W. Phillips, Associate Dean for Research, has been reappointed by the American Dental Association's Board of Trustees as Consultant to the Association's Council on Dental Mate-

rials, Instruments and Equipment for a term ending with the 1982 Annual Session.

Dr. Phillips has also been appointed to the Advisory Committee to the new Indiana University Institute for Advanced Study. This was formally announced on December 5 by the Board of Trustees. Appointed by Vice President Kenneth R. R. Gros Louis, the committee includes in its membership "ten or twelve outstanding faculty members who have broad interests." Committee assignments include selection of a Director and the implementation and review of the activities of the newly created research facility.

Another honor for Dr. Phillips was the Honorary Fellowship Award from the Academy of General Dentistry at the Annual Meeting of the Academy in Denver on July 20. The award recognized Dr. Phillips' contributions to the art and science of dentistry, and his dedication in sharing his knowledge with dental practitioners through continuing education. Dr. Phillips also received from the Japanese Section of the Pierre Fauchard



Ms. A. Rebekah Fisk (center), retired Director of the Dental Hygiene program here, and Mrs. Marjorie Carr, who directed the Dental Assisting program before retiring last year, returned to the Dental School for the Christmas party. Ms. Evelyn Oldsen, Director of Dental Hygiene, is at left.

Academy, the first Mitch Nakayama Memorial Award. Dr. Phillips traveled to Nagoya, Japan to receive this honor.

Dr. LaForrest D. Garner traveled to Kenya to address the National Congress of the Kenya Dental Association. His topics covered orthodontic diagnosis, treatment planning, appliance construction and treatment of malocclusion with emphasis on problems treatable by non-orthodontists. Dr. Garner also served as a guest panelist at a Caribbean Conference on dentistry in the British West Indies.

### Mission to Haiti

Drs. Sam Campbell and William Gillette, of the Departments of Oral Surgery and Periodontics, respectively, traveled to rural Haiti to extract teeth in small villages which have no dentist. Their home base there was the Methodist Mission House in Jeremie, with the dental team consisting of three dentists. A general dentist from Kalamazoo rounded out the trio. They later reported that they found the trip was a valuable personal experience.

We are honored to have Dr. Felix Lutz, of the University of Zurich in Switzerland, spending his sabbatical year in the Department of Dental Materials. Associate Dean Ralph W. Phillips, Chairman of the Department of Dental Materials, announced Dr. Lutz's arrival with the statement: "Dr. Lutz is in the department of Professor Dr. Hans Muhlemann, one of the world authorities in the area of cariology. Dr. Lutz has a dental degree and also the equivalent of a Ph.D. He is author of three monographs and 65 publications and is recognized as possibly the leading authority in Europe of polymer restorative materials. He will continue this line of research and correlate his findings with our own studies in this area."

Winning the Annual Prosthodontic Research Competition at the meeting of

the American College of Prosthodontists in St. Louis October 19-22, was Dr. Carlos A. Munoz, Assistant Professor of Fixed and Removable Partial Prosthodontics at our School. This honor was bestowed on Dr. Munoz as a result of his paper entitled: "A Comparative Study of the Strength of Aluminous Porcelain Jacket Crowns Constructed by the Conventional and Twin Foil Technique." The award consisted of \$1,000 in cash, a plaque, and a three-volume set of *Classic Prosthodontic Articles*. Dr. Munoz received the M.S.D. degree earlier this year at IUSD and the Master's thesis was, in fact, his entry in the competition.

Twelve employees of the School of Dentistry were honored at a special breakfast meeting for long and capable service to Indiana University by Dr. Glenn W. Irwin, Jr., I.U. Vice President. Their years of service were: 10 years of service: Ms. Katherine D. Raikos; 15 years of service: Ms. Mildred I. Moore; 20 years of service: Mr. Donald O. Booth, Mr. Kenneth K. Nelson, Mr. John H. Owens, Ms. Martha Lee Fisher, Ms. Sandra J. Manion, Ms. Isabell V. Poor, Ms. Barbara F. Rhodes, Ms. Jean M. Richmond, Ms. Geneva D. Riczo, and Ms. Mary E. Walton.



Dr. William Russell Shoemaker, Class of 1931, receiving a token of membership in the 50-year graduating class from Dean Ralph E. McDonald during the Alumni Fall Conference of 1981.

Our School is honored to have with us for a period of one year Dr. Joacir Ferreira Rodrigues, of Sao Paulo, Brazil, as a Rotary Scholar. The year of study (1981-82 academic year) has been funded by the Rotary Foundation, with Dean Ralph E. McDonald named as his sponsor. Dr. Rodrigues' area of interest is pedodontics and Dr. Paul E. Starkey, who has been a featured speaker in Brazil on a number of occasions on topics relating to pedodontics, is overseeing his postgraduate studies. It is hoped that there will be future occasions for opportunities such as this offered by the Rotary Foundation.



**Dr. Joacir F. Rodrigues (center), of Sao Paulo, Brasil, recipient of a Rotary Foundation scholarship for postgraduate study at IUSD, is shown with Dean Ralph E. McDonald (right) and Dr. Paul E. Starkey.**

## Anticipating Drug Interactions

*Charles O. Hazelrigg, Assistant Professor of Pedodontics*

Drug interactions may accelerate or inhibit the metabolism of one or more agents, leading to altered efficacy or toxicity. There may not be an easy solution to these problems, but the physician and dentist should try to anticipate drug interactions.

Problems of drug interaction have become important enough to prompt the accumulation of data. One report indicated that the incidence of drug interaction may be as high as 20% for hospitalized patients.<sup>1</sup> This report also showed a definite relationship between the number of drugs taken and the incidence of interaction. As the number of drugs administered is increased, the drug reaction rate is also increased.<sup>2</sup>

The amount, frequency of administration and factors such as absorption, distribution, localization in certain tissues, metabolism and excretion are important in determining the duration and effect of a drug. Drug interaction may occur during any of these processes.

A patient's diet can alter the effectiveness of prescribed drugs by affecting the absorption, distribution and excretion of drugs.<sup>3</sup> For example, most antibiotics should be taken on an empty stomach. The exceptions are the Cephalosporins.

Many drugs are metabolized by a group of enzymes located in the endoplasmic reticulum or microsomal fraction of the hepatic cell. Similar enzyme systems located in other tissues contribute comparatively little to the metabolism of most drugs. Many drugs are capable of altering the activity of this drug-metabolizing enzyme system.

The hypnotics, sedatives, tranquilizers and anti-inflammatory agents have the ability to stimulate their own metabolism or the metabolism of other compounds by increasing the activity of the enzyme systems. Some drugs have an inhibitory effect on the enzyme system or the metabolism of other compounds. There is a lack of information concerning inhibitors of the system, but some of the drugs

**When the patient  
is on this drug:**

Aspirin

Darvon

Demerol

Dilantin

Elavil

Erythromycin

Penicillin

Phenobarbital

Pontsel

Sulfa

Tetracyclines

Valium

**And also  
takes this:**

Ascorbic Acid

Coumarins

Antidiabetics  
(Sulfonylureas)

Norflex

Monoamine oxidase  
inhibitors

Phenobarbital

Placidyl

Urinary alkalizers

Tetracyclines

Antacids

Chloromycetin

Alcohol

Anticoagulants

Lomotil

Anticoagulants

Antacids

Anticoagulants

Anticoagulants

Antacids

Alcohol

Barbiturates

Antidepressants

**The interaction  
might result:**

Diminished aspirin effect

Potentiates action of  
anticoagulants

Increased hypoglycemic effect

Confusion, tremors

Enhances action of Demerol  
(drop in blood pressure)

Diminished Dilantin effect

Delirium

Enhances action of Erythromycin

Diminished penicillin effect

Diminished penicillin effect

Diminished penicillin effect

Enhanced sedation

Antagonizes action of  
anticoagulants

Enhances action of phenobarbital

Enhances action of anticoagulants

Diminished Sulfa effect

Potentiates action of  
anticoagulantsPotentiates action of  
anticoagulants

Diminished Tetracycline action

Additive sedative effect

Additive sedative effect

Additive sedative effect

that are reported to inhibit the metabolism of other compounds are Isoniazid, Ritalin and some monoamine oxidase inhibitors.

Since drugs are necessary in medicine and dentistry, the practitioner must be concerned when prescribing drugs in combination with other drugs. A drug interaction table should be available for reference in all medical and dental offices. A reference table can be obtained from the Upjohn Company, Excerpta Medical Services, or Penwalt Corporation. According to the American Pharmaceutical Association, about 10% of the nation's pharmacies are currently computerized.<sup>4</sup> A computerized Program at the University of South Carolina, College of Pharmacy lists some 32,000 drug interaction possibilities. In the near future, it is anticipated that more pharmacies will have systems which will include drug interaction programs. Until such a time, the dentist can rely on the aid of reference tables to help eliminate the potential perils of drug interactions.<sup>5 6 7</sup>

To further illustrate what could result from the combination of drugs, a summary table of drug interactions follows. This is only an abbreviated list and by no means includes all the toxicities which could result.

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2. Stuart, D.M. Drug Metabolism. Pharm. Index Sept-Oct. 1968, p.2.
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6. FDA Drug Bulletin, Vol. 9, June 1979
7. Accepted Dental Therapeutics, 38th Edition, Sept. 1979 Selected Drug Interactions p. 44-45.



... and more ...

# Dr. De Castro's Exhibit

## Charms Museum Visitors

The ribbon-cutting ceremony for an impressive Dental Health Exhibit created by Dr. Rolando A. De Castro (MSD, 1973), Professor of Oral Anatomy and Director of Art at the Indiana University School of Dentistry, was held February 6, 1982, at the world-famous Children's Museum in Indianapolis. The exhibit became a reality after some years of planning and fund-raising by the Women's Auxiliary of the Indianapolis District Dental Society. It depicts the mouth as a "Germ City" until a toothpaste "train" enters carrying the dental team and oral hygiene supplies. When the train emerges, "Germ City" has been converted into a normal, healthy mouth.

Dr. De Castro's work was featured by the Indianapolis Star for February 16, 1982, in a byline article by Betsy Harris, accompanied by a photo by Star Photographer Jerry Clark. The article follows:

The Children's Museum gains an exhibit; Mrs. Rolando A. De Castro delightedly regains a dining room table!

"Is Your Mouth a Germ City?" — a campaign for healthy mouths and sound teeth — is installed for six months on the museum's fifth level. For the preceding six months, bits and pieces of the animated display were scattered throughout the dining room in the home of Dr. De Castro, its creator.

Bizarre perhaps, because a toy train chugs through a child's mouth (Germ City), the exhibit serves its purpose of attracting youngsters to dentistry's intent: prevention through education.

Dr. De Castro is thrilled with the reception, having observed families huddled together in front of the museum case. The press of a button activates the display, and while Germ City is being attacked by brushing, flossing and fluoride, "I overhear the parents saying to the children, 'See, now you know what to do.' The children nod," he relays with a smile. "The message is clearly received by a child."

A project of the Auxiliary to the Indianapolis District Dental Society, plans and fund-

raising for this children's dental health education plank began five years ago. Auxiliary members later approached Dr. De Castro with their concept geared to reach children between the ages of 3 and 11.

The Filipino-born Dr. De Castro is professor of oral anatomy at Indiana University School of Dentistry. He also is director of its art department which provides illustrations for books by dental school faculty, journals and brochures and myriad visual aids.

The artist/dentist accepted this, his biggest project, with the belief "I could do it!" Facets of the design grew as Dr. De Castro worked on the display during his leisure time — weekends, vacation and most evenings until 2 a.m. "When you're having fun, time flies," he declares, noting that several work sessions ended at 5 a.m.

Typical of his embellishment is the rotating propellers on the airplanes flying overhead in the display case. When activated, the props whirl, a whistling sound occurs and fluttering banners pulled by the planes proclaim: "Keep your city clean by brushing and flossing every day" and "Protect your teeth with fluoride."

Next, the motion begins on the exhibit's focal point, a colossal-sized head covered with flaxen yarn hair, attractively secured in bows of lavender (the color which traditionally signified dentistry). The presence of baby teeth and first permanent molars establish her age at 6. As her eyes close, her mouth opens to reveal the ugly sight — Germ City, replete with an inferno-like tube brewing up germs, plaque, cavities.

But before her sparkly white teeth are attacked, around the bend comes the clickety-clacking of a Dudley Do-Right. In this instance, a toy train comes to the rescue. The locomotive resembles a toothbrush and tube of toothpaste. It pulls a car bearing the dental team: dentist, dental assistant, hygienist, dental technician and an auxiliary member.

The train zips into the mouth. Sounds of brushing and flossing are heard before the engine passes the tonsil and departs through the rear of the mouth cavity. The little girl's eyes then roll open as Germ City collapses, leaving a healthy setting for sound teeth.

For various parts of the display, Dr. De Castro drew upon his dental background. For

example, the child's eyes are molded from a plastic compound used in restoration of teeth.

Dr. De Castro visited museums to study display technique. During construction he frequented hardware stores, yet never revealed the purpose for the sundry materials purchased.

At several stores, he bought their complete stock of hardware cloth, usually a gutter covering material but for Dr. De Castro, the foundation of the child's head and other forms.

The only outside help on the project was from a micro computer expert who helped in

programming the automatic switches which animate the display.

Dr. De Castro took special pleasure in assembling and renovating the toy train, bought in kit form from a hobby shop. "Watching trains is quite relaxing," he says, proudly watching his exhibit in action.

Now that the endeavor is laid to rest, this dentist who never owned a train set looks forward to building his first. Dr. De Castro claims having an ideal place in his house for such a layout — "but not on the dining room table," he quips.



**Dr. Rolando A. DeCastro views his "Germ City" exhibit with two enthralled visitors to the Children's Museum in Indianapolis. The girls are Rachel Barton (left) and her sister, Sarah, daughters of the Reverend and Mrs. James P. Barton of Franklin, Indiana. Photo by Jerry Clark, The Indianapolis Star.**

# Dental Auxiliary Education

## FORT WAYNE

*Peter T. Zonakis*

As this is being written we are all anxiously awaiting the spring thaw. New records were set for cold and snowfall for the Fort Wayne area. Many adjustments had to be made to our class schedules due to the inclement weather, but through the dedication and extra effort of the students and faculty we were able to overcome the inconvenience.

Spring signals the start of a flurry of activity on the Fort Wayne campus. The fifth annual dental hygiene alumni day will be March 13. This "reunion" has proven quite successful and it is gratifying to see many of our graduates return to renew acquaintances. This year we will be honoring the classes of 1967, 1972, and 1977. Plans are being finalized for the honors days and the dental assisting and university commencements. This year the dental assisting graduation will be May 9 and the dental laboratory technology and dental hygiene graduations will be May 12.

With the completion of a new building on campus and the rearranging of some departments, the work on our additional laboratory facilities is in progress. A special thanks should go to the local administration and the IUSD Foundation for the expenditures necessary to complete this project. This will give us more flexibility in our laboratory scheduling for the three auxiliary programs.

The DAE faculty are again working with the local dental societies as participants in the "Focus on Health" project. This educational and screening program began last year and proved to be very successful and will be offered annually in April.

Herb Reininger, Supervisor of Dental Laboratory Technology, has announced his retirement effective July 1. I am cer-

tainly very happy for Herb, who will retire to enjoy the hills of Virginia, but am saddened because the Fort Wayne campus will be losing one of the most dedicated and knowledgeable men in the dental technology profession. It has been a real pleasure to have worked with Herb for the past five years. His teaching and administrative excellence have made the Fort Wayne program one of the finest in the nation. The students and faculty will miss his expertise.

## DENTAL HYGIENE

*Gloria Huxoll*

For you fellow alumni—wherever you are, a big day was scheduled for March 13, 1982 for the fifth annual Dental Hygiene Alumni Day. Chairperson for the event this year was Deborah (expectant mother-to-be) Brownell Oberlin '78.

Speaking of alumni, Beth Weyneth Peterson '70 is perhaps the farthest away from her home town of Fort Wayne. She and John and daughter will be returning in June, 1982 for eight weeks and then return to Ecuador. Her address is Casilla 4860, Centro Comercial Inaquito, Quito, Ecuador—why not write and get a special class reunion arranged? She will have so many things to tell.

News from nearer home came from Suzie Fival Falender ('79) in Indianapolis saying that she continues to enjoy her profession as well as dental student husband Larry's enthusiasm for dentistry. Susan Schenher ('77) had a fabulous trip to Germany this summer. Another Indiana dental hygienist heard from was Sheila Reed Austin ('70) saying she is still working one day a week for husband John but soon to semi-retire and await the arrival of a wee one. Connie Brundige Ottow ('69) and husband Cecil,

Plymouth, were here to wish classmate Kathy Zuber Putnam ('69) and husband Mike many years of wedded happiness together as they left for their home in Fremont, California. They plan to do lots of deep sea diving—we sure miss her. Also word has been received that Vicki Altevoight Fisher ('72) has moved to Anaheim, California. Another Hoosier transplant to Sausalito, California is Debra Shanayda ('78). Now I know where Pam Beer Koher ('72) is located. She, Clayton and Renee are still living in the Chicago area and she works two days a week—so good to hear from you!

Members of the '81 class are enjoying their dental hygiene career and are active each month with the local hygiene association. Rae Zavor and Debbie Scheiber are awaiting the stork and Carla Brown changed her name to Mrs. Mike Sailors in December. Libby Mitchell, Veedersburg, Michelle Lewis, LaGrange and Vicki Kimbel of Fort Wayne will be changing names soon.

I really enjoy writing this article as many fond memories return as each name and face flashes through this 'ole tired mind. You write and we will tell your classmates and friends. Something else to tell—Diane McGregor ('67) has returned on a part-time basis as a clinical faculty and has husband Bob taking care of new son Ross and 3-year-old Bryan.

What's happening for the soon to be graduated Class of 1982 are the reviews for the National Boards exam and the Wabash Community Dental Health Project. We are already looking for qualified patients for state and regional board exams. Interviews for employment have also started. The students took time out to participate in the National Children's Dental Health month. We wish them much success and joy as they pursue their professional careers.

The first year students were honored by the presence of Dean Ralph McDonald at their Capping Ceremony on December 13, 1981. He gave the main

address and we all were truly honored and pleased to have him with us in Fort Wayne on such a special occasion. This is always an exciting time for the first year students as it marks a new beginning for them as they begin providing care to patients.

## DENTAL ASSISTING

*Rosemary M. Kovara*

Duke's Day Scholarships were presented to the Dental Auxiliary Education students through the generosity of area dentists, physicians, pharmacists and pharmaceutical salesmen. The Dental Assisting recipients were Mary Ann Miller, Cheryl Rigsbee and Sherri Vostatek from Decatur, Fort Wayne, and Kokomo, respectively.

The Dental Assisting students are eager to participate in the 61st Annual Session of the Indiana Dental Assistants Association this spring. They will participate in the Papers, Posters and Table Clinics presented at the convention.

The Class of '82 officers are: Sherri Vostatek from Kokomo as President; Jennie Mishler from Leiters Ford as Vice-President; Theresa Casalini from Fort Wayne as Secretary; and Natalie Miller from Lagrange as Treasurer.

The Dental Assisting program relies on the support of the Isaac Knapp District Dental Society, and fortunately, the area dentists willingly contribute their time and expertise. As an example, the following dentists were guest speakers for the Dental Assisting class this semester: Drs. Kim Brown, Eugene Dellinger, Gary Gotsch, Lloyd Hagedorn, Phillip O'Shaughnessy, Timothy Shambaugh and James Shupe. We appreciate their participation.

The Advisory Board to the Dental Assisting Program meets a minimum of twice per school year. The board members this year are: Drs. Jim Herber and

Cameron Newby from the Isaac Knapp District Dental Society and Diane Beuchel, Bev Papenbrock and Lisa Seibt from the Isaac Knapp Dental Assisting Society.

The Dental Assisting faculty, Colleen Smith and myself would like to wish Herb Reininger, Supervisor of Dental Laboratory Technology a happy and pleasant retirement. Herb's dedication to Dental Auxiliary Education at Fort Wayne has been most admirable.

The '81-'82 academic year will culminate for the dental assisting students with the graduation ceremony to be held Sunday, May 9, 1982 at 2:00 p.m. We are pleased to have Dr. Edward A. Nicholson Jr., Vice Chancellor and Dean of the Faculty at Indiana University-Purdue University at Fort Wayne, give the main address at this year's dental assisting commencement exercises.

Congratulations to all of Indiana University's Dental Auxiliary Education graduates of 1982.

## DENTAL LABORATORY TECHNOLOGY

*Herbert Reininger*

Surviving the long, long winter, sixteen members of the Class of 1982 are presently participating in the practicum phase of their training. Three are dividing their time between Dr. Chalian's Maxillofacial Prosthetics Department and the I.U.S.D. Orthodontic laboratory and the Riley Hospital Pedodontic laboratory. Five are working in private dental offices and the remainder in commercial laboratories.

Currently the Class of 1983 consists of fifteen members, all but one from Indiana. Class officers are: President, Mrs. Candy Murphy; Vice-President, Miss Christine Clauss; and Secretary/ Treasurer, Mrs. Dana Collett.

January brought a new member to our student body from the far shores of Nigeria. Mr. Yahaha Ali arrived on January 14. Mr. Ali is a trained technician but came to us for a year of advanced procedures in Crown and Bridge and Partial Denture prosthodontics. Never having seen snow before, his initiation to Fort Wayne was rather devastating to say the least, for it was  $-15^{\circ}$  and with over two feet of the white "stuff" on his arrival.

Both classes and faculty were introduced to the new Coors Ceramic Technique by Mr. Tom DeVaux, formerly with Unitek.

The department had the honor of having been invited to present a "table clinic" at the Jelenko Symposium during the Mid-Winter Dental Meeting in February. Mr. Reininger took eight students (four from each class) to Chicago. A display of student projects from all phases of their work was presented as well as a slide series depicting scenes of the campus and educational facilities. The display attracted many interested observers and received several extremely complimentary comments. On Sunday the students had the opportunity to visit the manufacturer's exhibits.

On Friday, April 16, the department held its annual "Awards Day." This year's recipients were for:

Jeffrey Meyer: *Highest Overall Academic Achievement*

David Blake: *Faculty Award for Best Laboratory Performance*

Bradford Melser: *Best Overall Improvement*

Jeffrey Meyer: *Quintessence Book Award*

The second year class have been making scheduled return trips to Fort Wayne from their various practicum assignments to review for preparation of their national "recognized graduate" exam scheduled for May 7.

As of this writing, fourteen students have already been accepted for the Class of 1984 which will eventually total 22.

In addition to the graduation of the Class of 1982, which is scheduled for May 12, Mrs. Paulette Dvorak, an associate faculty member, will be graduating and receiving both an Associate Degree in Dental Laboratory Technology and a B.S. in Dental Health Education. Mr. Leon Gondell, DLT Class of 1980, will also receive his B.S. in D.H.E. This report signals the final one from this correspondent, for I have submitted my resignation effective July 1, in order to take advantage of early retirement and the completion of thirty-three years of teaching. I do want to take this opportunity to thank all those who have been so very cooperative with me and have gone out of their way to support this program which in turn has made my position so much easier these past five years as a member of the Indiana University faculty. My one wish is that this cooperation and support will continue for my successor and especially for the benefit of our future students. We are and will continue to be "members of the dental health team."

## **SOUTH BEND**

*Shant Markarian*

We are pleased to welcome Jennifer Klein to our faculty as visiting instructor in Dental Hygiene. Jennifer previously served with us as adjunct lecturer in dental hygiene and is a former instructor in dental hygiene at the University of Minnesota.

We are also proud of another achievement—acquisition of a new classroom as a result of reallocation of space on the West side of Riverside Hall. The

incorporation of laboratory facilities and audiovisual equipment has resulted in a welcome addition to our physical facilities and improvement in scheduling of classes.

Barbara Pasioneck was awarded the Bachelor of Science degree in Allied Health Teacher Education from Ferris State College shortly before the beginning of the school year.

Our dental hygiene students participated in a Health Science Fair as part of Sports Med weekend, a health promotion effort sponsored by the St. Joseph Medical Center, radio station WNDU and the St. Joseph Bank. The students demonstrated patient education techniques and received considerable attention from those who attended.

Plans are being made for an Open House that will be sponsored by Dental Auxiliary Education in the Spring for area dentists and auxiliaries.

The following participants in our extra mural program have opened their offices to our assisting students for "real-life" experience in dental practice. These dentists assume the role of educators as they participate in the education of our students and also provide them with opportunities to interact with dentists in clinical settings: Dr. Douglas Bateman, Dr. Ronald Corley, Dr. James Douglas, Dr. Frank Ellis, Dr. Michael Feltman, Dr. Michael Freid, Dr. Gerald Glass, Dr. John Harrington, Drs. David Harris and William Paul, Dr. Timothy Kulik, Dr. C. Port Laderer, Drs. Edward Lawton and John Stenger, Dr. John Lehman, Dr. Dan Lindborg, Dr. James Macri, Dr. Gregory Moo, Dr. John Nyberg, Dr. Roger Pecina, Dr. Michael Rader, Riverbend Family Dental Center, South Bend Dental Center, Drs. Jan and Jeff Star, Drs. Harvey Weingarten and William Gitlin, Dr. Daniel White, Dr. Howard Wiesjohn, Dr. Jack Wright.

## DENTAL HYGIENE AND DENTAL ASSISTING

*Nanci G. Yokom  
Valerie B. Mullin*

Looking back at the academic year 1981-82 recalls many fond memories, for it has been another successful, challenging and fun year for all of us.

During the Fall semester, election of Class Officers took place. Elected to office in the Dental Assisting Program were: President, Nancy Largent; Vice President: Teri Tegeler; Secretary, Clara Stafford; Treasurer, Rosanne Zappia. In Dental Hygiene, Vicki Meier was elected President; Lisa Mattern, Vice President; Nancy West, Secretary; and Kathy Clouse, Treasurer. All class officers have been busy fund-raising, organizing and helping out their respective classmates and programs. Thanks for a great job!

Fall semester was highlighted by our Joint Dental Assisting-Dental Hygiene Capping Ceremony on Sunday, December 6. The popular and well-liked clinical instructor and lecturer, Dr. Harvey Weingarten (IUSD-'79) was our guest speaker. His presentation, entitled, "A Turning Point in Your Professional Career," was excellent and left both students and guests with food for thought.

Spring semester marked a major change of pace for the Dental Assisting students as they began their internships. They have also been busy with classwork and papers, posters and table clinics for the May IDS meeting. Our sneak preview of these last projects leads us to believe the Class of 1982 will bring home some first-place awards in May.

The Dental Hygiene students have also been busy. Through SADHA, they sponsored an oral cancer screening in the Clinic. As a first program, it was quite successful, but we hoped for a better response. Many thanks go to Dr. Mike

Freid, who volunteered his time during the screening.

On Sunday, April 18th, the following second-year Dental Hygiene students will be recognized for their academic achievements at the Honors Day Ceremony:

Leslie Wiggins: *Excellence in Dental Hygiene*

Christy Gaskill: *Clinical Faculty Award*

Theresa Sarul: *Rebekah Fisk Award*

Jacqueline Hartman: *Dorothy Fromm Preventive Dentistry Award*

Christy Gaskill and Leslie Wiggins were also nominated for membership in Sigma Phi Alpha.

May graduation for the Dental Assisting Students will be held on Friday the 15th and for the Dental Hygiene students on Tuesday, the 11th. Our congratulations to the Class of 1982! They have been an excellent class, and we all welcome them into the profession of Dentistry and wish them the best as they pursue their careers.

## EVANSVILLE

*Gordon E. Kelley*

Spring 1982 finds the dental auxiliary programs in Evansville on a sound basis. The Commission on Accreditation gave final approval status to our programs in December, 1981, following a status update report. Now we will continue to pursue our programs knowing we have nearly ten years before the next on-site visit.

Members of the faculty continue to pursue advanced degrees, sometimes at a slow pace because of their continued heavy teaching loads. We look forward to each of them attaining their terminal degrees in the near future so they may enter the tenure track system.

The division is evaluating the data base collecting system and the need for a possible increase in computer usage. It appears now that a small desk top computer would be advantageous and would help us to better keep track of our students' grades during the semester. All faculty members will have to sharpen their computer skills and perhaps take a class or two on effective usage and programming. The supplies and equipment inventory will also be consigned to the computer to assist us in better managing our budget.

Dental auxiliary faculty are currently screening applicants for the fall 1982 classes, and in some cases have begun interviews. The quality and quantity of applicants appear to be higher this year than in previous years.

## **DENTAL HYGIENE INDIANAPOLIS**

*Evelyn Oldsen*

Thirty-six new students enrolled as first year dental hygiene students to begin the fall semester. Four new students also enrolled in the Public Health Dental Hygiene Program. This program has had some administrative changes and the program will be offered through the School of Dentistry beginning Fall 1982. Curriculum changes have also been made to include a basic core curriculum with option in dental hygiene education or community dental hygiene.

Congratulations are in order for Pamela Hollcraft and Leslie Lake, who won second place for their table clinic entitled, "The Will to Live . . . Special Care for the Special Patient" at the 1981 ADHA Scientific Session held in Kansas City. The table clinic explained the hygienist's role in the post-operative management of the irradiated head and neck cancer patient. All second year students will present their table clinics at the

1982 Indiana Dental Association Meeting in May.

Students recognized for the Dean's List for the fall semester include Amy Baldwin, Alicia Brant, Rosemary English, Kim Ricke, and Lisa Sawyer, all first year students. Second year students include Donna Conn, Cynthia Hiatt, Lori Miskoweic and Rachelle Wiggam. These students have all worked very hard and are to be commended for the scholastic achievement.

Dental Hygiene Day has been planned for April 13. This program has been quite successful in the past few years when the students invite all recent applicants to an informal program at the School of Dentistry. Students have done an excellent job of providing an orientation to the program and explaining the viewpoints of life as a dental hygiene student. Applicants have found the program to be very informative and helpful.

The Admissions Committee has been interviewing applicants for the class entering the fall of 1982 and we have a total of 131 applicants to our program. This total represents a consistent number of applicants over the past several years.

## **DENTAL ASSISTING INDIANAPOLIS**

*Pauline Spencer*

The Dental Assisting Program at Indianapolis accepted 22 students for the 1981-82 class.

The 1981-82 class officers are: President, Suzanne Moss; Vice President, Marla Schrader; Secretary, Beth Grabhorn; Treasurer, Colleen Andrews; and Student Representative, Sarah Bohannon.

The following students were named to the Dean's List for the first semester: Jana Updike, 3.87; Ellen Schweitzer, 3.86. Congratulations to each of you for your excellent academic achievement!

The members of the class under the direction of Ms. Jeri Gruner are working very diligently preparing table clinics to be presented at the dental school on April 5, 1982.

On February 28, 1982 a Dental Health Fair was held at Glendale Shopping Center in Indianapolis for Children's Dental Health Month. Five I.U.P.U.I. dental assisting students presented a puppet show including the following characters: "Mother Tooth", "Tommy Tooth", "Dr. Gums", "Mr. Coke" and "Mr. Candy Man." The participants were, Suzanne Moss, Marla Schrader, Jill Johnson, Colleen Andrews and Beth Grabhorn.

For the first time I.U.P.U.I. dental assisting students are rotating for one week to general practice dental offices. So far the students feel that it has been a very rewarding and learning experience. The climax of the school year will be graduation, which will be held Monday, May 17, 1982.

## NORTHWEST

*Edward W. Farrell*

The Spring Semester of 1982 finds those of us at IUN/Gary completing our sixth school year of operation. As usual, students and faculty are busily engaged with the many tasks at hand.

Fall enrollment witnessed classes with 19 dental assisting students, 16 first year hygiene and 14 second year hygiene students, and an overall student population of 49. Student numbers mentioned have remained intact for the Spring Semester.

Aside from our full-time faculty members, it is always my pleasure to acknowledge the associate faculty who are with us this academic year. They include: C. Richard Altenhof, Daniel Bade, Wesley Carroll, Mark Detert, John Gregoline, Sarasue Henderlong, Katherine Hinchshaw, Steven Holm, Robert McMahon,

Abraham Ochstein, James Pavelka and Eugene Rumas.

Each year we are fortunate in receiving monies in the forms of donations to our I.U. Foundation Fund, student scholarships or student fund raising activities. This year was no exception. The Women's Auxiliary of the Northwest Indiana Dental Society, represented by Mrs. Dan Kozlowski, presented two scholarships to students within the DAE programs: Laurie Anserello, dental assisting student; and Beth Moore, first year dental hygiene student. Contributions to the I.U. Foundation Fund at Northwest included those from M. Enzer, J. Evans, H. G. Frank, E. Martin, N. Novak, R. Ooms, R. T. Rocke, J. Sikora, Southlake Dental Study Club and R. Vinzant.

We are pleased to publicly recognize this group and to thank them once again for their continued support of our activities.

Membership of our DAE Advisory Committee has a new replacement in the person of Juanita (Gore) Robinson, I.U. Class of 1978. Juanita has been selected by the Northwest Dental Hygiene Society to replace Pauline Phillips. We are naturally grateful to Pauline for her many contributions to the hygiene program. We look forward as well to working with Juanita in her new capacity.

## DENTAL HYGIENE

*Mary Snyder*

The 1981-82 school year has been filled with a variety of interesting activities at IUSD/NW. Sixteen first year hygiene students proudly completed their first semester of pre-clinical activities and received their caps on December 20, 1981. They are now enthusiastically providing patient care while anxiously awaiting the day that they can complete a Class I patient in two hours.

On the other hand, the second year students are busily preparing for National, Indiana State, and Northeast Regional Boards. Our sincere thanks are extended to Dr. Daniel Bade, Dr. David Fairchild, Dr. Steven Holm, and Ms. Katherine Mikrut for their participation in the National Board Review Sessions.

In addition to readying themselves for boards, completing clinical requirements, and anticipating graduation, second year students are involved in Community Dental Hygiene Field Assignments this semester. They are receiving outstanding reviews from area schools for their enthusiastic dental health education presentations.

Recently, both classes of dental hygiene students took time out from their busy academic schedules to participate in two important community events. In October, they had the opportunity to act as assistants to area dentists during oral cancer screenings at the Lake Area Health Fair. During the month of February, students joined community members to promote Children's Dental Health at Southlake and Woodmar Malls. Through these activities, students had the opportunity to make new friends in the community as well as provide dental health information to area residents.

IUSD/NW Dental Hygiene Alumni have also been busy planning their annual alumni reunion in April. This year's event will be a Sports Day at the Omni Sports Complex in Schererville. Racquetball, roller skating, volleyball, swimming, basketball, and aerobic dancing are just a few of the featured activities. Alumni are looking forward to sharing friendships, showing their support for I.U., and having great fun at the Sports Day.

The culmination of this busy year will be graduation on Thursday, May 13, 1982, when 14 students will receive Associate in Science Degrees. We wish these students the best of luck, and we know they will be valuable additions to the dental hygiene profession.

## DENTAL ASSISTING

*Jennifer Dancisak*

There are nineteen Indiana University School of Dentistry/Northwest Dental Assisting students. All students were capped in December and will be graduating on May 14, 1982. Laurie Anserello, from Gary, was this year's recipient of the Northwest Women's Auxiliary Scholarship.

First semester's community project was assisting local area dentists at the Lake County Health Fair. This semester the students are visiting Lake and Porter County pre-schools, day care centers, elementary schools, high schools, nursing homes, and social organizations (i.e., Cub Scouts).

During Children's Dental Health Month, our students made posters, manned dental health education booths, wore costumes and presented dental health skits.

Fund raising projects are going well, so all students will be attending the Indiana Dental Association Annual Session and each is committed to participating in posters, papers, or table clinic projects.

The Class of 1981-82 has been a pleasure to associate with and our faculty wishes them our "very best" upon graduation.

# Alumni Notes

*Ruth Chilton*

Greetings from the Dental School! We really can't say "It's a beautiful day in Indiana" because most of us can barely see over the mounds of snow that we have in our yards — on the streets — in the parking lots. Seems like Old Man Winter just can't let us go this time — here in Indianapolis we have had violently bad snow storms every week end since before Christmas. It's gotten to the place that when the weather man even mentions "snow" we groan and shudder and rub those sore muscles. Shoveling snow CAN get tiresome — AND boring, you know! Much more of this and we shall all be saying to those of you who live in warmer climes — "move over, here we come"! Especially when Indianapolis broke a record in February which had been standing since about 1890; we had 22 below zero one morning, and around 15 below some nights.

However, it is still a pleasure to be able to greet you dear folks. And we know that you will all — especially those who graduated before around 1970 — be pleased to hear some news about Cleona Harvey. Just recently she received an award as Best Sunday School Teacher of the Year for all of Southern California. We are so pleased and want to send her our most sincere congratulations!

Now let's go to the class lists and see what sort of news we can dig up for you. You have NOT been particularly cooperative this time — PLEASE — write us — if you don't, we can't tell your class members what you have been doing! DO WRITE US!

And now for the news of the

## **Class of 1924**

We have received a change of address for

Dr. Gale E. Driver  
1673 S. W. Kendall  
Roseburg, Oregon 97470

## **Class of 1927**

We are sorry to report the death of Dr. Edward M. Lipetska on August 21, 1981, in South Bend, Indiana.

## **Class of 1929**

We are sorry to report the death of Dr. George F. Massey in October, 1981, in Lafayette, Indiana.

## **Class of 1931**

Mrs. Harvey shared with us a Christmas greeting she received from



**Mrs. Cleona Harvey with her award.**

Dr. and Mrs. Marvin Cochrane  
2160 S. W. Imperial Ave., Apt. 15  
Kings City, Oregon 97223

*Our first 16 months in Oregon have been quite a change from our 10 years in Yakima. This side of the mountains is much greater, and while there are fewer sunny days, we like it. Our first experience in an apartment is so different than keeping up a house — less work!*

*We had our 50th wedding anniversary in October without celebration since friends are so far away.*

*Our grandson has had a great year, 50 years after my graduation, he graduated from high school, has a new car, became an Eagle Scout, received a scholarship to Mt. Hood U. and is working part-time and recycling old papers to pay for his gasoline. We are very proud of him.*

*Not too many letters from old classmates any more! Happy Holidays.*

### **Class of 1935**

We are sorry to report the death of Dr. William F. Peacock, Crawfordsville, Indiana, on September 25, 1981.

### **Class of 1939**

We have the usual newsy, cheery Newsletter from Dr. Jack Carr, and we want to share it with all you alumni:

*We of the class of '39 enjoyed the fall conference and as in the past it was a small dedicated group. Borens didn't make it again! We had our reserved tables at the Friday banquet and also had our own dinner in the Federal Room on Saturday evening after the game.*

*Dr. Hine and Dr. McDonald stopped by for a chat before the Friday banquet and we conferred Honorary membership on Dr. Douglas White. He is always present during the Fall conference and has run out of classmates so we thought he would be a good addition to our class.*

*Of course Walt and Mary Vendes were present as well as Scotty and Elinor Campbell, Al and Tink Yoder, John and Evelyn Pell, How-*

*ard and Ruth Binkley, Eddie and Drama Young, Pid and Tess Davis, Harold and Eva Mintz, Sarah and Jack Carr. Sarah and Jack had guests from Hendersonville N. C. (Dr. and Mrs. Omer Taylor. He is an old army buddy of Jack's).*

*Binkleys have been traveling and had lots to report. I must get a tape recorder for these meetings but most of the conversations are about children or grandchildren.*

*The most recent contributors to the class fund are Binkley, Mintz, Vendes and Davis. It was suggested that I send a note to all class members asking if they wanted to remain on our mailing list. As soon as I get a response I'll send out a current list. I don't have an address for Irrizary at present.*

*Harold and Eva Mintz visited the school recently and I showed them around. Their son Mike was also with them. He is a senior at Bloomington and has applied for Dental School.*

*Received a newsy Christmas greeting from Binkley. I presume he sent a Xerox copy to most of you. Bink and Ruth surely get around!*

*Got a letter from Doc and Bette Livingston. They are finally grandparents (Daughter who lives in Cincinnati had a daughter last Aug. Son Steve is in Conn. Wished all a Merry Christmas.) Also received greetings from Harry and Emma Whetstone. Manny Green sent Holiday Greetings.*

*Saw John Campbell at the ADA meeting in K.C. He is still a delegate to the ADA. I've got to get John active on that trip to W. Va. Walt and Mary Vendes were at the ADA meeting. Walt sponsored Jim Roche in the American College of Dentists.*

*I am enclosing a card. Please fill it out with both office and home zip code. Include your home phone if you wish. I don't want to cut anyone off our mailing list. However, with the increase in costs I don't want to spend money for classmates who are not interested in receiving our newsletters.*

*Please send me a note about yourself so I can include it in the next newsletter.*

*Jack D. Carr*

### Class of 1941

Dr. Bogan shared with us a note he received from

Dr. Ronald S. Ping  
Outdoors Resorts, Rt. 1, Box 620  
Clermont, Florida 32711

in which Dr. Ping reported *We do miss all of you, and wish for each of you and yours the very best of everything.* He enclosed a donation to the Computer fund and to the Department of Oral Surgery. He also reported, *We had to make room for a new organ, which I am trying to learn to play; Nellie and I attend a class for Organ Theory, presented by Valencia College (in Orlando). This keeps us busy one day per week - then I am taking private lessons from a Theatre/Gospel Organist, also in Orlando. We are a "little old" for such activities but it keeps us going!* (Dr. Ping, we are so very pleased Dr. Bogan shared this with us - write to us more often!! R.C.)

### Class of 1942

Eight members of the Class of 1942 were honored at the March meeting of the Indianapolis District Dental Society as 40-year members of IDDS. Dr. Henry M. Swenson, a 1942 graduate of the University of Illinois, was similarly honored. The eight I.U.S.D. graduates were: Drs. Robert W. Wurtz, William J. Borman, Morris M. Stoner, Ally Burks, Robert P. Nickels, John W. Gilchrist, George W. James, and Sheldon L. Hall.

### Class of 1943

We want to share an interesting article we have read about

Dr. Gilbert LeVine Mellion  
798 Old Main Street  
Rocky Hill, Conn. 06067.

and we quote from the article: *When Gilbert LeVine Mellion was growing up in the Bronx in the 1920s, the thought of walking past the neighborhood dentist's office was*

*enough to send him into a panic. When he was 6, Mellion had a tooth removed without local anesthetic, and that was enough to convince him dentists should be avoided at all costs. . . That Mellion eventually became a dentist resulted partly from his determination that children shouldn't have to fear the dentist's chair the way he did. . . That he became Rocky Hill's first full-time dentist was the result of his decision to return to the state where he was born to open a practice in a farm town he believed would grow with the post-war boom. . . Today at 63, Mellion has worked 35 years in Rocky Hill, showing children that taking care of their teeth doesn't have to be an ordeal and showing their parents they aren't doomed to wear dentures by middle age.*

*The wartime demand for dentists required all dental school students to attend classes year-round, and he completed the usually four-year regimen in three years. . . His first job after graduating was treating young children in a preschool clinic in Hartford. However, that job lasted only a few months before he was drafted and sent to practice at a 1,000-bed Army hospital in England near Cambridge. His days in the service in Europe gave him plenty of time to think about where he wanted to practice. He decided a small quiet farm town in Connecticut was the place for him. . . He considered both Enfield and Rocky Hill, and Rocky Hill won out because it was the smaller, was closer to Hartford, more centralized and easier to get to. . . In 1946 Rocky Hill was a farm community of 2,000. . . today the town is a suburban bedroom town of more than 14,000 and 14 dentists practice in Rocky Hill either full or part-time. He set up his practice at 798 Old Main St., where it remains today.*

*Dr. Mellion said he has received the greatest satisfaction from practicing at a time when dentistry has advanced to the point that today's children no longer face having to wear dentures in their old age.*

*The fluoridation of public water supplies, development of new sealants, fillings and other material to arrest tooth decay means that people can keep their teeth for as long as they are willing to care for them. . . He said by the*

*first or second decade of the next century, the making of dentures will be the exception because the dentist will have perfected new ways to preserve teeth. . .*

*On Dec. 13 Mellion received the UConn Alumni Service Award. The award is given annually to alumni who have contributed outstanding services to the alumni association.*

*Dr. Mellion said 'I intend to work for as long as I can - for as long as I love it. I enjoy what I'm doing and I would love to be starting all over again.*

### Class of 1946

Dr. John K. Rueckl, a 1946 graduate, was a recent visitor here. Dr. Rueckl retired last year from his dental practice in St. Croix, Virgin Islands, and now divides his time between homes in St. Croix and Dana, Indiana. During his visit he enjoyed a chat with Dr. Maynard K. Hine, who was Dean at the time of Dr. Rueckl's graduation. He also recalled that Dr. Hine, as President of the American Dental Association in the mid-1960's, provided the impetus for the formation of the Virgin Islands Dental Society, which has approximately 40



Dr. Gilbert LeVine Mellion, IUSD class of 1943 (second from left), was recently honored with an Alumni Service Award from the University of Connecticut. With Dr. Mellion are, from left: Dr. Joseph O. Coggullo, President of the UConn Alumni Association; Mrs. Elizabeth A. Bradlau, a University trustee who also received an award; and Dr. John A. DiBiaggio, University President. Dr. Mellion is a 1941 graduate of UConn. All three men in the photo are dentists.

members. Dr. Rueckl served as Chairman of the Board of Dental Examiners of the Virgin Islands for the past 10 years, and several IUSD graduates took the Boards during that period. He reported that all of them passed with flying colors, making Dr. Rueckl "very, very proud."

### Class of 1957

As always, we like to share this Christmas greeting from the

Waldo Scales Family  
160 Marine Street  
St. Augustine, Fla. 32084

*Well, another Christmas Season is upon us. We have had a healthy year and should be thankful for our many blessings. . . The weather has been beautiful this fall in this part of Florida. We have had very little cold weather for this time of year. Hope it will stay that way for the rest of the year.*

*Our general economy in this part of the country has not been real good nor has it been too bad either. We have several people out of work but most could find a job if they tried.*

*Now let me tell you about the family. Let's talk about Janet first. She is a 14 year old who enjoys all the problems that go with being a teenager. She is a very big girl. It is true she is a little on the heavy side but she is just plain big. It is a little embarrassing when people who do not know her background (she is adopted) say, "Gee, Doc, you sure couldn't deny that child." She is built like, looks like, and acts like her Daddy. She could easily pass for an 18 yr. old. She sneaks out my pick-up truck and drives all around the sub-division. Our sub-division is fairly heavily patrolled by the Deputy Sheriffs. I say, "Honey, what do you do when you see one?" Her reply, "I wave at them and they wave back at me." She is a freshman in Jacksonville Episcopal High School. She is in three bands, the concert, the pep, and the stage band. She is doing quite well in music. She takes piano and trombone and seems to love her music. She is going o.k. in school. She is not the honor student that Bill was but she is*

having a ball. It is too bad that Bill didn't enjoy the activities of the school a little more and she a little less. To graduate she must have at least three years of a foreign language. We were very worried about her taking a language. She took Spanish, loves it, and is making real good grades in it.

James Raymond, 18 years old, is a freshman in college, going to Flagler College here in St. Augustine. He is learning a lot very quickly about the ways of the world. He told me the other day it was sure a lot harder in college than in high school. No, he is not an honor student. He doubtless will get through and make it just as well as a lot of those who were. If you will pardon me for saying so, "He is a

beautiful child." He is 6 ft. tall and slim, with big blue eyes. He always has, and still does, love his Mother very much. He is always looking after her. He is a good boy and we are very proud of him.

Now let us consider Bill. Bill took after his mother's side of the family and is not a large man. He says "Mother short changed him on height." He has a bushy black growth of hair. I sure don't see what he likes about it, but if it makes him happy it suits me. He is a junior in Jacksonville University this year. Organic chemistry and Genetics keep him thoroughly occupied all the time. He does not have time for anything else. Both courses have a laboratory course along with them, which makes him



Captain Rocklin D. Alling, D.C., U.S. Army (left) received his commission from his father, Colonel Charles C. Alling, 3rd, D.C., U.S. Army, Retired (right), during a ceremony in the offices of the Vice President for Health Affairs, University of Louisville. Upon completion of his residency training in oral and maxillofacial surgery at the University of Louisville, Captain Alling was ordered to Germany and is stationed at the Second General Hospital, A.P.O. New York 09180. Colonel Alling is in the private practice of oral and maxillofacial surgery in Birmingham (Hoover), Alabama. Captain Joseph Kohut, M.S.C., officiated at the ceremony which was attended by families and friends of the Doctors Alling.

Both Doctors Alling graduated from Indiana University with baccalaureate degrees in 1943 and 1973, and from the School of Dentistry in 1946 and 1977, respectively. Captain Alling participated in a General Practice Residency at the University of Alabama School of Dentistry, 1977-78, during the time his father was Chairman of the Department of Oral and Maxillofacial Surgery at that institution.

*spend long hours at school but he doesn't seem to mind. He stays with it. That's about all for Bill.*

*Now let's talk about Elizabeth. She has had a healthy busy year. Her chores at home and the office keep her going. She has been lucky as she has had very little trouble with her back, as long as she is careful, since she had her back surgery.*

*Well, let me tell you a little about myself and then we will close. Although I am now a diabetic as I have told you before, I have enjoyed a very happy and healthy year and am looking forward to many more. I do not think I missed a day of work this year and I continue to play with my toys (as Elizabeth calls it). If all is well we are planning big things over Christmas vacation using my heavy equipment.*

*Well, that's about all, have a good year. Wishing you the best of everything in the coming New Year! May God bless you and yours.*

*Sincerely, The Scales*  
(Thank you, Dr. Scales, for your most interesting letter!)

#### **Class of 1962**

We have a change of address for

Dr. Jim Jinks (Pedodontist)  
8801 N. Meridian Street  
Indianapolis, Indiana

#### **Class of 1963**

Mrs. Harvey has shared with us a lovely Christmas card she received from

Dr. Peter Leonard  
3680 Woodside Drive  
Columbus, Indiana 47201

#### **Class of 1964**

Dr. Gordon E. Kelley, Director of Dental Auxiliary Education and the Division of Allied Health at Indiana State University-Evansville, has also assumed administrative responsibility for the Re-

spiratory Therapy Program. In addition, Dr. Kelley has been elected Vice Chairman of metropolitan Evansville's Emergency Medical Service Council. He is the only dentist serving on that Council and although he has served this organization for some time, his election to the post of Vice Chairman is an example of the involvement of one of our graduates in community projects.

#### **Class of 1968**

We have a change of address for:

Dr. Virginia Crose  
Pembroke Medical Bldg.  
1950 West 86th Street, Suite 210  
Indianapolis, Indiana 46260

#### **Class of 1974**

We are sorry to report the death of Dr. Jack G. Harshman of Indianapolis on October 18, 1981.

#### **Class of 1975**

We have a change of address for:

Dr. Vivian L. Ong  
1505 N. West St., Apt. 123  
Jackson, Mississippi 39202

#### **Class of 1977**

We have received a change of address for

Dr. Michael K. Kimble  
105 Lakeview Drive  
Elizabethtown, Kentucky 42701

#### **Class of 1979**

We have received a change of address for

Dr. Radamee Orlandi-Alvarez  
Dent. Dept. USS Holland (AS-32)  
FPO New York, New York 09536

### Class of 1981

We have received the following changes of address:

Dr. Harold D. Atkinson  
1010 Memorial Way  
Fort Wayne, Indiana 46805

Dr. Thomas R. Blake  
2409 Fair Oak Drive  
Fort Wayne, Indiana 46819 (office)

Dr. Timothy L. Bray  
3097 S. St. Rd. 39  
Mooresville, Indiana 46158 (office)

Dr. L. Ben Davis  
St. Rd. 67 E, R.R. 1, Box 81A  
Daleville, Indiana 47334 (office)

Dr. James B. Dippel  
7139 Upper Mt. Vernon Rd.  
Evansville, Indiana 47712 (office)

Dr. John D. Fasel  
5508 Greenview Drive  
Indianapolis, Indiana 46220 (home)

Dr. Robert D. Findley  
112½ West Main  
Vevay, Indiana 47043 (office)

Dr. Thomas L. Hadley  
1331 Chimes Blvd.  
South Bend, Indiana 46615 (office)

Dr. Edward J. Spolnik  
MacDill Air Force Base  
Tampa, Florida

Dr. Gregg A. Sweeney  
349 S. St. Rd. 135  
Greenwood, Indiana 46142 (office)

Dr. Gregory A. Winteregg  
310 N. Kingston Rd.  
Plymouth, Indiana 46563 (office)



Seven Indiana University School of Dentistry students have been selected as recipients of the Stephen D. Slavin Memorial Award for 1981-82. On recommendation of a selection committee, the annual awards are presented to dental or hygiene students who have attended one of the four Muncie, Indiana, high schools. The fund honors Dr. Slavin, a 1967 graduate of I.U.S.D., who practiced in Muncie and was a member of the Muncie Community School Board at the time of his accidental death in 1975. It is perpetuated through gifts in his memory. Mrs. Linda Slavin Needham (fifth from left) made the awards to the recipients, from left: Scott E. Trout, Karen Hays, Jaime O. Lemna, Daniel C. Reno, Daniel W. Wheeler, David K. Harrison and Kevin L. Klinedinst.

Dr. Craig C. Wood  
1872 S. Tamiami Trail  
Venice, Florida 33595

Two members of the Class of 1981, Dr. Dennis Heritier and Dr. Douglas Peet, were among several Indianapolis area dentists who received membership certificates recently from the Indianapolis District Dental Society. Dennis and his wife, Katherine, have two girls, Laura and Julia, ages 3 and 1, respectively. Dennis enjoys restoring antiques and "being a family man." Doug and his wife, Robin, have one daughter, Hilary, age 2. Doug practices in Nora with his Dad, William. Doug's interests include skiing (water and snow), tennis, and being Scoutmaster at the Indiana School for the Blind, Troop 16.

Other IUSD graduates receiving IDDS membership certificates at the same time included Dr. Bob Hindman (D.D.S., '77 and M.S.D., '81), who practices periodontics at 2840 N. High School Road; Dr. Mark Vorhies (D.D.S., 1979), who practices orthodontics with his father, Jack, at 130 East Epler Street; Dr. Mark Williams (D.D.S., 1980), who practices family dentistry at 830 North Mitthoeffer Street; and Dr. Arden Christen (M.S.D., 1965), who is Associate Professor of Preventive Dentistry at IUSD.

Dr. Ronald N. Hinkel  
1000 S. Street  
Lafayette, Indiana 47901 (office)

Dr. Mark Hinman  
5969 Forest Hill Blvd., Apt. #1  
West Palm Beach, Florida 33406

Dr. Charles E. Kendall  
4455 E. Division St.  
Evansville, Indiana 47715 (office)

Dr. Mark A. Lewis  
6450 W. 10th Street  
Indianapolis, Indiana 46224 (office)

Dr. Craig A. Light  
3300 S. Main St., Suite D-6  
Anderson, Indiana 46014 (office)

Dr. Sidney Martin  
2287 E. Tamiami Trail  
Naples, Florida 33942 (office)

Dr. Robert C. Parker  
6211 W. 30th St.  
Indianapolis, Indiana 46224 (office)

(Also Director of Dental Clinic  
at State Farm in Greencastle)

Dr. Douglas E. Peet  
1221 East 86th Street  
Indianapolis, Indiana 46240 (office)

Dr. Kevin M. Pierson  
Route 1, Box 301A  
New Salisbury, Indiana 47161 (office)

Dr. Henry K. Pong  
3820 Central Ave.  
Lake Station, Indiana 46405 (office)

Dr. Edward F. Posluszny  
632 Bexford Drive  
Perrysburg, Ohio 43551 (office)

Dr. Richard E. Sherer  
141 E. Ohio St., Lower Level  
Indianapolis, Indiana 46204 (office)

# Indiana University

## SCHOOL OF DENTISTRY

# CLASS REUNIONS



Good Times... Good Friends...  
*Happy Memories...*

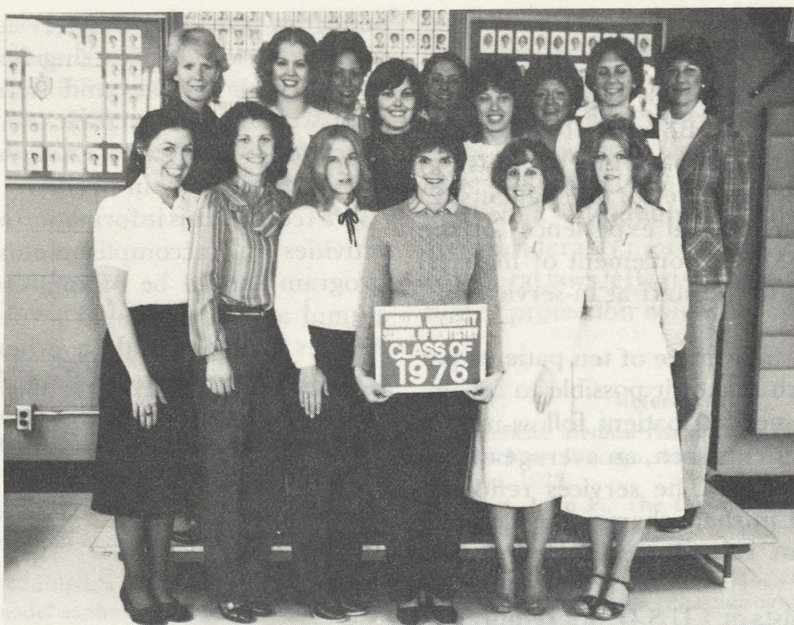












## GERIATRIC DENTISTRY

*(Continued from page 6)*

least once a month by students and the staff dentist, Dr. Borman. The periodic visits offer the following benefits: 1) Regular dental care for the patients, 2) "Hands-on" clinical experience for the students, 3) Reinforcement of material presented to the staff at in-service programs.

We see an average of ten patients per visit, which makes it possible to accomplish any needed patient follow-up. Of the ten patients seen, an average of two are bedridden. The services rendered are noted in their charts, thus creating permanent records for further reference.

Hygienists at I.U.S.D. are required in their public health class to develop an in-service program at nursing homes in the Indianapolis area. The programs were initiated at nursing homes that previously had had no oral care training for their staffs. The staff dentist at one of the homes recently contacted us requesting a follow-up on the program with additional visits. With careful planning, this can develop into another continuing program.

It should be pointed out that the primary motives for student involvement with care of the elderly are to increase the students' knowledge of geriatric dentistry and to help bring about acceptable dental health for the patients. It is hoped that these will continue to be the motives for the students' involvement upon graduation. However, the positive practice building aspects of such activities should also be noted. Young practitioners may find unproductive time in their daily schedules, and a visit to a nearby nursing home may help alleviate this problem. The fee income derived from such visits may not be comparable to chairside productivity, but it is definitely more lucrative than idle time. In addition, the positive image that one

builds by providing this service should not be overlooked. Nursing home personnel, their families and friends may very well choose as their dentist the practitioner who cares enough to give time to those truly in need.

We feel that this information about the activities and accomplishments of our program should be of interest to our alumni and other dental professionals, besides being useful to other dental schools planning to initiate A.S.G.D. chapters of their own. We hope that it will motivate many readers through example and encouragement.

## INSIDE THE USSR

*(Continued from page 24)*

spot because politics is always mixed up with everything, in contrast to France, Italy, or England.

As might be expected, in a group as large as ours, there were some ugly Americans. These people complained all the time and demanded more service.

I did very well the first week on Russian food but began to have "withdrawal symptoms" from junk food the second week.

In the Caucasus the people are supposed to live the longest in the world. Their diet is very bland and there is little meat but they exercise much more than we do and do a lot of walking. They also may have a good genetic background.

Although everyone is supposed to be learning English over there, we did not see many people that could speak it. However, the officials seem to know English.

Russia does not allow any foreign planes to land other than their own, so one sees a Russian airfield with 60 Aeroflot planes lined up, all with red tails. They have four models of these large modern jet planes.

The preceding is my word picture of our fabulous Nurse Tour of the Soviet Union. Summing up, I would say that Russia is so different from the U.S.A. that comparisons are hard to make.

## DENTAL REMEDIES

*(Continued from page 31)*

### Sanitol Tooth Brush

Guaranteed, adapted to the shape of the teeth and mouth, serrated edges, rounded tuft at the end, which enables one easily to reach between and around all tooth surfaces.

A screw hook to hang it by. Three textures: hard, medium and soft. Price 25¢ per brush.

### Sanitol Children's Tooth Brush

Same model as the Sanitol (adult) tooth brush but smaller in size and of the same quality and grade of workmanship. peculiarly fitted for a child's mouth, easy to handle and of a proper shape to clean around all tooth surfaces. Price 25¢ per brush.

## Discussion

With the present century, great changes came about. The Federal Food and Drug Act of 1906 signaled the beginning of the end of the real heyday of the patent medicine era. Its intent was to protect the public from the use of habit-forming drugs and false or misleading statements about the therapeutic effect of a medicine. If a preparation contained alcohol, a narcotic, or any other habit-forming drug, its presence and quantity thenceforth had to be listed on the label. The patent medicine companies interpreted the term "label" to mean the paper label on the bottle; therefore, companies labeled their products conservatively. However, the advertising circulars that were stuffed in the package still carried what today would seem to be unscrupulous claims about their products.

In December, 1914, the Federal Narcotics Law (the Harrison Narcotics Law) was passed. This ended the indiscriminate use of narcotics in non-prescription

medicines. The Federal Food, Drug and Cosmetic Act of 1938 greatly strengthened the 1906 law, and this Act has been amended several times over the years. After the law took effect, a new drug had to be cleared as to its safety before being marketed. Although consumers today are considerably more protected because of federal laws, efforts to gain wider consumer protection continue.

## References

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2. Street, John P., The Composition of Certain Patent and Proprietary Medicines, Chicago, American Medical Association, 1917.
3. Requa, Barbara S., Pharm. D., and Holroyd, Sam V., D.D.S. M.S. (Pharmacology), M.S. (Periodontics) F.A.C.D. Applied Pharmacology for the Dental Hygienist, pgs. 35-36, St. Louis, C.V. Mosby. 1982.

## ORAL DIAGNOSIS

*(Continued from page 47)*

Dr. Donnell Marlin  
Dr. Paul Zitterbart  
Dr. Jack Schaaf  
Dr. Wade Anshutz  
Dr. William Borman  
Dr. Sybil Niemann  
Graduate students  
Dr. James Green)  
Dr. Charles Stewart)  
Dr. Carol Stewart)

The staff includes two dental assistants, Ms. Cathy Jacobs and Ms. Lana Duncan, and two x-ray technicians, Ms. Isabell Poor and Ms. Myrna Robertson.

In summary, the Department of Oral Diagnosis/Oral Medicine fulfills both a teaching and service function in the dental school. It not only serves as an entry point for patients (thus supplying the students' technical needs), but also offers essential training in patient evaluation, diagnosis, management and treatment planning.

## MEDICAL-DENTAL HISTORY

(Continued from page 52)

at the University of Pittsburgh. It is not necessarily a model, but perhaps some ideas presented will be useful to some of our colleagues in practices which include child patients.

### References

- Mercer, V.H.; Roberts, J.K.: *Prescription fluoride: A new program for the Indiana dentist*. Ind Dent J, Sept/Oct 1978, pp. 21-22
- Wright, G.W.: *Behavior Management in Dentistry for Children*, Philadelphia: W. B. Saunders Co., 1975, p. 67
- Yamane, G.M.; Simon, W.J.: *Taking a medical history*, The Dental Assistant, 45:(6):29-32, June 1976



## Two Win Scholarships In Laboratory Technology

Two dental laboratory technology students at Indiana University-Purdue University at Fort Wayne are among eleven recipients of dental laboratory technology scholarships from the American Fund for Dental Health. They are Ms. Michelle René Cromwell and Mr. Jeffrey Allen Meyer.



That's it Jack!

## Abstracts of Theses by Graduate Students

### CHRONIC ORAL CANDIDOSIS IN A TWO-STAGE MODEL OF CARCINOGENESIS IN THE RAT

Carl M. Allen

An attempt was made to determine whether a chronic infection of the rat oral cavity with *Candida albicans* might act as a tumor-promoting agent in a two-stage model of carcinogenesis. Fifty-five Sprague-Dawley rats were divided into the following groups: (1) normal control; (2) initiation with the carcinogen, 4-nitroquinoline-1-oxide (4NQO); (3) oral inoculation with *Candida albicans*; (4) initiation with 4NQO, followed by oral inoculation with *C. albicans*; (5) continuous application of 4NQO; (6) initiation with 4NQO, followed by chronic application of the tumor-promoting agent, 12-o-tetradecanoyl-phorbol-13-acetate (TPA). The rate of actual infection with the *Candida* organism was found to be only 4% (one animal); much lower than previously reported studies. This infection occurred on the posterior midline dorsum of the tongue in an animal which had received initiation with 4NQO (Group IV), and the lesion appeared grossly and histologically similar to previously reported lesions of chronic candidosis affecting rat lingual mucosa. Of the 10 rats in Group V, the majority exhibited varying degrees of epithelial dysplasia, with one invasive epidermoid carcinoma observed. No other animals showed any evidence of oral lesions grossly or histologically. The low infection rate may be associated with the particular strain of *Candida albicans* used. No evidence of tumor promotion was seen with the *Candida* infection or with TPA application. Further research is indicated to better delineate the factors influencing the infectivity of *C. albicans* and its relation to oral carcinogenesis.

### THE INCIDENCE OF TRANSIENT BACTEREMIA DURING PERIODONTAL FLAP SURGERY ONE WEEK AFTER INITIAL PREPARATION

James W. Campbell

The purpose of this study was to determine the incidence and severity of bacteremias caused by full thickness periodontal flap surgery after one week of healing following initial preparative treatment.

Twenty patients requiring flap surgery for the treatment of periodontal disease were selected for this study. Each of the participants had their periodontally diseased teeth root planed one week prior to surgery. All the patients had received oral hygiene instructions, but were not required to demonstrate any particular degree of oral hygiene efficiency prior to surgery. On the day of surgery,

the following factors were measured and recorded for the area to be treated: the number and type of teeth; plaque scores; gingival and sulcus bleeding indices; deepest pockets; mean pocket depth; greatest loss of attachment; and mean loss of attachment.

Two venous blood samples of 10 ml each were obtained from each patient. The first was drawn from the right antecubital fossa immediately before surgery, and the second was drawn during the surgical procedure itself, also from the right arm. Five ml of each sample were injected into a manufacturer's prepared bottle containing brain-heart infusion broth with CO<sub>2</sub> and SPS, and the bottle incubated. The remaining five ml were placed into a vacutainer tube containing sterile saline and SPS. This tube was then centrifuged; the supernatant fluid passed through a filter; the filter was placed on an MM-10 sucrose agar plate; and the plate was anaerobically incubated. Nine of the samples processed in this manner were positive for bacteria, a 45% incidence of bacteremia. Slides were prepared of the positive cultures and the bacteria classified according to their gram staining characteristics and cellular morphology.

This study was a follow-up to the investigation of Dr. Peter B. Raetzke, in which the periodontal surgery was limited to those areas where initial preparation had been completed at least six weeks prior to the date of surgery. This study focused on the differing levels of transient bacteremias observed between his extended post root planing period and those of an abbreviated period.

Not only did the incidence of bacteremia exceed that of Raetzke (45 to 25%), but the degree of bacteremia was also greater (.56 colonies/ml of blood to .30). This was demonstrated by a larger number of colonies observed on the membrane cultures. The predominant bacteria cultured were Gram positive rods and cocci.

While Raetzke showed no correlations or statistical significance to any of the factors measured and the incidence of bacteremia, the present study did. They were as follows: slight correlation—number of teeth involved in the surgery, G.I. and S.B.I., and average depth of the pockets; moderate correlation—age of the patient, greatest depth of pocket, greatest loss of attachment, and average loss of attachment. Only the greatest loss of attachment was shown to have any statistical significance in predicting the potential for bacteremia.

When the results of this study and Raetzke's are viewed together, certain conclusions can be inferred:

1. Patients who have a considerable loss of attachment/pocket depth are more likely to have a higher incidence of bacteremia.
2. The inflammatory condition of the gingival tissues will affect the incidence and degree of bacteremia during periodontal flap surgery.
3. Pretreatment is beneficial in reducing the incidence of bacteremia at the time of surgery provided an adequate period of healing post root planing is provided.

## LONG-TERM PULPAL AND PERIAPICAL REACTIONS TO RC-WHITE PASTE: A HISTOLOGIC STUDY IN MONKEYS

Robert D. Borders

This study evaluated histologically the response of pulpal and periapical tissues in monkeys to the paraformaldehyde component of RC-White paste.

Thirty-two root canals in each of two monkeys (*Macaca Speciosa*) were endodontically treated with one of the following regimens: (1) Sargenti preparation, filled with RC-White paste; (2) Sargenti preparation, filled with RC-White paste without paraformaldehyde; (3) traditional preparation, filled by lateral condensation of gutta percha using RC-White paste as a sealer; and (4) traditional preparation, filled by lateral condensation of gutta percha using RC-White paste without paraformaldehyde as a sealer.

After an experimental period of 15 months, the animals were examined clinically and radiographically, then sacrificed. Block sections of the jaws were removed, fixed in 10 percent formalin and decalcified in five percent formic acid. Semi-serial sections seven microns thick were prepared and stained with hematoxylin and eosin for microscopic examination.

No correlation could be found between any clinical or radiographic observations and the histologic results. Histologic observations were evaluated in terms of pulp, periapical, bone and root reactions to the various treatments. There were no significant differences in frequency of occurrence for any of the reactions on the basis of paraformaldehyde usage.

Serious questions exist concerning the reliability of the results and thus the validity of this study. The discovery of errors in the treatment code, and the obviously deficient performance of the treatment casts doubt on the accuracy of the entire code and the adequacy of all treatments. Based on the conditions of this research, therefore, conclusions concerning the effects of paraformaldehyde on vital pulpal and periapical tissues in monkeys cannot be made.

## THE EFFECT OF CITRIC ACID ON THE ENDOTOXIN LEVEL OF PERIODONTALLY DISEASED ROOT SURFACES

Declan F. Corcoran

Topical application of citric acid to exposed root surfaces has been reported to enhance new attachment, but its mode of action remains uncertain. This study hypothesized that citric acid reduces endotoxin levels of exposed root surfaces.

A total of 180 periodontally involved extracted human teeth with at least 5 mm attachment loss interproximally and 20 unerupted extracted human teeth were collected. The unerupted teeth served as controls and the periodontally involved teeth were divided into eight experimental groups and one control group (20 teeth per group). After extraction all teeth were scrubbed, autoclaved and

stored in individual pyrogen-free test tubes. Experimental groups were then treated thus: Two groups treated with topical citric acid (pH 1) for two minutes followed by rinsing with sterile saline for two minutes; one group scaled only; two groups scaled and treated with citric acid; one group root planed only; and two groups root planed and treated with citric acid.

Tooth grindings from interproximal root surfaces were collected, weighed and subjected to a phenol/water extraction procedure. After centrifugation the water layer was dialyzed against deionized water for 86 hours. The samples were then evaporated to dryness and reconstituted with pyrogen-free water, the quantity of water determined by the original weight of the tooth grindings. The samples were assayed for endotoxin using the *Limulus* lysate test.

The two groups that were treated with citric acid only had higher levels of endotoxin than the untreated periodontally involved control group. Endotoxin levels of the groups which were treated with citric acid and scaling or root planing were not significantly different from those that were scaled or root planed only. These results suggest that topical application of citric acid, as in this study, does not affect the endotoxin level of periodontally involved root surfaces.

## COMPARATIVE STUDY OF TWO CASTING PROCEDURES

Ana Maria Farias

This study compared the marginal fit of castings made by two different casting procedures: (1) The conventional method where the wax pattern is removed from the stone die and invested in a gypsum bonded cristobalite investment that relies primarily on thermal expansion in compensating for the gold alloy casting shrinkage, and (2) the method where a refractory die is used, the wax pattern and the die being invested together in an investment which is essentially the same as the die material. This gypsum bonded quartz die and investment depends primarily upon setting expansion in compensating for gold alloy casting shrinkage.

A sectional Dentoform model, carrying a full crown and MOD onlay made of a refractory base metal alloy, was used as a master. Impressions were made and dies poured using the two die materials.

The marginal discrepancies of the castings were measured with a micrometer slide microscope. Measurements were made at the different surfaces (mesial, distal, buccal and lingual) of each casting. A Knoop indentation had been made on each surface of the master die just apical to the finishing line so that measurement was always at the same location along each margin. The largest marginal opening on each surface of each casting was also measured. When results were statistically analysed, significant differences were found between procedures at different surfaces.

Three dentists, with the aid of binocular loupes, evaluated the castings seated on the metal dies.

Significant differences were found between evaluators. A ridity analysis was carried out in order to compare the results.

Both procedures produced acceptable full crown castings. The onlay castings did not completely seat; a labial marginal discrepancy always existed.

In general, the castings from the refractory die technique fit the master metal dies better than did the castings from the more conventional thermal expansion technique.

#### **THE EFFECT OF CHLORHEXIDINE GLUCONATE IRRIGATION ON THE ROOT CANAL FLORA OF FRESHLY EXTRACTED NECROTIC TEETH**

**Gael M. Delany**

Forty freshly extracted teeth with necrotic pulps were endodontically treated under simulated clinical conditions. Bacteriologic samples were obtained before, during, immediately after, and 24 hours following instrumentation and irrigation with either an 0.2 percent chlorhexidine gluconate solution or an 0.9 percent solution of sodium chloride.

All cultures were transferred to a reduced transport fluid, dispersed, spread on MM10 sucrose agar plates, and incubated anaerobically for 5 days at 37° C. The colony-forming units were counted under illuminated magnification and representative colonies were partially characterized based on morphologic configuration and Gram stain.

There was a highly significant ( $p < 0.0049$ ) reduction in microorganisms for both the uniradicular and multiradicular chlorhexidine-treated specimens following the instrumentation and irrigation procedures. Further significant reductions in microbes were noted following intracanal dressing of the teeth for 24 hours with the chlorhexidine gluconate solution.

The teeth treated with saline also demonstrated a generalized decrease in flora following the instrumentation procedures. However, there was an absolute increase in 80 percent of the uniradicular and 50 percent of the multiradicular teeth when no intracanal, antimicrobial dressing was used.

These findings seem to reaffirm that although the use of an intracanal medicament is of secondary importance in endodontic therapy, it is a useful aid in the reduction of microorganisms from the root canal system. It can be concluded that chlorhexidine gluconate in an 0.2 percent solution is an effective antimicrobial agent when utilized as an irrigating solution and that as an intracanal, intraappointment dressing, chlorhexidine helps to further reduce the microbes remaining in the root canal following instrumentation procedures.

#### **DIMENSIONAL ACCURACY OF MULTIPLE POUR FULL-ARCH STONE CASTS**

**Takeo Iwata**

Dimensional accuracy of multiple pour full-arch stone casts made from non-aqueous elastomeric impression materials, namely Permlastic and President, was studied. A maxillary metal cast, carrying eight reference marks, was employed as the master model. Ten impressions were made of the master model with each impression material under the same conditions. Three consecutively poured full-arch stone casts were fabricated from each impression at pouring times of 5', 40', and 75'. Ten point-to-point distances were determined for each of 60 stone casts; the data obtained from those measurements were compared statistically.

The first pour stone casts from the President impressions were the most accurate. The second and third pour stone casts were only slightly less accurate, a statistically significant difference among pours existing for some of the measured distances but not others. The Permlastic derived stone casts were not as accurate as those from President and showed significant differences in dimensions as the pours progressed. The difference in behavior between the two impression materials studied can be explained, in part, by the greater polymerization and thermal contraction and permanent deformation following strain of the polysulfide.

Although superior dimensional accuracy and stability of the President impression would favor its expanded use rather than the expanded use of Permlastic in the fabrication of fixed restorations, this study did not confirm the definite benefit of the introduction of President impression material for the multiple pour technique.

#### **THE EFFECT OF ROOT PLANING THE CONTIGUOUS ROOT SURFACES OF THE TEETH ADJACENT TO A PERIODONTALLY HOPELESS TOOTH, AFTER EXTRACTION OF THE HOPELESS TOOTH.**

**Thomas P. D. FitzGibbon**

This study investigated the effects of root planing the contiguous root surfaces of the teeth adjacent to a periodontally hopeless tooth, after extraction of the hopeless tooth.

Twelve subjects, four males and eight females ranging in age from 18 to 65 years and with no known systemic disease, participated in the study. All were being treated for moderate to severe periodontitis. They provided a total of 20 matched pairs of experimental and control surfaces, as a result of extraction of 39 hopeless teeth. The con-

trol and experimental surfaces had not been root planed previously.

Attachment level and pocket depths were recorded for each surface. Probing measurements were taken from fixed reference points using approximately 5 grams of pressure. The presence and extent of plaque and calculus, as well as the degree of mobility, were scored for each control and experimental surface/tooth. A gingival index (Loe and Silness) was determined. Measurements were taken immediately before extraction and 90-138 days after extraction. Radiographs for eight matched pairs of surfaces were taken immediately before extraction and 6 to 8 months after extraction. The data were statistically analysed by matched and independent pair t tests where appropriate.

There was no statistically significant difference between planed and non planed surface results with respect to mean attachment change, pocket depth reduction, mobility scores and proximal bone height changes. Further, when the data were analysed with respect to age, race and sex, and similar plaque scores, there was no statistically significant difference between treated and untreated teeth.

In the investigator's opinion, the results were primarily due to the nature of the healing response after an extraction, and secondarily due to recurrence of endotoxin on the planed surfaces.

In conclusion, there would appear to be no benefit to be gained from planing root surfaces adjacent to an extraction site immediately after extraction of a periodontally hopeless tooth.

#### **AN ANALYSIS OF THE ADAPTATION OF PATIENTS TO XEROSTOMIA FOLLOWING RADIATION THERAPY INCLUDING THE MAJOR SALIVARY GLANDS**

**Gary L. Gotsch**

This study investigated the mechanisms used by head and neck cancer patients in adapting to post-radiation xerostomia. It also evaluated their perceptions of the level of dryness in their mouths as a function of time.

Sixty-four subjects were selected for the study. Thirty-two patients in the test group had been treated with a radiation dosage of 5000-7000 rads delivered to the major salivary glands in a five-to seven-week period. The 32 control subjects had had no radiation.

A simple test was developed to determine how accurately radiated subjects could estimate their post-radiation saliva flow levels. These levels were then compared to the pre-treatment control levels.

The test subjects were then separated into two groups. Group I had been radiated less than 12 months prior to the evaluation. Group II had been radiated 12 or more months prior to the evaluation. Although Group II was not as sensitive to their xerostomia, there was no significant change in the accuracy with which the test subjects perceived their level of dryness with the passage of time.

The second phase of the study examined the subjects' changes in dietary habits from pre-treatment patterns. Subjects also described specialized usage of water which they required following treatment.

It appears that as time passes, radiated patients become more comfortable with their xerostomia. This does not seem to be related to a change in their perception of the level of their dryness, but may be attributable to the fact that they change their dietary habits and develop specialized use of water.

#### **PULP REACTIONS TO A SYNTHETIC HYDROXYAPATITE AND CHLORHEXIDINE IN MONKEYS**

**Alejandro J. Ibarra**

The study compared pulp reactions to a synthetic hydroxyapatite and to calcium hydroxide with either one percent chlorhexidine or distilled water as a mixing vehicle. Forty-seven permanent teeth of two monkeys were mechanically exposed under aseptic conditions. The pulps were then capped with one of the following: synthetic hydroxyapatite mixed with chlorhexidine; synthetic hydroxyapatite mixed with water; calcium hydroxide mixed with chlorhexidine; calcium hydroxide mixed with water.

Small square sheets of gold foil were then placed over the capping material. A base of IRM was placed and the cavities were restored with amalgam. The teeth were extracted at 14 and 90 days after pulp capping. The specimens were fixed in 10% formalin and decalcified in 5% formic acid. Serial sections 7 microns thick were prepared and stained with hematoxylin and eosin.

The synthetic hydroxyapatite mixed with one percent chlorhexidine or water was well tolerated by the dental pulp. Complete bridging occurred infrequently in the specimens capped with the hydroxyapatite, compared to those capped with calcium hydroxide, which usually showed complete bridging of the exposure.

#### **DIRECT RESTORATIVE RESINS: AN IN VITRO EVALUATION OF MICROLEAKAGE USING A Ca45 AUTORADIOGRAPHIC TECHNIQUE**

**Michael T. Hanst**

Marginal leakage is a major factor in longevity of a clinical restoration. This study compared the leakage of new resin materials, such as microfilled resins, to that of currently-used resin materials.

Class V preparations with a 90° cavosurface angle were made in 264 extracted human teeth. Restorations were placed with 12 resins (Bonfil, Sevriton, Concise, Adaptic Radiopaque, Nuva-Fil P.A., Profile, Fotofil, Superfil, Isopast, Phasefill, Silar, and Finesse) in 22 experimental groups of 12 specimens each. Various combinations of non-etched, etched, etched-primer, and etched-

bonding agent restorations were placed and finished to a butt-joint. The restorations were stored two weeks in 37°C water and thermocycled 1,250 times over a 40°C differential. A  $\text{Ca}^{45}$  autoradiographic technique was used to evaluate leakage. Multiple blind readings of the films by two evaluators and ridit analysis were used to determine the ridit mean and standard deviation of each group.

Computer analysis with the Newman-Keul Method of the Welch Test revealed some significant differences ( $p < .05$ ) and trends between the groups. The following conclusions were reached: (1) acid etching decreased marginal leakage; (2) etched restorations with Adaptic, Concise, and Isopast exhibited significantly less leakage than those with Superfil, Fotofil, and Bonfil; (3) bonding agents may be useful with composite resins, but may be detrimental to microfilled resins; and (4) cavity primer is not advantageous for acid etched Sevriton restorations.

### **EFFECT OF MAS AND KVP CHANGES ON RADIOGRAPHIC DENSITY AND CONTRAST**

Gene A. Jones

One hundred radiographs were taken to evaluate the effects on density and contrast of different combinations of mAs and kVp. One group of 50 films was exposed at 10 mA, with five subgroups of 10 films each having kVp factors of 50, 65, 70, 80, and 90, respectively. The other group of 50 films was exposed at 15 mA, also with five equal subgroups having kVp factors of 50, 65, 70, 80, and 90. The films were submitted to a group of four examiners who are specialists in dental radiology. They were asked to score the films for density and contrast.

The results indicate that at 10 mA the middle kVp range (65-70) produced the best films. Two examiners selected 70 kVp and one examiner preferred 65 kVp; however, one examiner chose 90 kVp as best. When 15 mA was used, the results were more consistent: two examiners selected 80 kVp as best, one examiner felt that 80 and 90 kVp produced films of equal quality, and one rated 90 kVp as the most diagnostic.

Selection of the combination of mAs and kVp that produces the best density and contrast appears to be based on individual preference. However, two principles must be adhered to: No more radiographs should be made than are needed for an accurate diagnosis, and the attempt should invariably be made to gain the most information with the least radiation to the patient.

### **AN IN VITRO INVESTIGATION OF THE MARGINAL LEAKAGE OF CEMENTED FULL GOLD CROWNS**

Randall Masaki Kawamura

The marginal leakage of cemented full gold crowns was investigated using sixty extracted

human premolar teeth. An accurately fitting full gold crown was fabricated for each tooth. The teeth were divided into three groups, and each group was cemented with a different luting agent: zinc phosphate, polycarboxylate, or glass ionomer cement. After cementation, the teeth were stored in 37°C water for one week, after which time one half of each group of specimens was subjected to thermal stress at 15°C and 45°C. The teeth were cycled between these temperatures 2,500 times, with a 30 second dwell time at each temperature. At the end of the temperature cycling, the specimens were placed in a solution containing 0.1 millicurie per milliliter of  $\text{Ca}^{45}\text{Cl}_2$  for two hours. The teeth were then sectioned, and autoradiographs made from the sections.

All of the thermocycled specimens exhibited some leakage. Crowns luted with zinc phosphate cement showed the greatest amount of isotope penetration, followed by those luted with polycarboxylate cement with a lesser amount of leakage. Specimens luted with glass ionomer cement exhibited the least amount of marginal leakage. A similar order of leakage, but to a lesser degree, was shown by the control specimens of each group, with a few crowns cemented with the glass ionomer cement showing no isotope leakage at all.

### **A CLINICAL AND LABORATORY ASSESSMENT OF THE SOLUBILITY AND DISINTEGRATION OF SEVERAL LUTING CEMENTS**

Jerry D. Lachat

The solubility and disintegration of four luting cements were evaluated in the oral cavity. Four commercial cements (a glass ionomer designed for luting purposes, polycarboxylate, PMMA-zinc oxide-eugenol, and EBA-Zluzmina zinc oxide-eugenol) were tested in 22 patients. The cements were placed in small holes in the proximal surfaces of cast gold restorations. Each cement was placed in one hole located occlusally and one located gingivally. Ten specimens of glass ionomer did not receive a coat of varnish while 12 received varnish. After six months in the mouth, the loss of cement was measured by means of a metallurgical microscope. The casting containing the cement specimens were then recemented in order that cement loss could be evaluated at one year.

In the in vivo study, the glass ionomer was significantly less soluble than the three other cements, which differed from each other only in that the polycarboxylate was significantly less soluble than the EBA/ZOE cement. There was no significant difference between the varnished and unvarnished glass ionomer, nor between the amounts of a specific cement loss from the gingival and occlusal locations.

An in vitro study evaluated the disintegration and solubility of the four cements used in the in vivo portion plus representative brands of zinc phosphate and silicophosphate cements. Also, five specimens of each cement were placed in small holes in acrylic blocks which were submerged for

six weeks in (1) distilled water, (2) 0.001 M acetic acid pH 4, and (3) 1 M acetic acid pH 2.5. The solutions were agitated and held at approximately 37° C.

The 1 M acetic acid affected the cements too rapidly to be used as a test medium. The other solutions predicted the clinical behavior of only the glass ionomer cement.

## THE EFFECTS ON POSTRADIATION PROBLEMS OF ADDING CETYLPIRIDINIUM CHLORIDE TO VA—ORALUBE

Ben Tetsui Kawasaki

This study introduced the concept of the addition of an antibacterial agent to an oral lubricant to demonstrate the compatibility of VA-Oralube to cetylpyridinium chloride (CPC). The modified VA-Oralube with fluoride (F) and CPC both at 500 ppm, designated as IU-Lube, was laboratory tested in Jordan's Medium with *S. mutans* and mixed oral bacteria against a CPC-water solution to show equal bactericidal action of CPC when added to VA-Oralube.

On 12 radiated patients with the continuous use of IU-Lube, a three-part, 12-week clinical trial included (1) weeks 0-3, a plaque score and prophylaxis regimen; (2) weeks 4-7, a "rest" period with no clinical visits; and (3) weeks 8-12, resumed visits with plaque scores but without prophylaxis. Results showed significant improvements in plaque scores since the initial visit ( $p < .01$ ). Gingival indexes also improved ( $p < .05$ ) but at a slower rate. IU-Lube seems beneficial because it provides a convenient method of combining the current modalities of F and VA-Oralube with the addition of CPC in the management of oral postradiation sequelae. In particular it seems more effective than VA-Oralube due to its multiple voluntary self-applications, with resulting added exposure to fluoride and the reduction of plaque.

## IN VITRO MODEL FOR PIT AND FISSURE CARIES

Soraya Beiraghi Majd-Pour

This study attempted to develop an *in vitro* model for producing pit and fissure carious lesions.

Four groups of 12 intact extracted molars were mounted in acrylic bases and exposed to a cariogenic challenge consisting of a layer of artificial plaque composed of a *S. mutans*-inoculated semi-solid (agar-glycerine-sucrose) culture medium. The "plaque" was painted over the pits and fissures with a sterile camel hair brush.

In Group A, *S. mutans*-inoculated liquid medium was painted on the pit and fissure area and then covered by a thin layer of melted agar-glycerine medium. In Group B carboxymethyl cellulose was used instead of agar. In Group C agar was used and covered with a disc of sterile filter paper over which

a layer of collodion was painted. In Group D carboxymethyl cellulose was used instead of agar and covered with the filter paper and collodion. Groups A and B were sealed and incubated at 37° C for two days. Groups C and D were placed in 300 ml of sterile artificial saliva and incubated in a thermostatically controlled shaking water bath.

After eight weeks Group C had the largest number of carious lesions but also exhibited marked surface decalcification. Thus, two additional groups of 12 teeth each were prepared in an attempt to increase the cariogenic challenge and decrease surface decalcification. Group I was covered with a sealant except that the pit and fissures were protected by a layer of blue wax. Group II, the control group, was not covered with a sealant. The cariogenic challenge was a bacterial pellet obtained after centrifuging a liquid *S. mutans* culture for 15 minutes. The caries evaluation was performed both clinically and microscopically (15x). The conclusions follow:

1. Group C had the highest number of lesions both microscopically and clinically. However, the differences with the other groups were not significant ( $p < 0.05$ ).
2. The sealant as applied did not affect the degree of decalcification of the surfaces after the third week of exposure to the cariogenic challenge.
3. The teeth not covered by sealant had significantly ( $p < 0.05$ ) more clinical cavities than the teeth covered by sealant.
4. The blue inlay wax penetrated the pits and fissures and acted as a barrier to caries formation.

This study constituted a first step toward the development of an *in vitro* model for producing pit and fissure caries. Additional work is needed to improve the model and alleviate the problems which were encountered.

## INCIDENCE OF POSTOPERATIVE PAIN FOLLOWING ONE-APPOINTMENT ENDODONTIC TREATMENT OF ASYMPTOMATIC PULPAL NECROSIS

John Martin Mulhern

Sixty teeth were endodontically treated by two postgraduate students for asymptomatic pulpal necrosis. Thirty were treated in a single-visit and a control group of 30 were treated in three visits each. Clinical and radiographic evaluations were made. A subjective questionnaire was used to record pain experience.

No significant difference in the incidence of pain existed between the single and multi-visit groups.

No significant relationship was found between pain and age, race, tooth position, presence of a periapical radiolucency, result of aerobic culture, canal humidity or amount of initial filing. A significantly higher incidence of pain was reported among females in the control group, though not in the experimental group.

Although one-third of all the patients experienced pain to some degree, the occurrence of pain proved to be unpredictable.

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