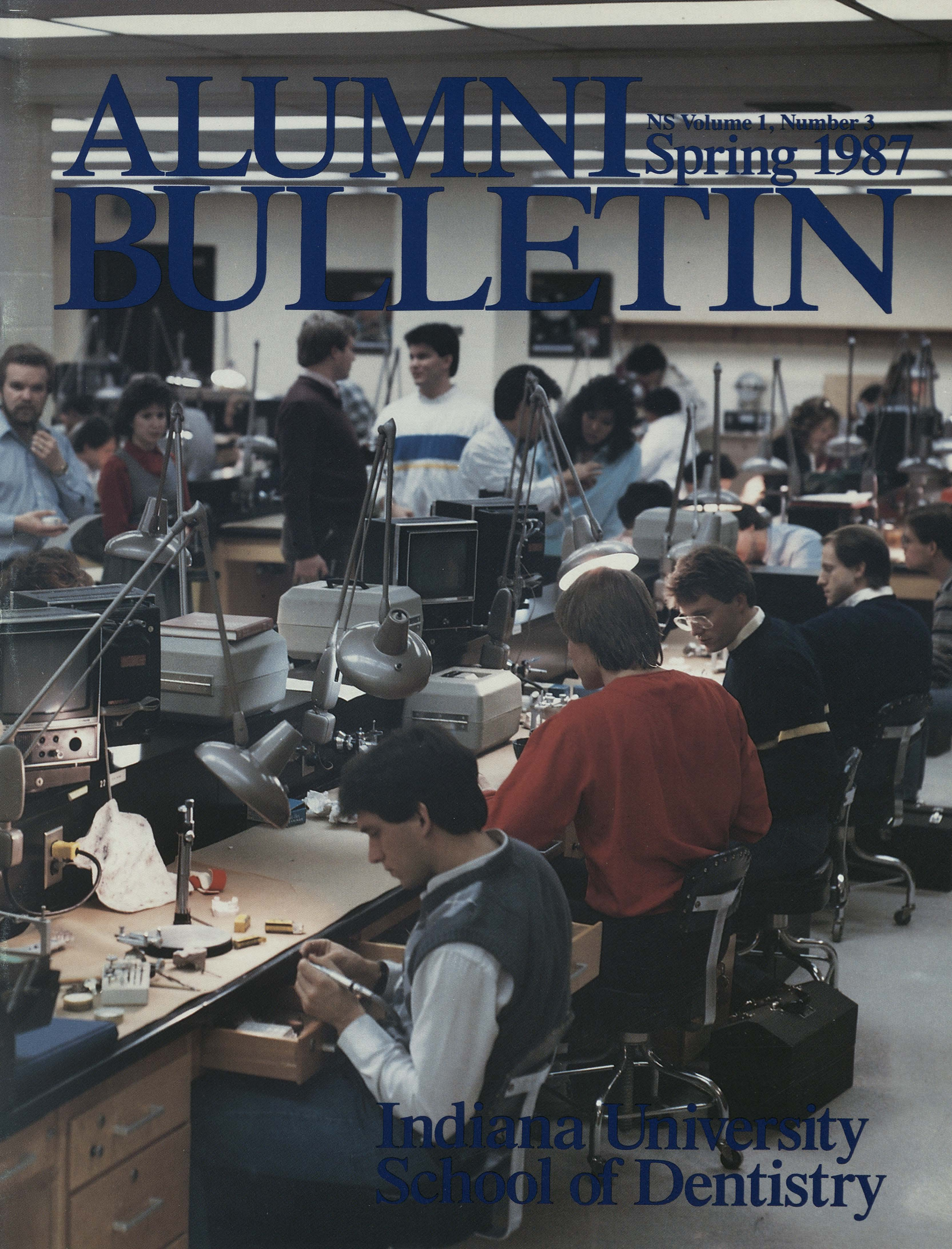
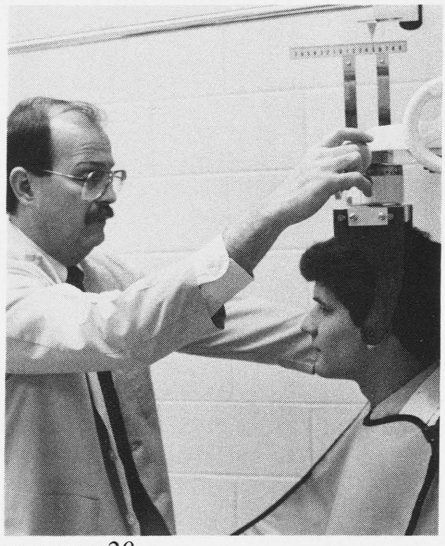
ALUMNI BULLETIN

NS Volume 1, Number 3
Spring 1987



Indiana University School of Dentistry



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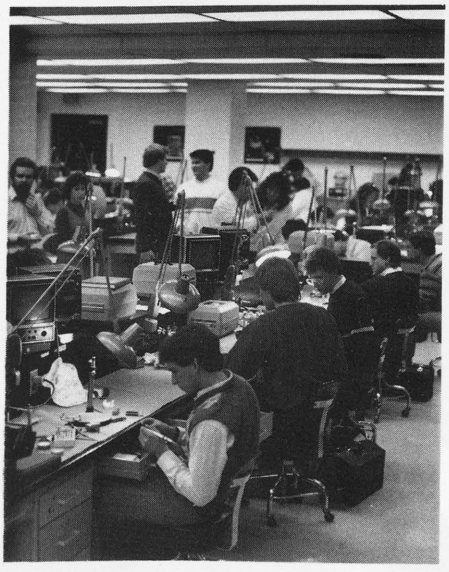

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Alumni Bulletin
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On The Cover
As the Bunsen burners heat up, so does the action in SB05 of the dental school. Roving IUSD photographer Mike Halloran, in search of a cover for the Spring Alumni Bulletin, found the Class of 1989 deeply engrossed in an assignment for Dr. Rake's Removable Partial Prosthodontics Laboratory on a Monday afternoon during second semester.

Indiana University School of Dentistry Alumni Bulletin is published four times a year: Fall, Winter, Spring, Summer, for Indiana University School of Dentistry alumni. Material included herein does not necessarily represent the official position of the School. The editorial office is located in the Indiana University School of Dentistry, Room 104, 1121 West Michigan Street, Indianapolis, IN 46202. Telephone 317/274-5405.

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FELICIA YOUNG

IUSD Development Director

Danny Dean Shows Vim, Vigor, & Results in New Job

SUSAN CRUM

He could easily be mistaken for a dental student in the School of Dentistry corridors, with a boyish grin and collegiate style that belie his "over 30" status. But Danny R. Dean, employed by the dental school since last July, is the first to admit that he wouldn't know an amalgam alloy from a composite resin or modeling stone from pumice. Mastering dentistry is not his goal. As IUSD Director of Development and the School's chief fund raiser, Danny is challenged with strengthening ties between the IU School of Dentistry and its many supporters, including the alumni, private corporations and other friends and associates with an interest in IUSD.

IU Background

Danny Dean may be the new kid on the block at the dental school, but he's no stranger to its alumni. He brings to the newly created position a background rich in experience with graduates of the School. As Assistant Director of the IUPUI Alumni Association for almost four years prior to his appointment, he was a key organizer of alumni events and receptions, including the Fall Dental Conference, the annual dental alumni reunion which draws hundreds of graduates back to Bloomington every autumn.

Not a day goes by in his new position that Danny is not grateful for the experience he has gleaned from the Alumni Association. "Coming out of the Alumni Association, I got a head start on my job as dental school Director of Development," he says. Having worked with five other schools within the university system in his former post (in addition to the dental school), Danny characterizes dental grads as "open, caring and understanding. I'm delighted that I can continue working with these fine people in my new job."

Born and raised in Salem, Indiana, Danny is likely to refer to his hometown as "Miles Standish and Ralph Phillips territory," citing two of IUSD's eminent faculty members who also spent their boyhoods in that area. After graduating from Salem High School Danny earned degrees in public relations and college student personnel administration from Indiana State University. In 1978 he married Debbie Grzyb, a speech pathologist who also studied at ISU. Throughout college he held various positions in the ISU residence halls. He also logged experience in the ISU Department of Student Affairs. After relocating to Indianapolis, he worked briefly as a recruiter for a vocational school before he was hired by the IUPUI Alumni Association.

Danny was looking for a new career challenge at the time Dean H. William Gilmore was looking for a development officer. A couple of years earlier, Dr. Eugene Tempel, Indiana University Foundation vice president, had initiated a decentralization of the IU fund-raising system on the Indianapolis campus at the request of newly appointed IU Foundation president, Dr. W. George Pinnell. The IU Foundation today coordinates a system-wide development program with virtually all of the schools having an on-site development officer or some other person in charge of such activities. In addition to serving as Director of Development for the dental school, Danny also serves as an executive on loan for the Foundation's Campaign for *Indiana*, the University's five-year fund raising program.

As Director of Development, Danny keeps one goal sharply in focus: to assure a quality dental education for all students at the dental school. "Each year that goal becomes more difficult to reach," Danny says. "Funds from the state, and clinical and tuition fees simply can't keep up with the soaring cost of supplies and equipment required for an excellent dental education. My job is to secure supplemental funds through gifts from alumni, corporations and others who are committed to seeing that IUSD remains a strong school with an international reputation for excellence."

It is apparent from his enthusiasm that Danny is one of the strongest believers in the cause. "Development professionals *can't* succeed without personally caring about the goal and the people who are being asked to make a sacrifice," he says. "Our office involves much more than raising money. Following through and communicating with contributors is crucially important. We are responsible for seeing that the donor's gift is used in the manner requested and that these individuals are acknowledged."

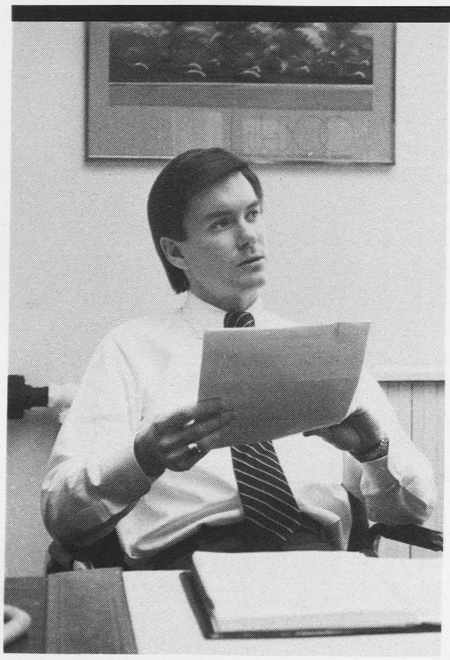
"Development professionals* can't *succeed without personally caring about the goal and the people who are being asked to make a sacrifice."

The "we" Danny refers to includes his assistant, Felicia Young, who keeps track of the School's supporters and the 100+ funds they have to choose from. "Felicia's role can't be emphasized enough," he says. "She has organized the office from scratch and is doing a magnificent job."

Also sharing development office quarters on the second floor, across the hall from oral and maxillofacial surgery, is Dr. Maynard K. Hine, former dean of the School of Dentistry and chancellor emeritus of IUPUI. The

Mr. Danny R. Dean (right), IUSD director of development, with Dr. Maynard K. Hine and Mrs. Felicia Young

Photos by Mike Halloran



On the job in Room 202 at the dental school

two men clicked right away. "Dean Gilmore had the vision to put me in the same area with Dr. Hine," Danny says. "Dr. Hine has become an informal adviser and inspirational leader for me. I feel lucky to be able to learn from a man with his wealth of knowledge and background. Besides that, he has a great sense of humor! When I first got here I told Dr. Hine that I hoped I wouldn't drive him crazy with all of my questions. He just looked at me and said, 'That would be a short trip.' "

People who give gifts reach out to the School of Dentistry in a variety of ways, and Danny is continually impressed with the reasons behind contributions. "We've had patients contribute because they are pleased with the treatment they have received from dentists who were educated at IU," he says. "Children of deceased alumni often maintain gift giving programs that were established by the parent even though they themselves are not alumni. And then we received a meaningful gift this year from Dr. and Mrs. Harold Mintz ('39) in the name of their son, Michael ('86), because of the quality education he received at Indiana."

Gifts At Work

When postdoctoral classmates of Dr. Lynn McConnell (DDS '74, MSD periodontics '76) learned of his death, they presented a gift to the Periodontics Department Fund in his memory. The gift will support dues of graduate students for affiliated membership in the American Academy of Periodontology for the duration of each student's program. "These five men, in honoring their friend, chose to do so by helping future students at IUSD," Danny says.

When Dr. Charles E. Tomich, professor and chairman of oral pathology, worked with Danny on appealing to graduates of the oral pathology program to contribute funds for the William G. Shafer Seminar Room and Library, the response resulted in gifts coming from nearly half of all graduates who were contacted. Generous contributions were also made by an alumnus of the IUSD oral and maxillofacial surgery program and a former faculty member of the department of oral and maxillofacial surgery. "The alumni wouldn't even recognize the noon-day conference room where the School's daily biopsy service is performed," Danny says, beaming. The refurbished room has been named in honor of Dr. Shafer, former chairman of the department, and houses his personal collection of professional journals and books.

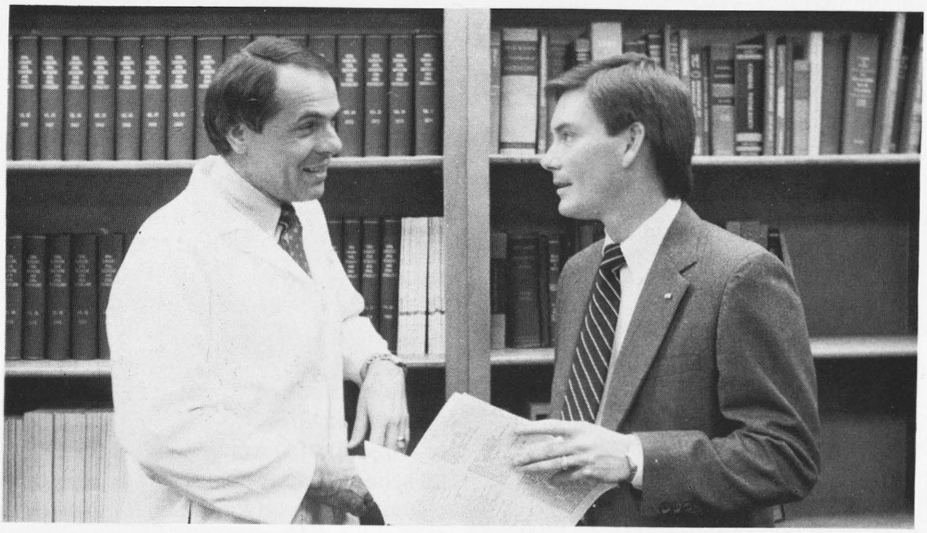
Thanks to the special generosity and major gift of Dr. James Huckelberry ('24) and his wife, Ama, longtime friends and supporters of the School of Dentistry, the patient admitting/patient assignment area of the new Department of Dental Diagnostic Sciences has been redesigned and is undergoing remodeling. A plaque will be placed in the department to honor the Huckelberrys. The facility is to be dedicated in the spring.

Danny stresses that the donors decide how their gifts are to be used.* "Non-restricted gifts are especially helpful, of course," he says, "since they can be used where the need is greatest, with the need always identified by the Dean. But each gift, large or small, restricted or non-restricted, is deeply appreciated, and every IUSD contributor can be assured that a directed gift will reach its proper destination." Funds are deposited in accounts with the IU Foundation and expended by the dean of the School of Dentistry.

A Growing "Wish" List

Gifts have been important sources of funding for equipment, student loans, and library materials. At any given time there are numerous projects or equipment needs at the School that other avenues of funding can't be stretched to cover. "The Dean's recent announcement that the first year class will be housed in the dental school instead of the medical sciences building next fall creates new problems for our own facilities," says Danny. "The locker rooms will require remodeling to accommodate more students and a growing number of women students.

**There are other ways to support the School in addition to monetary gifts. Individuals who would like information on setting up trust funds or bequests should contact Danny by writing to the School or calling him at 317/274-3246.*



Danny visits with Dr. Charles E. Tomich, chairman of oral pathology, in the new William G. Shafer Seminar Room and Library.

The cafeteria, which is already overcrowded without the first year class, will need to be expanded onto the patio area behind the building.

Other items on the "wish" list and their estimated price tags include:

- 43 fiber-optic handpieces for the undergraduate operative dentistry clinic ($30,000)
- Dicor Castable Ceramic System for research in restorative dentistry ($10,500)
- Xeroradiography unit for graduate endodontics, a system which increases image clarity and visibility over conventional radiography while reducing patient radiation exposure ($7,000)
- Automatic film processor for a regional campus ($4,000)
- Elemental Dispersive X-ray attachment for the scanning electron microscope, which identifies elements within a sample, where they are located and how much of an element is present ($45,000)
- Image analyzer for micro-measuring ($20,000)

Danny says that any development program is only as good as its dean wants it to be, and he credits Dr. Gilmore with a genuine concern in seeking support. "We have gone all over the state talking to the alumni," Danny says. "Dr. Gilmore has been a high-profile, in-the-field recruiter of funds and he is often given checks for the School on the road—a good sign that graduates approve of the progress the School is making." Danny is developing an ad hoc committee of "idea people" for fund raising projects, and he will rely, as usual, on the alumni as a key source of information.

Dean Gilmore leaves no doubt as to his opinion of Danny's performance. "Danny Dean is an important catalyst for funding at the dental school, helping to ensure the continued excellence of our programs. He shows a dedication to this school not easily surpassed. Danny is finely tuned to faculty and departmental needs, and he works steadily on building sound relationships with our students and alumni. We are proud to have him on board."

"In an era when all dental schools are losing good candidates to other fields and some have even closed their doors, we need to rally behind IU."

To those alumni who may say "My tuition covered my schooling, so I've paid my dues," Danny responds thus: "Alumni gifts have always played a *major* role in the dental school program. Students from classes 20, 30, 40 years ago received an education that was rounded out by alumni contributions. An alumnus who gives today is helping to assure a quality education for students of today—*and* tomorrow. In an era when all dental schools are losing good candidates to other fields and some have even closed their doors, we need to rally behind IU."

Danny is glad to be working for a school that has frequently been cited as having the highest membership in the Alumni Association (and, as a fund raiser, he hastens to remind us that alumni dues are for the Association and are not used by the dental school). He looks back on his first months on the job with satisfaction and ahead with much optimism. "The dental alumni have a well-known history of backing the University and School," he says with pride. "I think most IUSD graduates realize that this institution has given them the opportunity to be where they are today. In supporting the School with gifts, they give something of value back to the educational system that has had a significant impact on their lives."

1986 Donors

The Development Office has provided a listing of contributors during 1986 to three funds that play important roles in maintaining educational programs of high quality at the Indiana University School of Dentistry. Any omissions or errors in these lists should be reported to Danny Dean.

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(gifts from $100 to $499)

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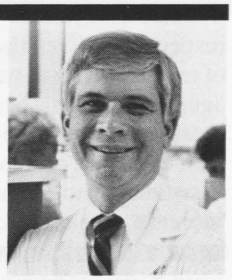
Chronic Nitrous Oxide Exposure: Occupational Hazards in Dentistry



Mike Halloran

CHARLES L. NELSON
Assistant Professor, Oral and Maxillofacial Surgery (IU School of Dentistry), and Assistant Professor, Plastic Surgery (IU School of Medicine)

Nitrous oxide-oxygen inhalation sedation/analgesia has been used widely by dentists to calm the anxious patient. When administered as recommended, it is effective and relatively safe for the patient. However, it has become clear that environmental contamination of the atmosphere in the dental suite with waste nitrous oxide gas exposes the office personnel, particularly the dentist and chairside assistant, to significant health risks. Dentists should be aware of the health hazards associated with chronic exposure to trace amounts of nitrous oxide and take measures to control environmental contamination.

Little was known about the effects of chronic exposure to trace anesthetic agents until the late 1960s, when a Russian anesthesiologist named Vaisman reported that anesthesiologists had a high incidence of irritability, fatigue, headache, nausea, spontaneous abortion and fetal malformation. (This work is cited in Cohen[1] and in Jastak and Greenfield.[2])

In 1974 Cohen et al.[3] reported a 17% incidence of spontaneous abortion among female anesthesiologists and nurse anesthetists, and a 19.5% incidence among operating room nurses and technicians. In contrast, the incidence among female pediatricians, who are not generally exposed to trace anesthetic gases, was only 8.9%. Also, the rate of congenital anomalies was 5.9% among female anesthesiologists, 9.6% for nurse anesthetists, and 7.7% for operating room nurses and technicians, compared to 3.0% for female pediatricians. Other findings in this study indicated an increased incidence of cancer, hepatic and renal disease, and nonspecific neurologic disease in persons chronically exposed to trace anesthetic gases.

The Health Hazard to Dental Personnel

Since the aforementioned studies were carried out in hospital operating rooms where mixtures of anesthetic gases were used, it was impossible to indict nitrous oxide alone. However, subsequent studies* in dental operatories have substantiated the occupational hazards and adverse effects associated with chronic exposure to trace amounts of anesthetic gas.

Perhaps the most convincing study was done by Cohen et al.[4] in 1980, based on the responses of 22,555 dentists and 21,390 chairside assistants. Even though some of the respondents were exposed to other inhalation anesthetic agents in the dental operatory, the vast majority were exposed to nitrous oxide alone. For this study light anesthetic users were defined as being exposed to trace amounts of anesthetic gas in the dental operatory for one to eight hours per week; heavy anesthetic users for more than eight hours per week; and those categorized as nonexposed reported no anesthetic exposure at all. They found that the spontaneous abortion rate in wives of exposed dentists was 10.2% for heavy anesthetic users, 7.7% for light anesthetic users, and 6.7% for nonexposed individuals. Since none of the wives reported any direct exposure, the factors leading to spontaneous abortion would have been transmitted either through the sperm or semen.[4]

. . . subsequent studies in dental operatories have substantiated the occupational hazards and adverse effects associated with chronic exposure to trace amounts of anesthetic gas.

The rate of spontaneous abortion in chairside assistants was 19.1% for heavy anesthetic users, 14.2% for light anesthetic users, and 8.1% for nonexposed assistants. Relative to specific anesthetic agents, the rate of spontaneous abortion for those exposed to nitrous oxide alone was 16.0% compared to 24.6% for those exposed to nitrous oxide plus another inhalation anesthetic agent. In this case the increased rate of spontaneous abortion in the exposed assistants was obviously due to direct exposure to anesthetic gases in the year prior to conception.

There seems to be a relationship between dose and response in that the more prolonged the exposure and the higher the concentration, the greater the incidence of spontaneous abortion. It has been shown that rates of spontaneous abortion for operating room personnel tend to return to normal after time away from the operating room (up to two years).[5] It is assumed that the same would be true relative to absence from the dental operatory.

Congenital anomaly rates for children of exposed male dentists and nonexposed male dentists were essentially the same: 4.8% and 4.9%,

*For detailed information on this subject, the reader is directed to an excellent series of articles on trace inhalation anesthetics in the dental office appearing in the October, 1977 issue of the *Journal of the American Dental Association*.

respectively. Even though the exposure of male dentists to trace anesthetic agents was not associated with an increase in rate of congenital anomalies, exposure of female chairside assistants resulted in a 1.4 to 1.6-fold increase. The rates for children of exposed female chairside assistants were 5.2% for heavy anesthetic users, 5.7% for light anesthetic users, and 3.6% for the nonexposed assistant. If adjusted for nitrous oxide use alone, the rate is 5.5%. When exposed to nitrous oxide plus another inhalation agent the rate is 7.7%.

Other factors were also examined and some conclusions drawn. There was no particular increase in the incidence of cancer in exposed versus nonexposed male dentists. In female chairside assistants there was a statistically insignificant 1.5-fold increase in the incidence of cancer. However, when analysis of the incidence of cancer by specific site was performed, a significant 2.4-fold increase in the incidence of cancer of the cervix was noted in those assistants categorized as heavy anesthetic users. There were definite increases in liver, kidney and neurologic disease in both exposed male dentists and female chairside assistants as compared to their nonexposed counterparts. Exposed male dentists seemed more prone to renal lithiasis and females suffered a higher incidence of urinary tract infections. Both groups showed an increased incidence of neurologic complaints and symptoms such as numbness and tingling of extremities and muscle weakness.[4]

Nitrous Oxide Concentrations in Dentistry

Measurable amounts of nitrous oxide can be found throughout dental suites where nitrous oxide-oxygen inhalation analgesia is used and no methods for controlling nitrous oxide concentrations are employed. One study showed that the dentist's private office, waiting room, closets and restrooms contained as much as 200 parts per million of nitrous oxide. Acceptable levels are generally considered to be less than 50 ppm.[6]

Without measures to control nitrous oxide contamination in the operatory environment, levels of nitrous

. . . the dentist's private office, waiting room, closets and restrooms contained as much as 200 parts per million of nitrous oxide.

oxide in the breathing zones of the dentist and chairside assistant can reach levels from 440-1600 ppm. This breathing zone is considered to be the area immediately adjacent to the nose and mouth, extending four to six inches in the frontal plane. Average concentrations in the operatory will be near 300 ppm.[6] There are several sources for these excessive concentrations. One source is the normal gas flow as the patient breathes and exhales around the mask and through the exhalation valve. As patients laugh, talk or mouth-breathe they release large amounts of nitrous oxide into the breathing zones of the dentist and the assistant. At the end of the procedure the patient can exhale up to 30 liters of nitrous oxide within three to five minutes. Another source is the inhalation-sedation unit itself, through worn tubing and connections and loose fittings. Still another source can be the dental office's heating-air conditioning system if it is the type that recirculates air. Nitrous oxide from the operatory is picked up by these systems and recirculated throughout the office.

Controlling the Concentration of Nitrous Oxide in the Dental Office

It is essential that the levels of nitrous oxide in the working environment be controlled, not only for reasons of personal health but also for medico-legal considerations. What measures can be taken to eliminate nitrous oxide from the air of our practice environments?

Equipment should be regularly maintained and tested for leaks. Because rubber hoses and fittings tend to dry out, crack and leak, they should be inspected regularly and replaced if worn. Worn or faulty pressure gauges and flowmeters allow gas to escape into the air. Soapy water solution on fittings may help detect a gas leak. Although some testing and maintenance can be accomplished by the office staff, regular visits by authorized service representatives are encouraged.

The use of scavenging double lumen nasal masks is strongly recommended (Figure 1). Gas flows into the inner lumen of the mask and is inhaled by the patient. As the patient exhales into the mask, the exhalation valve forces the exhaled gas into the outer lumen of the mask where it is picked up by a scavenging hose which vents the gases away from the breathing zones of the dentist and assistant. The scavenging hose can then be connected to a vacuum pump that is vented outside the building, thus reducing the nitrous oxide concentrations in the dental suite and operatory. One study[6] showed that use of a scavenging nasal mask connected to a vacuum pump vented to the outside reduced nitrous oxide concentrations in the dental operatory by as much as 97%. Nitrous oxide levels were reduced to 8.7-36 ppm in the breathing zones of the dentist and assistant and to 11-16 ppm in the operatory.

Nitrous oxide concentrations in the breathing zones of the dentist and assistant can be further reduced by mounting a small fan to the light bracket on the dental unit to blow exhaled gases away from these zones. In one study[6] this air sweep diminished concentration in the breathing zones by 55% (from 31 ppm to 14 ppm). Minimizing talking by the patient and using a rubber dam also decrease concentrations of exhaled gas in the breathing zones.

Finally, periodic monitoring of the operatory and office environment for nitrous oxide concentrations is desirable. Of the various quantitative and qualitative devices available for monitoring air, the most sophisticated and accurate is the infrared nitrous oxide analyzer. Many service companies use the analyzer and for a nominal fee will periodically monitor the nitrous oxide concentrations in a dental office. The goal should be less than 50 ppm. Infrared analyzers are also available for use by the dentist and in many areas are available on a rental basis. Dental offices should be monitored every four months.[6] If a concentration of nitrous oxide greater than 50 ppm is reported,

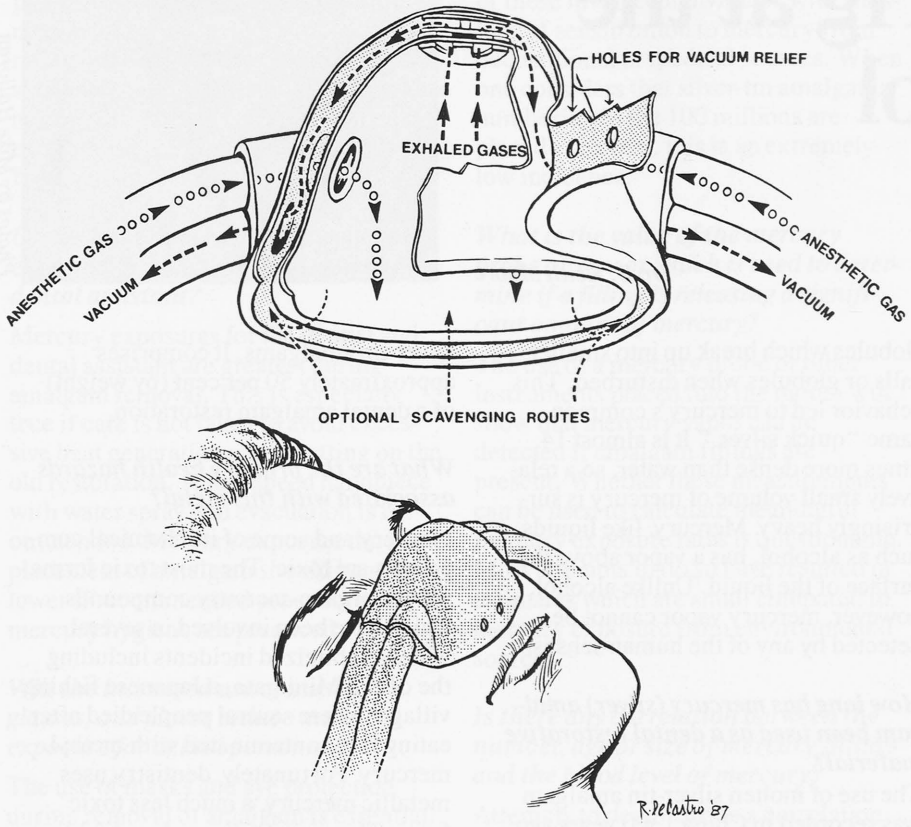


Figure 1. Scavenging double lumen nasal mask.

One study showed that use of a scavenging nasal mask connected to a vacuum pump vented to the outside reduced nitrous oxide concentrations in the dental operatory by as much as 97%.

monitoring should be repeated until acceptable levels are reached.

Summary and Recommendations

The health hazards to dental personnel who are chronically exposed to trace amounts of nitrous oxide are unmistakable and well documented. This exposure leads to an increased rate of spontaneous abortion in wives of exposed dentists and in chairside assistants, an increased rate of congenital anomalies in children of exposed females, and an increased incidence of cancer and renal, liver, and neurologic disease in both dentists and assistants.

There is no question that in the absence of measures to control the level of waste nitrous oxide in the dental operatory, concentrations in the dental office can become unacceptably high. It is imperative that dentists who use nitrous oxide be diligent in their efforts to control the concentrations of nitrous oxide in the dental office. They should:[6]

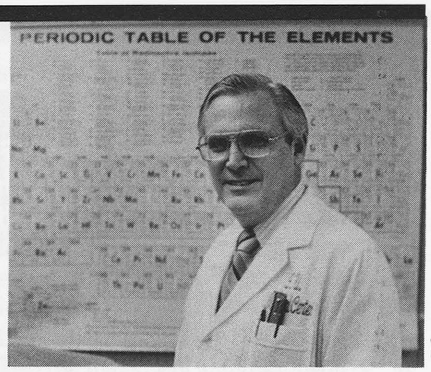
1. Use a scavenging nasal mask.
2. Vent the scavenging suction machine outside the building.
3. Minimize conversation with patients during inhalation analgesia.
4. Periodically test equipment for leakage.
5. Perform preventive maintenance of equipment semiannually.
6. Institute an air monitoring program. Routine monitoring should be done every four months.
7. Use an air sweep fan when acceptable concentrations are not achieved with the aforementioned measures.

With these simple, relatively inexpensive control measures, the concentrations of nitrous oxide in the dental office can be reduced to acceptable levels, resulting in minimal exposure of personnel to trace amounts of the gas.

REFERENCES

1. Cohen, E.N.: Anesthetic Exposure in the Workplace. Littleton, Mass., PSG Publishing Co., 1980, pp. 49-50.
2. Jastak, J.T. and Greenfield, W.: Trace contamination of anesthetic gases: a brief review. J Am Dent Assoc 95:758-762, 1977.
3. Cohen, E.N. and others: Occupational disease among operating room personnel: A national study. Anesthesiology 41:321-340, 1974.
4. Cohen, E.N. and others: Occupational disease in dentistry and chronic exposure to trace anesthetic gases. J Am Dent Assoc 101:21-31, 1980.
5. Cohen, E.N.: Waste anesthetic gases and reproductive health in OR personnel. Workshop on methodology for assessing reproductive hazards in the workplace. Washington D.C., 1979.
6. Whitcher, C.E. and others: Control of occupational exposure to nitrous oxide in the dental operatory. J Am Dent Assoc 95:763-776, 1977.

Q and A on Hg at the Dental School



Dr. B. Keith Moore

Photos by Mike Halloran

It was not one of the more routine phone queries to come into the dean's office: *"Can you take a couple of small vials of mercury off our hands?"*

The caller, an employee of the Indiana State Museum, had found that a little bit of mercury goes a long way—especially when the element started to seep out of an old clock all over the carpeting at the Museum. The dean's office passed the strange request to Dr. B. Keith Moore, professor of dental materials and the School's metallurgical expert. He agreed to help the Museum folks out of their predicament.

A Museum curator carted the clock's pendulum, about 10 inches by 20 inches in size, to the dental school. After carefully dismantling the brass and beveled-glass structure, Dr. Moore emptied the quick silver into a plastic container, following appropriate steps for mercury hygiene. The "small" vials described over the phone turned out to contain a hefty 15 or so pounds of the element. The clock's contaminated mercury supply, which can't be used by the dental school, will probably be sold to a company that will distill it for commercial use. Before the pendulum headed back to the Museum, Dr. Moore cleaned it using the same procedures that a dentist would use on a mercury dispenser.

Since Dr. Moore did an admirable job of responding to the Museum's question, we asked him a few of our own. His answers follow:

In a few words, can you tell us what mercury is and describe its properties?

Mercury is a silver-colored metallic element that is liquid at room temperature. As a liquid with high surface tension and low viscosity, it forms small balls or globules which break up into smaller balls or globules when disturbed. This behavior led to mercury's common name "quick silver." It is almost 14 times more dense than water, so a relatively small volume of mercury is surprisingly heavy. Mercury, like liquids such as alcohol, has a vapor above the surface of the liquid. Unlike alcohol, however, mercury vapor cannot be detected by any of the human senses.

How long has mercury (silver) amalgam been used as a dental restorative material?

The use of molten silver-tin amalgam was recorded in China 1300 years ago during the T'ang dynasty. The material was melted in an iron pot and allowed to cool for the time required to walk 20 paces. Then it was poured into the unfortunate patient's mouth! Silver-tin amalgams approaching today's compositions (which become plastic at more humane temperatures) date to France in the 1820s.

Why is it considered so useful in restorative dentistry?

The silver-tin amalgam has been and continues to be a mainstay of restorative dentistry because it is a direct filling material that is relatively insensitive to manipulation and has over 100 years of proven clinical success. The material is inexpensive, can be mixed with inexpensive equipment, and becomes plastic so that it readily adapts to the prepared cavity and hardens rapidly into a solid mass. The hardened amalgam has been shown to be strong enough to withstand biting and chewing forces on occlusal surfaces.

What do we use mercury for at the dental school?

Other than in thermometers, the main use of mercury at the dental school is in silver-tin amalgams. It comprises approximately 50 per cent (by weight) of a dental amalgam restoration.

What are the primary health hazards associated with this metal?

Mercury and some of its chemical compounds are toxic. The most toxic forms are the organo-mercury compounds which have been involved in several widely publicized incidents including the one in Minimata, a Japanese fishing village, where several people died after eating fish contaminated with methyl mercury. Fortunately, dentistry uses metallic mercury, a much less toxic form. The major pathway by which metallic mercury finds its way into the body is by inhalation of mercury vapor or of an aerosol of tiny droplets of mercury. It is thought that as much as 85% of the mercury which is inhaled is absorbed into the bloodstream. Acute exposures to mercury vapor can lead to death by renal failure, although such incidents are rare. Chronic, low concentration exposures can lead to diverse symptoms; the most common are nervous system disorders which have been referred to as micromercurialism. The latter would be the primary occupational concern in dentistry.

Under what circumstances is mercury exposure to the patient the greatest: during placement of the restoration, during removal of the restoration, or while the filling is in place?

Given reasonable care in placement and removal of amalgam restorations, the highest instantaneous exposures to mercury vapor occur during removal of amalgams. Significant increases in blood mercury levels have been reported following removal of amalgam restorations. The next highest level of exposure occurs during placement of

amalgams. After an amalgam has been placed, it is now possible to measure mercury vapor released from the restoration. The concentrations are very small and have been estimated to make a minor contribution to the normal daily mercury intake from other sources—food, air, and water.

Under what circumstances is mercury exposure greatest for the dentist? The dental assistant?

Mercury exposures for the dentist and dental assistant are greatest during amalgam removal. This is especially true if care is not taken to avoid excessive heat generation while cutting on the old restoration. A low-speed handpiece with water spray and evacuation is recommended. Mercury exposure during placement of amalgam should be much lower if recommended procedures for mercury hygiene are practiced.

Will the increased use of masks, glasses, and gloves reduce mercury exposure for dental personnel?

The use of masks and eye protection during removal of amalgam is essential. Aerosol generated during cutting an amalgam contains mercury vapor, mercury droplets and tiny fragments of amalgam. Masks of the type used in dental surgery will not effectively filter mercury vapor but will intercept the rest of the debris. Eye protection from sharp fragments of amalgam is also important. Skin absorption of metallic mercury is not considered a significant problem. However, the bacteriologic reasons for wearing masks, eye protection and gloves still apply, as in any other dental procedure. The use of a dental rubber dam minimizes exposure of the patient to vapor produced by amalgam removal and also minimizes ingestion of mercury and amalgam fragments.

Are there any controlled or documented studies in the medical/dental literature which show that silver fillings (containing mercury) have caused illness?

Documented cases of illness related to the existence of silver amalgam fillings in the mouth are very rare, and are limited to hypersensitivity or allergic type reactions. Sixty-six cases have been reported in the literature from 1920-1980 (see suggested reading, #2). Most of these involved individuals with a history of sensitization to mercury from occupational or medical sources. When one considers that silver-tin amalgams numbering in the 100 millions are placed each year, this is an extremely low incidence.

What is the value of the mercury probe or sensor which is used to determine if a filling is releasing a significant amount of mercury?

The use of a mercury probe or other instruments placed into the mouth will show that mercury vapor can be detected if amalgam fillings are present. Whether these measurements can be used to calculate meaningful mercury exposure rates is questionable. Most attempts to do so have resulted in estimates which are small compared to mercury exposure from environmental sources.

Is there any correlation between the number, age or size of mercury fillings and the blood level of mercury?

Attempts to demonstrate a correlation between the presence of dental amalgams and elevated blood levels of mercury have demonstrated either no relationship or a very tenuous one. One study which claimed that a correlation existed had correlation coeffients of .59-.63. This implies that only about 35% of the differences seen in blood mercury levels were accounted for by the presence of dental amalgam. The increase in blood mercury attributed to the amalgams was 0.4 ng/ml. A study from Sweden demonstrated that one seafood meal per week will result in a net increase of 2.8 ng/ml in blood mercury (suggested reading, #3).

Are there federal and/or state governmental regulations for use of mercury in the dental office (and at the dental school)? What are the essential provisions of such regulations?

Elemental mercury is considered an occupationally hazardous material. As such, both state and federal governments have occupational safety regulatory agencies (OSHA) which deal with mercury exposure. In Indiana, the State Department of Labor, Indiana OSHA Administration is the relevant body and also enforces the federal regulations. The current limit for mercury exposure is 0.1 milligram of mercury per cubic meter of air based on an 8-hour time weighted average (assuming a 40-hour work week). Air monitoring in the breathing zone must be done to demonstrate that levels are maintained below that point. Surveys by the American Dental Association and various state dental groups indicate that one office in 10 may exceed the 0.1 milligram limit. The vapor pressure of mercury at room temperature results in a level that is 200 times this limit—one reason that spilled mercury must be cleaned up promptly.

How is mercury dispensed at the dental school?

Mercury was formerly purchased by IUSD in bulk (one pound) containers and placed into glass dispensers located at each dental unit. These dispensers delivered the proper amount of mercury for each mix of amalgam. This system was abandoned last summer in favor of predispensed disposable capsules (Figure 1). Although amalgam in this form

Figure 1.
Preproportioned amalgam system, with disposable capsules at rear. Premeasured mercury is stored in lid of capsule (left foreground). Pestle and amalgam alloys are at center.

is more expensive, it has significant advantages in terms of mercury hygiene, convenience and reliable control of mercury proportioning. A more recent development which the school has been considering is mercury predispensed in small plastic film pillows. These are placed into a reusable capsule along with pellets of amalgam alloys and mixed as usual. During mixing, the pillow splits and releases the mercury. In another version both the mercury and amalgam alloy are contained in a single pillow which has an internal separating film. Advantages of these new delivery systems are lower cost and less need of

storage space compared to disposable predispensed capsules. These new systems are not compatible with all amalgamators. Dentists considering adopting one of these systems should request samples from the dealer and make several mixes with their amalgamators to determine compatibility and proper amalgamator settings.

How does mercury become contaminated?

Pure mercury sitting in a glass container and exposed to air will gradually develop a dull-appearing surface and a light scum. This can be easily removed by filtering through a clean chamois or lintless cloth. Exposure of mercury to base metals such as copper, zinc, lead, bismuth, antimony, cadmium or arsenic results in a scum formation that wets the sides of the glass container and cannot be completely filtered out. Such mercury should not be used.

What does the school do with its contaminated mercury?

Contaminated mercury at the dental school is usually combined with amalgam scrap and sold to a company which specializes in reclaiming silver and mercury. With the change to preproportioned materials, bulk mercury is eliminated and the potential requirement for mercury disposal vastly reduced. Small quantities are treated as hazardous material and are handled by the university hazardous waste disposal group in conformance with state and federal regulations.

What should the private practitioner do with spilled or contaminated mercury?

If the private practitioner uses preproportioned materials, the problem of mercury disposal is small. Unfortunately, the quantity of amalgam scrap generated in a single practice is not large enough to be salable. Local dental groups could develop a pool for scrap amalgam to be recycled. A suggestion would be to contact a local scrap metal dealer, preferably one who specializes in nonferrous and precious metal scrap. The one thing that should *not* be done is to discard amalgam scrap or mercury into the environment where it can potentially contaminate air, water and food.

Much has been written in recent years on the controversy regarding use of mercury in amalgams. Can you briefly describe the opposing views?

Small but vocal groups of dentists and other health care practitioners believe that certain individuals have extremely low tolerance for mercury and will exhibit signs and symptoms of illness after very low chronic exposure to mercury. This so-called hypersensitivity is typically diagnosed with a mercury test kit containing mercuric chloride for use in patch testing. In addition to monitoring for signs of the usual cutaneous reaction to an allergen, the procedure identifies small changes in blood pressure (± 10 mm) and body temperature (± .5°F), and other indications—indigestion, blurred vision, headaches, irritability, fatigue, depression and many more non-specific signs and symptoms as evidence of a hypersensitive reaction to mercury. Mercury is claimed to be a major contributing factor in numerous diseases and chronic conditions ranging from emotional problems to multiple sclerosis, Parkinson's disease and various immune disorders. These claims are based upon anecdotal reports of rapid and remarkable recovery of a patient after amalgam fillings were removed and replaced by gold or composite resin fillings, usually at considerable expense to the patient. No scientific evidence has been presented to support these claims or to support the diagnostic techniques used to identify hypersensitivity.

In what ways can a dental office become contaminated with mercury?

Mercury contamination at the dental office occurs when proper mercury hygiene procedures are not followed. Spilled mercury in either large or small amounts which is not thoroughly cleaned up becomes a reservoir for the continued release of mercury vapor. This situation is aggravated if the mercury is disturbed, causing it to break up into smaller droplets, or placed near a source of heat. Preventing contamination involves 1) acquainting all personnel with good mercury hygiene practices; 2) monitoring for mercury levels routinely; and 3) cleaning up thoroughly and immediately mercury spills of any size and monitoring the area to insure decontamination.

If a dentist suspects mercury contamination in the dental office, what steps should be taken?

If contamination is suspected, the area should be monitored for mercury levels (suggested reading, #4). After the source of mercury has been identified, clean up must be done following acceptable practices. (Details will depend upon the size of the mercury contamination, surfaces and area contaminated, etc.) Vacuum cleaners must *NOT* be used unless they are specifically designed for mercury pickup and contain effective mercury filters. Otherwise, a localized spill can be widely dispersed. The Indiana State Board of Health Division of Industrial Hygiene can provide advice and will conduct mercury surveys, but does not have the manpower to do so on a routine basis. There are also private industrial hygiene and hazardous waste disposal companies that can be consulted.

Does the School have alternative types of restorations that are placed routinely (or upon request by the patient)?

At this time, there are no long-term proven alternative materials available for direct restoration of occlusal stress-bearing surfaces of posterior teeth. Metal castings can provide the required service, but the procedure is far more time-consuming and costly than amalgam placement. Composite resin materials are being used as direct filling materials in posterior teeth but data are not available to indicate that they will serve as well as amalgam over time. Resin placement is certainly more time-consuming and technique-sensitive than amalgam, and resins present the possibility for pulp damage and allergic reactions in some individuals.

Do the new silver amalgams require less mercury than older types of materials?

The newer, high copper content silver amalgam alloys are mixed with less mercury than was traditionally used with the lower copper content alloys. Most of the modern high-copper alloys are mixed at less than 50 per cent mercury by weight and some with as little as 43 per cent mercury. As a result, less excess mercury is expressed during the

condensation procedure and mercury hygiene during placement may be improved.

Are we prepared to handle a mercury spill if one should occur at the dental school? What would be done?

The clinics that use mercury at the dental school have been supplied with two types of mercury cleanup devices: a sponge-type device (Figure 2) for small spills involving a few drops or so, and a mercury trap attached to a long rubber hose (Figure 3) which can be connected to the high volume evacuation line on the dental unit and used to "suck up" large amounts of mercury. In the event of questions about such cleanup procedures, staff members can contact the Dental Materials Department for assistance. The School can also contact the University laboratory safety officer, who is responsible for safe handling and disposal of hazardous materials.

Where is the School's mercury supply stored? Where does our supply come from? What quantities are involved?

The school order department formerly purchased bulk mercury from dental sources and stored it in the school's basement. Now that the clinics are using predispensed capsules, bulk mercury is no longer purchased and only small quantities remain which will ultimately be used for research or returned to the suppliers for credit.

What is the best way to store mercury in the dental office?

Bulk mercury should be stored in the container in which it was delivered—usually a small plastic bottle containing one pound of the metal—and kept away from heat sources. Transfer of mercury to the individual dispensers should be done over a plastic tray or pan to collect any spills. Amalgam scrap and contaminated mercury should be stored in a plastic bottle with a tight fitting lid. Mercury should be handled in an area where gold alloys and castings are *not* handled, since even a small amount of mercury can seriously damage an object made from a gold alloy. Jewelry should always be removed before handling mercury or dental amalgam.

Figure 2.
Mercury cleanup device for small spills: mercury picked up by sponge (attached to lid) is trapped in container.

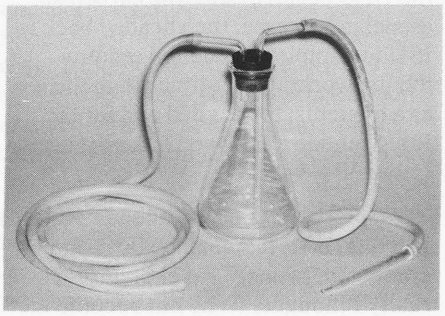


Figure 3.
Mercury trap with rubber hose used to "suck up" large spills.

Can mercury be reused? Does the School accept mercury from outside agencies or industry?

Mercury can and should be recycled. It is cleaned by a process of multiple distillation and then sold for reuse. The dental school is not currently involved in recycling mercury from outside sources.

What developments might you foresee for uses of mercury (or of substitute materials)?

The future of mercury in dentistry, I think, will be away from bulk mercury towards cheap and convenient preproportioned, self-activating mixing systems. The result should be an improvement in mercury hygiene. At the same time, active research is being done on alternatives to dental amalgam. Long-term clinical studies are attempting to answer questions about the longevity of resin restorations in posterior teeth. Cast or machined ceramic restorations which are cemented into place may be another possibility. In any event, our long-term experience with dental amalgam, its ease of placement and relatively low cost make the discovery of a true alternative material a real challenge.

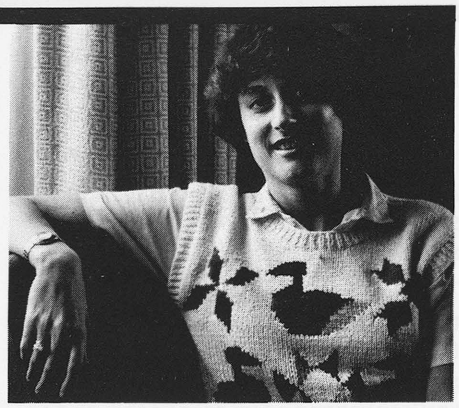
Can you recommend some reading material on mercury?

1. Dentists' Desk Reference, 2nd ed., American Dental Association, Chicago 1983. Chapters on Safety in the Dental Office, pages 41-43, and Amalgam and Mercury, pages 53-68.
2. Bauer, J.: Action of mercury in dental exposure to mercury. Operative Dentistry, 10:104-113, 1985.
3. MacKert, J.R.: Hypersensitivity to mercury from dental amalgams. J Am Acad of Dermatology 12:877-879, 1985.
4. Recommendations in Dental Mercury Hygiene, 1984, Council on Dental Materials, Instruments and Equipment, J Am Dent Assoc 109:617-619, 1984.
5. Safety of Dental Amalgam, Council on Dental Materials, Instruments and Equipment and Council on Dental Therapeutics, J Am Dent Assoc 106:519, 1983.
6. To the Dental Patient, Am Dent Assoc News 4, Jan 2, 1984.
7. Workshop: Biocompatibility of Metals in Dentistry, National Institute of Dental Research, NIH, J Am Dent Assoc, 109:469-471, 1984.
8. The mercury scare: if a dentist wants to remove your fillings because they contain mercury, watch your wallet. Consumer Reports, March, 1986, 150-152.

Alumna Close-up

Patricia Humphrey Clark

Class of '74 (ASDH); '80 (DDS); '86 (MSD)

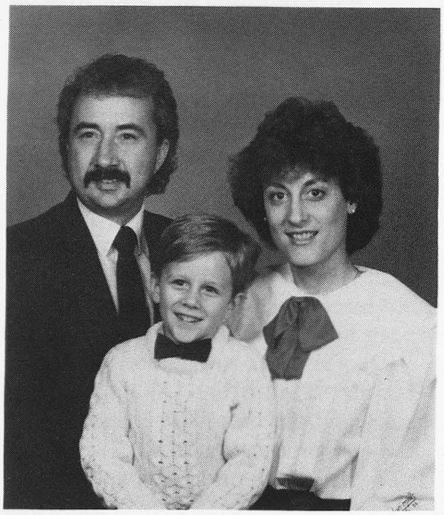


Dr. Patricia H. Clark

Susan Crum

Patricia H. Clark knew she was on to something as soon as Course #D617 got under way in her second year of dental school. "Endodontics—I loved all phases of it instantly," she says. Another favorite subject was crown and bridge, but the initial attraction stuck throughout undergraduate studies and led to enrollment in a three-year graduate endodontics program after graduation in 1980. Now almost four years into a steadily growing private specialty practice in Terre Haute, Pat is pleased with her career decisions thus far.

Her ties to dentistry—and to Terre Haute—go all the way back to her birth. She is the daughter of Dr. James E. Humphrey, a general practitioner in Terre Haute and IUSD Class of '52 graduate; the cousin of Dr. Paul Humphrey ('74); and the sister of current third year student Jim Humphrey. During junior high school Pat assisted her father and acted as his receptionist on Saturdays. After high school she spent a year at Purdue and another at Indiana State before signing up for dental hygiene at IU. In the second year of that program ideas about going on for the DDS began to stir. She earned an associate's degree, then headed back to ISU to complete predental requirements, working part-time along the way as a hygienist for her dad and for Dr. Roy Smudde ('66) and Dr. Lawrence Lucarelli ('51).



Pat with husband, Rick, and son, Jason

"I was using expanded functions in dental offices, placing alloys and composite resins," Pat explains. "Eventually I thought, 'Why not become the dentist myself?'" She packed up for Indianapolis once again.

Pat's memories of the Class of 1980 are fond, including endless days and evenings spent in the Sophomore Lab. The toughest part was juggling school with married life. She married Rick Clark just before starting dental school, and the demands on her time during the first two years were rough on her husband. Ever supportive of Pat's career goals, Rick built a basement laboratory so that she could spend some of her time with him and keep up with assignments as well.

During her training in graduate endodontics, Pat weathered a switch in chairmen (from Dr. Samuel Patterson to Dr. Carl Newton) and a major remodeling of the endodontics clinic in 1982. She also managed to keep pace during her pregnancy with son, Jason, now five. Pat is generous in her praise of the endodontics faculty. "Credit is due to Dr. Patterson for encouraging me to enter the program, to Dr. Newton for his guidance throughout the thesis, to Dr. Arens for surgical training, and to Drs. Compton, Kirchoff and Spolnik for clinical instruction. Each contributed to my excellent education." She completed the certificate program in 1983 and continued work on the MSD degree as an off-campus researcher, finishing up in 1986.

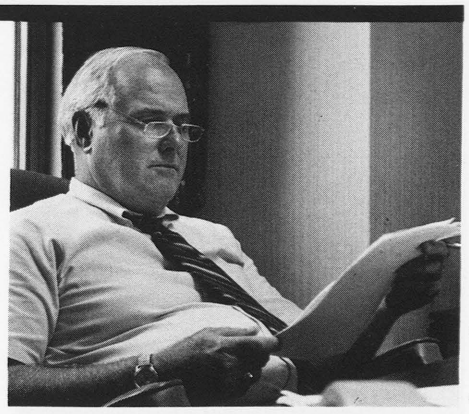
With no background in business courses, Pat showed a natural savvy for business ventures when she started to assemble her specialty practice. "First I checked out all of the endodontics practices in Indianapolis and made an eight-page list of the things I would need. I designed my own office after evaluating all of the best designs of the other offices." She converted a physician's quarters for her practice. "To get referrals, I introduced myself to a small circle of colleagues around Terre Haute, then gradually enlarged the circumference to include Sullivan, Greencastle, and Robinson, Illinois."

Life in the Clark household goes by at a brisk clip. While Pat tends to her patients, Rick is a full-time student at IU-Bloomington, earning a doctorate in counseling and educational psychology. He is also a part-time martial arts teacher at ISU. They are remodeling their home. The family enjoys long weekends in Indianapolis when they can be squeezed in.

Despite the frenetic schedule, Pat makes time to support the IUSD Alumni Association. She replaced her father on the board of directors two years ago. "IUSD has been a big part of my life—I spent 10 years there. It's time to give something back."

Citing lots of hard work on her part and the extra effort of an understanding husband for her strong start in the dental profession, Pat seems to be on track in her career. "I think that today's grads will find that they've picked a good profession," she says. "Things have improved a lot in a short time—for instance, interest rates were 21% when I was graduating! Rick and I take each day as it comes, and we don't try to plan 20 years into the future. I enjoy my practice, and feel like I have my feet on the ground."

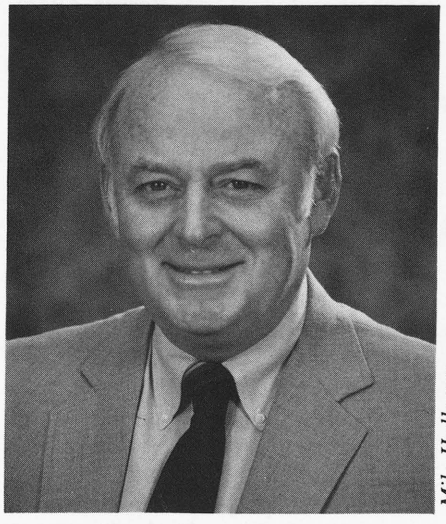
Notes from the Dean's Desk



Dr. H. William Gilmore

Susan Crum

Much activity will center on the IU School of Dentistry continuing education program in the coming year. Indiana dentists and auxiliaries will have numerous new postgraduate courses to choose from. The faculty will redouble its effort to update the alumni through course offerings. Dr. Donald Arens, newly appointed director of continuing education, is arranging courses and seminars for general dentists and specialists, as well as the auxiliaries. Dr.



Mike Halloran

Dr. Donald E. Arens

Arens, an Indianapolis endodontist and associate professor of endodontics at the School of Dentistry, brings to the position a strong record of postgraduate teaching and in-the-field knowledge of national dental organizations. Courses presented at regional sites will be emphasized. Some of our programs will also be housed in the new continuing education center and Lincoln Hotel on the IUPUI Campus. Course announcements will be mailed in the summer.

The monthly televised Dean's Hour programs presented by the faculty are being duplicated to provide a subscription service for Indiana dentists and auxiliaries. After the first year a series of 20 one-hour tapes will be available. Topics have been carefully selected to update general practitioners and office staff. The programs are telecast over the Indiana Higher Education Telecommunication Service (IHETS) network and produced on the Indianapolis campus. Subscription service will originate from the School. The tapes, which will be distributed at selected intervals, can be played on home or office VCRs.

At last, our new patient record system for the School will be introduced to students and faculty. It is the result of a year-long faculty effort, with assistance from the American Dental Association, and with many contributions, including legal advice, from various consultants. The new six-page record has enough space to chart the oral conditions and record the dental treatment for the lifetime of most patients. The record will serve as an accurate medical-legal document for all patients and as a model to students for proper construction and updating of patient records. The patient record is often cited as the cause of liability problems in both teaching programs and private offices. The new record will safeguard the quality assurance measures that are essential for accreditation.

IU's applicant pool for the 1987 entering class compares respectably to the pools of other schools in the nation. It will be possible for us to select a class of 70-75 students without lowering our academic standards. There will be fewer students in the national pool each year, and it is predicted that IUSD will have 50-70 students in predoctoral classes—50% women and 25% minority students. As in past years, we expect that 90% of the students will be Indiana residents.

The lower enrollment makes it possible to move the first year technic courses into the dental building, thus enabling the entire student body to be housed under the same roof. Some remodeling will be required to redesign the basement preclinical laboratory and locker rooms. A fund drive is being sponsored by the third year class to pay for expanding the cafeteria. The advantages in having all of our students in the dental school building are many. A cohesive student body with greater representation and interest in student government is conducive to strong professional development. Transition into society membership following graduation is also enhanced.

The SELECT recruiting network has moved forward in identifying state coordinators and developing recruiting videotapes and brochures. The long-range goal of SELECT is to capture the attention of high-school students, their families and counselors. It will be several years before results of the recruiting effort are known. Dr. Robert L. Bogan, associate dean for student affairs, and Dr. William Risk, Lafayette, representing the Indiana Dental Association, are heading the SELECT program. Recruiting partners will be chosen from the state's major cities and all county seat communities. A statewide workshop will be held soon and videotaped for training purposes. We hope that graduates of dental hygiene, allied medicine, nursing and engineering will be attracted to dentistry as a second career choice.

The Search Committee for a new chairman of the Department of Periodontics made an excellent selection in

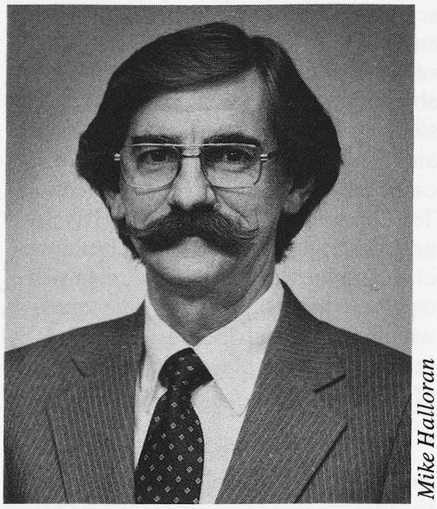
recommending Dr. E. Brady Hancock, who has now been appointed and will begin the key assignment in July. Chosen from an ample list of strong candidates, Dr. Hancock has been the chief of periodontics at the US Naval Dental School in Bethesda, Maryland. He has a unique research background and is an outstanding clinician. New faculty members are also being recruited for oral surgery and oral pathology.

Several new facilities in the School are progressing steadily. The newly refurbished patient admitting area in dental diagnostic sciences nears completion, and a plaque will be hung in the department to honor IUSD benefactors Dr. James and Ama Huckelberry. The special care clinic for medically compromised patients and patients with infectious diseases will open soon for patient referrals. The beautiful new University Dental Service Plan intramural practice facility for faculty members is getting its final touches. The UDSP area will also be the site of some clinical research.

Dr. George K. Stookey, director of the Oral Health Research Institute and professor of preventive dentistry, has been appointed associate dean for research. Last year he was successful in obtaining most of the $2.2 million research budget, which represented a $0.6 million increase from the previous year. A research initiative will involve all departments, and Dr. Stookey will coordinate activities and open opportunities for scientific investigation within the faculty.

Good news, also, is the change in the summer schedule. The School will not close in late summer, as in past years, and faculty and staff vacations will be staggered so that all clinics remain open for patient services and teaching. The new year-round schedule will help us to retain patients needed for valuable clinical instruction.

I extend an invitation to all members of the alumni to visit soon and join in our excitement of preparing for the '90s. You'll find no apocalyptic views about the dental profession here at 1121 West Michigan Street.



Mike Halloran

Dr. George K. Stookey

Dental Assisting News From IU-Northwest

The 1986-87 academic year has provided our program with yet another class of exhilarating students. Class members originate from Gary, Hammond, Lake Station, Portage, Porter, Schererville, Highland, Crown Point, Lowell, and Morocco. Our Morocco student, Sheralee Belt, has been provided with an additional challenge to the program since her daily travel time includes a one-hour commute to and from campus each day! Other class members include: Linda Barker, Audra Bell, Lisa Biancardi, Lois Blankenship, Lisa Buehrle, Connie Greer, Kim Klar, Traci McLemore, Annette Metlov, Angela Moore, Lorinda Travis, Cynthia Stoltz, Dianne Wilson and Kathy Wrigley.

This year's class has been quite active in extracurricular activities. Each year the month of February has included participation in the Chicago Dental Society's Midwinter Meeting and National Dental Health Month and this year the tradition continues. The students spent one full day at the Midwinter Meeting and presented Dental Health Month projects in local elementary and secondary schools, day care centers, and two community shopping malls.

Just around the corner is the Indiana Dental Assistants Association May Meeting and the students are eagerly working on table clinic, poster, and paper presentations in which they will be competing with dental assisting students from the other campuses.

Kathleen J. Hinshaw
Supervisor of Dental Assisting

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DAE Around Indiana

Prof. Gloria Huxoll Honored in Fort Wayne

A retirement reception honoring Gloria Horn Huxoll was held January 24 at Goeglein's Reception Hall in Fort Wayne, Indiana. Prof. Huxoll retired January 1 as supervisor of dental hygiene at Indiana-Purdue at Fort Wayne. Despite bitterly cold temperatures, many friends, colleagues, and family members attended the reception, and others who were unable to attend called, wrote special notes, or sent congratulations and best wishes.

Tributes were given during the program by Dr. Peter Zonakis, Dr. Sybil Niemann, Dr. Emory Bryan, Sr., Dr. George Smith, Ms. Carol Hany, Prof. Elaine Foley, and Prof. Jacqueline Heine. A special memento, a denture key ring made by Prof. Charles Champion, was presented to Gloria. Now we will always know her keys when we see them.

Gloria has supervised the Fort Wayne dental hygiene program since its inception in 1964. In 1952, she graduated as a member of the first dental hygiene class at the IU School of Dentistry. Gloria worked in private practice in the Fort Wayne area for over 10 years before accepting the challenge of supervising the first dental hygiene program established away from the School of Dentistry.

Gloria Huxoll has received many honors and awards during her career in dental hygiene. She graduated as a member of the Sigma Phi Alpha Dental Hygiene Honor Society. In 1983 she was named Distinguished Alumna by the IUSD Dental Hygiene Alumni Association. She is a life member of the IU Alumni Association and the Isaac Knapp Dental Hygienists' Association, an organization she helped develop. At retirement she was named Assistant Professor Emeritus.

Retirement for Gloria does not necessarily mean slowing down. She will continue teaching at IPFW as a clinical instructor in the dental hygiene department. Gloria also plans to remain active as a member of the Lutheran Hospital Board of Directors and as a member of the Visiting Nurse Service and Hospice Board.

Rosemary Kovara

Prof. Gloria H. Huxoll

Gloria is looking forward to finally having time to put into writing ideas and concepts of dental instrumentation she has gathered and developed throughout 35 years in dental hygiene. Her plans include a visit with her sister in Texas in June and some warm summer afternoons with her daughter, Kelly, at Coldwater Lake in Michigan.

Elaine S. Foley
Supervisor of Dental Hygiene

Gifts for the South Bend Campus

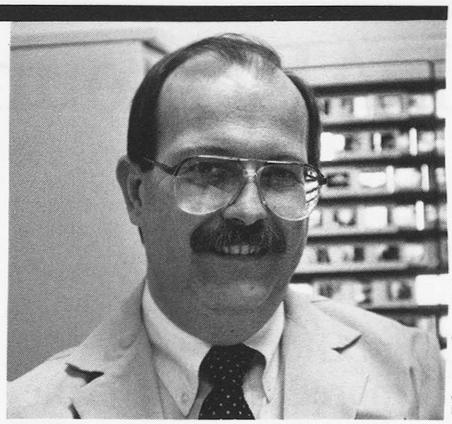
The IU-South Bend Dental Auxiliary Education program expresses appreciation for two gifts that have been received. The first is a donation of $1,000 by David and Selma Greene of Boca Raton, Florida, to the Dorothy Fromm Preventive Dentistry award established by Dr. Alfred Fromm, former Director of Dental Auxiliary Education. The award is given to the senior dental hygiene student who has excelled in patient education.

The second gift, in the amount of $2,320, is for the IUSB Dental Assisting Scholarship Fund that was recently established by the North Central Dental Society through the initiative of Drs. Larry Beachy and Charles Hassel. The fund now stands at $4,000. Contributors for the 1985-86 scholarship drive were Drs. Robert Allen, Douglas Bateman, Larry Beachy, Ralph Berman, James Buzalski, Gilbert Eberhart, Eugene Geyer, Michael Griffee, John Harrington, David Harris, Charles Hassel, Edward Lawton, Shant Markarian, Vernon Martin, Ronald Melser, Richard Meyers, Edward Molenda, William Mull, Frank Portolese, John Reuthe, Marjorie Reuthe, Wayne Risinger, Larry Roberts, George Schmitt, Jack Stenger, Richard Strait, John Szakaly, S. Lynn Vance, and James Zimmerman.

Dr. Shant Markarian
Director of Dental Auxiliary Education

Radiology of the Temporomandibular Joint

STEVEN L. BRICKER
Associate Professor and Chairman
of Dental Diagnostic Sciences



Photos by Mike Halloran

Central to the proper diagnosis and treatment of disorders of the temporomandibular joint is the judicious selection of the radiographic examination. Each radiographic projection gives different information, and the practitioner must know the structures that each projection can depict and be able to correlate the clinical findings with selection of the proper film.

Unfortunately, the TMJ is very difficult to depict radiographically. Regardless of the plane, frontal or lateral, several structures are superimposed over the area and this, along with the density of the skull, makes it difficult for any one conventional film to show the area clearly and without shape distortion. Following a summary of anatomic considerations, this article briefly reviews the uses of various radiographic projections of the TMJ.

Only major features of each projection are included to allow the reader to "visualize" the technique. Exposure factors are not covered, since such features as tube length and film-screen combinations vary to the point that it is difficult to establish standards for comparison. It should be kept in mind that, except in arthrography, these projections show only the bony component of the temporomandibular joint, and the projections have varying degrees of anatomic accuracy.

Review of the Anatomy

The joint complex consists of two bones, a soft tissue meniscus or disc and ligamentous attachments. The articular fossa and eminence are located anterior to the external auditory meatus and within the most lateral aspect of the temporal bone. Fitting into the fossa is the mandibular condyle which extends from the ramus. The mediolateral dimension of the condyle is approximately 20 mm and is set at an angle of approximately 20 degrees in the horizontal or coronal plane. In the vertical or sagittal plane, the long axis of the condyle varies considerably from negative to positive angulations.

The soft tissue component is made up of the meniscus and a capsule. The meniscus has four zones: anterior, intermediate and posterior band and bilaminar zone. The meniscus is that part of the joint which separates the condyle from the fossa and as such creates two joint spaces, the upper and lower. The injection of radiopaque dye into these spaces is used in arthrography to determine the relationship of the disc and the condyle during mandibular movement. The meniscus and the bony components are enclosed in the capsule. It is important to remember the spatial relationship of these structures as they relate to each radiographic projection, since this will influence the radiographic interpretation of each film.

TMJ Panoramic

The panoramic radiograph of the TMJ (Figure 1) offers one of the simplest methods to view the structures. The degree of difficulty in taking the projection depends upon the complexities of the individual machine, but each manufacturer has instructions for obtaining this projection. Because of the nature of the panoramic projection, it should be considered a preliminary screening film of the TMJ. The TMJ, which is closest to the film, will be in focus and superimposed structures will be blurred out. The blurring is accomplished by the movement of the source of radiation and the film. Since the source of radiation moves from the anterior to the posterior, the projection is not from a truly lateral position. Additionally, the source of radiation is at a slightly negative angulation and, depending upon the vertical angulation of the condyle, the medial pole of the TMJ could be projected higher than, or in the same plane as, the lateral pole. It is unlikely, then, that one can be assured of seeing a true representation of the superior surface of the condyle. Instead, changes are commonly found that appear like degenerative joint changes, such as surface cupping or condylar radiolucencies which are not pathologic conditions, but projection artifacts.

In spite of these limitations the panoramic TMJ is an excellent initial film because it can reveal condylar or upper ramus fractures, general surface changes to the condyle and the amount of translation.

Lateral Transcranial

There are several variations of transcranial projections which attempt to eliminate the superimposition of the petrous portions of the temporal bone over the TMJ. Hand-held methods of obtaining transcranials can be used but

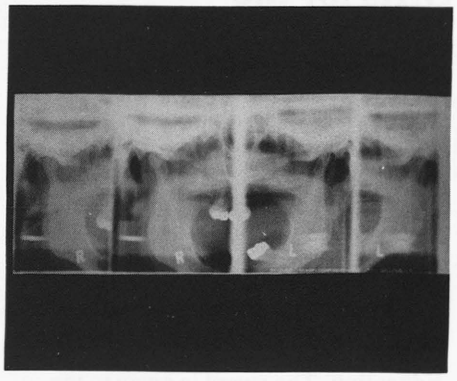


Figure 1.
TMJ panoramic. A total of four projections taken at the open and closed position for each joint.

they lack reproducibility of the correct beam alignment from one patient to another and it is difficult to reproduce the view on the same patient. TMJ angle boards and other commercially available positioners can be used to minimize technical alignment difficulties and allow for more accurate repetition of the projection.

In general, the beam is directed from the lateral of the patient and, depending upon the technique, at a positive 15 to 25 degree vertical angulation and in a posterior to anterior direction of approximately 5 to 20 degrees horizontal angulation. This allows for a central ray which is directed along the long axis of the condylar head. These angulations are estimates of the position of the long axis of the condyle in relationship to the skull and therefore may not give a true representation of that particular patient's condyle.

Figure 2 shows a part of a TMJ series taken on an angle board. Each condyle is usually depicted in the open, closed and rest position. The transcranial is used primarily to view the lateral relationship of the condyle to the fossa. It also allows the practitioner to get a general impression of only a part of the surface of the condyle. While the lateral border of the fossa and the lateral superior border of the condyle are shown, the superior aspect of the condyle is not clearly displayed.

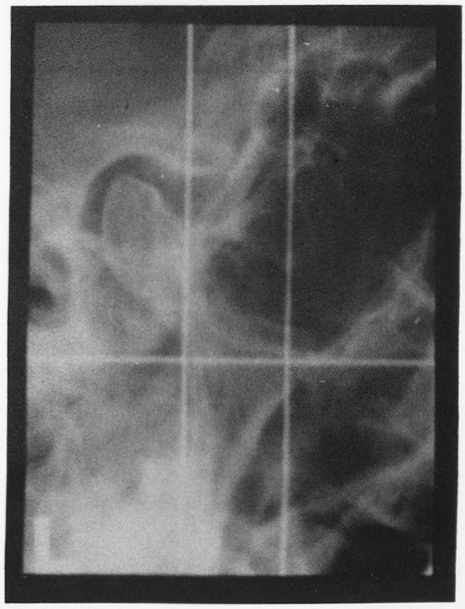


Figure 2.
Transcranial projection taken on an angle board

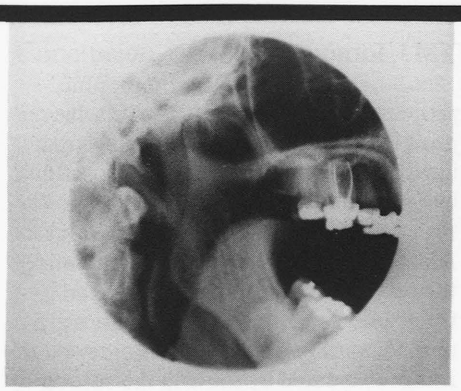


Figure 3.
Transpharyngeal projection

Transpharyngeal

The transpharyngeal projection (Figure 3), like the transcranial, has several variations. It is not as popular a projection as the transcranial due in part to the lack of reproducible positioning, yet it uses less radiation since there is less dense cranium to penetrate. This projection is opposite of the transcranial and produces an image which is similar to the panoramic projection. The central ray is placed at a negative 5 to 10 degree vertical angulation so that the ray passes through the contralateral sigmoid notch and is in line with the joint being examined. The beam is placed at a horizontal angulation of approximately 10 degrees directed from the anterior to the posterior.

In this projection one is able to view the more medial aspect of the fossa and the medial superior border of the condylar head. Also, the lateral pole will be seen in a somewhat more anterior aspect and the medial pole more to the posterior. This lateral view also shows the fossa-condylar position and is used for some surface changes.

Transorbital

The transorbital view (Figure 4) is a frontal projection which provides a view from the medial to lateral pole. In order to make the projection, the patient's head is rotated approximately 20 degrees to the side of interest and the central ray is directed in an anterior to posterior direction through the ipsilateral orbit and condyle at a positive 30 to 35 degree vertical angulation. The horizontal angulation is perpendicular to the film. Before the exposure is made, the patient is instructed to open as wide as possible. This will move the condylar head outside of the fossa so that superimposition will be minimized.

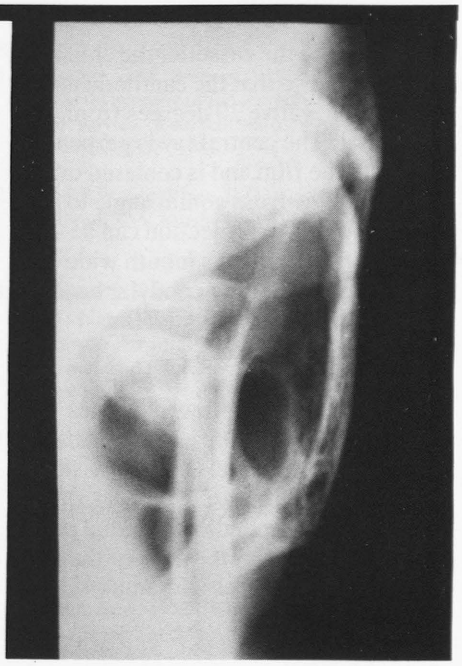


Figure 4.
Transorbital projection

With this projection the superior frontal surface of the condyle in the medial to lateral dimension comes into view. Also, the neck of the condyle is well displayed, making this a good projection to use for visualizing fractures of the neck or displacements of the condyle in the medial or lateral direction. Since the superior and frontal surface is visualized, some surface changes such as erosions can be shown.

Reverse-Towne

The Reverse-Towne projection (Figure 5) is a posterior-anterior view and while there are several methods of obtaining the projection, only one will be described. With the patient's fore-

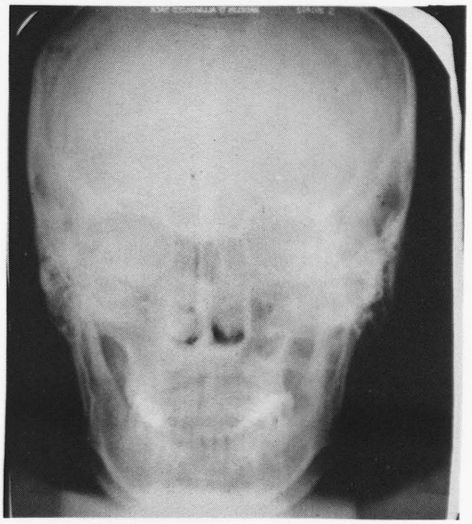


Figure 5.
Reverse-Towne projection

head touching the cassette, the chin is rotated down so that the canthomeatal line is at a negative 30 degrees from horizontal. The central ray is perpendicular to the film and is centered on an imaginary line from gonial angle to gonial angle. The projection can be made with the patient's mouth wide open which causes the condylar heads to move out of their fossae and thus become more visible.

The Reverse-Towne defines much of the condylar process and the ramus. It is, therefore, useful to visualize fractures of the condylar neck or at the angle of the mandible. Medial or lateral deviations of the neck of the condyle, coronoid process or ramus will be well visualized.

Submentovertex

The submentovertex is an inferior-to-superior view of the base of the skull (Figure 6). The patient is positioned so that the back of the head touches the cassette and the chin is rotated up so that the canthomeatal line is parallel to the cassette. The central ray enters below the chin and perpendicular to the cassette.

This projection is useful for visualizing the lateral and medial poles of the TMJ. Its primary use is the determination of the long axis of both joints as they relate to the skull and, when TMJ tomography or arthrotomography is indicated, this film is used to establish the horizontal angulation of each joint.

TMJ Tomography

At this time, the tomographic projection of the temporomandibular joint is the most accurate way to visualize the bony components of the joint because this method eliminates the superimposition of osseous structures. Also, it is the best means of determining the relationship of the condylar head to the fossa. Several instruments are available for tomography. The tomographic image is created by moving the source of radiation and the film in such a manner as to blur structures on either side of the object of interest. Movement patterns consist of linear, elliptical, circular and hypocyclodial, and as the complexity of the pattern increases, there is an increase in sharpness of images (as well as in the cost of the equipment). The range of the movement patterns will determine the thickness of the plane in focus. The sectional cuts used in this technique permit tomographic visualization of the TMJ throughout its long axis. Therefore, surface changes, as well as those occurring within the condyle, can be seen.

The tomographic projections can be taken from a lateral view (Figure 7) or as a transorbital view (Figure 8), thus providing projections from right angle planes. Since the purpose of any projection is to be as anatomically accurate as possible, a submentovertex film (Figure 6) is initially taken to establish the horizontal axis of each condyle. From tracings of each condyle, the degree of horizontal angulation and the position of each condyle are determined so that the machine can be set for each cut. When the joint is being examined for bony changes, multiple cuts of varying depths of each joint can be made. If the practitioner wishes to determine the condyle-to-fossa relationship during function, three views are taken of each joint: closed, rest and open position. Again, using the degree of angulation obtained from the submentovertex, the patient can be positioned in much the same manner as for a transorbital projection so that the long axis of the condyle is parallel to the film. The machine is set so that the cut is through the center of the condyle in the medial-lateral direction. The most significant limitation of the tomographic series is that is does not permit imaging of the meniscus, a soft-tissue structure.

TMJ Arthrotomography

TMJ arthrotomography is a combination of TMJ tomographic technique and arthrography. A radiopaque water-soluble dye is injected into the upper and lower joint spaces so that the soft tissue outline of the disc can be seen. Some experienced practitioners are able to achieve good results for interpretation with injection of the

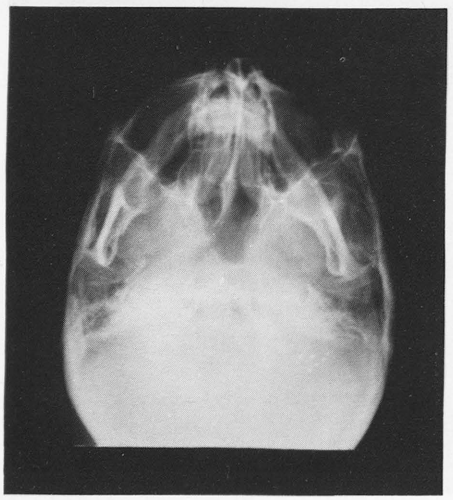


Figure 6.
Submentovertex projection

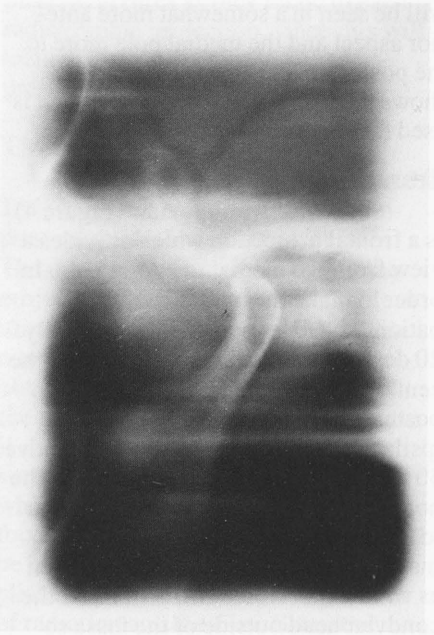


Figure 7.
Lateral tomogram

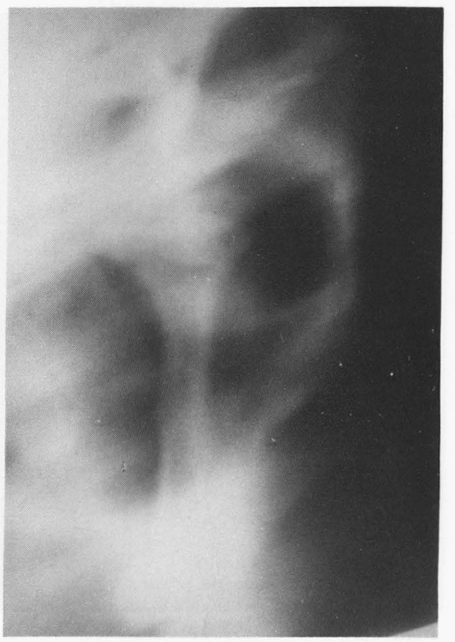


Figure 8.
Transorbital tomogram

lower compartment only. The technique can be achieved with or without fluoroscopy. Fluoroscopy aids in the placement of the cannula for the injection of the dye and may be helpful to view the status of the disc during mandibular function. While this may be necessary, there is a significant increase in patient exposure to radiation.

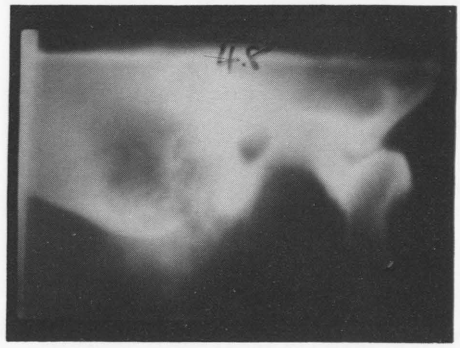
Arthrography is an exacting technique and the patient can develop complications if it is not properly performed. Since the procedure can be painful and has specific indications for use, it should be performed by someone with experience.

The principal use of TMJ arthrotomography is in the evaluation of internal derangements and perforations of the disc (Figure 9).

Figure 9.
TMJ arthrotomogram (Courtesy of Dr. Robert P. Langlais, San Antonio, Texas)

Conclusion

Several radiographic techniques have been described for imaging the temporomandibular joint. Each has particular indications and permits the evaluation of different portions of the temporomandibular articulation. In general, it is felt that the tomographic projection will display the condyle and fossa in the most accurate fashion. However, no radiograph, without a thorough clinical evaluation of the patient, will provide the practitioner with the information necessary to make proper diagnosis and an appropriate treatment plan.



SELECTED REFERENCES

1. Blaschke, D.D., Solberg, W.K. and Saunders, B.: Arthrography of the temporomandibular joint: Review of current status. J Am Dent Assoc, 100:388, 1980.
2. Goaz, P.W. and White, S.C.: Oral Radiology. St. Louis, C.V. Mosby Co., 1982, pages 583-592.
3. Helms, C.A., Katzberg, R.W. and Dolwick, M.F.: Internal Derangements of the Temporomandibular Joint. San Francisco, Radiology Research and Education Foundation, 1983, pages 3-5.
4. Langland, O.E., Langlais, R.P. and Morris, C.R.: Principles and Practice of Panoramic Radiography. Philadelphia, W.B. Saunders Co., 1982, pages 411-443.
5. Langland, O.E., Sippy, F.H. and Langlais, R.P.: Textbook of Dental Radiology. Second Edition. Springfield, Charles C. Thomas, 1984, pages 524-546.
6. Petersson, A.: Radiography of the Temporomandibular Joint. A Comparison of Information Obtained From Different Radiographic Techniques. Thesis, University of Lund School of Dentistry, Malmo, Sweden, 1976.

Author's Note

The Quint Sectograph (Quint Sectograph Corporation, Los Angeles, California), which was recently purchased by the School of Dentistry with Pursuit of Excellence funds and installed in the Department of Dental Diagnostic Sciences, gives the School increased radiologic capability. The radiographic unit (Figure 10) is versatile in that it allows for a wide range of tomographic projections of the skull as well as standard cephalometric (Figure 11) and other projections of the skull. The machine is designed so that there are short exposure times, scatter radiation is reduced and the patient's head is stabilized so that motion is as small as possible. These features are achieved by a larger power source, the use of an adjustable collimator and high-ratio grid and by a fully adjustable head holder (Figure 12).

The lateral cephalometric and the submentovertex, as well as the tomographic projections used in the article, were taken with the Quint Sectograph. If you have any questions please call Dr. Bricker at (317) 274-7474.

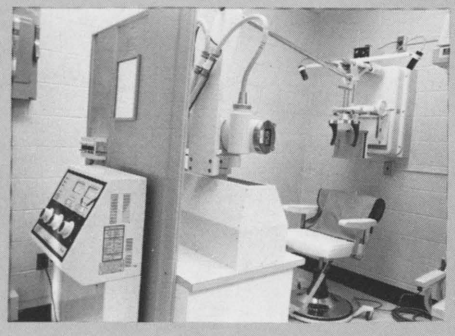


Figure 10.
Quint Sectograph

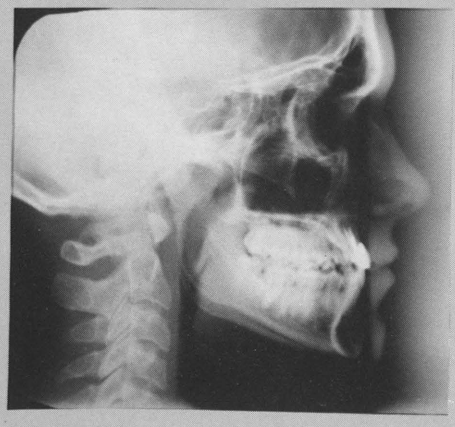


Figure 11.
Cephalometric projection

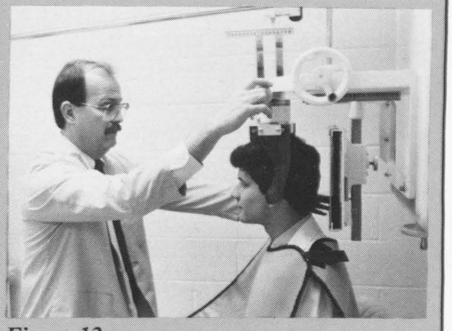


Figure 12.
Author (with assistance from third year dental student Brian Tonner) demonstrates positioning of a patient in the Quint Sectograph head holder.

Student Sketches

Sue VanBlaricum
Class of 1988

Twenty-first century historians at the IU School of Dentistry, looking back on student records of yesteryear, will note that the School's first woman class president was elected in 1986. She is Sue VanBlaricum, of Speedway, Indiana, and she heads the third year class in a low-key, but determined style.

Sue describes an effective leader as one who "is willing to go out on a limb and is tuned in to the smaller groups within the class that have special problems."

"Hey, Sue—can you look into something for me?" is a question that she hears regularly from classmates, and she does her best to follow up on their predicaments, complaints, and suggestions. As president, Sue works out any class schedule conflicts, mediates between classmates and faculty upon request, oversees the yearbook staff, and supervises plans for next year's Senior Banquet. She has tasted the frustration of trying to interest students in class policies while most are busy just trying to keep afloat in the deluge of clinic, lab and lecture assignments. (When she asked the class how the officers could be of better service, 3 of 97 critiques were returned.) She has approached the administration on problems concerning courses and believes that some have been ironed out. There are times when Sue feels as if she is pulled in every direction, but she isn't complaining. "I like being in the know," she says, "and having an opportunity to change things for the better. The Class of '88 is a tightly knit group and gets more so each day. I enjoy the camaraderie."

Sue was born to Roosevelt and Lillian Johnson in 1956. Her curiosity about dentistry took hold when she was a young girl sitting in the dental chair. "I remember asking my dentist a lot of questions while he tried to work on me," she says. The dental assisting program at Professional Careers Institute caught her eye after high school in 1974, and she landed a job with Dr. David Riggs ('71), a general practitioner, as soon as training was completed. On Dr. Riggs' day off she worked with orthodontist Dr. Kenton Susott ('71). She married Rick VanBlaricum, a law enforcement officer for the Marion County Sheriff's Department, in 1977, and it was Rick who urged Sue to pursue her desire to take on more responsibility in the dental office by working toward dental school.

"I had assisted for a short time in the oral surgery offices of Drs. Robert Edesess ('66) and Hal Smith ('73)," she says, "and it was then that I discovered my fascination for surgery." A long way from her goal but with full backing from her husband and friends, she enrolled in IUPUI's baccalaureate program in 1981 and was accepted at IUSD three years later.

Life as a dental student offered a lot more pressure than Sue expected. The second year was especially burdensome, but she has never come close to chucking her goal. "I've never thought of quitting," she says. "I've always said that I'll do whatever it takes to be a dentist. I come from a close, religious family in which the value of inner strength was stressed. Rick has helped me to draw on that strength." With graduation a year off, she will spend the next few months looking into oral surgery residency programs.

Between Sue's erratic school schedule and Rick's on-again, off-again shifts as a member of the Marion County SWAT Team, time alone for the couple is hard to come by. During the Pan American games that Indianapolis will host this summer, Rick's duties may separate them for as long as 40 days straight. "Rick has been with the SWAT Team for five years, so we've gotten used to our limited time together," Sue says. "We make the most of it." They have joined the YMCA where Rick is teaching Sue to play squash, and they have season's tickets for the symphony, guaranteeing at least one night on the town every few weeks.

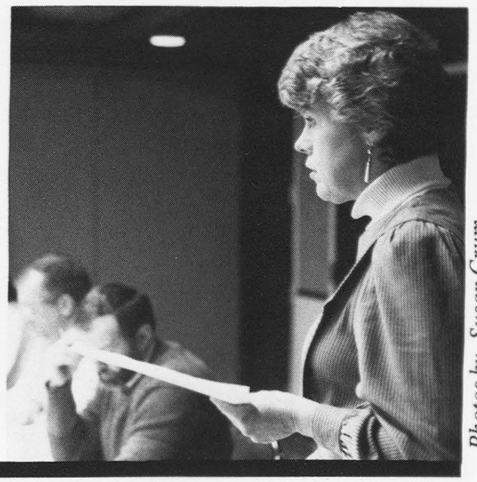
Sue VanBlaricum shrugs off her status as first woman president at IUSD, as she does any other mention of her role as a woman in dentistry. "I want to be recognized as a good dentist," she says, "not as a good woman dentist."

Mike Halloran

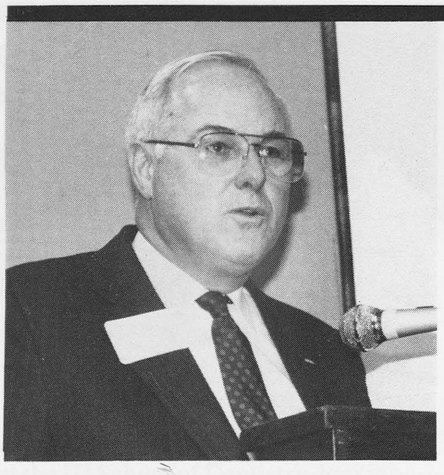
Your Board of Directors at Work

Members of the Indiana University School of Dentistry Alumni Association Board of Directors, with representatives from the School and Alumni Association, gathered in January for the annual winter board meeting, held at the Embassy Suites-North in Indianapolis. Officers for 1986-87 are: Dr. Charles Smith (DDS '61), president; Dr. Robert Modlin (DDS '59), president-elect; Dr. Lester Tweedle (DDS '60), vice president; Mrs. Karen Yoder (MSD '83), secretary-treasurer; and Dr. James D. Frey (DDS '62), executive council representative.

Members of the Board:
Dr. Ben Asdell (DDS '65)
Dr. John Backmeyer (DDS '67)
Dr. Patricia Clark (DDS '80)
Dr. Stanton D. Dunn, Jr. (DDS '76)
Dr. Richard D. Ellsworth (DDS '73)
Dr. Max Fetters (MSD '67)
Dr. John F. Hasler (DDS '62)
Dr. Kenneth Hyde (DDS '75)
Dr. James E. Jerger (DDS '61)
Dr. Jeffry Landrum (DDS '64)
Dr. Richard L. Lasbury (DDS '65)
Dr. Kenneth Miller (DDS '58)
Dr. James E. Morse (DDS '81)
Dr. Bruce Raibley (DDS '73)
Dr. Robert Scircle (DDS '54)
Dr. Hollis Sears (DDS '53)
Mrs. Carolee Seith (ASDH '84)

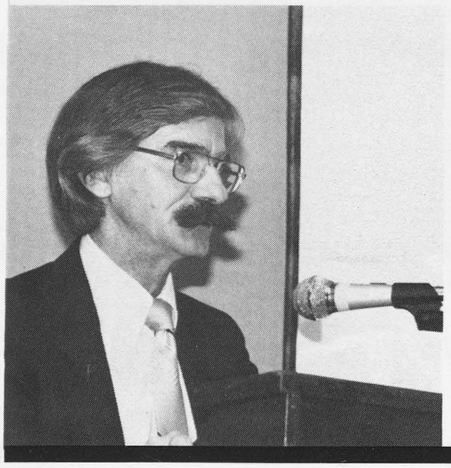


Photos by Susan Crum



The program...

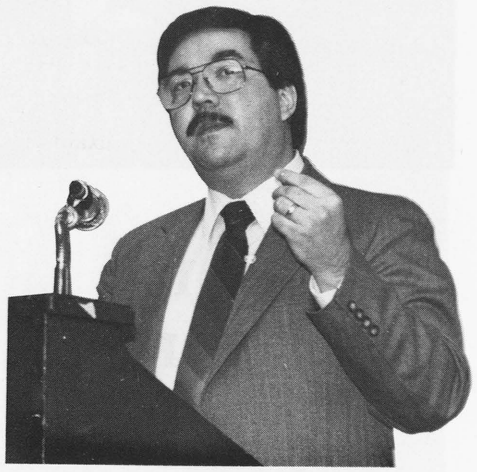
In addition to Dean H. William Gilmore (photos at left, top to bottom), who provided an overview of School activities, the following faculty members brought Conference participants up to date on a variety of topics: Dr. Robert L. Bogan, associate dean for student affairs (speaking on admissions and recruitment); Prof. Charles J. Palenik, head of committees for infection control and table clinics (Hepatitis vaccination program and table clinics); and Dr. George K. Stookey, director of the Oral Health Research Institute (animal research facilities).



Photos by Susan Crum

1987 IUSD Spring Teaching Conference

A flu bug forced Dr. Chris Miller, chairman of the IUSD Teaching Committee, to remain home in bed, and a touch of laryngitis prevented Dr. Beverly Hill, one of the program speakers, from speaking—but that didn't stop the Teaching Committee from producing yet another outstanding Spring Teaching Conference for the dental school faculty. The day-long meeting, held in March at the Indianapolis Holiday Inn-North, was the sixth of its kind. (There have been 22 annual teaching conferences held in the fall, but spring interim programs, offered from 1971-1974, did not start up again until 1986.) This year Prof. Charles J. Palenik pinch-hit for the ailing Dr. Miller, welcoming Conference participants and introducing others on the program, including featured speaker Dr. Karen E. Gable, coordinator of health occupations education for the IU School of Education. She offered a stimulating presentation entitled: REFLECTIONS FROM THE TEACHING MIRROR (OR ANYONE YOU RECOGNIZE?). Members of the Teaching Committee are: Dr. Chris Miller, chairman; Ms. Drew Beck, secretary-treasurer; Dr. Cecil Brown; Prof. Jeri Francis; Dr. Bruce Johnson; Dr. Carl Newton; Prof. Charles Palenik; and Dr. Jack Schaaf.



Mr. Mark Stahl represented the IU School of Medicine Medical Educational Resources Program and its director, Dr. Beverly Hill. He outlined a service offered by MERP for evaluating teaching skills and increasing instructional effectiveness.

By creating teacher/student scenarios, Dr. Karen E. Gable highlighted common problems that get in the way of effective communication in the classroom and clinic, and offered some solutions.

. . . and the participants

Three people (right) who played a big part in the success of this year's Spring Teaching Conference are, from left: Dr. Leonard Koerber, who provided audiovisual assistance; Ms. Drew Beck, long-time secretary-treasurer of the Teaching Committee who coordinated numerous activities and schedules; and Prof. Charles J. Palenik, who substituted as Conference host for Dr. Miller.

With the Classes...

Letter Brings News of Old Friends

A letter to Dean H. William Gilmore from Dr. James House (MSD 1971), former chairman of the Department of Complete Denture at IUSD, contains news about the writer and about another much respected former member of the School of Dentistry family, Mr. Ivan Welborn.

Dr. House, whose father was Dr. M. M. House (DDS 1903), a pioneer in the field of prosthodontics, was a faculty member here from 1962 to 1973. He left Indiana for appointments in the East with the Harvard School of Dental Medicine and the Veterans Administration. As the letter indicates, Dr. House is heading south in what is certain to be an active retirement, and his many friends here wish him well.

Ivan Welborn's many contributions to the dental profession included dedicated service in establishing the M. M. House Memorial Museum on the fourth floor of the dental building. Among those who knew him, the memory of this remarkable man will long endure.

Mr. Ivan A. Welborn, C.D.T.

The editors located this file photo of Dr. James E. House taken in the early 1970s while he was still on the IUSD faculty. In 1973 the* Alumni Bulletin *published an article by Dr. House entitled "A Dream Fulfilled: The M. M. House Memorial Museum."

The letter follows:

Dear Bill:

I write to you with three things in mind: to tell you of my delight that you serve as Dean of IUSD, to tell you of my retirement, and to celebrate the life (in memorium) of Ivan A. Welborn, Sr.

The Fall, 1986 *Alumni Bulletin of Indiana University School of Dentistry* issue speaks with power and spirit, that is clearly the result of your leadership as Dean. That pleases me immensely! You were born and reared to do that job well, and it is no surprise that you are doing it well. My congratulations to you, Bill. IUSD will enjoy an era of sunshine under your guidance.

I, Jim House, finished another leg in my journey. Now I drop the Doctor House title, in favor of being just plain Jim. Come January 30, 1987 I leave Dentistry as an active participant, to be a sideline observer. I change my regalia from necktie to overalls, to be better suited for my next career as a self-sufficiency gardener and purveyor of animal husbandry. This is more than a change of attire, it is a change in mind set as well. I view it as a challenging new venture and adventure. Ruth and I have been physically, but not spiritually separated from our sons during the past 16

years. Now we move to the vicinity of Goldsboro, North Carolina, where our son Richard practices ENT medicine. We are building our house on a farm next to his, complete with beautiful view of the Neuse River. Our new address is Box 297, Seven Springs, NC 28578.

We can all take pause to celebrate the life of Ivan A. Welborn, Sr. He was a great man, who quietly, yet persistently taught all of us. He taught by example the virtue of dry humor, patience, how to fill our days with steady, dedicated goal-directed work, and he taught sincere love for fellow workers. Those of us who worked with Ivan easily received his love, and loved him in return.

Ivan was a man of many talents. A true artisan who never allowed himself to produce less than the finest. He was a deep thinker, who quietly made himself a scholarly expert by reading and study; thus the pages of many a book in the IUSD library are marked with his fingerprints. His dedication to make the M. M. House Memorial Museum outstanding, in turn, made him outstanding.

In that work he displayed his excellence without a care that he be rewarded or honored for doing it. To him, it was enough that within himself he knew that task had been well done. To the rest of us, we know that museum would never have been completed without Ivan Welborn. It stands as a monument to Ivan Welborn, and to the man he dearly loved—M. M. House.

Ivan died January 5, 1987 during his 87th year of life. His mind was sharp, with wit and vigor to the end. His physical health was good, but slower during his final four years as a nursing home resident. He died of congestive heart failure, which lasted about an hour prior to his passing on. His ashes are to be interred in Rose Hills Memorial Park in Whittier, California, adjacent to his wife, Edna, who passed away a year and a half ago.

For us who knew and loved Ivan, it seems inappropriate to mourn his death, because he left so much for us to celebrate for his life. Yet there remains no doubt we shall indeed miss Ivan!

Warm personal regards.

James E. House, D.D.S.

1917

We have word that Dr. Watson E. DeaKyne, Indianapolis, died January 31, 1987. Dr. DeaKyne was born in Urbana, Indiana, and had been an Indianapolis dentist for more than 50 years. He was a member of Fortville United Methodist Church, Fortville Masonic Lodge, Scottish Rite, Murat Shrine, Service Club of Indianapolis and Paul Coble American Legion Post. Survivors include his wife, Marjorie Scruggs DeaKyne.

1919

The death of Dr. Reed M. Shroyer on August 26, 1986, has been reported.

1921

Dr. Merritt G. Parks died June 12, 1986.

1924

We have received notice of Dr. Owen N. Lentz's death on July 7, 1986.

1926

Our loyal correspondent, Dr. Harold C. Dimmich, has sent us several nice letters and a class roster update during the past few months. Portions of those letters follow. In addition to his words of praise for the *Alumni Bulletin's* new format, he says:

. . . For several years it has been my affair to serve as secretary and news item coordinator of the IUSD Class of 1926. Generally speaking, the members of the class who are still with us (11—6 in Indiana) have been very cooperative but, it has certainly not been without effort of all members. There are so many things that enter into the picture: advancing years, health, widely separated, and other reasons.

This year, as in the past, we sent Christmas cards to ***all*** *members—at least those we know of and all available addresses. Eleven cards were sent out and we had responses from all but Dr. McKean . . . One member, Dr. Earl Keiser, "surfaced" after many years. . . . Dr. Keiser, age 92, practiced in Plymouth, Indiana and retired to the Arkansas and Missouri areas years ago.*

I am enclosing a list of names and addresses, etc. which is correct at this time as far as we know.

The Class of 1926 was notorious—and famous—for our annual reunions and breakfasts that we held at State Meeting time. Of course the number grew smaller in attendance with advancing years and our last breakfast was held in 1982, for obvious reasons. However, we all hope to have some kind of a "reunion" soon or in the future. All of us are well past 80 years of age.

We enjoy the ***Bulletin****—often referring to the more recent 10-12 issues in our library.*

You may or may not know, I served as editor of two Dental College Annuals, was Editor of the Isaac Knapp District Dental Society from 1928 to 1937 when I became Editor-in-Chief of the Indiana Dental Association. Serving from 1937 to 1955, when it was ***necessary*** *for our I.S.D.A. Journal to be* ***self-supporting,*** *with advertising and the princely salary of $100.00 a year to myself, to see that we had thirteen issues for each year.*

Thank you again for mentioning our address in West Lafayette, and if there is any change—which I doubt—we will keep you informed.

Dr. Lloyd F. Abel
1611 52nd Street W.
Bradenton, FL 33529

Dr. Harold C Dimmich
P.O. Box 2782, 126 Country Squire Ct.
West Lafayette, IN 47906

Dr. Hilmer H. Dittbrenner
123 South 16th Street
Noblesville, IN 46060

Dr. Norman T. Enmeier
3721 South Gary Place
Tulsa, OK 74105

Dr. John M. Gainey
5412 Grandview Drive
Indianapolis, IN 46208

Dr. Earl Keiser
c/o EL - Nathan Home
Marble Hill, MO 63764

Dr. Maurice P. Lord
22 Woodview Court
Lafayette, IN 47905

Dr. C. Gordon Lundy
480 Lynhurst
Scottsburg, IN 47170

Dr. Gorman F. McKean
4253 Bay Beach Lane S.W.
Sea Grape Apartments G-3
Fort Myers Beach, FL 33931

Dr. Charles W. Newman
1011 Kings Park Drive
Memphis, TN 38117

Dr. Charles A. Seal
2309 Lafayette Street
Columbus, IN 47201

1930

Dr. Jack E. Schaaf, editor of the *IUSD Alumni Bulletin,* has received a nice post card from Dr. Floyd E. Lytle, who says:

> *As past president of the 1930 class, I want to congratulate you for such a great Bulletin. Our class met for its 55th reunion in '85. The School has sure changed—all to the better. We were one of the last classes to use foot engines. You have some great men—Gilmore, Hine, that have and will continue to make IU great.*

Dr. and Mrs. Lytle also have a new address: 2444 Madison Road, Apt. 1504, Cincinnati, OH 45208.

The School has learned that Dr. Eugene H. Williams, San Francisco, CA, died June 23, 1986.

1931

We have word that Dr. Edgar W. Temple, New Albany, died February 9, 1987.

1934

Dr. Norwin M. Niles, Garrett, died February 2, 1987. He is survived by his wife, Dorothy.

1937

We have word that Dr. Clyde J. Ingels, Middleport, OH, died September 26, 1986. He is survived by his wife, Patsy.

Dr. Edward A. Goll, Indianapolis, died last February. He had been a dentist 40 years until his retirement in 1973. He also owned Indy Stamp & Coin Co. and Goll's Chippewa Lodge in Lac du Flambeau, Wis. Dr. Goll was an Army veteran of the Korean War and was the widower of Thearl Marie Goll. His survivors include daughters Edrie A. McMeeken, Phyllis M. Goll, and Judith Ann Johnson; and five grandchildren.

1938

A new address for:

Dr. James E. Carnes
RR 2 Box 29A
West Baden, IN 47469

It has been reported that Dr. Roy M. Pownall, Plymouth, died October 27, 1986. He is survived by his wife, Donna.

1940

Dr. Samuel S Patterson (MSD '60) was recently named Indianapolis District Dental Society Honor Dentist of the year. Dr. Patterson is a practitioner of endodontics in Indianapolis and professor emeritus of endodontics at the IU School of Dentistry. He was president of the American Association of Endodontists in 1968-69 and the IDDS in 1964-65.

1942

We have word that Dr. Robert A. Babcock, Marion, died August 1, 1986. He is survived by his wife, Mary.

1945

We have been notified of the death of Dr. Arnold M. Russo, Indianapolis, on March 2, 1987. He is survived by his wife, Mary.

1947

Five members of the Class of 1947 were among the group of six dentists who were honored in March by the Indianapolis District Dental Society. Each was recognized for serving the dental community for 40 years. Those honored included Dr. Roland W. Dykema, Dr. Hudson G. Kelley, Dr. William I. Lawrance, Dr. John T. Lindquist, and Dr. James R. Roche.

1953

A new address for:

Dr. Paul E. Braden
1805 N. Franklin Road
Indianapolis, IN 46219

Dr. Harold Dimmich ('26) has notified us of the death of Dr. Charles J. Sabel, West Lafayette, January 19, 1987, after an apparent heart attack in his office. He had been a dentist in Lafayette since 1953. Portions of his obituary appearing in the *Journal and Courier* follow:

Dr. Sabel was active in many aspects of Civic Theatre, where he was a member and former president of the board of directors. He designed and built sets for many of their shows and appeared on stage several times.

He was a naval aviator during World War II. He was the first person to receive the distinguished service award of Indiana Dental Association; was a member of American Dental Association; former director of Indiana Dental Association; member of West Central Dental Association; Elks Lodge 143; and Lafayette Country Club.

Born Nov. 13, 1918, in Evansville, he was reared there and graduated from Metropolis High School, Metropolis, Ill. . . .

His marriage was Aug. 28, 1948, in Atlantic City, N.J., to Winifred A. Shupe. She survives. Also surviving are a daughter, Shannon Sabel of Chicago, Ill.; two sisters, Mrs. John (Bettye) Paust of Vienna, Ill., and Mrs. A. R. (Carol) Shrawder of Evansville; and one brother, Walter Sabel, also of Evansville.

1954

Dr. James E. Krause has a new address:

2720 Pine Lane
Bloomington, IN 47401

1957

On February 12 the *South Bend Tribune* reported on Dr. Edward J. Molenda's plans for a special valentine celebration. Portions of an article by Leslie Koch follow:

Some women receive long-stemmed roses or fancy imported chocolates for Valentine's Day. But six local dental assistants never dreamed they would receive a one-day air/cruise trip from their employer.

"At first, they all thought I was kidding—then I handed them the tickets," said local dentist Dr. Edward J. Molenda.

"We were all really surprised—he just came in and said I have something for all of you. It's a cruise," said Molenda's receptionist, Darlene Gish. The trip starts at Michiana Regional Airport at 6 a.m. on Feb. 17. There, Judy Behling, Lynn Eck, Vicki

Jonas, Mary Roe, Pat Vega and Gish, along with Molenda, will board an American Trans-air charter plane and head to Palm Beach, Fla. From Palm Beach, the passengers will board the Viking Princess and enjoy a 12-hour cruise around the Bahama Islands. Then it's back to the plane with an arrival time in South Bend at 1 a.m. on Feb. 18.

"We're all very excited. Some of us have never flown or taken a cruise before. Dr. Molenda also gave us each $50 spending money and matching outfits of white pants and red and white sweatshirts with hearts and our names on them to wear on the trip," Gish said.

The trip is being sponsored by WYEZ radio station. John Boggs, WYEZ's station manager, said they had 344 tickets and they were all sold out in a matter of hours.

. . . In explaining why he is giving his employees such an elaborate valentine gift, Molenda said, "They have all worked exceptionally well for the benefit of our patients. This has to be one of the best crews I've had in the 30 years that I've been in practice. Since they've been working so hard, I decided to give them something they would enjoy. I heard about the trip on the radio and thought why not give them a cruise?"

Molenda, who refers to his crew as "Molenda's sweethearts," said that in July they all plan to go to Seattle for a dental convention.

Meanwhile, Molenda and his "sweethearts" are eagerly looking forward to their cruise.

A new address for:
Dr. Donald G. Lloyd
12124 Leo Road
Fort Wayne, IN 46825

We have word that Dr. Harvey G. Levinson, Woodland Hills, CA, died January 10, 1986.

1958

Dr. Arthur I. Klein (MSD) was among the group of six dentists honored in March by the Indianapolis District Dental Society for serving the dental community for 40 years.

1959

Dr. David T. Lawless (MSD) has a new address: 6220 E. Huntress Drive, Paradise Valley, AZ 85253.

1960

Address updates for:

Dr. Richard P. Elzay (MSD '62)
515 Delaware St., S.E.
University of Minnesota
Minneapolis, MN 55455

Dr. Robert M. Woodburn
2655 E. Oakland Pk.
Ft. Lauderdale, FL 33306

We have received notice of Dr. William R. Gordon's death May 12, 1986.

1961

A note from Charlotte Gross (ASDH), 25 Evergreen Row, Armonk, NY 10504, who says that she is:

Still a full-time hygienist for husband, Michael J. Gross (DDS '62). Daughter Stefanie, RDH, practicing in Alexandria, Virginia. Maybe it's in the blood, although the second daughter, Jessica, wants nothing to do with dentistry. More interested in fashion marketing . . . so far.

1966

Dr. Carl J. Andres has moved to: 135 Bexhill Dr., Carmel, IN 46032.

1971

And a new address for: Dr. Charles C. Smith, 900 24th St., West Des Moines, IA 50265.

1972

Dr. Larry W. Pampel, 1960 Sycamore Canyon Road, Santa Barbara, California, 93108, has responded to our request for news. He remembers the Class of '72 as:

A relatively close, fun loving group of individuals. The class . . . is best remembered as being a group that could act as one. During our senior year, student representation in faculty meetings was initiated. The class was also a group of hard party-goers.

My most distinct memories of dental student days include: Freshman anatomy lab, senior class party—Razz Banquet, Thomas M. Pugh and Perry Wainman as M.C.'s and the movie . . . Perry Wainman driving '57 Ford Convertible like a wildman, gatherings at the Red Carpet, card tournaments and trash ball at noon.

The classmates I see or hear from most often are Thomas M. Pugh, Culver, Indiana, general dental practice, at the North Central Dental Society meetings; Ronald Wines, Plainfield, Indiana, general dentist—he participated in practice management course I taught.

News about myself: General practice, Rochester, Indiana. Lectured in practice management 1982-1986; Fellowship International Congress of Implantology 1986; guest speaker, World Congress of ICOI in Caracas, Venezuela, April 1986. December 1986 sold practice, moved to Santa Barbara to do consulting and teach with a private consulting firm.

Among the classmates that I'd especially like to get some information on are: Dave Pitts, Gunnar Richardson, Stan Crunk, Richard Demko, Phil Walter and Brank Debruhl.

South Bend Tribune staff writer Linda Bloom recently spotlighted activities in Dr. Douglas Bateman's office. Portions of her article follow:

As Hawaiian music played softly in the background, visitors were handed a lei and invited to drink pineapple punch. Then they were led to the dentist's chair.

"Hawaiian week" is one of Dr. Douglas Bateman's occasional attempts to persuade patients that dental visits aren't all that bad and to allow staff members to have a little fun.

During the cold, snowy weather last week, it did seem relaxing to walk into a tropical atmosphere created by paper pineapples and tropical fish, palm trees constructed from carpet tubes and crepe paper and staff clad comfortably in Hawaiian-print shirts.

Bateman's wife, Cathy, who works in the office, said they try to "make it as enjoyable as a dental visit can be. The patients get a chuckle out of it."

"There are so many people who are just totally afraid to come to the dentist," Dr. Bateman explained. With a caring attitude from the staff and a little fun thrown in, "those people tend to realize dentistry isn't the frightening monster it used to be."

. . . The office at 1422 Lincoln Way E., where his practice has been located the past four years, is in itself more informal, with patients treated in one open area, rather than separate cubicles. "It seems to work very well for our patients," he said.

The relaxed atmosphere and occasional costumes do not mean they are not

concerned about proper dental care, according to Dr. Bateman. "The professionalism and quality of care do come first," he stressed.

But who says you can't have a good time in the process? "You have to select a staff that also has a caring attitude," he said. "They're the ones that really allow it to work."

The theme days and weeks "help us enjoy our work even more," he added. "If we have fun, it carries over to our patients."

In fact, patients sometimes actually participate. During the week of Halloween, they were asked to vote on the best staff costume. For "western week," they were invited to dress up if they wished. "We were surprised—people did come in boots and cowboy hats," Mrs. Bateman said. "Some of them really got into it."

"What we're trying to do is allow people to come into the office who have stayed away," Dr. Bateman explained. "We know (it works) because of the number of apprehensive patients who refer other apprehensive patients to us."

1973

In another newspaper article, this time from *The Indianapolis News,* alumnus Dr. Leonard S. Scott is the focus of attention. Part of Nelson Price's article follows:

Soothing sounds are not associated with dentists—unless you enjoy the whine of a drill.

And "dental office music" is a derisive phrase, usually synonymous with bland.

But, pssst, there is an Indianapolis dentist with a low local profile who is rapidly becoming a national force in the gospel music industry . . .

Among the nominees (Grammy Awards) for best male gospel vocalist is a singer whose album was produced and distributed under Dr. Leonard Scott's label, Tyscot Inc.

The album is "Glorious Day." The gospel singer is Detroit resident Derrick Brinkley.

This is the first album for Brinkley, a young artist whose manager mailed a tape to Scott's recording company on a whim.

Scott, a near-Northside dentist, listened and liked.

"I enjoy both dentistry and gospel music because of the contact with people," said Scott, 37, whose company records only spiritual music. "In both, you are helping people through a sort of pain."

"There is a thriving gospel industry in this town, but few of the movers and shakers seem to know about it," observed Al Hobbs, vice president and general manager of WTLC-Radio.

"Dr. Scott is at the forefront. He is a champion of the local music scene and is taking the gifted of Indianapolis into the national gospel marketplace. His efforts are something this city ought to be proud of."

A graduate of Tech High School and the Indiana University School of Dentistry, Scott was a musical teenager. He sang and played the flute, bass guitar and saxophone.

Early yearnings to be a professional musician were checked by a pragmatic father.

"He wanted me to be a doctor, to do something that would earn a steady income," recalled Scott, a serene, soft-spoken man.

"I was scared of blood, so the doctor idea was out. That left dentistry—which, as all dentists find out, can be as gory as medicine."

Despite the dental studies, Scott persisted with music . . .

Scott joined a church choir and now directs the group at Christ Church Apostolic, 6601 Grandview Drive. That choir and several other local religious groups have recorded albums under his label.

He formed the recording company with Craig Tyson, a Michigan church organist who subsequently left the business. Tyscot Inc. is a blending of both names.

Using various studios in the city, Scott's company began to expand, recording an Anderson gospel group and Pentecostal choir.

The big break came in 1982 when the Rev. Bill Sawyer, a Cleveland minister with an extensive outreach program in the Ohio city, selected Tyscot as the label for his church choir's album.

Recorded in Cleveland during a live gospel concert, the album was charted by Billboard magazine and achieved sales of about 12,000.

It remains Tyscot's biggest seller, although the dentist predicts that Grammy-nominee Brinkley's album eventually will—no pun intended—smash the record . . .

All of Tyscot's albums are nationally distributed. All have featured black performers or groups.

Dr. James R. McCormick has a change of address: 422 Boyd Circle, Michigan City, IN 46360.

1975

Address update:

Dr. Randolph E. Price
1825 Belmont
Hood River, OR 97031

1977

A new address for:

Dr. Edward L. Backes
44 S.E. 16th Avenue
Ocala, FL 32671

1978

Dr. Robert Bogan, associate dean for student affairs, recently had a letter from Dr. Gregory P. Pfau, 8246 Filly Lane, Indianapolis, IN 46168. He says in part:

I have received some very good news from the State University of New York at Buffalo. I wanted you to be one of the first to know that I am accepted into the Oral Biology PhD-Endodontics combined degree program . . . I want to thank you for your help, understanding and kind support in my pursuit of a research/academic career. I hope to invite you to visit once I get established. The program starts in July 1987. I understand that my clinical experience helped a lot in the selection process. Further, they felt that my excellent background in Biology made me an excellent candidate for their program . . .

And Sarah Manion, Dean Bogan's secretary, has heard from Dr. & Mrs. Dayn Boitet, 2611 Eagle Bay Drive, Orange Park, FL 32073. Excerpts follow:

May 15, 1986 Dayn opened the doors to his new office. We built it "from scratch." His office is in Orange Park now, instead of Jacksonville, and less than one mile from home. He practically arrives at work the same time he leaves home! The old office had two operatories. This one has four with two more ready for conversion if need be. He is so spoiled.

The kiddies are great. Kyle will be five years old in February. He weighs 52 pounds and wears size 8-10 boys' clothes. Our petite (?) boy! . . . Lauren was four on November 30th. She absolutely adores Orange Park Kindergarten. She is in the three year old class and attends half days . . . Natalie was two years old November 26th . . . She is putting sentences together quite nicely. Too bad only Judy and Dayn can translate . . .

Judy has been busy learning to make quilts this past summer and fall. Dayn drove her to it with his evening office paperwork. Now she is addicted . . .

Everyone is healthy this year. This is the first time in 2½ years we've been free of illness. Isn't this a nice way to start the New Year?

1980

Dr. Jeffrey B. Dalin, St. Louis, Missouri, has received an Award of Merit from the Greater St. Louis Dental Society. He has been a teacher of operative dentistry at Washington University, and has been a dental consultant for a nursing home and an eating disorders clinic.

Dr. Dalin founded the Dental Coalition for Public Awareness and is secretary/treasurer. He has contributed a chapter on oral manifestations of eating disorders for a text book.

Dr. Dalin currently serves as West County District Editor for the Society's Bulletin and as Chairman of the Committee for the Council on Dental Care.

1981

Address update:

Dr. William E. Arnold, Jr.
2167 NE Loop 410 #B-14
San Antonio, TX 78217

1982

A new address for:

Dr. Soraya Beiraghi Majdpour
1218 Millcreek Lane
Columbus, OH 43220

1983

New address:

Dr. Paul A. Sergio
1918 Edison Road
South Bend, IN 46617

1984

A new address for:

Drs. Ken and Carol (VanBlaricum) Braun
RR #1 Box 513N
Chrisney, IN 47611

1985

We've had a brief card from Dr. Hongmin Lai (MSD Periodontics), 75-4f, Shih-Chen St., Peitou, Taipei, Taiwan 11227:

Things go well in my first 15 months as a periodontist. I am proud of IU and IU will be proud of me, at least in Taiwan. The quality of my perio treatment is as good as at IU. I am showing them the right way of treating perio problems.

A new address for:

Dr. Paul L. Timmons
314 Ashley Lakes Drive
Norcross, GA 30092

1986

We've also heard from Dr. Charles M. Bernstein, who has joined a large group practice in Ohio. His new address is 5469 Kirby Avenue, Cincinnati, Ohio 45223.

Gilmore and Redish Cool Heels in Pokey

The culprits were cornered in the Dean's Office, handcuffed together and hustled off by a police officer to a waiting limousine before most people at the School of Dentistry had time to realize anything was amiss. In a good-natured effort to support the Jail-a-Thon, a fund-raising drive of the Marion County division of the American Cancer Society, Dean H. William Gilmore and Dr. Charles Redish, associate professor of oral and maxillofacial surgery, allowed themselves to be whisked away to a northside shopping mall, where "prisoners' quarters" had been set up. Outfitted in striped shirts and caps and placed behind bars after being formally charged, Drs. Gilmore and Redish raised "bail" by obtaining donations for the American Cancer Society from friends and associates over the telephone. Together they collected $2,375 in pledges. Detained about an hour in the slam, the dental school delinquents were described by a representative of the American Cancer Society as model prisoners.

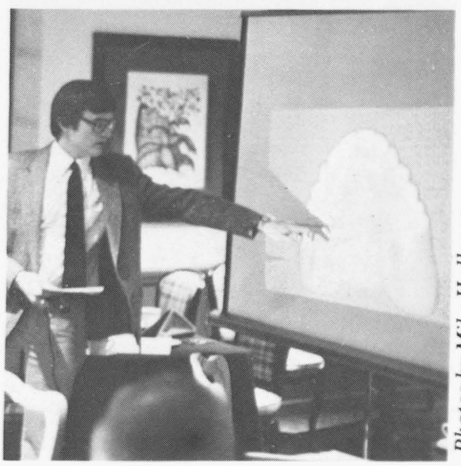
Photos by Mike Halloran

Michigan Street Memos

Hospital Residents and IUSD Faculty Share Ideas at Morbidity Conference

One patient had lost a tooth after falling onto a swimming pool deck. Another had a self-inflicted gunshot wound to the face. Still another had facial injuries from a beating. These cases and other were highlighted by students of the IU hospital-based dental residency programs, and were discussed with an audience of some 50 IUSD faculty members and residents at the School of Dentistry's second annual Morbidity Conference. Held at the IUPUI Union Building on an evening in January, the Conference offered a special opportunity for faculty and residents to exchange ideas about problems or complications occurring with a variety of dental patients who have come to the Medical Center for treatment in pediatric dentistry, oral and maxillofacial surgery, maxillofacial prosthetics, and the general practice residency. Residents described patient histories, methods of treatment and prognoses. They included: Drs. Ruby Zitterbart and Ernest DaBreo, maxillofacial prosthetics; Drs. Lesley Gilbert and Jay Platt, general practice residency; Drs. Chris Kinney, Brett Lehocky, and Robert McDonough, oral and maxillofacial surgery; and Drs. Anthony Kamp and Mark Loyer, pediatric dentistry. According to Dr. Charles E. Hutton, chairman of oral and maxillofacial surgery and secretary of Hospital Dental Services, the Conference will now be offered semi-annually, with the next one scheduled in June.

Among the program presenters at the Morbidity Conference were Dr. Anthony Kamp (left), a second-year resident in pediatric dentistry, and Dr. Jay Platt, a resident in the general practice residency program.



Photos by Mike Halloran

Ms. Carole A. Busch, of Fort Wayne, has been appointed IU School of Dentistry Coordinator of Records and Admissions in the office of Dr. Robert L. Bogan, Associate Dean for Student Affairs. She replaces Ms. Cathi L. Eagan, who held the position for five years. After earning B.S., M.A., and Ed.S. degrees in psychology from Ball State University, Carole worked as a school psychologist for the Four-County Area Special Education/Vocational Education Cooperative, a state and federally funded program covering LaGrange, Dekalb, Noble and Steuben counties. In addition to her responsibilities involving records and admissions at the dental school, Carole plays a key role in the School's student recruitment effort.

Visitors From Brazil

Dr. Sergio G. Petersen says that he scheduled his trip to Indiana in January intentionally so that he and his family could experience snow for the first time. (Hoosier weather cooperated fully: The Petersens arrived on an evening when Indianapolis received a hefty half-a-foot snow fall.) Dr. Petersen was at IUSD as a visiting scientist who, along with wife Sonia and children Renata and Rodrigo, was hosted by Dr. and Mrs. James R. Roche for three weeks. Arrangements were made through our School for Dr. Petersen, a pediatric dentist on the faculty at the Federal University of Rio de Janeiro, to participate in a three-week individualized learning program here. He fulfilled a rigorous schedule of classes and conferences, and on January 28 he presented a lecture on four clinical case studies to pediatric dentistry residents and faculty. Dr. Petersen said that he found the program very worthwhile and all of his new Indiana acquaintances "delightful." Shortly before returning home he spoke of his deep appreciation to Dean H. William Gilmore, Dr. David Avery, Dr. Hala Henderson, and especially Dr. and Mrs. Roche for their hospitality and friendship.

Dr. James R. Roche (right), associate dean for academic affairs and professor of pediatric dentistry, chats in his office with Dr. and Mrs. Sergio Petersen.

One last look at the class photo rosters. A generation of students—and memories . . .

Hanging It Up After a Career on the Phones

At last count back in 1984, we figured that Ruth Eitnier Buchanan, main lobby receptionist and "pager" for the School of Dentistry, had answered the telephone on the job somewhere in the neighborhood of 1,368,000 times. The total must have easily surpassed 1½ million by Friday, January 23, when Ruth picked up front desk calls and paged students in that familiar low-key voice for the final time.

Ruth's career as a dental school pager began about six months after she was hired as a supply dispenser in 1965. During the past 21½ years she has handled with grace and aplomb most of what life as a pager has offered.

On the retirement agenda for Ruth are plans to travel with husband Paul H. Buchanan, a judge for the Indiana Court of Appeals, whom she married December 26, 1986. What will she miss most? "All of the people at the School and working with dental students," she says. And least? "Having to get out of bed each morning at 5:30 a.m."

Over the phone, on the mike, and in person at the front desk, Ruth has represented the School of Dentistry in a dedicated and professional manner for more than two decades. To Judge and Mrs. Buchanan we extend our best wishes. (And we promise to *write*—not call—to keep in touch.)

Ruth Buchanan . . . **Ruth Buchanan:** Line Seven—Right away, please!

While fourth year students Linda Brezausek and Kurt VanWinkle were figuring out exactly what Ruth was up against all those years as school pager, she moseyed over to the opposite side of Dental Diagnostic Sciences to investigate the site where countless students have beaten a path in response to her gentle, yet authoritative voice.

Photos by Mike Halloran

IUSD Dental Auxiliary Education Class Officers

Dental Hygiene

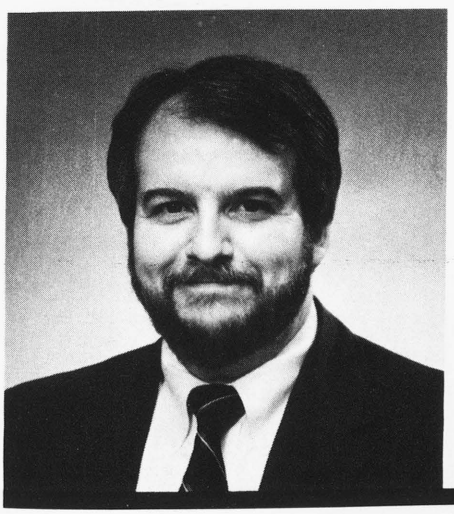
First year, from left: Diane Kaufman, president; Bridget Tilson, vice president; Melisa Carnegie, SAC representative; and Jill Journay, secretary-treasurer.

Second year, from left: Shay Williams, SAC representative; Lisa Daniel, secretary-treasurer; Bonnie Bastin, president; and Sandy Young, vice president.

Photos by Mike Halloran

Dental Assisting

From left: Chris A. Smith, vice president; Heidi J. Cooper, treasurer; Justine A. Pawlicki, Student Affairs Council representative; Marsha L. Kehl, president; and Janet L. Roser, secretary.



Heading for Harvard. *With completion of an IU doctoral degree in education in sight, Dr. James E. Jones, associate professor of pediatric dentistry, looks ahead to yet another academic challenge. He has been awarded a fellowship to study for two years at Harvard University in Cambridge, Massachusetts, beginning July 1. The fellowship is part of the Robert Wood Johnson Dental Service Research Scholars Program, a national program of the Robert Wood Johnson Foundation, administered by the University of North Carolina at Chapel Hill. Dr. Jones is currently finishing a one-year Dental Faculty Training Fellowship sponsored by the American Fund for Dental Health.*

Indiana University
School of Dentistry
(ALUMNI BULLETIN)
1121 West Michigan Street
Indianapolis, Indiana 46202

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