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JOURNAL OF OPTOMETRIC EDUCATION

**TREATMENT OF
EYE DISEASE—**

*The Challenge to
Optometric Education*

Association of Schools and Colleges of Optometry

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Front Cover: Corneal foreign body rust ring. Photo credit—Ms. Jane Timmons Stein, Pennsylvania College of Optometry.

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An Expanded Scope of Practice— Three Trends Converge

Consideration of the role and responsibility of optometric education, as presented in the papers published in this issue of the *Journal of Optometric Education*, is both fitting and timely as an increasing number of optometrists find themselves in health care settings where they are expected to diagnose and treat certain ocular diseases.

Three major trends have contributed to the necessity and opportunity to prepare optometric students and optometrists for this expanded scope of practice. During the decade of the 1960s, all United States optometry schools established four year professional degree programs, and most of them increased pre-optometry science requirements. These actions permitted more extensive didactic instruction in the biological sciences and more extensive clinical training, both costly extensions of optometric education. For many schools these advancements were made possible by the creation of federal programs designed to increase manpower in the health professions and to improve the quality of health professions education. These programs included instruction grants to augment facilities and equipment, and special project grants to strengthen selected aspects of health professions educational programs. By the mid-1970s not only had each school expanded and improved instruction in biological sciences and clinical training, the wide disparity that existed between the strongest educational programs and the weakest was sharply reduced.

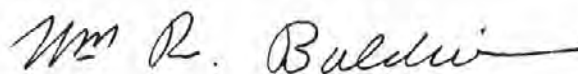
At the same time traditional methods of health care services came under the critical scrutiny of a growing number of public health scholars and public policy makers. As a result, providers' roles were redefined. First contact practitioners were encouraged to become qualified to assume added responsibilities in general health assessment and in health education. This was expected to improve efficiency, reduce delivery costs, and enhance prevention. Optometry responded to this charge by educating practitioners to the meaning of the term, primary care. ASCO also reacted to the requirement for added competencies to fulfill obligations as primary care providers and to the opportunity offered by an extended educational program and federal resource support. In 1976 a curriculum model, more than 10 years in the planning, was adopted. Major emphases were in expanding and strengthening health sciences courses, significantly increasing the number of patient encounters for students, and markedly broadening their clinical experience by assimilating more diverse patient populations. Competency in early identification and prevention of those diseases more prevalent among patients presenting to optometrists was a major curriculum objective, as was greater competence in diagnosis of ocular disease.

While optometric education and concepts concerning delivery of health services were influencing curriculum

reform, a third major trend was underway. In 1971 Rhode Island became the sixth state (the first since 1935 by a new legislative act) to require specific training in pharmacology and application of diagnostic drugs, and to permit their use by qualified optometrists. Almost all state laws now impose educational requirements in pharmacology and authorize use of topically applied drugs by optometrists for diagnostic purposes. Many states have added legislation authorizing qualified optometrists to diagnose and treat those ocular diseases with which it is appropriate to deal in a primary care setting. Convergence of these three trends has culminated in this special issue of the *Journal of Optometric Education*.

A new trend imposed on these three represents another force impelling optometrists to broaden their scope of practice. New technologies now permit high volume outpatient ocular surgery; and mounting economic pressures demand substantial cost reduction. These pressures have led to a model system for total eye care that places the responsibility for all primary services with optometrists in widely distributed offices, all secondary care in a single outpatient surgical and treatment center, and all tertiary services in a hospital. The growth of contracted health services with third party payors representing large numbers of patients seems likely to ensure continued growth of this method of eye care delivery. Two essential features of this model require that the optometrist be qualified in diagnosis and treatment of ocular disease. The fact that much ocular surgery is elective makes the primary provider's gatekeeper role imperative in the interest of cost containment. Patients' convenience and cost containment require that the primary care practitioner participate in the management of patients following surgery and management of chronic ocular disease as well as during treatment of acute self-limiting external conditions.

The demand for optometrists qualified to serve in this expanded role is almost certain to increase. The authors of these papers have been in the vanguard of the lengthy and deliberate movement to prepare our profession for this eventuality. Their common message, I believe, is that we have moved appropriately and with reasonable dispatch to respond to change, but we can ill afford to do less in the future if we are to continue to achieve the most relevant professional and postgraduate education.



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Happy Birthday, NIH

The National Institutes of Health (NIH), which celebrates its Centennial from October 1986 through October 1987, began in 1887 as a one-room "Hygienic Laboratory" in a Marine Hospital on Staten Island. In 1891 this laboratory moved to Washington, D.C.; it was relocated again, in 1938, to Bethesda, Maryland. In 1930 the Hygienic Laboratory became the National Institute of Health, and in 1948, the name was changed to the National Institutes of Health. The NIH began in 1887 with a sole researcher, Dr. Joseph Kinyoun, and has grown to over 14,000 people on the eve of its centennial.

The NIH Centennial Observance theme is "A Century of Science for Health." The objectives of the observance are twofold: to inform the public about NIH, its special partnership with private industry, academia, and public and private institutions; its expenditure of medical research funds; and the unparalleled progress in science that has

transformed the health of most American citizens in just one century; and to stimulate the interest of young people in biomedical research careers.

ASCO Student Endowment Fund

The Association of Schools and Colleges of Optometry (ASCO) distributed \$14,783 in student endowment fund monies in September 1986 for financial support to optometry students. The funds, distributed among the 16 U.S. member institutions of ASCO, were the disbursement of earnings accrued on a capital invested fund established in 1981 as the result of a gift to the association.

The funds were distributed to assist optometry students at the various optometric educational institutions in financing their educations during the academic year 1986-87. Each school received the equivalent of \$3.23 per student for a total distribution of \$14,783. This was the fifth year that interest from the student Endowment Fund was dis-

tributed; further disbursements will be made on an annual basis in a similar manner.

Post Graduate Clinical Education Group Meets

The International Association of Boards of Examiners in Optometry, the American Optometric Association and the Association of Schools and Colleges of Optometry have approved a report of the Joint Task Force on Continuing Education, which included a recommendation to create a board of directors made up of representatives of three organizations that will plan and execute a national post-graduate program. The group held its first official meeting in Fort Worth, Texas early in October. Members of the Board of Directors are: Drs. John Robinson and Peter Liane representing IAB; Drs. James Boucher and L. Edward Elliot representing AOA. ASCO appointees are Drs. Allan Freid, Thomas Lewis and William Baldwin. □

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Sustaining Members support ASCO initiatives on behalf of the optometric education community. Sustaining members are listed on the inside front cover of each issue. Membership is open to manufacturers and distributors of ophthalmic equipment and supplies, and pharmaceutical companies.

CIBA, Vistakon and Alcon Underwrite Program at SUNY

Educational grants from three sustaining members—CIBA Vision Care, Vistakon Corporation and Alcon Laboratories—will support a Contact Lens Lecture Series this academic year at the State University of New York, State College of Optometry.

Educators from optometry colleges throughout the country as well as specialists from eye care corporations will share their expertise in clinical and research developments in contact lenses. Topics include: "Presbyopic Contact Lens Care," "Solution Development in the Contact Lens Field," and "Microbial Disease and the Contact Lens Patient."

The program is being underwritten by educational grants from CIBA Vision Care, Vistakon Corporation and Alcon Laboratories. For additional information and a registration form, call or write the Office of Continuing Education, 100 East 24th Street, New York, New York 10010. The telephone number is (212) 420-5064. □

MediVision and Omni Eye Services to Merge

MediVision, Inc. and Omni Eye Services, Inc. announced they have agreed to merge. The agreement has been approved by the directors of both companies but is subject to stockholder approval.

The company will continue to operate under both the MediVision and Omni names, pairing Omni's optometric clinics with MediVision's ambulatory surgery centers in both new and existing market areas.

In making the announcement, Eric A. Kriss, president of MediVision, and Larry W. Pearson, president of Omni, noted that the merger is a logical step in the evolution of eye care delivery systems. "Historically, we've been competitors," said Mr. Kriss. "While our methods differ, we do have a common goal and that is the delivery of quality eye care at reasonable cost."

Omni networks optometrists to establish diagnostic eye care clinics where patients are accepted for secondary and tertiary care by an ophthalmologist. MediVi-

sion affiliates with ophthalmic surgeons, operating the ambulatory surgery centers where they practice surgery.

Omni currently operates clinics in its home-base Atlanta; New Orleans; Baltimore; Chattanooga and Memphis, Tenn.; Lexington, Ky.; Omaha, Neb.; Phoenix, Ariz.; Wilmington, Del.; Providence, R.I.; Fairfax, Va.; and New Jersey.

Boston-based MediVision operates outpatient eye surgery centers in San Diego; Denver; Detroit; St. Louis; Houston; Tucson, Ariz.; Stockton and Vista, Calif.; Southern Pines, Charlotte and Greensboro, N.C.; and Lake Worth and Orlando, Fla. □

Varilux Sales Force Expands Services Under New Director

Olivier Mathieux, president of Multi-Optics Corporation, announced the promotion of Mike Daley to vice president, Sales, and the addition of a Varilux Tele-Service Sales department.

Daley, who recently celebrated his 10th anniversary with Varilux, will continue direction of the laboratory end of the sales department, along with direction of the 50+ sales consultants and the new Tele-Service Department.

"The Tele-Service Department concept evolved specifically to fill the needs of eye care practitioners in difficult-to-cover areas of the country," said Daley. "We have the best and largest team of sales consultants covering the country, but the physical location of some eye care practitioners limited our ability to update all accounts on a regular basis. With the new Varilux Tele-Service Sales Department, eye care practitioners can simply call us directly to request product literature or obtain technical assistance." □

Paraperm EW Receives Recommendation from Ophthalmic Panel

The Federal Drug Administration Ophthalmic Panel has recommended that Paraperm EW oxygen permeable lens be cleared for daily and extended wear. Paraperm EW will be the first rigid gas permeable lens specifically formulated for extended wear to receive approval in the United States.

According to Judy Spencer, spokesperson for Paragon Optical, Paraperm EW, with a Dk of 56×10^{-11} , will have the highest Dk and Dk/L of any lens available, soft or hard. Higher oxygen transmissibility provides daily and extended wear patients with sufficient oxygen environment for long-term corneal health. Also, Paraperm EW won't sacrifice other critical characteristics such as on-eye functional wettability, stability and durability. The lens rivals the comfort of a soft lens and provides visual acuity only achieved with a rigid lens.

Clinical studies with 382 patients attested to the corneal health and safety when wearing Paraperm EW overnight. Patients did not experience related soft lens complications such as variable vision, damaging lens deposits, edema and residual corneal swelling. Paraperm EW is a customized lens and can be designed to fit a larger patient population.

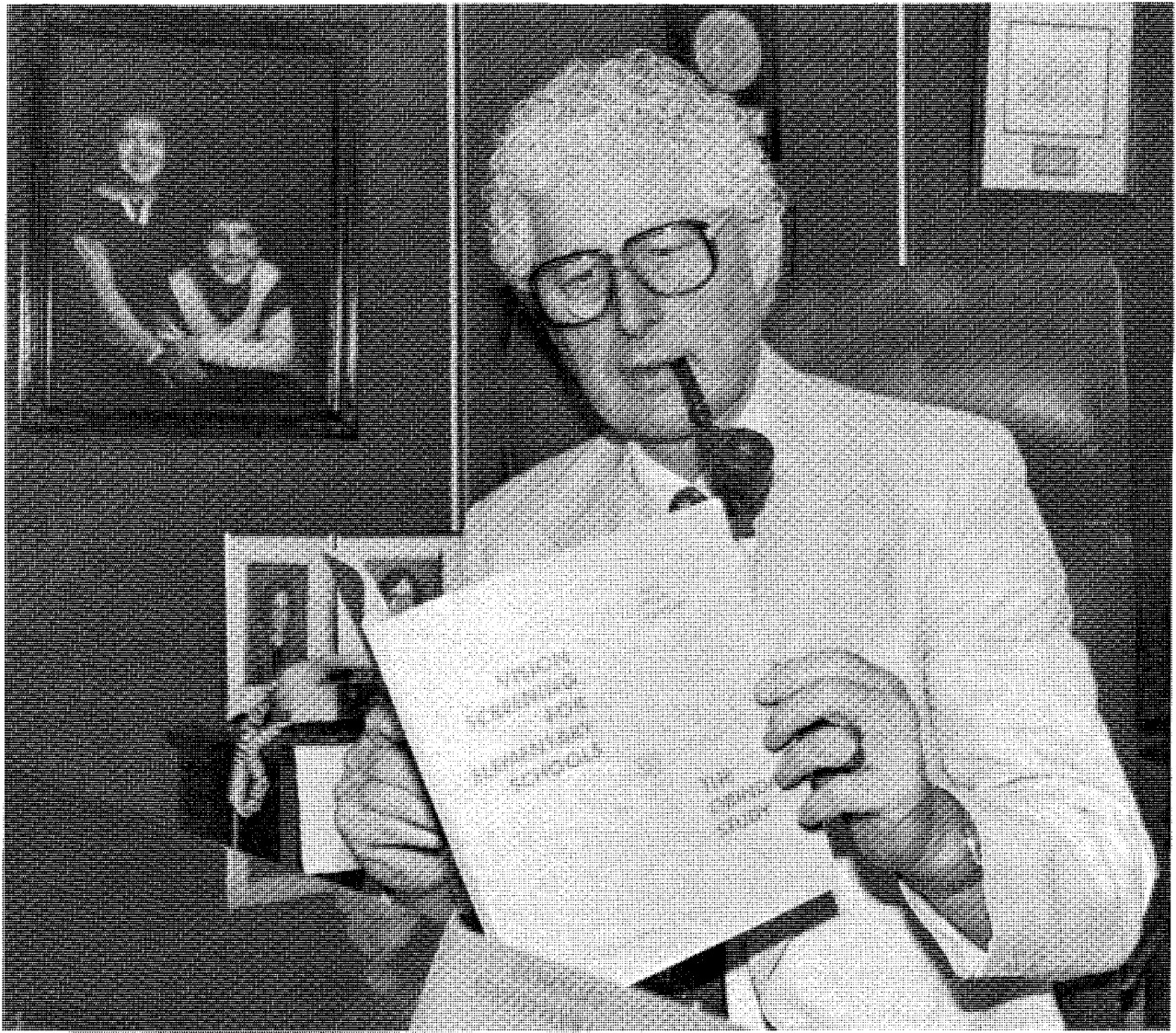
Paragon Optical manufactures Paraperm 02, Paraperm 02 Plus and Paraperm EW (when approved) materials which are available from authorized laboratories. Paraperm EW is expected to be cleared for daily and extended wear shortly. □

Vision-Ease Develops Trifocal Lens for VDT Users

Vision-Ease announced the introduction of a trifocal lens called DATALITE designed to meet the visual needs of VDT users who are presbyopic.

The DATALITE Trifocal Lens has an extra wide trifocal area, which eliminates the need to adjust head position to see through different lens segments. This CR-39 hard resin lens is also manufactured with ultraviolet absorbing material and an in-mold scratch-resistant coating.

According to John Miller, vice president of marketing at Vision-Ease, the 35 mm wide segment is large enough to minimize head movement, and the 14 mm wide intermediate is deep enough to allow viewing of an entire video screen at normal viewing distance. The intermediate lens area, at 66% of the lower add power, is ideal for the distances that people normally work from video screens and source material. □



FACE-TO-FACE

HENRY B. PETERS, O.D.

An Interview with JOE Editor John W. Potter, O.D.

Henry B. Peters recently retired after seventeen years as dean of the University of Alabama in Birmingham School of Optometry. Dr. Peters, often called one of the "redwoods" of optometric education, reflects on the changes he has seen in optometry, his mentors and his experience as dean. He discusses his views on research, residencies and the future of optometric education. Since this interview took place, Dr. Peters has accepted a new challenge as executive director of the University of Alabama at Birmingham Research Foundation.

JOE: Dr. Peters, how long have you been involved with optometric education?

Peters: I came to Alabama in 1969 so I've been here 17 years. I was full-time in academic work at the University of California at Berkeley from 1962 to 1969. Prior to that, I was a part-time member of the faculty at Berkeley from 1946 to 1962, one day a week, in which I started out as a clinical instructor. I was in private practice in Oakland, California, from 1939 until 1962 when I gave up private practice to be the clinic director at the University of California at Berkeley.

JOE: How has optometric education changed since you became involved in 1946?

Peters: I think the story of optometric education is an absolutely phenomenal and magnificent one. I don't know of any other profession, and I have studied most of them, that has seen such a dramatic change in the content and length of its educational program. When I graduated from optometry school in 1938, I received a Bachelor of Art's degree in Physics (Optometry). That was for a total collegiate experience of four years. Now, most of my graduates have a minimum of eight years of collegiate level training. That doubling in the length of training is remarkable in itself, but the content of that education has varied significantly and I think optometry doesn't really realize what a magnificent development has taken place in the profession. It also presents some problems, the major one

being the difference in the level of education, background, training and skills in the practicing population of optometrists.

JOE: What are some of the challenges you faced when you began in optometric education?

Peters: The profession of optometry has had its share of identity problems related to the services it provides and

"I don't know of any other profession . . . that has seen such a dramatic change in the content and length of its educational program."

now they can be utilized. Optometry almost lost the game back in the '30s when the major optical companies tried to do the same thing to optometry and to dentistry that they had done to pharmacy. I think it was the S.S. White company that tried to get dentists to work in a franchise kind of arrangement. The dentists beat White. Riggs Optical Company tried very hard to do the same thing to optometry and lost. So, optometry and dentistry established their

independence from the suppliers of goods and equipment. Pharmacy did not and has paid a substantial price. It is only now that pharmacy, particularly through hospital pharmacy, is establishing its professional stature. It was not that much different from the emphasis on the chain and franchise arrangements that are being promoted today.

JOE: What are some of the problems that remain for optometric education today?

Peters: I think that it is important to remember that optometry started out with the idea of fitting glasses to improve visual acuity. That was the essential practice of optometrists in the '30s. They became good at that, and better than anybody else in the field. There was even debate as to whether optometry was a health care profession. Nobody thought of it in that context. Then along came the emphasis on vision training and orthoptics and the Optometric Extension Program with its emphasis on vision therapy. This was a major expansion as far as the scope of practice of the optometrist. Not all optometrists accepted that challenge, but many of them did. Certainly the schools not only accepted that challenge, but proceeded to do a great deal of research because the research base was not all that solid. Along with that development, there was another major change. There was a shift in the point of view of optometrists toward a realization that they had a responsibility for identifying ocular disease and ocular manifestations of systemic disease.



"There is a general commitment on our campus to share, to cooperate, to support each other, not only in the health professions, but with the university college and with all our institutes and centers."

JOE: When did that shift come about?

Peters: I don't think that you can pinpoint it. I think it is one of those long-term trend lines that just keeps on going up. It was a trigger for expanding optometric education, for including more basic health science, more ocular pathology, and later on, pharmacology. There was a growing responsibility for the health of patients, and that obviously included early detection of ocular disease, and eventually, more emphasis on diagnosis. Now we are involved in management and treatment. I think that was a long-term trend. I don't even know when it started because some articles in the very early optometric journals discussed general health issues such as high blood pressure. These interests somehow got lost in an emphasis on optics.

JOE: Should optometric education's goals be determined by trends within the profession?

Peters: I think that it is a constant interactive process. I think there are times when you could identify the educational programs as being out in front of the profession, and at other times, the profession gets out in front of the educational process and it is a constant shifting and interaction. Clearly, there are in this evolving process some practitioners who get left behind, and they constitute a major problem for the profession. I'm not sure the profession has really acknowledged this problem. Maybe they can afford to wait until those people die, but if we are required to provide quality assurance, then some of those

optometrists are in some jeopardy. We just made a major effort at quality assurance in Alabama for teachers. We gave all teachers in Alabama a competency test. A substantial number of the teachers failed. Now, some of them are filing suit. I'm not sure that the profession of optometry is prepared to do this, but I think it has to become prepared. I know from my working in the health policy field and my reading of the various actions from major policy groups, that quality assurance is going to be the topic for all health professionals. The real question is how to assure quality with the private practitioner. I've tried to help ASCO see this as a priority for their long-range planning process. I think the schools, as institutions running substantial size clinics, can begin the process of establishing the quality assurance mechanisms and can develop a national program of quality assurance. How that can be applied or used with the private practitioner is a question that no one has been able to answer for any health profession.

JOE: What has been your major contribution to optometric education?

Peters: In terms of optometric education, I think the gamble that I took to start a school of optometry in an academic health center was my biggest contribution. This had never been done before. I think that having it included as an established school in this medical center is a remarkable achievement. I don't mean to take credit for it all myself. There were many people who made it possible. The climate of the university, the leadership, the president of

the university and the vice-president for health affairs made it possible for us to do this. However, I think the people I brought here as part of the faculty have done the job exceptionally well, and that I regard as a significant achievement. When I accepted this position, my colleagues at Berkeley thought that I was committing academic suicide and that I would never survive, or that a school of optometry would never survive in an academic health center like this one. Clearly, we have proven that it not only can survive, but it can grow and use the resources of the medical center effectively for the profession of optometry.

JOE: What is so different here at Alabama that we wouldn't find in other universities?

Peters: Dr. Volker, who was president of the university when I came here, was fond of saying that he asked the legislature for a school of public health, and they, in their infinite wisdom, gave him a school of optometry. But, for those of you who know Joe Volker, he had a superb commitment to excellence and that was the demand that was placed on me when I came. Essentially, the resources of the institution were pledged in a cooperative manner to help support the optometry program. There is a general commitment on our campus to share, to cooperate, to support each other, not only in the health professions, but with the university college and with all our institutes and centers. We have ready access to a whole group of world-class science and health professionals who, once they decided we were here to stay, were most willing to assist us in our development.

JOE: Should we be training people so that they can function in delivery systems other than the traditional independent practice models?

Peters: Yes. It always has been an enigma that we train people in optometry clinics that are owned and operated by the schools of optometry and then we expect graduates to go into private practice as solo practitioners and suddenly understand all there is to know about the legal, the organizational and the financial aspects to running a private practice. The graduates of optometry schools today are in fact going to a wide variety of delivery systems: HMO's, the military, the VA, hospital outpatient departments, multi-disciplinary kinds of organizations. These optometrists are not being trained adequately to perform in that particular economic and social milieu, and I think those kinds of alternative delivery systems are rapidly in-

creasing and are probably going to continue to increase. One of the tasks, I believe, of optometric education, is to determine how to provide enough general information about the different kinds of delivery systems so that graduates will be at least modestly prepared to go whichever way they want when they graduate.

JOE: *Who have been your mentors?*

Peters: I must give first credit to my father, Tom Peters, who started out in the world as an apprentice making jewelry. After having at least part of his family, he decided that that was not where he wanted to be. He then studied optometry at night for three years and finally got his license to practice. As an active member and president of the California Optometric Association, he had a remarkable personal influence on the profession of optometry in the state of California, as well as nationally. I am very proud of him.

Another influence was Carel Koch, the secretary or executive secretary of the Academy from its very beginning in about 1924. His ideals and his concept of the nature of optometry, his insistence on the ethical standards of the profession, his long-term support of optometric science had a significant influence. He was the editor of the *American Journal of Optometry* and the *Archives of the Academy of Optometry* and an inspiration to me.

In that original Academy (a meeting would be about 150 optometrists from all over the country), there were some great people: Glen Fry, Bill Finebloom, Bill Pollicof, Monroe Hirsch and Ralph Wick. The structure of the Academy was such that there was a great deal of opportunity for interpersonal interaction concerning all kinds of optometric issues. That used to charge my batteries. Even though it took two days and three nights on the train to get to Chicago for the meeting and the same amount of time going home, it was worth it.

I've always loved Meredith Morgan dearly, and he isn't a father image because he isn't that much older than I, but he certainly has been an ideal for me.

On this campus, I have been fortunate to be associated with some true leaders and certainly Joe Volker is just such an outstanding human being, a great leader who has exerted significant national and international leadership. He has received international acclaim for his science which many people don't know because he's been in administration for so long. He had a major influ-

ence on this institution as well.

JOE: *Do you have any favorite stories about optometry you could share with us?*

Peters: One favorite story stems from our acquisition of the Worrell building for our Vision Science Research Center. The whole process took three months. That's unheard of for an institution. Paul Worrell was an optometrist who left us the funds with which to buy that building. But to go through the process and get the approval of the Board of Trustees in only 90 days—that was truly amazing!

When I came to Alabama, I had planned to spend the first year in detailed planning, recruiting faculty and getting physical facilities organized. Dr. Volker said, "Well, that's a good idea, but in terms of getting continuing support from the legislature, I think it would be to your advantage to admit a beginning class right away." And I said, "How do I teach all the courses?" "I'm sure we can arrange to plug them into the existing basic health sciences structure," he replied. So, we actually recruited eight students and had them aboard in 29 days. Well, that broke Joe Volker's record. He had done essentially the same thing for the school of dentistry in that he got a school of dentistry off the ground in 45 days in 1948. And I kid him about that now.

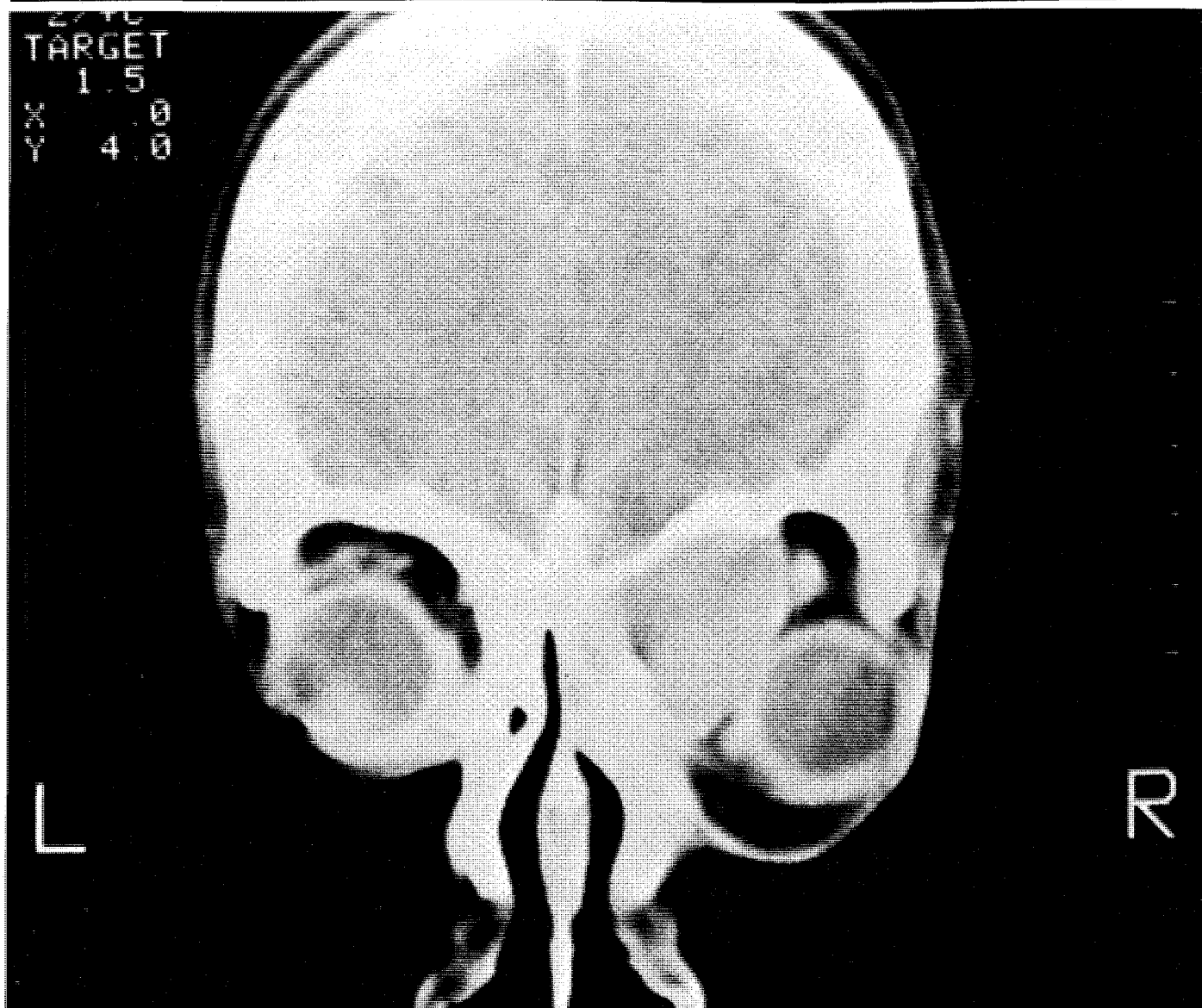
Another story worth telling concerns this building. We worked very hard to get the design of this building put together and an application prepared for federal support during the Nixon ad-

ministration. President Nixon reduced the funding for many of the programs because he was worried about 5% inflation. That caught us in a particular bind because, while we had raised our matching money from the private sector and the legislature, we were dependent upon the federal government for about \$3.8 million. We actually received \$1.7 million. And then they said to build the same building. Well, clearly that wasn't going to be possible unless we could figure out some way to get more money. In the meantime, we were worried that Nixon would cancel construction grants altogether. The only way we could be sure to get even the \$1.7 was to contract for the excavation of the foundation of the building without having enough money to build it. We actually did that on a gamble that we would have enough money to build the building by the time the excavation and foundation were finished. We then received additional funds from Governor George Wallace from state revenue sharing funds which to my knowledge had never been used for health professions construction before, not in Alabama or anywhere else. We then had enough money for the building. We had no money for furniture and equipment to put in it, but we went ahead and contracted for the building. By the time the building was completed, we had enough money for the equipment and furniture. It was a gamble, but the most important part is that the institution allowed that kind of risk taking, and in a

(continued on page 63)

"The structure of the Academy was such that there was a great deal of opportunity for interpersonal interaction concerning all kinds of optometric issues."





TREATMENT OF EYE DISEASE

The Challenge to Optometric Education

In December, 1985, the Section on Optometric Education of the American Academy of Optometry sponsored the symposium: "Treatment of Eye Disease—The Challenge to Optometric Education." Speakers were asked to specify the education and training programs that will be necessary to qualify students for future practice in light of recent legislative activities around the country designed to expand the legal definition of an optometrist.

What follows are selected papers from the symposium with an overview by Dr. Felix M. Barker, symposium chair and chairperson, Section on Optometric Education, American Academy of Optometry.

A Symposium Overview

Felix M. Barker, II, O.D., M.S.

Introduction

The 1985 meeting of the Academy Education Section was highlighted by a symposium concerning training for the treatment and management of ocular disease. The symposium featured speakers from both academe and clinical practice and served to point up some important factors to consider in preparing our future clinicians for an expanded scope of practice. The symposium papers featured in this issue of the *Journal of Optometric Education* were chosen because they provide the reader some basic principles and innovative concepts that can be used for curriculum planning and program development.

It is important to note that practitioner involvement was significant in the development of the symposium. There are two reasons for this. The current profession-wide interest in eye disease treatment is largely founded in the "grass roots" political efforts of the practicing O.D.s who have been working through their state associations in seeking to change their state optometry laws. Also, effective clinical education requires the coordinated effort of the optometry college educator and the externship preceptor. Working together, educator and practitioner can provide a blend of careful clinical preparation and diverse diagnostic exposure in real clinical settings that will ensure the achievement of entry level competence by the time of graduation.

In its design, the symposium was organized into four topical areas concerning the status of ocular therapy, curriculum design, instructional factors and continuing education. These sections were further divided into individual subtopics which formed the basis for each paper presented. Each of these papers will be briefly described through-

out the remainder of these introductory comments.

The Status of Ocular Therapy by Optometrists

In the opening section on the current status of ocular therapy, Dr. Mort Soroka presented a thought provoking philosophical approach to the need for optometric eye disease treatment. In his remarks, Dr. Soroka focused on the relative importance of issues such as doctor/patient ratios and cost of care in providing justification for an expanded scope of practice. He was followed by Dr. Gerald Melore and his discussion of

"Effective clinical education requires the coordinated effort of the optometry college educator and the externship preceptor."

how changes in practice modes and the economics of health care have made it increasingly necessary for the O.D. to practice to the limit of current legal definitions of optometry. Dr. Melore also presented a variety of more advanced clinical treatment procedures which may ultimately become legal and expected for optometrists. Finally, Dr. David Sullins described the current situation regarding various state legislative activities. He provided the audience with an up-to-date listing of states which have legalized ocular treatment as well as those that have legislation pending.

Curriculum

The second section of the program covered curriculum and was introduced

by Dr. Jimmy Bartlett who provided an outline for didactic education in optometry schools. Dr. Bartlett emphasized the importance of teaching the curricular elements of ocular therapy within the context of the diagnosis and management of the diseases in question. Dr. Roger Cummings followed with a discussion of some of the disease oriented learning activities that can be used in the teaching laboratories of our schools. One example of such a technique was the use of mounted calves' eyes to teach the manual skill of foreign body removal at the slit lamp. It was then my pleasure to discuss the issue of clinical training in which the correct mix and coordination of students, faculty, facilities and patients with disease were identified as critical to the success of any clinical program. To close this session, Dr. John Amos presented the advantages to students of a clinical residency. Noteworthy in his remarks were statistics showing a substantial growth in residency training positions since their introduction in the mid-seventies. There currently exist enough positions so that 8 percent of the graduating O.D.s can attend postgraduate clinical training each year. Clearly, residency training is and will remain an important component of our overall training system.

Instructional Factors

The next section of the symposium addressed special instructional aspects associated with teaching ocular disease treatment skills. Dr. Douglas Poorman, the opening speaker, directed his remarks to faculty development with an expanded scope curriculum. Dr. Poorman's talk highlighted the important characteristics desired in the typical faculty member as well as faculty enhancement strategies to assist college administrators in keeping their programs in pace with our growing profession. Under the heading of "O.D./M.D. Interactions," Dr. Linda Casser dis-

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cussed the importance of educational interface with ophthalmological personnel. She was thoroughgoing in her approach and presented important details which, from her experience as a clinical educator, should be considered when hiring and assigning M.D.s within optometric clinical programs. Dr. John Potter then discussed the wider access to disease cases which is afforded students through externship rotation. He applauded the externship as an important transitional step between the sheltered academic clinical environment and fully independent practice after graduation. To close this section, Dr. Charles F. Mullen discussed some of the educational and economic opportunities which may be obtained through optometry medical school affiliation. In his remarks, Dr. Mullen presented a work-

ing outline which would be useful to any school contemplating affiliation.

Continuing Education

The final part of the symposium concerned continuing education. Dr. Paul C. Ajamian presented an educational outline for ocular therapy that has been successfully used at the state association level. Certain economic factors associated with organizing such courses were discussed by Dr. Richard Elliot. Importantly, these two speakers seemed to indicate that the educational marketplace for this type of continuing education has been strong, engendering significant competition between school programs and those presented by other agencies. This situation indicates continued interest among practitioners in

enhancing their ocular disease treatment skills by way of continuing education. Finally, under the heading of "Special Problems," Dr. Lou Catania pointed out some of the pitfalls to be avoided by educators and state associations in planning and organizing continuing education programs.

Summary

Because of the symposium papers' current topical importance, educators, preceptors and administrators are encouraged to review carefully this symposium issue of the *Journal of Optometric Education*. It raises many interesting questions and offers a number of positive ideas concerning training for the treatment and management of ocular disease. □

The Need for Expanded Scope of Practice

Morton Soroka, O.D., Ph.D.

When asked to present a paper on the need for an expanded scope of practice, several suggestions were made. The increased incidence and prevalence of eye diseases might help bolster the need for the use of therapeutics. Although we can expect a moderate increase in the prevalence of eye diseases as a result of an ever growing elderly population, we cannot justify entry into the world of therapeutics based upon a higher prevalence of eye diseases.

Justification for the expansion of optometry rests on two premises: it is good for the public and it is good for the profession. One can argue that it benefits the public merely by increasing the number of practitioners offering the service. A major premise underlying Reaganomics is the fostering of increased competition. This can be ac-

complished by increasing the supply of eye care professionals capable of performing a service.

One could argue that merely increasing the number of capable and qualified eye care personnel is a public goal in itself. This in turn may take away those patients from lesser trained personnel such as general practitioners or nurses who are presently providing eye care and help raise the level and quality of eye care services.

Cost Effectiveness

We are in the midst of a cost conscious era in health care policy. Legislators on both the federal and state levels increasingly are concerned with the impact of a new law or program on the economy. Is the program or proposed changes cost effective? We cannot expect to add 20,000 practitioners onto the scene without influencing total costs. Our strongest argument for the inclusion of optometry into therapeutics is that it is cost effective. The cost of op-

tometric care is less costly than ophthalmological care. This is not to denigrate an optometric exam or its practitioners. It is, however, a fact of life. The cost of an optometric education is lower, the number of years invested in training is fewer and the cost of malpractice insurance considerably less for optometrists. I think we must recognize some of the fundamental differences. Cost effectiveness is in the public's interest. If optometrists can be trained to discharge their professional responsibilities well and be cost effective, then legislatures should expand their licensures.

Reimbursement Issues

Reimbursement issues always have been a major stumbling block for optometry. I need not remind you that today, 20 years since the Medicare program was enacted, optometry still is virtually excluded from participation. The optometrist's patient population is dramatically different today from what it was prior to Medicare. It didn't take too

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long before the elderly realized that eye care received from the optometrist is not reimbursed whereas the same care rendered by the ophthalmologist is covered by Medicare. Tens of thousands of Medicare eligible patients were forced to abandon optometry and obtain care by ophthalmologists. Optometry has never recovered from this loss.

Today, the reimbursement issue is far more pervasive, and its implications more severe. Fee-for-service, once the most dominant form of payment, will soon become an obsolete term. It has become outdated in face of the emerging HMOs, IPAs, PPOs and Medicare, Medicaid and other third party plans. Third party coverage including private health insurance and governmental programs paid three quarters of all expenditures for personal health care. Out-of-pocket payments accounted for only one-fourth of all health costs. The number of persons covered with private health insurance for physician services and major medical expenses has increased substantially over the last ten years. In 1983 more than 163 million Americans had some type of major medical coverage.

What does all this mean? The vast majority of patients have some form of insurance coverage. Over 80 percent of all medical costs are covered by third party programs. Decreased out-of-pocket costs coupled with insurance coverage should increase the demand for services. There is a financial incentive to the patient to obtain care from a practitioner whose services are completely covered. We are confronted with the same problem that plagues us under Medicare. Routine eye care specifically is excluded under Medicare and most major medical insurance policies. Bills submitted by an optometrist are more likely to be considered "routine eye care" and thus an uncovered service. Yet, the same care rendered by the ophthalmologist may be reimbursed.

There is a pressing need for optometry to expand into therapeutics and become recognized as a completely accepted practitioner of the healing arts. As third party programs continue to dominate the health scene, optometry must become integrated within the structure. Until such time, optometric coverage under private and public programs will be severely limited and will serve to steer patients to those practitioners whose services are totally reimbursable.

Ten years ago, Dr. Lowell Bellin, then commissioner of health in New York City, addressed the American Op-

tometric Association in a paper entitled, "The Transmutation of Optometrist to Optometrist-Clinician." He exhorted his audience to take a lesson from podiatrists who have been extremely successful in expanding their professional jurisdiction. Many responsibilities that were once the exclusive prerogative of the physician now have been passed to podiatrists. Seven out of every ten podiatrists have clinical privileges in hospitals. Podiatrists can write prescriptions in all 50 states even though the drugs have pharmaceutical effects throughout the body. Their services are covered by major medical and commercial insurance plans. Most states allow them to use local anesthesia. One-third of all states authorize treatment beyond the foot to include the leg. In three states they may treat local manifestations of such system diseases as tuberculosis, syphilis and diabetes, but must refer patients to physicians for treatment of the systemic conditions themselves.

HMOs are using nurse clinicians to perform preemployment examinations and physician assistants are playing a major role in physician offices and hospital centers throughout the country. These individuals are trained to perform physical exams at least well enough to screen and triage the more difficult problems and some even assist in surgery.

Although physicians have been controlling the provision of health care since the turn of the century, an erosion of this power in favor of other providers is readily apparent. Public policy has been directed toward high fees, the tendency for costly inpatient care and unnecessary surgery. Hospitalization for cataract surgery will soon be a thing of the past.

The exclusive power bestowed on medicine to prescribe and treat is increasingly under attack by all other health professions.

Each profession has a commitment to enhance its knowledge and expertise. The profession that grows and expands does not lose its uniqueness but guarantees its survival. History clearly demonstrates that those professions that remain stagnant run the risk of disappearing as a profession. Optometry too must expand its diagnostic and therapeutic capabilities if it is to thrive as a member of the healing profession. What should be the "logical border" between optometry and ophthalmology? Only time will answer this question.

In summary, the most compelling reason, from the public's viewpoint, to have optometrists provide therapeutic eye care is cost-effectiveness. For the profession, the most compelling reason for the expansion of scope of practice is its influence and impact over third party reimbursement policies.

In order for optometry to meet these challenges, its educational base must continue to improve. Optometrists are exposed already to the diagnosis and treatment of eye diseases, but the expanded scope of practice places further demands on this form of education. And, further opportunities for students to expand their knowledge of eye diseases should be offered. At the same time, we must pay attention to demonstrating a respect for quality assurance issues. We must strive to document that quality care is being delivered to optometric patients. Can the schools and colleges of optometry respond to these issues? I believe that they can. □

ASCO Calendar 1987

January 7-10	AOSA, Philadelphia, PA
March 12	ASCO Exec. Cmte. Mtg., Fullerton, CA
March 13-15	ASCO Board Meeting, Fullerton, CA
May 8-13	IOOL, Vienna, Austria
July 2	ASCO Exec. Cmte. Mtg., Orlando, FL
July 3-5	ASCO Annual Meeting, Orlando, FL
July 5-12	AOA Congress, Orlando, FL

Laboratory Preparation in the Ocular Therapy Curriculum

Roger W. Cummings, O.D.

There are several aspects of laboratory preparation which must be considered when training both students and graduate practitioners in the skills necessary for effectively utilizing therapeutic drugs. My own experience comes from organizing the laboratory portion of the Ocular Therapy Continuing Education course which is given by the Pennsylvania College of Optometry. The curriculum for this particular course was devised by Dr. Louis Catania approximately five years ago. It is important to realize that it takes considerable time to initiate, present and improve courses of this magnitude. An important offshoot of the course was that the faculty at our institution realized that this information must be taught to our students. We have since added diagnostic and therapeutic procedures to our students' second and third year curriculum.

In planning the laboratory sessions of these courses, it is important to realize that many aspects of the course will depend on the outcome desired. The potential outcomes might be to:

1. Certify practitioners for changes in optometric practice laws regarding utilization of therapeutics.
2. Improve the skills of a few students or practitioners to desired levels.
3. Improve the skills of the entire group of students or practitioners.
4. Refine the skills of students or practitioners.

When training optometry students, there commonly will be a minimum level of proficiency which is desired in terms of both the ability to perform certain procedures as well as expectations as to how students will practice. When delivering continuing education, it is easier to assure a minimum level of proficiency in performing procedures, while it is far more difficult to change the

mode in which optometrists practice. For these reasons, it is important to tailor the course as much as possible to the needs of the group and to have the flexibility to modify the course while it's going on. In some instances it may take some time to familiarize some practitioners with the slit lamp, while in other courses an instructor may quickly review binocular indirect ophthalmoscopy and spend extensive time on scleral depression.

When scheduling the laboratory, there are several important practical aspects to consider. It is necessary that these techniques be taught in small groups with a low student/instructor

ratio (6-8 students per instructor). The maximum amount of time which should be devoted to the laboratory session is approximately six hours per day. After that time the learning curve deteriorates rapidly as both students and instructors usually are exhausted. In order to maximize the learning efficacy, each instructor should have relative autonomy with his/her group of students. It should be possible to allow one group to work through lunch while another takes a lunch break at some specific time. The instructors must have considerable experience doing the techniques and treating patients who require those procedures. While it's fairly easy to teach

**TABLE 1.
TECHNIQUES NECESSARY
TO UTILIZE OCULAR
THERAPEUTICS**

I. GLAUCOMA THERAPY A. GOLDMANN APPLANATION TONOMETRY B. GOLDMANN BOWL OR AUTOMATED PERIMETRY C. GONIOSCOPY	3. EPILATION E. LACRIMAL PROCEDURES 1. JONES TESTING 2. PUNCTAL DILATION 3. IRRIGATION
II. ANTERIOR SEGMENT TECHNIQUES A. CORNEAL PROCEDURES 1. FOREIGN BODY REMOVAL 2. SENSITIVITY TESTING B. PRESSURE PATCHING C. CONJUNCTIVAL PROCEDURES 1. LAVAGE 2. SMEARS AND CULTURES D. LID PROCEDURES 1. DOUBLE LID EVERSION 2. EXPRESSION OF MEIBOMIAN GLANDS	III. POSTERIOR SEGMENT A. BINOCULAR INDIRECT OPHTHALMOSCOPY B. SCLERAL DEPRESSION C. HRUBY LENS D. 60 AND 90 DIOPTR FUNDUS LENSES E. 3 MIRROR RETINAL EVALUATION IV. SYSTEMIC PROCEDURES A. EXOPHTHALMOMETRY B. AUSCULTATION FOR BRUIES C. OPHTHALMODYNAMOMETRY

Roger C. Cummings, O.D., is associate professor at the Pennsylvania College of Optometry.

the motor skills needed for these procedures, the instructors must provide other information, i.e. relationship of history, present symptoms, patient anxiety and objective findings, to adequately prepare the students. Finally the course must be well organized so that minimal time is lost distributing supplies or equipment.

The techniques which I feel are important to teach students and practitioners to prepare them for utilizing therapeutics are shown in Table 1. At the Pennsylvania College of Optometry, we introduce certain of these procedures to optometry students in their second year of professional school. We believe that applanation tonometry and binocular indirect ophthalmoscopy are necessary for every routine optometric examination. Other techniques, such as dilation and irrigation of the lacrimal system, are best taught in their third year after some experience with routine

examinations. This controlled exposure is not as necessary in continuing education courses where practitioners have had extensive patient care experience. The instructor must assess rapidly the skills of the members of his/her group in order to constantly challenge them. For example, when teaching binocular indirect ophthalmoscopy, the instructor may teach just the fundamentals, or concentrate on the technique necessary to get more peripheral views, or teach scleral depression.

There are several problems in any laboratory session which takes place over a weekend or several weeks. The first is how to simulate follow-up care. One effective method is by discussion with the instructor to describe the normal course in corneal healing or in resolution of a bacterial conjunctivitis. Another difficulty common to all forms of professional education is the definition and measurement of competence.

This is particularly difficult because expectations continually change. Experienced instructors are particularly valuable in this respect because they can continually adapt to these changing expectations. Finally, it is very difficult to decide how much training is necessary. Certainly everyone can benefit from more training, but numerous practical aspects limit the time that can be spent on hands-on instruction.

It is especially important to begin planning now for the future growth of the profession. As I have mentioned, P.C.O. and other institutions have been teaching these techniques for a number of years. During this time optometrists in states with therapeutic laws have been making exceptional strides in the modes of their practices and we as educators must prepare students and other practitioners to provide the same level of care. □

The Didactic Therapeutics Curriculum

Jimmy D. Bartlett, O.D.

I think we should stop talking about "pharmacology" as the only course objective preparing our students to provide competent therapeutic eye care. All of us surely must recognize that many more curricular elements are necessary before the student can meaningfully care for patients with eye disease.

Defining Desired Scope of Practice

The first issue to be resolved is a definition of our desired scope of practice. What *should* optometrists treat? Is primary therapeutic eye care defined by and limited to the anterior segment? Should the optometrists' responsibility thus be defined and limited by some

arbitrary anatomical landmark, such as the iris or ciliary body? Most of us would agree that the treatment of staphylococcal blepharitis, a common eyelid disease, is probably well within the boundaries of optometric practice. If we define the term "primary care" in terms of prevalence of various clinical disorders, then staphylococcal blepharitis could easily be considered a "primary care" condition and would consequently be within the scope of primary eye care. However, another condition of the anterior segment, stromal herpetic keratitis, is extremely rare and would therefore most appropriately be defined as a tertiary clinical condition best managed only by an ophthalmologist with specialty training in corneal and external disease. Although both staphylococcal blepharitis and stromal herpes are diseases of the anterior segment, and are both usually treated with topically applied drugs, it is apparent that all anterior segment disorders are not "pri-

mary" conditions. It is therefore inappropriate to define primary ocular therapeutics in terms of some arbitrary anatomical division line.

By the same token, it is inappropriate to define primary ocular therapeutics by some arbitrary therapeutic modality or by a specific route of drug administration. While topical therapy is appropriate for most anterior segment disorders requiring drug intervention, some very common (and therefore "primary") conditions do not respond to such a route of drug delivery. For example, preseptal cellulitis, a common complication of internal hordeola, may require oral antibiotics; angioneurotic edema as an allergic manifestation of the lids will require oral, rather than topical, antihistamines. These are just two examples of "primary" ocular conditions, both of the anterior segment, that do not respond to topical therapy but, instead, require oral drug administration.

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It is essential, therefore, that we clearly define conditions. Which diseases of the lids, lacrimal system, conjunctiva, cornea, uvea, extraocular muscles, optic nerve, retina, orbit, and which of the many forms of glaucoma do we want to note as being within the scope of optometric practice?

However, I will acknowledge that it may be a moot point since the legislative bodies in the various states are apparently defining for us what we can and cannot treat. But in delineating those disorders within the scope of optometric practice, I would much prefer a non-limiting description of disease states. Note that I did not say an "open-ended" list, but, rather, a list that does not preclude expansion as our opportunities, knowledge, clinical skills and our patient expectations dictate. As educators we need to be bold and insightful in our curriculum design. We need to be realistic. We must learn to "read the profession" better than we perhaps have in the past. Who would have thought just 15 years ago that in 1985 we would be providing continuing education courses in ocular *therapeutics* to optometrists who are licensed and *authorized* to treat glaucoma? I think most of us recognize the difficulties of continuing education; the problems in providing therapeutic education at the continuing education level will be addressed later in this symposium. The longer the educational institutions fail to recognize their responsibility in this important area, these problems will only worsen. The proper place to train optometrists initially is during the time we have them as a captive student audience, not one or two years after graduation when the commitments of the practitioner are divided among establishing a new practice, building community relationships and raising a family. At that point in time, it is extremely difficult for the optometrist to pay \$1,000 or more out of his or her pocket to spend six, eight, or ten weeks away from home taking courses and learning clinical skills that *should* have been provided one or two years earlier when the optometrist was a student.

Designing a Didactic Curriculum

In designing a didactic curriculum, I firmly believe the necessary educational components can be taught within the traditional four-year program. However, this may require some change in emphasis or restructuring of the curricular elements currently in place at some

of our institutions. Some course material can undoubtedly be cut, consolidated, or restructured. For example, is it really necessary for graduating students to be "experts" on horopter theory or to have 60 hours of classroom instruction on the theory, rather than practical aspects, of visual field analysis? At the University of Alabama School of Optometry we have recently folded the aniseikonia course into our binocular vision sequence. Although fewer total hours are now devoted to aniseikonia, we believe the quality of education has not suffered and our students still graduate with a clinically meaningful appreciation for handling aniseikonic patients. This has opened up our curriculum, albeit in a small way, to include expanded curricular elements in other areas. Each institution should have continual curriculum reevaluation to ascertain its effectiveness in meeting the needs of students and the patients they will ultimately serve.

What are the necessary components of an effective didactic therapeutics curriculum? I think these can be divided into three broad areas: (1) biomedical sciences; (2) basic vision sciences; and (3) clinical vision sciences. Specifically, the biomedical sciences should include material such as human anatomy (preferably with cadaver dissection), human physiology, biochemistry, neuroanatomy, microbiology, systemic pathology, and general or systemic pharmacology. The second curricular element, the basic vision sciences, should include subject areas such as ocular anatomy, biochemistry of the eye, visual psychophysics and ocular physiology. The most crucial clinical vision science areas are clinical examination and treatment procedures, ocular disease, ocular pharmacology and clinical medicine. Clinical procedures should include instruction in Goldmann tonometry, binocular indirect ophthalmoscopy, fundus contact lens procedures, gonioscopy, quantitative perimetry, ocular smears, lacrimal dilation and irrigation, foreign body removal and pressure patching. Throughout the instruction, emphasis should be placed on the use of clinical signs, symptoms and patient history to establish an accurate *diagnosis*, and appropriate management options should be stressed, including consultation with or referral to other practitioners when indicated. The relationship of the eye to systemic disease must be stressed since positive therapeutic outcomes may depend upon monitoring the status of the patient's systemic health. The eye as an integral

part of the patient's body must therefore be reemphasized.

If we define the optometric role in the treatment of ocular disease to be at the primary care level, then we must train our students to differentiate among primary, secondary and tertiary ocular disease states. By all means our students must know their limitations. To treat epithelial herpetic keratitis is one thing; to treat stromal herpetic disease is quite another.

Our students need to understand their responsibility in the treatment and management of ocular and systemic complications of drug use. They must be prepared for urgencies and emergencies such as acute angle-closure glaucoma, syncope, seizure disorder, respiratory failure and heart failure.

Some of our institutions already have in place a well-structured didactic curriculum that provides the necessary elements for proper training in ocular therapeutics. Other institutions are not far away. Many, however, will have to completely rethink their curriculum design and emphasis in order to provide a quality education in therapeutics.

Despite the importance of a well-thought-out curriculum for classroom instruction, appropriate laboratory and clinical training are absolutely essential. Even the best-designed didactic curriculum will fail if it's not supported and followed by quality clinical instruction using sufficient numbers of patients with ocular disease. It is this "hands-on" training, not the classroom instruction, that makes the superb clinician.

In closing, let me ask how myopic do we educators want to be? Do we want to design a curriculum that hopefully will be adequate for maybe the next five years? How about 10 years or 20? Even as I speak, there are optometrists in the United States who are performing minor ocular surgery, including laser therapy, under the direction of qualified ophthalmologists. As educators let's not *follow* the profession into the 21st century; instead, let's chart its course by designing a therapeutics curriculum that is both responsible and responsive to the needs of our practitioners and the patients we serve. □

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Undergraduate Clinical Training in Eye Disease Management

Felix M. Barker, II, O.D., M.S.

Introduction

Clinical training is that part of health care education in which the student participates in the treatment of actual patients while under the preceptorship of an experienced clinician. This training has historically taken place in a variety of patient care settings ranging from hospitals to out-patient clinics and private practices.

The importance of clinical training to the undergraduate education of an optometric or other type of physician cannot be over estimated. Regardless of the didactic preparation of the student, it is only through the rendering of actual patient care that one can learn to effectively apply the knowledge gained from lectures. For the student to attain undergraduate clinical competence there must be sufficient clinical activity, in the right setting, over a long enough period and with correct supervision. This is true for general optometry but is particularly important to the acquisition of ocular therapy skills.

Because of its biological basis, the treatment of eye disease offers a more challenging course of sequential management activities than do most optical problems. This fact coupled with the relative rarity of acute anterior segment disease in any given patient pool make access to treatable populations an essential, yet difficult requirement for education to meet.

For optometry, the problem of access to disease for training at the undergraduate level stems mainly from the historical separation of optometry from the mainstream of medical education. For medical undergraduates a similar problem of access exists for a different set of reasons, but principally because of competition with residencies for the existing patient base.

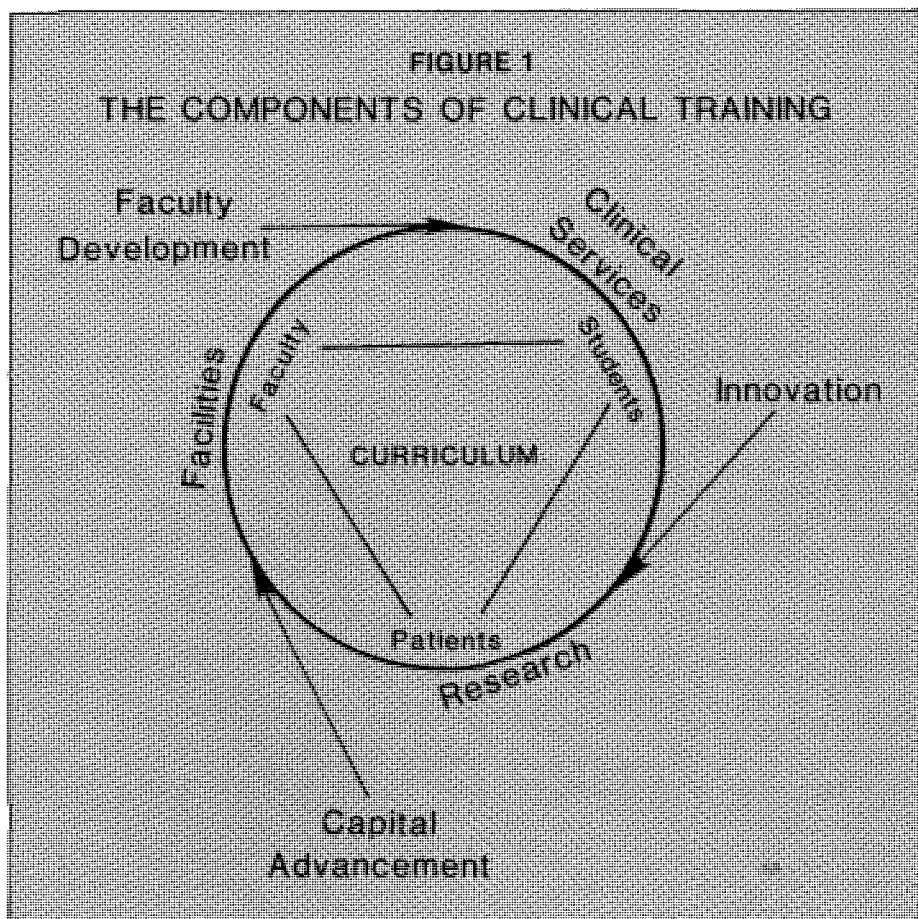
Whatever the reason, there has been,

in optometry and in medicine, a recent resurgence of interest in improving the clinical training at the undergraduate level. Significantly for optometry as a primary care profession, this renewed interest has been focused upon the increased provision of outpatient services. From optometry's side this represents a logical growth and development of our educational programs into larger, more sophisticated clinical facilities offering a wider range of outpatient primary and secondary eye services. From medicine's viewpoint, it stems from the inevitable trend, fueled by technology and economic factors, of increasing outpatient delivery of services that were formerly provided on an inpatient basis.

Resources

The process of clinical training can be subdivided into a number of physical, personnel and organizational resources that are depicted in Figure 1. The availability of these resources in the proper quantities and with proper inter-relationships to one another will determine the success of the program in question. These resources are general requirements of any type of clinical training, but I will review them with particular attention to their specific importance in ocular therapy training.

The fundamental factors in clinical training are the students, the faculty and the patients. These personnel com-



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ponents are essential and must be in place or it is impossible to have effective ocular disease training regardless of the other resources that may be present.

Students

Students must have a strong basic and clinical science background. This background should be taught in an academic environment that is sensitive to their future clinical role. The use of clinical examples, case discussions and rounds can be very helpful to this preparatory education. Concurrent with their scientific education, students should be prepared clinically by a series of laboratory and clinical experiences which commence in the first year and provide a gradual increase in patient care ability and responsibility.

Faculty

The faculty for clinical ocular therapy training must be competent to perform the diagnostic and treatment regimens being taught. Faculty must be willing and able to balance their patient care function with their educational responsibility, thereby maximizing the training benefit of each case. Faculty must be able to assess realistically the clinical abilities of the students under their tutelage. They should be active contributors to the process of curriculum development and they must maintain an approach to practice that is up to date with current research developments.

Patients

The patient population available for care must be sufficiently large and diverse to properly support the ocular disease training mission. This composition traditionally has been easiest to fulfill in a clinic that is situated in larger metropolitan areas where disadvantaged or elderly patients may reside in higher density. It can, however, be satisfied in other programs by creative approaches to outreach facilities. It is important to comment, however, that the traditional reliance upon disadvantaged populations is not the most realistic approach and that positive efforts should be made to include substantial numbers of self-pay patients.

Other Components

Given that the basic three components of students, faculty and patients have been provided, there are several other aspects of the general clinical environment which may make the difference between an adequate and a truly

excellent program. Among these, the clinical facilities, clinical research program and the clinical services rendered are the most important to ocular therapy. The optometric clinic should provide the most advanced, widest range of services in the most up-to-date environment possible. These services should not only include those currently within the capability of the optometric faculty but should, through consultant activities, encompass other more specialized and newly developing medicinal and surgical procedures. This system will assure that our future practitioners are developing the highest level of clinical skill in the most comprehensive setting. This approach will also provide for future expansion of our scope of practice to its logical place in the mainstream of health care.

Such an appropriately developed and equipped system must be supported for the long run. Doubtless, it will become stagnant without an approach to new growth. To stay ahead, the administration of the school must provide creative resources for capital advancement, faculty development and other forms of innovation. There must be a strong commitment to such an ocular disease program at all levels of the administration for this support to be forthcoming.

Curriculum

A clinical organization as described thus far will provide the necessary conditions for training to take place. However, the level of excellence which is ultimately achieved will be greatly influenced by the planning and concerted implementation of that training program. So, for ocular therapy training to be maximally effective, the curricular statement must include documentation of the clinical training goals and the methods used to attain and assess them.

Specifically, for colleges of optometry, the curricular and course goals must match those found in the general mission statement of the college. From these goals, detailed competency objectives must be derived which describe the knowledge, skills and attitudes that are desired in the students' clinical behavior. For these objectives, the faculty must delineate the most appropriate learning activities for students at each stage of their clinical development. They must furthermore indicate the most appropriate faculty activity to be performed concurrently at each stage of training in support of the student's learning. It is important to specify carefully the evaluation tools and the utiliza-

tion that will be necessary to accurately assess a student's progress.

Practical Problems

From a practical standpoint, there are many particular problems associated with training of ocular therapy, some of which have been alluded to in the foregoing discussion.

The clinical ability of the faculty may vary considerably in the area of eye disease treatment. This expertise will depend upon the instructors' particular access to clinical training, their state laws, their access to standing treatment orders and a variety of other factors. The role model provided by the optometric educator who actually treats eye disease is a key factor in the ultimate success of the training program. Ophthalmologic consultants, used exclusively, cannot be substituted as adequate models. A trip to the ophthalmologist must not be the answer to each patient's case, for while the student may learn the technical treatment of the disease from an ophthalmologist, he or she may not acquire the self confidence. Where restrictive state laws intervene, it may be necessary to produce a set of standing treatment orders as an interim measure.

Also, it is very helpful to handle most cases by performing as much diagnosis and treatment in the context of the regular primary eye care service. Such case direction moves us away from the long held myth in optometric education that the treatment of eye disease is a specialty, always requiring referral to another clinic. While it is useful to schedule returning pathology cases to a convenient time interval, it is best to handle as much treatment as routinely as possible, so that students have the proper impression of treatment as a part of primary eye care.

Access to patients with specific eye diseases may be very low for some diagnoses and may be difficult to schedule even when they more commonly present clinically. Even with an appropriate patient base, each individual student may not personally examine large numbers of each type of disease, nor will rare case types be readily available for individual teaching. The judicious use of grand rounds and other small group case report sessions can help to fill this need. Such a structured case analysis format also can provide an excellent means of teaching the clinical management thought process. As practitioners of many years' experience, optometrists are still faced with patients presenting problems not personally seen before. It is by our general approach to manage-

ment that we can deal with the patients that are outside our experience.

The effective clinical educator guides and nurtures the development of this ability in his/her students through a stepwise process beginning with faculty role modeling and ending with a consultative relationship between mentor and student. The student must be encouraged and given an opportunity to become as independent as possible while the clinical educator retains a super-

visory relationship. This is an important step toward the concept of lifelong learning wherein the clinician views his/her everyday practice as a long term extension of the school environment.

Conclusion

I would like to emphasize that the issue of expansion of optometry's scope of practice is intimately tied to the problem of clinical training. We must provide

our students with appropriate patient care experiences in the right setting and with the proper supervision and instruction. If we do not, we will fail as a profession in our quest for advancement. Achievement of this goal requires the commitment of all of us as educators; together with our administrators and our practitioner colleagues, we must identify and provide the manpower and other resources that are needed to do the job. □

O.D./M.D. Interactions— When, Where, How and Who

Linda C. Casser, O.D.

I would like to begin my comments with some very subjective statements based upon my own experience. Fortunately, for those of us who are educators, students tend to be very impressionable, and in many instances, easily awed so that they are readily influenced by role models and "Statements of Truth." For many students, as well as many practitioners, the physician, specifically the ophthalmologist, may present a very powerful role model. What, then, is the ideal O.D./M.D. relationship? The term "O.D./M.D. relationship" refers to the optometric faculty, the optometric student and the ophthalmologist.

When

When is the appropriate time for the O.D./M.D. interaction to take place? My preference is that the optometric student acquire a strong primary care philosophy basis before superimposing the Optometric/Ophthalmologic role model. This will take the form, of course, of patient care experience to supplement the didactic background that the optometric student has received, so that the student is comfortable dealing with the patient, implementing the techniques and philosophies that have been learned, has ex-

perienced and established some degree of confidence, and is able to "speak the language." As was reflected in earlier comments, diagnosis is the important key in treatment and management and the student needs to have some clinical experience before working with the ophthalmologist.

Depending upon the clinical organization of the individual schools and colleges, there are basically three important opportunities for this interaction to take place. Firstly, it may take place during the clinical experience which may primarily involve contact during the third year or fourth year clinical assignments. My preference is for primary interaction between the O.D. student and the M.D. to take place during the fourth year clinical assignment when the student has already had primary care patient opportunities. In many schools and colleges an externship rotation program during the fourth professional year has been established. Again, this is an excellent opportunity, especially in some of our VA and HMO settings, for appropriate and beneficial O.D./M.D. interaction.

Secondly, beyond the clinical experience there is opportunity for didactic teaching involvement by the ophthalmologist. This may take place in either the introductory, patient management or advanced-level ocular disease courses; however, as mentioned earlier, my preference is for the optometrist to

provide the primary care role model for those ocular therapeutic problems that face us on a daily basis.

Lastly, we have an excellent opportunity for O.D./M.D. interaction during residency training programs. Speaking from my own experience, I think this is probably the ideal setting for these interactions to take place, when the optometrist can interact on a peer and collegial level with the ophthalmologist.

Where

Where should these interactions take place? Certainly an important component of O.D./M.D. interaction, specifically O.D./student/M.D. interaction, is during on-the-floor clinical consultation. In many colleges and schools of optometry, there may be opportunities for ophthalmologic staff appointments where this interaction can take place. As was mentioned earlier, depending upon the individual clinical structure within the school or college these interactions may take place in one of two important areas: in the primary care or module location, or in a pathology department setting. My preference, in working with the optometric student, is to avoid an air of exotica with some of the therapeutic challenges presented by the patient and to concentrate these consultative interactions in the primary care module rather than in the "pathological" setting. The ophthalmologist also may interact with the student in the classroom setting

and may participate in curriculum development. My recommendation is for the ophthalmologist to provide insight for the optometric student at the secondary and tertiary levels of care—when referral is appropriate and necessary, when surgical procedures are required or needed and co-management of patient cases is desired. These classroom settings may occur in core curriculum programs or courses as well as in elective or case conference formats.

Interaction may occur in the surgical setting. Discussion has taken place as to whether or not the schools and colleges should incorporate outpatient surgical facilities. That type of setting is an appropriate opportunity for O.D./M.D. interaction, either during very simple out-patient procedures or during more sophisticated procedures in the operating room setting.

And lastly, there is excellent educational potential in informal, clinical seminars, coupled with on-the-floor consultation or during a grand rounds type of format.

How

How should the O.D./M.D. interaction take place? Ideally, the ophthalmologist should function in a secondary/tertiary level role for consultation and simple outpatient surgical procedures. When appropriate, co-management of surgical and non-surgical cases should take place versus a "spiriting away" of patients by the ophthalmologist. Depending upon the individual state legislative requirements or specifications, interaction during treatment cases may take place initially or may take place in-progress as treatment has been initiated by the optometrist. The staff ophthalmologist may be involved on a consultative basis to provide secondary and tertiary level care perhaps on a once-a-week clinical assignment to a once-a-month assignment. One excellent basis for interaction is for the staff ophthalmologist to be available on a telephone-consultative basis.

In addition, I perceive that the ophthalmologist must be educated as to the optometric curriculum and knowledge base, what we believe we can and should be doing clinically and how the ophthalmologist fits into that system. Since students do look very strongly toward role models, this is an excellent opportunity for us to illustrate the ideal health care delivery model for vision care services and to develop a positive, mutually-productive O.D./M.D. relationship in the students' eyes. On the other hand, student strengths and

weaknesses may be readily visible, and the student may not yet be familiar with appropriate terminology and therapeutic drug utilization. Thus, it is very helpful for O.D. faculty to prepare students for the interaction with the ophthalmologist. Lastly, there may be potential for the incorporation of ophthalmologic residency training in selected optometry schools. This will reflect the political situations within the individual schools and colleges of optometry and will probably be dependent upon the geographic distribution of ophthalmologic residency programs.

Who

Who should the "M.D." be in the O.D./M.D. relationship? In my opinion, the ophthalmologist should be a competent, current and cooperative individual. There is excellent opportunity for interaction with the generalist oph-

"This interaction helps to foster a cost efficient health care model with an effective and efficient delivery of quality patient care."

thalmologist, mainly in the secondary care levels, as well as with the ophthalmologic specialist in the tertiary levels of care. The clinician may be a private-sector ophthalmologist or may have an institutional affiliation. Individuals with combined credentials of the O.D. degree as well as the M.D. degree may be a valuable resource.

A brief comment should be made on the comparison of an ophthalmologic resident versus the experienced O.D. recent graduate. My perspective has been that a doctor of optometry who has been out of school awhile and who has experience and expertise in the area of ocular therapy may be a much better role model for the student than the M.D. resident who is attempting to master surgical techniques and who probably does not have as extensive patient care experience. In addition, a

mediocre, poor diagnostic physician may foster inappropriate, outdated therapeutic approaches. Lastly, the ophthalmologist should have a penchant for teaching and working with students.

Conclusion

What is the ideal situation, then, to summarize the comments that have been made: that the physician be a competent, cooperative clinician who sees the mutual benefits of positive O.D./M.D. cooperation, and who enjoys and is challenged by an educational affiliation; that this physician realizes that his/her areas of expertise lie in secondary and tertiary care; that he/she develops rapport with the optometrist, is willing to co-manage patients when appropriate and delegate aspects of care; and that he/she is supportive of this delivery model.

When should these interactions take place? My preference is for the interaction to be concentrated in the latter stages of clinical training, and perhaps at the advanced level of didactic training. I believe that the residency program offers an excellent opportunity for this type of interaction. Where should this interaction take place? In the clinical setting, as well as during appropriate classroom opportunities.

What are the benefits of this ideal situation? This interaction helps to foster a cost efficient health care model with an effective and efficient delivery of quality patient care, and helps to further optometric student education, as well as O.D. faculty development. And certainly the M.D. will gain an appreciation for what we are all about.

And lastly, how is this ideal situation achieved? This is a very attractive health model for those ophthalmologists who are willing to function at their highest level of training. It is a very attractive situation, both professionally and economically, if you can find the right individual. Do not hesitate to show the ophthalmologist what you perceive to be your role in the health care system and to show him/her your level of expertise. Anytime a clinical management situation develops, it is important for both the individuals to develop a rapport in working with each other. When looking at the situation from the faculty vantage point, I believe that it is important to secure administrative support within the optometric institutional system for those instances when hard decisions may need to be made relative to an individual ophthalmologist consultant. □

Residency Programs: The Value Added

John F. Amos, O.D.

It is difficult to capture the essence of residency education and training in ocular disease in a relatively brief paper. It may be useful to gain a perspective on how widespread residency education in optometry is at the present time. There are presently 44 accredited residency programs accounting for 65 total residency positions, according to the American Optometric Association's Council on Education. There are perhaps 5 to 10 more programs with an additional 10 to 15 residency positions that are not accredited. The latter are my figures and not the Council's. This is a number that is frequently changing as residency programs continue to proliferate. The accreditation process may be less than perfect in certain aspects, but it is crucial for continuing improvement in residency programs and the profession's growth and development.

If the above figures are correct, then approximately 8% of graduating optometrists receive post-graduate clinical education. It must be remembered that the first accreditation of a residency program was granted in 1977, even though the first visit occurred in 1976. Therefore, in the period of a decade, optometric residency education has had a dramatic impact upon the optometric profession. I see this effect occurring principally in two ways. First, the production of high quality educators in many areas of optometric practice has occurred in a relatively short time. These optometrists have taken positions in optometric education, Veterans Administration facilities, diagnostic referral centers, free-standing clinics, HMO's as well as private practice. This is particularly poignant for those in optometric education who have served on faculty affairs committees which have grappled with the problem of finding well-trained

clinicians willing to leave private practice, or some other setting, to enter optometric education with less financial remuneration. Secondly, as a result of residency programs, optometric education and the profession at large are afforded well-trained clinicians who are known quantities in terms of clinical ability and personality.

Presently, there are 35 accredited optometric residency programs in Veterans Administration facilities and 9 in schools of optometry. These programs are largely independent study programs in which the resident is encouraged to take partial responsibility for his or her education. These programs are, in effect, opportunities which emphasize independent education or "learning how to learn." Residents primarily provide direct patient care with good consultative sources nearby. Residents take responsibility for their actions and their education, using the library, reading current literature, discussing cases with faculty and other residents, but with ultimate faculty responsibility.

In many of these programs, the resident is interested in expanding his or her clinical expertise in a particular area. Areas of interest include contact lenses, low vision rehabilitation, pediatric optometry, family practice optometry—primary care, hospital-based optometry, geriatric optometry and vision therapy. All residents initially feel inadequate in ocular disease diagnosis and treatment; I think that most optometrists who are involved in increasing that element of a resident's education will find this to be the case. The schools and colleges of optometry must strive to improve the quantity and quality of educational experiences in ocular disease.

In most residency programs, the emphasis is on the attainment of diagnostic and management skills, not only in a specialty area of optometric practice, but in other areas as well. For example, for a resident in a contact lens residency program, it is appropriate that he or she

see a larger number of contact lens patients. However, by the very nature of being involved in contact lenses, the resident also will learn a great deal about external eye and corneal diseases.

Of the two areas, diagnosis is relatively more important than management. The first task of all optometrists is to become better diagnosticians. It sounds simple; it is not. I am still trying. I hope all of you are still trying. The next task is to master the aspect of management. This is especially true in ocular disease. The proper management of disease rests on a foundation of accurate diagnosis. The value added aspect of a residency program is that it gives the resident a large amount of experience in direct patient care. I do not think there is any substitute for direct patient care. People must take responsibility for delivering care; communicating to the patient what problems have been found, what the management will be and learning how to educate the patient about the problems encountered. Furthermore, it usually provides for the development of diagnostic skills in ocular disease that are far beyond the level the resident possessed upon graduation. In my opinion, residency education is a very subtle yet powerful method of optometric education. In fact, it is the most powerful method I have ever observed. I would not have believed that unless I witnessed it. If one has not been involved in such programs, it may be difficult to understand and appreciate the concept.

The attainment of experience for the optometry resident in the management of ocular disease may be achieved principally in one of six forms.

1. Didactic education, conferences, grand rounds, case discussions and journal club. It may not be the ideal approach to ocular disease education, but that is what is available in Alabama, and, for the most

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part, we feel we do an adequate job. I wish we could do it differently, but legally we are limited. However, given those limitations, we are still able to accomplish a great deal. A number of residents have stated that even though this is not an ideal approach, they were able to apply clinically what had been presented didactically. While this approach is not perfect, I think it has merit.

2. Treatment of ocular disease in which non-legend drugs are the treatment of choice. One can gain understanding in the diagnosis and treatment of disease states by using non-legend drugs. The proper diagnosis and management of physiological-lagophthalmos, blepharitis, meibomitis, certain corneal dystrophies and dry eye are good examples of this approach to ocular disease education.

3. Standing orders—written protocol—followed by the resident for the treatment of ocular disease requiring legend drugs. Review and co-signature of the record by an ophthalmologist or other physician is required. To my knowledge, the only program that utilizes this approach is the Pennsylvania College of Optometry. I think it is an excellent approach to explore. In my opinion, it must be done properly to be legal. This

is an approach each institution should explore individually.

4. Having an ophthalmologist or other physician on staff or in the clinic to provide teaching and coverage for the treatment of ocular disease by the resident. This certainly is a viable option but it has some negative connotations. It is very important that the ophthalmologist not be perceived at a higher level in ability to diagnose and manage than the optometric resident. There are some very sensitive ophthalmologists who are able to teach in a very non-condescending manner. If this approach is to be utilized, it is important to find the appropriate ophthalmologist.

5. Treatment of ocular disease by the optometric resident without an ophthalmologist or other physician approval, but by approval of a clinical privileges statement by a hospital committee and with an approved formulary of drugs. This situation may exist in some Veterans Administration facilities. This approach requires a qualified optometric preceptor who is comfortable with the treatment of ocular diseases and is willing to take responsibility for its proper diagnosis and management.

6. The treatment of ocular disease by optometric residents with consultation by a staff optometrist in those settings where it is legal. I believe we will encounter this approach more frequently as more states pass therapeutic laws. The profession must be prepared to assume this responsibility and I think many of these consulting optometrists will come from the residency education programs which exist at present.

In conclusion, given the uniqueness and cost-effectiveness of optometric education, a well-designed clinical professional curriculum, coupled with appropriate direct patient care, is capable of producing an optometric clinician of the highest calibre. I believe the profession has the capability to produce, because of our very cost-effective system, an excellent clinician. Furthermore, I believe we are in the process of achieving this goal. It will be necessary to make some curricular changes, and to continually improve our residency programs. But the fact that we are here and discussing ocular disease education means this is likely to happen. I believe the profession is in a good position and I believe we will continue to have residency programs add far more value than numbers in optometric education in the future. □

Faculty Development Strategies

Douglas H. Poorman, Ph.D.

During the 1985 annual ASCO meeting, a symposium was held to provide views by representatives of ASCO, the National Board of Examiners in Optometry, the International Association of Boards of Examiners in Optometry, the Council on Optometric Education and the American Optometric Association on the treatment of ocular disease. From comments by representatives of these groups and the discussion follow-

ing their presentations, it was apparent that the real question no longer was, "Should optometrists treat eye disease?" or "Should the schools and colleges of optometry include this material in their curricula?" The question now is "How do we teach treatment of eye disease in optometric institutions to prepare graduates to practice an expanded scope of optometry, including treatment, based on educational preparation and Practice of Optometry Acts in each of the states?" This topic is no longer one of a philosophical nature, but must be viewed from one of implementation.

Each school and college of optometry has the responsibility of including treatment of eye disease within respective curricula. The content and depth of coverage and process of implementation will depend upon such factors as the philosophy, goals, and objectives of the institution; availability of clinical opportunities; and Practice Acts. However, the providing of both didactic and clinical educational opportunities for students in this area must be undertaken and in a timely fashion.

One of the questions posed by Dr. Barker regarding this presentation was,

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"What are the characteristics needed in a faculty to prepare the next generation of optometrists to treat eye disease?" One consideration is the education and experience in the treatment of eye disease by faculty members. While most recent graduates now serving as faculty members have had didactic material provided in curricula, clinical experiences in this area may vary significantly. Those individuals previously having additional clinical experience in residency programs at a VA station, military installation, medical center or ophthalmological setting should be represented in a faculty. Certain health maintenance organizations may provide these experiences as well as recently developed consultation/co-management centers. Thus, those individuals having not only didactic education but opportunities for additional clinical experience in treatment should be present in a faculty.

For those individuals on a faculty not having opportunities for these types of experiences either while a student or prior to joining a faculty, a positive attitude regarding this component of the expanding scope of practice and an interest and willingness to enhance expertise in the treatment of eye disease are essential. Another factor is the institutional posture regarding desires and/or expectations for faculty to become more knowledgeable in treatment of eye disease. The goals and objectives of the institution regarding treatment must be communicated to faculty and a commitment by the institution demonstrated to underline the importance it perceives for faculty to gain additional expertise in treatment.

Prior to addressing a faculty development program for treatment of eye disease, I would like to address the area of recruitment of new faculty as related to treatment.

The recruitment of new faculty who have this expertise provides an institution the opportunity to immediately enhance educational opportunities for enrolled students. These individuals can also play a major role in faculty development programs for colleagues not previously having some experiences. Individuals having opportunities to gain further experience in treatment of eye disease, particularly enhanced clinical experience, should be attracted to optometric education. Some of these experiences may include: previous military experience; completion of a residency program in a setting such as the VA or a health center; or private practice experience, particularly in a state allowing treatment.

Faculty applicants who have passed the "Treatment and Management of Ocular Disease" examination provided by the IAB also would be valuable additions to a faculty.

With the numerous opportunities now available for individuals having experience in treatment, a challenge for optometric education has been and will continue to be the recruitment and retention of these individuals into our faculties. With the proliferation of consultation/co-management centers for vision care and HMO's expanding as a major mode of health care delivery, in addition to traditional attractions to the private practice sector, optometric education will need to address methods not only to recruit, but also to retain individuals with these backgrounds.

Faculty Development Programs

Faculty development programs in treatment of eye disease will need to be undertaken for those individuals not possessing the desired depth of experience in this area. Didactic courses in treatment must be provided with the specific content and number of hours dependent upon such considerations as the current level of knowledge in this area held by faculty members, stipulations appearing in Practice Acts, and goals and objectives of institutions. Following the determination of content and number of hours of didactic material, several methods may be undertaken to provide this instruction. Members of each faculty having expertise in treatment may serve as lecturers for colleagues. The lecturing faculty may be comprised of optometrists with this expertise or by ophthalmologists or other physicians. Additionally, an institution may wish to invite lecturers from other optometric or medical institutions or the private practice sector to provide lectures in a visiting lecturer program.

In addition to didactic instruction, laboratory opportunities need to be provided whereby faculty can gain additional expertise in procedures and techniques necessary for the diagnosis and treatment of eye disease. This "hands on" experience assists in bridging the gap between classroom instruction and clinical experiences and allows expertise to be gained with the emphasis on procedures and techniques and not the clinical application. Laboratory instruction may again be provided by colleagues, both with optometric and medical backgrounds, but also could be provided by visiting faculty having expertise in this area.

Clinical Opportunities

The clinical component of a faculty development program in treatment of eye disease is critical. This is the area of the program in which didactic instruction and specialized techniques and procedures utilized in diagnosis and treatment are applied clinically.

Many different avenues may be pursued to successfully provide additional clinical opportunities to enhance treatment skills. These opportunities may exist in clinics within each of the optometric institutions or in clinics affiliated with schools and colleges of optometry. Optometric faculty and other health care professionals may establish programs for colleagues or undertake individualized instruction in primary care optometry and/or ocular pathology services of campus clinics. These programs may be provided in either a formal manner or by informal observation and participation by faculty wishing to gain further expertise. Faculty enhancement programs could also utilize the expertise and facilities of affiliated clinics such as VA stations or could solicit opportunities in consultation/co-management centers located near optometric institutions. Faculty could also utilize the expertise and facilities of ophthalmological practices or departments of ophthalmology. Whatever the mode of clinical instruction undertaken, this component of any program requires appropriate clinical cases and a sufficient number of patient encounters for faculty to become knowledgeable and comfortable with treatment. As has been stated many times, if ocular pathology diagnostic skills are already held by individuals, the appropriate therapy to treat ocular conditions should be well-mastered with additional instruction and clinical experience.

For those faculty successfully completing a program of this nature, some form of documentation of this additional competency should be provided. This could include a transcribed record of course completion and/or passage of the IAB "Treatment and Management of Ocular Disease" examination and State Boards where treatment is allowed in the Practice Act.

Prior to the initiation of any faculty development program in this area, institutional goals and objectives regarding treatment must be established. This will not only communicate to faculty the depth of commitment which the institution believes appropriate for faculty in this regard such as whether the institution "expects" or "encourages" faculty to enhance their knowledge in treat-

ment, but also formalizes the institution's commitment to provide those elements essential for a successful program. These may include an institution expending funds to provide visiting lecturers for its faculty, providing release time for its faculty to enroll in a program of this nature, providing facilities, including appropriate types and numbers of patients for the clinical component, and acknowledgement of additional competency with academic and economic recognition.

The institution also must assess the level of interest of its faculty in gaining additional knowledge in treatment. Faculty must feel professionally comfortable with treatment of eye disease and must possess the motivation to undertake a program of this nature in addition to meeting institutional responsibilities in teaching, research and patient care activities. If both the faculty and institution are sincerely committed to a faculty development program in treatment, a sound foundation toward the successful implementation of such a program has already been accomplished.

As with any educational experience, education does not cease with the completion of a formal program. Continuing

expertise must be gained. Continuing education programs comprised of didactic and clinical experiences must be available to faculty. In-service programs may be established to assist in the continued growth of faculty in treatment. Grand Rounds programs can be provided in campus clinics to enhance expertise with maximum clinical opportunities available in an efficient format. Faculty may also wish to take advantage of sabbatical programs provided by many institutions to engage in programs providing enhancement in treatment.

In addition to programs presented by individual institutions, organizations such as ASCO may wish to sponsor programs or workshops not only to provide faculty greater opportunities for clinical enhancement, but also to provide opportunities for exchange of ideas and experiences in effective means of instructing enrolled students in the area of treatment.

As I hope I have communicated, many avenues of providing an institution with knowledgeable faculty in the area of treatment exist. With recruitment of new faculty having expertise in treatment and the providing of development programs for current faculty, an excellent instructional base can be

created to address education's responsibility in the expanded scope of practice for graduates. Faculty development programs can and should be provided based on the needs perceived by individual institutions. A commitment by both faculty and the institution is necessary for any program to be successful. As I stated in my introductory remarks, the philosophical question regarding treatment of eye disease by optometrists is no longer the real issue—one major challenge and opportunity now present in optometric education is how to provide students with the knowledge and experience to competently treat eye disease. Opportunities for learning in this area must be present in all curricula and full implementation of treatment, with emphasis on clinical experiences, must be available for students. Now is the time for each institution to prepare faculty and address necessary curricular issues to insure appropriate opportunities to meet this challenge. With the leadership, dedication, commitment, and expertise present in each of our schools and colleges of optometry, I am confident that this challenge will be met with graduates providing quality vision care, including treatment of eye disease, to the public which optometry serves. □

Optometry/Medical School Affiliations

Charles F. Mullen, O.D.

Affiliation with a medical school presents numerous opportunities for enhancing the education and clinical training of optometric students, residents and practitioners. The advantages of medical school affiliation seem to be easily outlined while the disadvantages are somewhat less apparent.

The decision-making process concerning affiliation must include a careful cost benefit analysis. Evaluation should include a best and worst case scenario, and a timetable for implementation, perhaps in a step-like fashion to permit both parties to assess the effectiveness and impact of the relationship.

Analysis should be of sufficient depth

so as to insure that all facets of the affiliation have been thoroughly explored in both quantitative and qualitative fashion, as it relates not only to educational and patient care factors, but also to finance, research and public relations.

Obviously, the most desirable affiliation from an educational and public image perspective would be with the most prestigious medical school. Geographical accessibility is another factor. Financial strength and quality of medical and ophthalmological staff and resultant patient care are also important factors.

The integrity and qualifications of the administration and faculty who are involved in negotiating the agreement and who will be directly involved in the joint programs are of paramount concern in order to protect the college of

optometry from an adverse outcome in either the short or long-run.

Benefits of a Medical School Affiliation

1. Education

A. Increased access by optometric students and residents to patients with eye disease, systemic disease and pre- and post-ophthalmic surgical cases.

B. Increased interaction by students, residents and faculty with ophthalmic and other health care professionals via grand rounds, workshops, seminars, conferences and observation.

C. Lectures by medical school faculty in areas not currently taught by optometric faculty, and in areas currently taught where qualitative and/or quantitative improvement is possible—eye disease management, patient interviewing, gerontology.

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D. Increased educational opportunities and research capabilities through the creation of joint centers or institutes in such areas as glaucoma, neuro-ophthalmic disease, cataract/aphakia, corneal physiology/contact lenses; immunology/allergy; pediatric and geriatric eye care.

E. Opportunities for advanced specialty training for optometric students, residents and faculty.

F. Expanded continuing education program in eye disease management through increased ophthalmological participation.

G. Medical school faculty appointments for optometric faculty.

2. Patient Care

A. More effective management of surgical patients, whether the surgery is performed at the medical school/hospital or at the optometric facility.

B. More effective back-up for true ocular and general medical emergencies.

C. Increased and more readily available access to sub-specialty care.

D. Enhanced control and direction for optometry school's medical staff in areas such as patient care protocols, quality assessment/assurance mechanisms, credentialing.

E. Hospital privileges for optometrists.

3. Constituent and Public Relations

An enhanced image which can have a positive effect on student and faculty recruitment, fund raising, grantsmanship, community relations, and professional relations.

4. Economic Impact

A. Increased census in primary care and optometric specialties.

B. Sharing of revenue from surgical services provided at the medical school/hospital or out-patient surgical facility of the optometry school.

C. Increased practitioner referrals both from the optometric and medical communities.

D. Opportunities for sharing of plant, capital equipment, people resources.

5. Research

Increased potential for joint research projects utilizing respective strengths of optometry and medical schools. Access to special populations.

Concerns of a Medical School Affiliation

Concerns

1. Erosion of optometry school's mission to train primary eye care clinicians.

2. Competition among optometric students/residents and ophthalmological residents for primary care patient encounters.

3. Danger of optometry being placed in a subordinated position related to ophthalmology.

4. Some loss of control over optometry school's ophthalmological group/faculty.

5. Restrictions on referral patterns due to implied exclusivity of agreement.

6. Loss of opportunities for affiliation with other institutions.

7. Possible negative reaction by alumni or other constituencies.

8. Negative public relations if affiliation does not succeed.

The Affiliation Agreement

The elements of an affiliation agreement or, if a step-by-step process is desired, a memorandum of understanding with intent to affiliate may be broadly stated with detailed attachments added as the various aspects of affiliation are realized. The following elements should be present in the initial document.

1. Statement of support for each other's educational mission, particularly as it relates to the expanding scope of optometric practice.

2. Mutual desire to meet the health care needs of the community in a cooperative manner, desire to provide mutually beneficial and cost effective means for educating health care practitioners, and a recognition of the public benefits of collaborative research in visual and related sciences.

3. Actively encourage and cultivate inter-institutional endeavors in education, research and patient care.

4. Recognize each other's autonomy as it relates to overall institutional mission, structure and governing authority.

5. Those terms contained in the agreement which specify financial arrangements should not become effective until such arrangements have been mutually agreed to in writing.

6. Facilitate inter-institutional cooperation in education by such means as faculty exchange, discussions on curricula development, teaching and evaluation techniques, seminars, workshops or symposia.

7. The faculties of both schools agree to participate in educational programs such as didactic lectures, clinical preceptorship, seminars, electives, grand rounds and continuing and post-graduate education as deemed appropriate.

8. Encourage cooperative research efforts and the application for external funding in the basic and clinical sciences

by means of faculty exchange, sharing of laboratory resources and sharing of technical expertise.

9. Develop a cooperative arrangement in clinical education by reciprocally granting credentialed individuals faculty rank and/or clinical privileges, and by integrating medical and optometric staff, fellows, residents and students into appropriate clinical activities at each other's institution.

10. Optometry school agrees to recognize the hospital and clinical faculty of the medical school as the preferred providers of general medical and surgical care, ophthalmic surgical care and associated ancillary services for optometric patients.

11. Medical school agrees to recognize school of optometry and its clinical faculty and residents as the preferred providers of optometric care.

12. Optometry school agrees to make available members of its faculty to provide optometric services at medical school/hospital in accordance with mutually approved policy, protocol and procedures. This would include endorsement and signing of standing orders by appropriate medical director to allow optometric staff to treat eye disease if not permitted by state statute.

13. Medical school agrees to make members of its faculty available to provide onsite services at college of optometry's clinical facilities.

14. Medical school agrees to make members of its faculty available to provide 24-hour emergency consultation and support services for optometric staff and residents.

Also, the following should be considered:

- Use of an external consultant experienced in hospital/institutional mergers to review the affiliation structure.

- Creation of a third entity for administration of the various joint programs and for resources development purposes, e.g. The Foundation for Optometric/Medical Eye Care.

- Jointly sponsored grant application should be considered to offset start-up costs.

I have attempted in this brief presentation to outline the benefits and potential costs of medical school affiliation. Although there may be alternative means of enhancing optometric education and training with less political risk, affiliation appears to offer an immediate opportunity for quantitative and qualitative improvement in our ability to prepare optometrists to treat eye disease. □

Presenting a Scientific Paper at the American Academy of Optometry

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Editor, Journal of Optometric Education
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Journal of Optometric Education

At first glance this manuscript may seem misplaced in a scientific journal devoted to teaching and education. However, most faculty at one time or another will make a presentation at the annual meeting of the American Academy of Optometry. Furthermore, a properly prepared paper is more easily developed for publication in a scientific journal. There are countless similarities between giving a lecture in a school or college of optometry and presenting a paper at the Academy. However, there are also real and significant differences between the two which may not be obvious; it is these differences which made us feel that this discussion might be valuable.

Presenting a Paper

The American Academy of Optometry has a strict time limit of 15 minutes (12 minutes for the presentation and 3 minutes for questions) for each paper. It is certain that you will have a lot to say about your topic, far more than can be said in a quarter of an hour. Also, many other factors make presenting a scientific paper a potentially stressful situation, particularly for younger and inexperienced faculty. However, it is also a situation that is quite rewarding and enjoyable. Preparation and approach to the technique of presenting scientific papers are the cornerstone to success.

Preparation of the Presentation

Most of the following advice has been previously published by others. Our specific comments reflect personal experiences gained from both observing others and presenting our own papers. Typically, there are three stages in the preparation of a brief scientific presentation: the selection of data; the arrange-

ment of the presentation; and rehearsing and polishing.

Selection of Data

There is an inherent tendency for faculty to attempt to present more than is humanly possible in 12 minutes with the inevitable consequence that they either go over time or speak too fast or both. The audience knows that it is not possible to cover every detail of a study and is primarily interested in hearing only a brief report of your work. To stay within the time constraint of 12 minutes, you are not going to be able to present all your data. You will have to be very selective and in most instances confine your presentation to a single aspect of your work.

Your very first step should be to write down in one sentence the main conclusion of your paper. What is the most important message you wish to get across to the audience? Having written this down, you should single out three or four bits of data you will use to give support to your conclusions. You should keep in mind that you will have only three to four minutes to describe each particular aspect of your work. Therefore, when you are putting together your data, you need to be aware of the necessity to simplify it into easily digesti-

ble packages. As an example, a single graph might be used to present a great deal of data.

The Arrangement of the Presentation

Any presentation will consist of several parts. A typical format would be:

- Brief introduction
- Single statement of the purpose of your research
- Description of methods
- Presentation of results
- Conclusions

The introduction is a very important part of the presentation. It must set the background and framework of your study for the audience, many of whom may know little of the subject of your paper. They also may be suffering the draining effects of concentrating upon the previous paper or of a hectic rush from a concurrent session in another room. You have no more than two or three minutes to peak the interest and curiosity of your listeners. It must be simple, concise and free from too much technical information. The introduction should start from a very broad base so that listeners can identify the manner in which your research fits into the overall scheme of the subject.

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No more than a minute should be devoted to a statement of the purpose of your work. In just a few sentences you will need to convince your listeners that what you set out to study was worthwhile. Your comments regarding the purpose of your work should connect smoothly to the introduction so that it sounds like a logical progression from previous research on your subject.

The description of your methods and results will necessarily have to be abbreviated or even reduced to only a few comments. If the development of a new or unique procedure is an essential attribute of your work, then it should certainly be described in greater detail. However, you need to decide whether the main thrust of your presentation is to relate to the methodology or the results obtained.

Since the results are the most important part of your presentation, you will have to spend considerable time putting them together and analyzing their significance. It is also likely that you will have prepared a number of figures and tables for the purpose of publishing your research. However, do not stumble into the trap of thinking that these will be suitable for presentation to an audience. How often have you been at a meeting where the speaker has projected slides of a table that can only be made out in detail from the first row?

The conclusions should be the natural outcome from the results of your research. You should try to make only one or two statements about your conclusions from your study. Modesty is a key element in presenting your conclusions. It is best to avoid spectacular pontifications or universally applicable statements that cannot be reasonably supported by your data.

Slides

Once your presentation has been developed you should prepare your slides. Your slides will probably attract more attention than you will. Because of the impact that slides can have on the audience, organize your program so that you do not compete with your slides. It is not useful to crowd your presentation with more slides than necessary. A practical guideline is to use no more than 10 slides. If a slide will present most of your information, then let the audience absorb the visual information for a few moments. If your words will convey most of the information, then put in a dark, blank slide. It is essential that your slides complement your verbal presentation, not duplicate it.

The technical aspects of the preparation of slides can be prepared by your audio-visual department. There are, however, a few universally applicable guidelines. The first suggestion is to give your audio-visual department adequate time to provide professional quality slides.

After the general presentation has been outlined, it should be reasonably clear where a slide is required. You may need two or three during the introduction, such as a picture of a patient's eye or an illustration from previous research of some historical significance. One or two slides might demonstrate some unique aspect of your methods or show the audience a newly developed apparatus.

One of the most common mistakes is the use of overcrowded or illegible text slides. Simple guidelines for text slides should be observed to avoid this error. If your text slides are produced from a typewriter, then all the defects in the ribbon will be magnified to show on your slide. It is generally better to use slides without a white background and opt for a darker background with lighter letters. If coloring the lighter text letters, choose yellow, orange or red to highlight important points or headings. It is best to avoid dark blues and greens which reduce contrast.

The slides of the results provide your greatest challenge. It is during this part of your paper that the visual material will often be more important than the verbal. Avoid complex tables and where possible convert tables to charts or simple graphs. Avoid using a table with more than seven rows or four columns. Show the mean or rounded-off figures rather than masses of individual data. With graphs, you are demonstrating trends, not the specifics of all the data. If you choose to use bar graphs, try to make them color coded and clearly labeled. Although pie graphs can be very valuable, try not to use more than seven wedges and never use a wedge that represents less than five percent of the pie. Finally, if you feel you must refer to complex data, it is better to have the data prepared in printed form and distributed to the audience.

After the slides have been prepared, check that they are accurate and legible. Information which can be read from a slide with the naked eye will be satisfactory when projected. Next, label your slides. Unless you have a lot of experience, it is very easy to have your slides upside-down. To avoid this problem, put a red mark on the upper-right corner as seen from the back of the projec-

tor with the slides in the carousel. Then take them to a large lecture room and project them. Check that they are indeed legible from the corners of the lecture room.

Rehearsing and Polishing

By now you should have a reasonable idea of what you intend to say and the visual aids that you will require. If you feel particularly anxious or if this is your first presentation, it is useful to write the text of your presentation in full. You should write as if you are talking to a colleague and use a conversational tone, avoiding technical language whenever possible. As you write your presentation, mark the best positions for your slides or transparencies. It is certainly not unusual to find that you have places where you have forgotten a slide.

Remember, during your presentation the slides should not distract from your presentation. There always should be a conscious match between the content of the slide and what you are saying to your audience. In many cases, it may be better to show a blank slide rather than leaving on an inappropriate one. If you intend to use the same slide more than once during your presentation, have several copies made to avoid the distraction of having to turn back several slides to return to a slide shown earlier.

Once you have a written draft, take time to edit it. Then read it out loud at a pace you think appropriate. It is the rare individual who discovers that the presentation comes out 12 minutes to the minute. In fact, you likely will find that you need to condense, rather than expand. In addition, some faculty find it useful to record their presentation on a tape recorder. It may feel awkward to listen to your own voice if you have never done this before, but it is always a good lesson if critically and objectively viewed. You will probably find that there are certain phrases or fill-in words that you use too often (perhaps 'you know' or a few hundred spells of clearing your throat). Finally, present the entire talk to a critical but fair colleague.

Now you must determine whether or not to read your paper. It is probably best to be ready to speak with the aid of 3 x 5 cards only or with the prompts provided by your slides. If you have a very visual presentation, most of your listeners will be looking to the screen so your reading is less critical. If your paper is written in a conversational tone and you are able to look up from your cards often, then reading your presentation is acceptable. However, the possible pitfall of speaking without a previously

rehearsed, written presentation is going over-time which at best will irritate the moderator and your listeners and at worst will result in your being cut off in the middle of a sentence.

Whether you decide to read your paper or not, rehearsal is essential and a dress rehearsal before an audience a week or two before the Academy meeting is practical. Not only will you receive constructive comments but you also will have to field questions, the answering of which is just as important as your presentation.

Preparing the Abstract

The Academy requires you to prepare and submit an abstract several months before the annual meeting. Your abstract is used to help select contributions and is made available to members in the program. The importance of an accurate, completed abstract has been described previously by the Papers and Program Committee in the Academy's journal.

Primarily, the abstract is an advertisement for your paper. It describes your

study and summarizes your data to support your conclusions. Not infrequently, abstracts promise but do not deliver. Avoid being guilty of false advertising or misrepresentation.

The Day of Your Presentation

According to Murphy's law, no matter how well you have prepared, there is still a lot that can go wrong at the last minute. However, most problems can be anticipated and prevented. We have provided a menu of last day considera-

TABLE 1
Before Your Presentation

- Check your slides to be certain they are in the proper sequence and not upside-down.
- Load your slides into a carousel compatible with the projector used at the Academy meeting. Project them before the meeting to check that they are in the correct order and not upside-down. Close the carousel and label it with your name and presentation title.
- Review your prompt cards or written text.
- Check the room in which you will be speaking and examine the audio-visual facilities. You may be expected to operate lights by yourself or the slide changer may be difficult to operate or the microphone may be crackling or any number of other glitches may be encountered. Be prepared!
- If you are using a microphone, check to see that it can be easily adjusted and attached.
- Sit in on another presentation in the same room earlier in the day to get an idea of the acoustics and how to use the audio-visual facilities.

TABLE 2
During Your Presentation

- Walk to the podium with confidence. Adjust the microphone and slide changers to your satisfaction. Take a breath and remind yourself to relax.
- Begin with an appropriate opening ("Fellow Academy members and guests").
- Give your first few sentences without referring to your cards, looking around directly to your listeners without fixing your gaze on any one person.
- Ask for the lights to be dimmed or do this yourself as your first slide appears. Do not turn off the lights to make a completely darkened room unless it is absolutely essential. If you must make the room completely dark, do so for the least time possible. Do not continually turn the lights from on to off. If your presentation is prepared well, the slides should have been designed to be visible in dim light.
- Speak at a speed that sounds slow to you. There is a tendency to speak too fast because you have rehearsed your material and it is well-known to you. Use more emphasis than seems normal to you. Again, it will not sound too theatrical to your listeners. Let your enthusiasm show by using appropriate hand and face gestures.
- When you turn toward the screen to point out something on a slide, be sure you do not move very far away from the microphone. This is difficult to achieve with a fixed microphone.
- When you have finished, say so ("In conclusion, Mr. Chairman, I have demonstrated that . . .").
- Listen to the question carefully.
- Always repeat the question for your audience. They may not be in a position to hear the question.
- Respond to the question politely but precisely. Often a simple "yes" or "no" will suffice. Avoid the pitfall of utilizing a question to give a second presentation.
- Be wary of questioners who are obnoxious or deliberately trying to trick you or who use the opportunity to display their personal mastery of the subject area.
- If a question is inappropriate or aggressive, try to deflect it as best you can. It is often useful to agree with as much of what was stated as you can, but point out legitimate differences of interpretation or opinion and suggest that you meet the questioner afterwards to discuss the issue. Never get into an aggressive, unfriendly argument with a questioner in front of the audience. It is a dangerous practice and reflects badly on both of you. However, do not be timid. Do not hesitate to politely and firmly disagree with a questioner when you are certain that you are correct.

tions which might prove useful (Table 1).

Dealing with Questions

In some respects, fielding questions from the audience is the most difficult aspect of your presentation. Some people may ask penetrating questions. Your response will enhance or detract from your performance. This is one reason that we recommend dress rehearsal back home on safer ground in order to practice answering probing

questions and to avoid weaknesses in your arguments. Table 2 shows some important considerations to recall when fielding questions.

Conclusion

One of the greatest strengths of any profession is its young and enthusiastic members. It is hoped that we have encouraged some of these faculty to make presentations to the American Academy of Optometry. We believe that you will find it a most rewarding professional experience. □

References

1. Ewan CE. How to prepare and use slides. *Medical Teacher* 1981; 3:52-62.
2. Grosvenor T, Kirschen D, Cullen A, Newcomb RD, Takahashi E. How to write an abstract of a paper or a report to be presented at the annual meeting of the American Academy of Optometry. *Am J Optom Physiol Opt* 1983; 60:412-14.
3. Newble DI, Cannon RA. How to make a presentation at a scientific meeting. *Medical Teacher* 1984; 6:6-9.

INTERVIEW (cont'd from p. 43)

very real sense, supported it.

JOE: *Let's talk about one of my favorite subjects. What do you look for when you recruit a vision researcher?*

Peters: It is certain that optometry does not have a lock on all vision research. There are a large number of people doing research in vision with backgrounds in psychology, physiology, anatomy, psychophysics, bioengineering, biochemistry. In my view, optometry schools would advance their own research interests more aggressively by bringing some of these people into their academic departments and providing them with the kind of support they need to turn out first class research. There have been some OD's who have done some good research, but generally, if you are looking for researchers, you are looking for PhD's. To expect good clinicians to do major kinds of laboratory research or basic science research is being unrealistic. My view is that while I want my clinical faculty to do research, I think that a commitment has to be made by the administration of each school of optometry to develop a cadre of researchers. OD/PhD's and vision science researchers in other disciplines can be brought together into various mixes with a certain amount of investment on the part of the institution and produce really first class science.

JOE: *How do you manage these people? How do you nurture these researchers so they can do their best?*

Peters: Well, at Alabama we made a conscious choice at the beginning. We would not try to recruit older vision scientists with established reputations to come and be part of our organization, but would consciously try to pick the bright young "turks" who were beginning to come along. We committed ourselves to recruiting young "comers," people who had a substantial start on a

research career, but who were still in the beginning of their academic productive years. For that reason, I read endless journal articles by many people, trying to get some idea of what was happening in the vision science field. We solicited nationally for the people we chose and had them here on recruiting visits and talked until we found some that we felt we wanted to support. At that point we offered them a job. It wasn't always that well paying, but at least it was competitive, and we offered them an initial fund of \$10,000 to establish their laboratory. They were told they would have to get grants to provide for any ancillary personnel. Likewise, grants would be needed for any additional equipment of a specialized nature. We then provided them with a relatively light teaching load and made it quite clear through their faculty affairs committee that promotion would be dependent upon research productivity. We were talking about funded grant applications. We were talking about productive research that gets published in prestigious journals. We were talking about them helping to establish the reputation of the school of optometry within the medical center, as well as on a national or international basis. And I think they responded well to that challenge.

JOE: *What should we be doing with our residency programs?*

Peters: Well, that relates to specialization and I've been a supporter of that kind of specialization for a long time. We have residency programs which we regard as graduate clinical education and my only real concern is that the profession hasn't rationalized this so that they don't support the specialist. Sometimes individuals have established specialty practices by working very hard, but not through any particular support of other practicing professionals

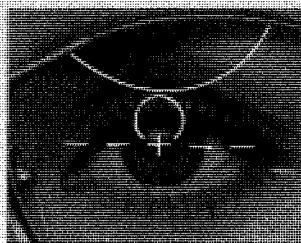
in the community. And I think that until optometry can make that intellectual leap—to use specialists appropriately and support optometry's own specialists for those kinds of services, it isn't going to go very far. Also, as eye care, or as health care, is institutionalized, as it becomes part of a bigger organization, there will tend to be more specialization within optometry. I view specialization, together with the quality assurance issue we discussed previously, as being natural developments in the services provided by optometrists. I don't believe the profession really understands the importance of this specialization. But I think that kind of an effort should be made and should be developed. Optometric education has a clear responsibility to prepare those specialists.

JOE: *What about the future in optometric education? What are some issues that need to be addressed?*

Peters: I think that optometry should organize itself and gear both its educational and political efforts to dominate primary eye care. We say it to ourselves, that we are providing primary eye care, but I think that we ought to work on the system so that we in fact "capture" primary eye care. I have no difficulty with leaving the secondary and tertiary care to the ophthalmologists, but I think optometry, particularly the modern optometrist, is quite capable of providing primary care services. They ought to organize their strengths and their institutions to do just that and I think the schools have a responsibility for leading the way. That is not to say that optometrists don't provide some secondary services—special visual field studies, sophisticated low vision treatment, etc. But the "meat and potatoes" is in primary eye care and I think we should make every effort to truly dominate that market.

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