On the Cover:
Allan Kolker, M.D., examines Nicole Baima, a child with infantile glaucoma, a rare and correctable form of the disease. Washington University is one of the leading centers for glaucoma research. Story begins on next page.
Ophthalmology Team: Innovators in glaucoma research

By Sharon Stephens Murphy

Although it can be controlled with medication and sometimes requires surgery, glaucoma is still the second leading cause of blindness in the United States, exceeded only by cataracts.

The Department of Ophthalmology at Washington University School of Medicine is at the forefront of basic and clinical research to combat these statistics. Bernard Becker, M.D., chairman of the department, has been a leader in glaucoma research for more than 20 years. He has molded his department into one of the nation's finest training and research centers for glaucoma.

Becker and his colleagues have made contributions to both the diagnosis and the treatment of glaucoma and due to their efforts and success, the National Institutes of Health (NIH) sponsored the establishment of a Glaucoma Research Center here. The center is the only one of its kind.

Defined as an elevation of intraocular pressure sufficient enough to damage the optic nerve and cause loss of vision, glaucoma is often called the sneaky thief of vision. The victim of the disease usually suffers a loss of peripheral vision and doesn't notice it until severe damage has been done.

There are four types of glaucoma: chronic or primary open angle, congenital, secondary and acute.

Chronic glaucoma is the most common form of the disease comprising about 70 per cent of glaucoma cases. It also is the most serious since its sneaky, unnoticeable symptoms leave the victim unaware. It is usually painless and severe damage can be done to the nerve before there is a noticeable loss of vision.

It does not take much pressure to damage the optic nerve. This pressure is created when the clear fluid, aqueous humor, which nourishes the eye does not drain off properly.

This fluid leaves the eye through an intricate system of pores, the trabecular meshwork, and is eventually drained off to the blood vessels.

The pressure in the eye is maintained through this meshwork. In chronic glaucoma, for reasons unknown, this resistance is increased and the flow of nourishing liquid can be maintained only by an increased intraocular pressure.

A relatively modest increase in resistance can, over the years, produce the pressure which damages the optic nerve.

Unlike chronic glaucoma, acute glaucoma is caused by abnormalities in the shape of the front part of the eye and causes severe pain. The eye becomes red and inflamed. There are headaches, pain in the eye, blurred vision, discomfort in the dark, and colored bands or halos appear around lights. Usually, with the first attack of severe pain, the patient sees an ophthalmologist and effective medical and surgical treatment prevent further damage.

Congenital glaucoma in infants is very rare but effectively controlled by surgery. Secondary glaucoma is caused by tumors, infections or injuries to the eye. Together acute, congenital and secondary glaucoma comprise only about 30 per cent of the disease.

Chronic or primary open angle glaucoma is the most prevalent form of the disease and is usually the specific type referred to when talking in general about glaucoma.

Theodore Krupin, M.D., assistant professor of ophthalmology, says that research at the School of Medicine is indicating there are subcategories of chronic glaucoma which are presently lumped in the primary open angle group.

"For instance," he says, "there is no question that glaucoma is more common in diabetics and that diabetes may be more common in people with glaucoma. We find that these two disease processes, together, produce a different type of glaucoma.

"The fact that there could be many types of glaucoma now classified as chronic may be one reason for the diffi-
difficulty in finding the causes and cures for glaucoma."

Like hypertension, common glaucoma is controlled, not cured. Glaucoma can be controlled for a lifetime with no additional loss of sight after treatment is begun.

Because the disease becomes manifest by the damage done in middle and late life, the prevalence of glaucoma is increasing along with the steadily increasing average age of the population.

Allan Kolker, M.D., professor of ophthalmology, says about one in 50 persons or about two or three per cent of the population have higher eye pressures than average. "But only about one in 10 of those people will develop glaucoma," he says. "Over all the incidence of glaucoma is estimated to be a half per cent. But even at that relatively low rate it is responsible for 12 to 15 per cent of blindness in the United States."

While only one in 10 of the people with elevated intraocular pressure develop glaucoma, more than 90 per cent of the patients who have glaucoma have higher than normal eye pressure, says Kolker. Therefore measuring eye pressure is an important diagnostic procedure.

Ophthalmologists have long been able to measure the pressure in the eye with a tonometer, a small instrument which is placed directly on the eye. Tonography has allowed the measuring of the resistance to the outflow of fluid in the eye for more than 25 years.

In the early 1950s, Becker, then at Johns Hopkins University, was one of the first people to use the new technique clinically and describe its operation in medical journals. This enabled ophthalmologists to determine whether a patient had abnormal resistance to fluid outflow before he had elevated pressure. An important application of tonography is when it is utilized on a patient exhibiting borderline pressure and evidence of some damage to the optic nerve. Ophthalmologists at the Medical School feel strongly that anyone old enough to cooperate should regularly have their eye pressure measured.

Besides elevated intraocular pressure, there are other factors which may indicate a person is at risk for developing glaucoma.

One of the most significant discoveries by the glaucoma group was made in the early 1960s when they reported a study which showed that glaucoma is an inherited trait.

"We know that glaucoma is hereditary," says Kolker. "If you have a relative who has glaucoma, you have at least 10 times the likelihood of developing it. If you have a family history of glaucoma you should have your eyes checked more frequently, but even in this case the odds are 10 to 1 that you will not develop the disease."
"Knowing something is hereditary means it's transmitted from one or both parents and our efforts have been directed toward determining what it is that might be transmitted. It has to be in the genes but we don't know yet what it is," Kolker says.

Other things such as diabetes or extreme near-sightedness may also be measures of risk. The scientists try to determine who is at high risk for developing glaucoma and then watch these people more closely.

Michael Kass, M.D., assistant professor of ophthalmology, feels that determining what group of the population is at risk is one of the most important goals in glaucoma research. "It would be great to make the diagnosis of glaucoma before people have actually developed the disease," he says. "If we could detect who is at risk and who in that group will actually develop glaucoma, we could treat them before any damage occurred. If we could develop such a test, it would ultimately have the biggest payoff in terms of preventing blindness."

One test is being investigated by Paul Palmberg, M.D., Ph.D., assistant professor of ophthalmology, which may eventually be refined to the point where it could be an accurate measure of the population at risk. Palmberg has been testing the effect of cortisone and its chemical derivatives on lymphocytes. He has found that people with primary open angle glaucoma are twice as sensitive to that hormone at the levels which are actually found in the blood.

"The same people whose lymphocytes react to cortisone also have a reaction when cortisone drops are put in their eyes," Palmberg explains. The pressure goes up and the situation mimics glaucoma. If you stop the drops the intraocular pressure goes back to normal and causes no lasting effect.

"The exciting thing is that the same thing occurs in the white blood cells and in the eyes. The lymphocytes apparently have the same defect that's present in their eyes.

"We hope by doing research on a molecular level, to find out precisely what is wrong with the cells of the particular people who inherit glaucoma."
Palmberg started this study in 1971 with John Bigger, M.D., and Harry Zink, M.D., and has continued working on it since. In 1975 the National Institutes of Health cited this study as one of the five advances in eye research showing the most promise for the future.

"This test is useful as a research tool showing us there is something abnormal about these people," Palmberg says. "But it is not a useful clinical tool. While we find this reaction in virtually all the people who have the disease, we find the reaction in only about six per cent of the general population. Since we know that six per cent do not get glaucoma, this test only indicates who might be at high risk. But only some 10 per cent of this group will get the disease.

"We probably will have to find something on the molecular level and get a much more sensitive test before it will be clinically applicable," Palmberg says. "But it's an exciting result and it suggests that we ought to keep looking at these cells and find the molecular defect which accounts for the disease."

Another area of study is looking for associations between glaucoma and people with certain HLA tissue types. There are HLA tissue types on all cells which have nuclei, similar to but much more complicated than the A, B, O red blood cell types. Recently investigators at other institutions have found associations between certain kinds of arthritis, uveitis and particular HLA tissue types. Researchers at the School of Medicine have found similar correlation between two tissue types, HLA B7 and B12, and people who have glaucoma. To date these results have not yet been duplicated at other institutions.

Basic laboratory and animal research is necessary to answer some of the fundamental questions about glaucoma. Krupin is involved in animal research to find out what controls intraocular pressure.

"The eye has a constant production of fluid which flows out of the eye," he says. "In glaucoma the resistance to outflow builds up in the eye and the pressure goes up. We want to find out what prevents the fluid from leaving the eye.

"Unfortunately, glaucoma is a human disease and there are no good animal models for glaucoma," he explains. "There have been attempts to induce glaucoma artificially in animals, but so far there has been little success.

"This has greatly limited laboratory research. But there is hope that someday we will be able to induce something in an animal which resembles glaucoma.

"What we are really faced with in laboratory research," Krupin says, "is to gain more knowledge either about what controls the production of fluid in the eye or what alters the ability of the fluid to leave the eye.

"We are also investigating drugs to see how they alter the production of fluid and we have found a great correlation between what we find in laboratory animals and in human eyes."

Krupin and his associates also are involved in testing surgical procedures which might be more effective. "Currently," he says, "we are doing two different procedures which are much less traumatic than the usual surgery. In animal eyes, these have proven effective. We are now at the point of going from the animal eye to the human."

The majority of research at the Medical School is clinical. The goals include evaluation of new methods of treatment, better ways of detection and more accurate means of diagnosis, all ultimately aimed at finding a way of preventing glaucoma from developing and treating it more effectively if it does.

The Glaucoma Center is an important asset to this research and probably is one of the contributing factors to the department's reputation in glaucoma research.

"The Glaucoma Center has been a tremendous asset," Becker explains. "In 1967 NIH decided to enter a program of clinical glaucoma centers. The concept was that these centers should provide model patient management and a large supply of patients who were willing to undergo experimental procedures.

"Such a center," he says, "then would be a center for research and training clinical and para-clinical peo-
pie. No similar centers have been established, although ours has been very successful.

"The center allows us to follow selected patients carefully," Becker says. "We don't lose patients. They have their drug supply, travel and hospitalization all paid for in return for their willingness to cooperate. We have records on these patients going back more than 10 years.

"The data on such patients are extremely valuable and with the help of NIH we will soon put the patient information in computer format."

Glaucoma Center patients have played an important role in the testing of new drugs. "There have not been any new agents developed for glaucoma for a long time," says Krupin. "The last agent, acetazolamide (diamox), a carbonic anhydrase inhibitor, was discovered by Dr. Becker 25 years ago. Everything else that has come along has been related to modifications of other well known agents."

Glaucoma is best controlled through medication and surgery is considered as a last resort. So a major concern is to find drugs which will be more effective for individuals and which will be effective longer and require the minimum application to control pressure.

"The carbonic anhydrase inhibitors," Krupin says, "decrease production of aqueous humor and thus lower pressure. Other major agents improve the exit of fluid.

"The problem with these drugs arise with side effects. Many of the drugs used now belong to a class of medication which besides lowering the eye pressure make the pupil very small," explains Kolker. "There are many people who experience blurred or limited vision due to the drugs. Some medications produce cataracts in some people. Some which are taken orally give people upset stomachs, alter the potassium or blood count and, in some cases, lead to the formation of kidney stones.

"However," he explains, "some people take these medicines for 25 years with no trouble from side effects, but others can't take them for two weeks."

"What we try to do is find the best preparation or combination of medicine for the individual person. An effective medication to lower eye pressure with no serious side effects, which can be tolerated by the patient is the ideal medication.

"The ultimate research goal," Kolker says, "is prevention of glaucoma. But since we cannot yet do that we have to find more effective ways of treating the individuals who have it."

A new drug, which is being heralded as the best in 20 years is being tested at Washington University and other institutions.

Thomas Zimmerman, M.D., Ph.D., Michael Yablonski, M.D., Ph.D., along with Kass and Becker are working on Timolol.

"We've been looking at this drug for a couple of years now," says Kass, "and it looks extremely promising. It is very effective and has no side effects. So far it has been tested for only two months at a time and now will have to be used for at least two years before the Federal Drug Administration will release it.

Dr. Kolker talks with a patient and her mother.
"In addition," Kass says, "the effect of Timolol is additive to other medications. This suggests that people who now require surgery may be able to add these drops and forego surgery.

"It is also more convenient and the effect of the drops last longer requiring application only twice a day compared to the necessary application of every few hours by other drugs."

Side effects to medication present another problem: patient compliance, which Kass is investigating. "I'm interested in who takes their medicine," he says. "Do patients actually follow the regimens we lay down for them? The problem arises in glaucoma because the disease doesn't produce any symptoms and progresses slowly. At the same time, the medicine may produce symptoms which are unpleasant. The disease provides no warning or reminder to take the medicine."

Compliance studies are a new area of glaucoma research. Kass is using an electronic recording device in the bottles of medication which records the date and hour the bottle is used.

"We'll try to use this data along with other information about the patient to put something together about patient behavior. Our preliminary studies seem to indicate that a large number of patients do not take adequate medicine to protect themselves.

"If we could figure out what kinds of behavior patterns to look for, it would be helpful," Kass says. "Right now we estimate that less than 50 per cent of patients take their medicine as often as they should."

Much of the research at the School of Medicine is facilitated by the existence of the Glaucoma Center. Currently there are about 3,000 patients who are treated at the Center. Becker would like to see that increase to 5,000 so he has requested funds for expanding the Center. Not only is the Center important to the research at this institution but it has also served as the training grounds for people in glaucoma research all over the world.

"We have trained a number of people," Becker says. "Many who weren't trained here initially have been sent here for a year or two and then gone back to their own institutions. Conservatively, we've trained about 30 or 35 people in the Glaucoma Center and many more than that in the Department itself."

Considered to be one of the world authorities on glaucoma, Bernard Becker is given much of the credit for the outstanding reputation of the Department of Ophthalmology at Washington University.

In the future, Becker thinks there will be a greater interest in the genetics of glaucoma and in learning which individuals have the genetic background for the disease. "We should be able to prevent glaucoma from ever developing. I think this would be the greatest advance and to do this we have to learn more about the mechanisms by which the disease develops. This is the area at which we will be looking most intensely in the future."

Pressure in the patient's eye is about to be measured by a tonometer, the most accurate instrument for this purpose, which is placed directly on the eye to get a reading.
Eighty per cent of the medical malpractice lawsuits filed during 1935-1975 were filed from 1970-1975. In the period beginning May 1, 1975, through April 30, 1976, Missouri ranked fourth in the nation in the number of such suits filed.

Why this sudden increase in malpractice claims throughout the nation? Is anything being done to alleviate this problem, or at least keep it under control? More specifically, what is being done at Washington University School of Medicine?

J. L. (Bill) Midkiff, business manager for Washington University School of Medicine, now spends about half of his time working with the malpractice issue and establishing a program of claim prevention and loss control.

"Beginning in 1976, the School activated an aggressive program of claim prevention," Midkiff says. "We now have a team of people who specialize in loss control and claim prevention, attorneys included, and we have attempted to reach the faculty through a series of lectures and question and answer sessions. Regardless of who provides the resources to pay losses, the real focus of our attention should be on claim prevention and loss control and the subsequent issue of why there is this sudden increase in malpractice claims.

"The idea that malpractice claims can be prevented is very exciting. Claims can be prevented even when there has been an adverse result or accident. The whole issue boils down to good rapport between the physician and the patient. That point underlies and pervades everything."

Midkiff believes good physician-patient rapport is the key to claim prevention. Many claims arise because the patient doesn't have a full understanding of what has happened, the nature of care given or its natural consequences. A claim is likely to arise when the patient misunderstands what has happened or has an undesirable result. Whether or not a wrong has actually occurred, we are liable for it if we can't prove it didn't happen. We cannot prevent human mistakes, but we do want to try and minimize them. And we want to maximize our ability to defend ourselves when a mistake has not been made."

Carpenter emphasizes that good patient records and patient relationships and awareness of the problems of informed consent are extremely important to claim prevention and loss control.

"A good chart which tells the story of what has happened to the patient, who did it and why, allows for less likelihood of a misunderstanding or an error in treatment. In that sense, a thorough record helps to prevent error. Just as importantly, a proper record permits us to defend ourselves when a claim is made."

Carpenter says "proof" in a law suit is a rather elusive term and a lot of people don't understand what proof is. "A fact is proven if somebody says it and a jury believes it," he says. "If a patient says something happened to him, and the jury believes him, then it's proven. For legal purposes, "it happened" whether or not it really did. If we have nothing in the chart to identify a person who can dispute a claimant, then we're crippled in establishing what happened. Our seminars are designed to reinforce with the staff, the physicians, and everyone connected with the patient, the desirability of..."
when there has been less than total success with treatment, or an adverse consequence of proper treatment occurs. Personal consideration and good communication between the patient and physician are at the heart of the matter.

"It is a small investment amounting to only a few extra minutes for a physician to establish with the patient that they are allies in the solution of a problem," Midkiff says. "The patient needs to realize that medical care does not always have the perfect solution and that proper medical care sometimes is unsuccessful or results occasionally in other or different difficulties. This is the best investment within reach, and it can make the patient a friend."

The vast majority of malpractice suits occur in large metropolitan areas, an environment where doctors are busy and the patients do not have a close relationship with the physician. The small-town family doctor is rarely sued.

"There are many inconveniences imposed on patients and physicians in metropolitan areas," Midkiff says. "I once heard a lecture on malpractice in which the speaker related how unpleasant a visit to a doctor's office can be. The doctor is overscheduled, so the patient has to endure a long wait. He may encounter a rude receptionist who is far from helpful. By the time the patient does get to see the doctor, he is rushed and impersonal and doesn't adequately answer the patient's questions. That patient leaves and hasn't really achieved any personal satisfaction.

"When the legal counsel for Massachusetts General Hospital in Boston spoke to our Faculty Council meeting," Midkiff says, "he asked the physicians to stop and think about how their patients felt about them. He asked them to think about what the patient might do to them if something were to go wrong in the care, if the patient doesn't improve, etc.

"I've had complaints in my office about that kind of treatment right here at Washington University, including such things as long waits to see the physician and sometimes a rude receptionist. People are more inclined to want to 'get back' at the physician after this type of experience. That's where the issue of rapport comes in!"

Midkiff feels seeing patients is only a part of the career satisfaction of a teaching physician. The physician in academic medicine may find it even more difficult to cultivate good patient relationships because his schedule is crowded with research activities, lectures, etc. It is very easy for the physician in academic medicine to focus on the scientific aspects of the case without dealing with the emotional needs of the patient.

"We've really been working on this area through our discussions in the various divisions," Midkiff says. "But I think we've barely touched the surface as far as reaching the different people. They know what we're saying, but meshing what we've said with their behavior is another story."

Midkiff says even the consulting physician who only has a brief encounter making as complete a chart as possible.

Steps should also be taken to establish a good relationship between the patient and those in contact with him.

Carpenter says the little things reflected in the physician's actions and behavior can make a tremendous difference. It's absolutely necessary for the physician to establish a good relationship with the patient and explain to him what is being done. "If good rapport is established," Carpenter says, "many lawsuits may never be pressed and resources devoted to defending them can be applied to the basic purposes of our institution."

In addition to complete medical resources and a good physician-patient relationship, awareness in the area of informed consent is extremely important to claim prevention and loss control. Carpenter says this is a principle which has existed for a long time, but only recently has it developed fully into a means by which a patient can recover damages from a physician in a lawsuit.

"It's a fertile field," he says. "A third

Parks Carpenter, malpractice attorney for the School of Medicine.
with the patient should be aware of the importance of good rapport. "If the consultant will take the time to explain his role to the patient so that the patient really does look on him as an expert who was brought in, a good relationship can be developed there as well," he says. "The consultant needs to tell the patient what he's there for and what he's doing."

Good patient-physician relationships are especially necessary in a society which is becoming increasingly concerned with consumerism. Midkiff feels the increase in malpractice claims since 1970 has a great deal to do with the entire consumer movement publicized by Ralph Nader.

"Nader's thrust has made people realize that they don't have to accept poor quality service from vendors, suppliers, even health care professionals," he says. "People resent being pushed around, and they will not tolerate diminishing integrity or a lack of genuineness in any area."

It is not unusual for patients to expect more from their physicians than

of the medical malpractice cases in my office wouldn't be here if it weren't for the informed consent doctrine. They might have been filed, but would have been kicked out of court because there wasn't any negligence involved in treatment.

"It should be pointed out that people can collect damages under the informed consent doctrine even if there has been no medical negligence, and even if the medical treatment has been perfect."

Carpenter uses the example of an adult who undergoes a tonsillectomy. Occasional hemorrhaging is a recognized, though of course not desirable, result of having a tonsillectomy. It can occur even though no negligence was involved. "But the patient can come back!" Carpenter says, "and say, 'I let you do the operation, but you didn't tell me that hemorrhaging was a hazard. If I had known this was a possibility, I wouldn't have had the operation. So I want money.' This patient may recover the cost of the operation and damages for his pain and suffering simply because he wasn't given enough information to make a sensible judgement as to whether or not he should proceed with the operation.

"This is what it's all about. Missouri law states that any procedure done requires the consent of the patient. Offensively touching a patient or doing a procedure without his consent constitutes a technical legal battery."

According to Carpenter, the legal effect of the informed consent doctrine has two parts to it: 1) did the physician inform the patient, and 2) can he prove it if there's a lawsuit. A thorough and complete medical chart obviously aids in the establishment of proof. Under the law in Missouri, a patient is legally entitled to be told what the reasonably foreseeable hazards of a procedure are. In order to consent sensibly, the patient has to know and understand what he is consenting to, risks included.

The fully informed patient does have the right to deny treatment. "As strange as it may seem," Carpenter says, "the patient is entitled to die from a cancerous lesion on the back of his hand rather than risk an infection from having it removed. He's entitled to make that choice; it's his privilege and we have to give it to him. Of course, the physician can emphasize the hazards of not having a procedure done.

"I try to stress in these seminars that the informed consent principle does exist. It is simply good medicine to be aware of what the law in Missouri requires of medical practitioners."

What is an appropriate fund of information that a patient needs before he can consent to a procedure? In determining this Carpenter points out that the physician should consider the patient, his intelligence and his emotional state as well as how serious the potential hazards of a procedure are and how frequently they occur.

"For instance," Carpenter says, "if the patient is likely to develop a temporary hangnail 50 per cent of the time as a result of a procedure, maybe the physician need not inform him of this hazard because it is so trivial. It wouldn't make any difference in deciding whether or not to go through with a certain procedure. However, if the
the physician is able to provide.

"Medical science has come a long way," Midkiff says, "but it has not yet provided all of the answers. Physicians must exercise some real care not to imply that the results are absolutely assured.

"Patients should be treated with consideration and respect. Making implied promises or not communicating at all is worse than discussing the issue. They have to reach an understanding before treatment begins, so if something does go wrong the patient will be aware that it was a possibility. The physician warned them it could happen; the patient knew it was a hazard that might occur. It's imperative that doctors take this extra time to establish that kind of relationship."

Claims can be prevented even after there has been an unexpected, adverse result. "There's a whole host of techniques one can use to maintain that relationship of confidence between the physician and patient even after some kind of accident or adverse result occurs," he says. "This is the area of loss in which the lack of rapport can deteriorate into something worse.

"If a person has been injured and there's no question that it was the outgrowth of some failure in medical care, there's not much one can do about that. But in cases where there have been adverse results which can be attributable to a doctor or to the care given, it's really how that physician follows through to control that adverse result which makes all the difference," he says.

This early warning notice of potential problems can greatly reduce the risk of losses and aid in claim prevention. Midkiff feels the key to early warning notice of problems comes from the health care team being tuned in enough to the patient to recognize a potential problem. The physician and support staff should recognize if: 1) the patient-physician relationship is not what it should be, 2) the desired medical results are not being achieved, and 3) the patient has undergone some unpleasant experiences in his course of treatment.

"These types of symptoms should prompt an early recognition that we may have a potential problem," Midkiff says. "This should then focus the whole medical team's attention on what can be done to bring that particular case back on the right track. And, if need be, an early warning notice of a potential malpractice claim should be filed with my office.

"The important things are focusing special attention and care on the patient in order to get the goodwill and the case back on the right track."

Midkiff emphasizes that early recognition of problems is a team effort; the entire health care team should be aware of it. The nursing staff should be aware when a patient voices a complaint or asks an inordinate amount of questions. Everyone who comes in contact with the patient—from those people in patient billing to dispatch and ultimately the physician—should show concern and personal consideration for the patient.

Midkiff says, "The support staff is as much a part of this effort as the physi-

patient has one recognized chance in 100,000 of being paralyzed from the neck down as a result of a procedure, perhaps he should be told. Even though the odds of this happening are much less, the results are much more serious. Many jurors would think that patient has a right to know that kind of risk."

Carpenter tries to emphasize in his seminars that the physician has the legal duty of attempting to inform the patient, even though the physician cannot possibly explain every hazard of every procedure. "I do understand why the physician cannot and should not, in some instances, inform the patient of every conceivable procedural hazard," he says. "However, the best results occur when the procedure is discussed with the patient and the patient is given a chance to ask questions afterwards so that he has an understanding of what to expect."

Carpenter explains that in Missouri the courts measure the duty of a physician to make disclosure of risks by the prevailing weight of medical opinion in similar cases, not the individual, subjective standard of a single physician.

The type of surgery should be considered when deciding the extent to which risks need to be disclosed. "Is it elective surgery? Is it for cosmetic purposes, or will the patient die if he doesn't have it? All of this has a bearing. A tubal ligation would be a good example. Usually this is a purely optional operation, so possibly that patient should know more about the less frequent hazards than when the surgery is done on an emergency and lifesaving basis," Carpenter says.

Carpenter does feel the patient undergoing surgery should certainly be aware of the risks of anesthesia. "It is a medical fact that some people just don't wake up," he says. "Of course the physician should emphasize he doesn't think this will happen, but the patient should know the statistics."

In his seminars, Carpenter emphasizes that the physician cannot use as a legal excuse for not informing the patient the fact that the patient wouldn't undergo a procedure if he knew the risks involved. The patient is entitled not to have a procedure done.

"However," he says, "it is legally excusable if the informing process itself will harm the patient, as in possibly the case of a psychiatric patient. We're certainly not dealing in absolutes. Nobody can say the physician has to tell everything to every single patient."

Everything under the informed consent principle should be geared to the patient as an individual, with that patient's individual problems and concerns taken into account.

After the physician has adequately informed the patient of foreseeable hazards, he may ultimately need to prove that this has been done.

"We now know that some people may innocently deny that they have been informed by their physician," Carpenter says. "Most medical institutions have some type of consent form for the patient to sign, even though these forms cannot adequately cover all a patient needs to know about a procedure. I have come to realize in talking with physicians and support staff that these forms are sometimes viewed as a rather mechanical thing, and this is
cian. By the time he leaves here, the patient should feel he was treated in the way he should be treated by everyone involved.

"One of the more exciting aspects of this effort is that, even when a troublesome case is in progress, we all get involved. We make sure everyone is aware that here is something requiring special attention. My office stresses early warning notices. This wasn't happening before. In the last three years, as the environment has tightened up and more attention has been focused on the problem, we've done more. But it's only been in the past year that we've fully intensified the effort. The program is now in full swing."

Midkiff emphasizes that members of the faculty, the house staff and medical students are encouraged to prepare a special report of circumstances which seem to merit special consideration or further investigation. These early warning notices should be sent to the Business Manager's office where they are then forwarded to a law firm which specializes in the defense of medical malpractice claims.

When a medical malpractice claim is brought to trial and the jury rules in favor of the patient, insurance statistics show that only about one-third of the settlement goes to the patient.

"One of the reasons for this lies in the fact that the tort system focuses on trying to establish negligence, so a lot of the money goes into the legal hassle rather than to the extent of the injury," Midkiff says.

"What it really adds up to is if you can devote the resources set aside for malpractice losses to real honest-to-goodness malpractice losses, rather than defending the frivolous suits, the nuisance suits, the unfounded claims, then the money that is set aside will get to the hands of the injured people. That's what everybody involved would rather see happen. It's nobody's intention to leave an injured person unpaid."

Midkiff emphasizes that the big issues come down to two major areas: patient rapport and informed consent. They account for about 60 per cent of all medical malpractice lawsuits.

"We're as much in the business of preventing suits or claims as we are in the business of handling them afterwards," Midkiff says, "it's like practicing preventive medicine. There are many things we still need to do, and we're excited about getting them started. One of our next steps will be to start sessions with the support staff, as well as the doctors, because they have an intimate relationship with the patient separate from the doctor."

With the growing concern over the malpractice issue and new interest in good physician-patient relationships, many people feel the Medical School curriculum should include the area of patient psychology. Medical students themselves have expressed an interest in learning more about this subject.

Midkiff believes there should be something in the Medical School curriculum that teaches the medical student how to deal with the patient as a person. "You have to know how to treat the person," he says, "as well as their illness. On several occasions I've had
a mistake. I've had lawsuits in which the patient truthfully says, 'I had to sign it before I could have my surgery, but nobody really explained it to me.' If this is the case, then that consent form and the patient's signature is meaningless to him and to us."

Carpenter emphasizes that the consent form is only useful if it establishes that there was a communication of ideas between the doctor and the patient. Ideally the physician should adequately inform the patient, note it in the chart, outline what he said, and identify it with his signature. "If anyone else was around at the time of the informing session," Carpenter says, "that person's name should also be noted in the chart. Then, later, whoever has the patient sign the consent form should make sure the patient really does understand the hazards of the procedure as told by his doctor by making inquiry. If the patient does not fully understand, then someone should go over it with him again until he does."

Carpenter feels when a procedure is done frequently enough to warrant it or when the procedure is particularly hazardous, it can be worthwhile to have a Patient Information Pamphlet. "This would be some sort of prepared writing covering the regular hazards of a procedure in some detail," he says. "Of course it should not be a litany of horrors; it should simply put the procedure in perspective. This would not act as a substitute for a review session between the patient and physician. But when the physician is terribly busy, it would act as a guideline so a member of the support staff could go over routine things with the patient. The physician could then cover any additional thing applicable to that particular patient."

Through some appropriate manner, the patient should be informed to a reasonable extent and some provisions should be made to be able to establish this fact. At a very minimum, Carpenter feels whoever tells the patient something should write it down in the chart. "And from my point of view," he says, "some sort of outline of the conversation should be indicated in writing. Any other further trimmings that can be added to help us establish that the patient was truly informed are all to the good."

Carpenter would also like to see early warning reports filed by the physician or support staff when someone recognizes that a patient is dissatisfied, or when a result occurs that neither the patient nor physician expected.

"We're trying to put together a system which allows the University to respond to complaints or errors in an appropriate way," he says. "There can be meritorious claims in any institution, and one of our goals is to see that those are taken care of promptly and fairly. We don't want to force people to go through two years of court proceedings when they have a meritorious claim. If we can't immediately tell if it's meritorious, then we want to promptly do an investigation, identify the people involved, get some medical opinions together, and then evaluate the merit of the claim. If the claim is identified as probably not meritorious, then we want to start preparing to defend it. When potential problems are
students come into my office to discuss this topic. A lot of the students are fearful about what they can expect from malpractice. And, of course, they are concerned simply out of humanistic feelings."

Most people in the health care professions are there because they want to help people. That quality should not be lost.

"Students emulate what they see," Midkiff says. "If their faculty is the impersonal type, then the students will learn to be impersonal. If the particular faculty members they most admire are humanistic and sympathetic, then they will be, too."

Midkiff cited the late Carl Vernon Moore, former dean and chairman of the Department of Medicine at WUMS, as a classic example of the humanistic physician in our community. "I talked to a 90-year-old lady the other day who's been coming here for treatment since Dr. Moore was a resident," he says. He discovered her pernicious anemia. She said throughout these many years, she's never met another physician like him. He was noted for his personal concern for people, and I'm sure there are others who are equally as good. There's just not enough of them! Patients do remember kindness from their physician!"

Midkiff points out that, as in most instances, it is difficult to see ourselves as others see us. He says it is not an easy task to get busy, intelligent professionals to really pause and take a look at themselves and their treatment techniques.

"Doctors should be humanists," he says. "I think the whole issue of medical malpractice is going to force the physician to become more humanistic and personal. People are just refusing to allow a physician to get away with mechanistic behavior. It would be much easier for the physician to recognize this and change his style of patient rapport, than it will be to get legislation to protect doctors."

Ironically, the interest in medical malpractice suits and the growing awareness in good patient rapport, informed consent, and thorough medical records, will probably improve the quality of patient care.

"If all of these areas are strengthened, it can certainly have a positive effect on patient care," Midkiff says. For example, we've been emphasizing the importance of keeping good quality medical records. The record is really meant to communicate to the various members of the medical team what has been done and what is expected to be done. If all of this is well-documented in the medical record, there is a better chance that the medical goals will be met.

In the discussions we have had with our physicians, the specialists in loss control and claim prevention have emphasized that we're all working for the same thing—better patient care. We're not on opposing sides!"
Choosing tomorrow's physicians

By Sharon Stephens Murphy

There are approximately 15,500 positions in the freshman classes of the 116 medical schools in the United States. This year there were more than 42,000 applications for these positions, so that about 38 per cent of those who applied were accepted. At Washington University School of Medicine the statistics are more frustrating. Less than two per cent of the almost 7,000 applicants were accepted for the 120-member freshman class.

Someone has to decide who the lucky 120 will be. This frustrating, time-consuming and often thankless job falls to the 19-member admissions committee.

“We presume that our charge is to attract, recruit and enroll students who will make the best medical students and best physicians. We try to do the best and most comprehensive job we can,” says John Herweg, M.D., associate dean and chairman of the committee on admissions.

The admissions committee is comprised of a variety of clinical and basic science people including four administrators and two part-time faculty members.

Service on the committee is for four years and the compensation is a job well-done.

WUMS participates in the American Medical College Application Service. In this program applicants may file, with just one application, to any of the 87 medical schools in the Service, paying a graduated fee for the number of schools to which they apply.

Herweg says pre-meds start applying in summer and early fall a full year before matriculation. “The admissions process is a year-around operation for us.

“In the past,” Herweg says, “we made a preliminary decision as to whether the application was competitive, but now the Committee has decided to review every application in its entirety.”

The first step toward acceptance is a good academic record. “Usually a student has to have a 3.5 grade point average or above to get serious review,” Herweg says. “With the grade inflation, most students present very good grades. The gpa average for those accepted is 3.6 to 3.7.”

Recommendations received from the pre-med advisory committee or faculty members at the applicant’s undergraduate school are also given consideration.

Perhaps the biggest opportunity for students to sell themselves is the interview. About 1,500 finalists are interviewed.

The Medical College Admissions Test (MCAT) scores also are used to discern the applicant’s abilities.

But deciding which of the many applicants who meet or exceed the criteria will enter this Medical School is the tough job.

One committee member explains: “In my experience I have found that one fourth of the applicants are fantastic choices and one fourth are young, immature, antisocial or for some reason don’t impress me. The other half, I would be perfectly happy with. I know they would do fine but they don’t make me light up.

“That’s 75 per cent of the applicants who would do alright and that’s the tragedy. That’s the heartbreak of this job. It’s a very humbling experience.”

“We could fill our classes with Ph.D.s,” says Herweg, “or qualified women students or with all WU undergraduates, but we prefer to be more selective and diverse.”

Another committee member, David Brown, Ph.D., professor of biological chemistry, thinks a diverse student body is best for the students and for the teachers. “Diversity enhances and enriches their lives. They develop into better human beings. I certainly hope diversity of background doesn’t gradually fade out.”

This diversity is somewhat assured by the disparate members of the committee and the personal approach. “It would be easy to turn the selection over to a computer and some schools, in part, have done that,” Herweg says. “But we personalize each application. Everyone who applies gets a fair shake.”

It might sound impossible for a 19-member committee to give in-depth consideration to more than 6,000 applicants. To make it somewhat easier the Committee is divided into sub-commit-
tees which are responsible for certain applicants on the basis of what undergraduate school they attend. This is done by geographic region. Each sub-committee member then makes one or two interview trips to their schools to talk to selected applicants.

"An effort is made by the committee members to become familiar with the schools in their region," says Brown. "It is important to know the curriculum, grading system and advisers. That way we are better able to interpret a grade from a certain course. Pre-med programs are not equal at all schools. We want to know what a certain course name and number means.

"We also have personal contacts with advisers at as many of the schools as possible."

But with so many applicants competition is still and a lot depends on what the philosophy of the interviewing committee member is.

"We are influenced by what our philosophy of medical education is," says Mary Parker, M.D., associate professor of preventive medicine and public health, and director of University Health Services. "If you believe medical school is designed to train Nobel Prize winners you are looking for one kind of applicant," she says. "But if you think medical school is designed to train a clinician, a people doctor, then you have a different idea of what a student should be.

"It's just not as clear cut as it used to be," Parker says. "In the good old days a Ph.D. dealt with molecules and an M.D. dealt with people. Today, you see a good number of M.D.s, who through knowledge of people, know there are scientific questions which have to be answered in the lab.

"Previously, they looked for people who were motivated to help patients, who had compassion and were good at interpersonal relations."

"This medical school," Parker says, "has the attitude that we can have the best of both worlds; we can have brains and compassion."

Parker says her bias is to look for the person who will relate to people. "If they have no interest in people or in the way illness affects a person, they should go for a Ph.D. degree," she says.

"During the interview I think of myself as a patient and how would I feel

One of six children, daughter of a dentist and marriage/family counselor, Dianne Budd has fulfilled the requirements that everything attempted should be done well. A biology and dance major at Scripps and Pitzer Colleges in her home town, Claremont, Calif., she has a high academic standing and has been chosen for many honors, including being chosen an Olin Fellow. This entitles her to a full scholarship to WUMS. At age 21, Budd has had a wide variety of experiences which indicate she will be an enthusiastic medical student.

"As an undergraduate, I was not willing to devote all my time to academics. I involved myself in a broad range of activities, and I believe that my experiences have been an excellent preparation for the type of health care I hope to provide. We can no longer afford to isolate medical care from the economic and social factors which contribute to disease, and we must grow from our preoccupation with crisis or curative medicine to preventative and educational services. As a physician I would like to be involved in health care in this broad sense and believe that my background has prepared me well for this commitment.

"As health care in America moves further from a one-to-one, general practice to increased specialization, the need for primary care providers in physician roles increases.

"As a woman with an orientation towards healthy bodies, I've continued to dance throughout my life. Now at a professional level, I perform with groups in this area. It seems that dance is a manifestation of this orientation which I believe to be the real ends of a medical career. This body-interest also led me into involvement with Women's Medical Self Help which I have taught for three years. This has given me personal experience in a health provider role and has made me acutely aware of the limited health knowledge of most college students.

"Work as a dental assistant was my first practical experience in the provision of health services. Work with drug addicts at California Institute for Women and with individuals at Olive Medical Center helped me understand extreme disability. Serving as the Pitzer representative on the Health Services Advisory Committee has given me experience in health care planning within my community.

"My travels around the world, working and studying health care provision has attuned me to the special circumstances of inadequate facilities for some classes of people and alternate methods of treatment. Working in a leper ward and giving prenatal exams to lines of women in Ranipet, India, opened my eyes to the real crises in many lives often not seen or acknowledged. My observations and experiences at the People's Commune Hospital in Canton, People's Republic of China, gave me some insight into the possibilities of alternate provision i.e., barefoot doctor's acupuncture, the necessity for openness to innovations in treatment and continuing education.

"Part of my motivation has come from personal experiences with health care provisions which were inadequate, and a realization that I would be capable of effecting some change through my own education and practice as a physician. I would be effective in this role, not only because of my individual interest, but also my ability to successfully work with people, and perhaps especially because of my awareness and sensitivity to the special problems of women in medicine, both as patients and as providers."
if this man or woman were caring for me. I toss questions at them and pose hypothetical patient situations which are not a matter of medical information but of moral and philosophical disposition.

"I want to know if an applicant is a real person or a learning machine."

Realness and ability to relate are also important to John Kissane, M.D., professor of pathology and of pediatrics. "Medicine is one of the last one-on-one situations," he says, "and it's important that a medical student have the ability to relate on these terms.

"I try to find out if this person is the kind who will inspire confidence and will make the patient feel at ease.

"Another question is what is their motivation? I like it when the motivating factor is something other than science and people. That's the standard answer it seems; they like science and they want to deal with people. I think it is an insightful person who can say they want a medical career because their father is a doctor and they admire him or any other role model."

Kissane says he also looks for a sense of reserve strength that the person can draw on intellectually and emotionally. "I don't like to see someone who is already operating at full capacity," he says.

Motivation is a factor in David Brown's search for worthy applicants. "I try to find the depth of motivation toward and for a medical career," he explains. "What is the origin of that motivation? What in the person's life made him or her feel that medicine was the thing? I think it's very important to know."

Like many of the interviewers, Brown tries to assess the applicant's ability to communicate. "There is a lot more at stake than science and facts. Some people may be good at science, but disastrous at interpersonal relationships.

"I want to know what excites a person about life outside of studying. What are their outside interests and what do they do in their free time? I'm impressed if whatever they do is done indepth and purposefully," Brown says. Committee members are looking for people who master their extra activities, not someone who is a 'jack of all trades and master of none.'

Ellen Binder is a native St. Louisan. Her father is a clinical faculty member at WUMS and her mother is a psychiatric social worker. A psychology major at the University of Michigan, Ann Arbor, Binder has been involved in several health-related activities. She has received an award for excellence in psychology (1976), and a Wurdack Fellowship from WUMS (1975) and has participated in the Mental Health Fellowship Program at the University of Virginia Medical Center (1976).

"My interest in pursuing a career in medicine has been provoked primarily by the experiences which I have had over the past three years. Both my formal education and my extracurricular activities have given me insights into my interests and abilities. A common thread which has tied all these experiences together has been my interest in learning about the lives and problems of people from different backgrounds and cultures. Out of this general interest, a more specific concern for human health and pathology has evolved. This interest, I believe, can best be pursued through a medical education in that it would allow me to integrate my personal abilities effectively in a way that would be both enjoyable and fulfilling.

"During my formal undergraduate experience I have become most interested in the study of human growth and development from a psychological, biolog-
ical and anthropological perspective. My focus has been primarily on the interac-
tion of man and his environment from an adaptational, evolutionary view-
point. Indeed, I have been able to look at human adaptation along a continuum ranging from molecular and cellular inter-
actions, to the methods by which man copes with his cultural environ-
ment. Although my academic back-
ground has been rather broadly based, it has provided a starting point from which I have developed more specific interests.

"The research experiences which I have pursued have elaborated upon my interests in biology and psychology. I spent two summers working as a research assistant at Washington University Medical School. This work broadened my knowledge of physiology and bio-
chemistry. I worked in the same capac-
ity for a psychology professor interested in child development. This past semester I initiated an honors thesis project in psychology concerning psychological and psychosomatic aspects of pregnancy.

"Through this project I hope to gain some insights into the behavioral com-
ponents of the, process of pregnancy, and thus look at some developmental issues from a combined psychological/ biological viewpoint. All of my research experiences have taught me a great deal about research methodology, as well as some of the research techniques utilized in the particular area of study. Of equal importance was the insight I gained into the work of a researcher and the satisfactions and problems associated with the research profession. My experience in the medical setting gave me a better understanding of the field of academic medicine.

"Although I found my research experiences to be both interesting and enjoyable, it has been my clinical work which has made me decide more strongly upon a career in medicine. I have worked since January, 1975 at the Ann Arbor Planned Parenthood Clinic as a lab assistant and counselor. Through this experience my interest in physical and mental health has been sharpened.

My skills at working with people have been developed, and I have been ex-
posed to the lives and problems of people from several different backgrounds. The topic that I chose for my thesis project originated out of my work at the clinic. Indeed, the experience has helped me to discover my interest in medicine and patient care, as well as my strengths in working with people.

"This summer I have pursued my interests in psychology, mental health, and medicine by participating in the Mental Health Fellowship Program. It has been both fascinating and exciting to work with psychiatric patients and mental health professionals. I have especially enjoyed the blend of academic and experiential knowledge accessible through the program.

"I am excited about the options that a medical career could offer me. I believe that I have the interest and ability to work in the field, and I am willing to commit myself to doing the best job possible."
"But in the end it comes down to brains;" Kissane says, "a student just can't make it without a pretty high level of brain power. But the student must also have integrity, moral honesty and be someone who gives a damn."

Despite the enormous numbers of applicants and some criticism that the committee should utilize a computer system, Kissane feels the personalized route is best. "I'm too much of a romantic not to believe that judgement by a human being about another is still better than judgement by a machine."

In addition, he says, many of the committee members come to feel they serve the applicant. "Our responsibility to the medical school," he explains, "is to get the best students enrolled. However, we are often the only access the applicants have to the admissions process."

The applicants have many questions about WUMS and in the end they may have to decide if this is where they want to go. David Brown recently made information tapes about WUMS for one of the pre-med offices at one of the schools he visits.

The role of catering to the students' needs is important in getting a top-notch freshman class. "Not only is it hard for students to get into medical school," Brown explains, "but the competition among medical schools to get the best students is also very severe. We have to do a little bit of selling to students if we feel they are worth it," he says.

We seldom interview someone who hasn't been interviewed elsewhere. We are interested in the same kind of people that Harvard, Stanford and other schools are trying to get," Brown says.

Dr. Herweg agrees that most students accepted here are accepted at other schools. "One student had nine acceptances," he says. "There are many reasons why they may decide not to come here. One student wrote that we were too far from the ski slopes and if that was where his interests were, we're glad he didn't come," Herweg says.

"Some reasons are geographical; some are personal. Sometimes they feel they can get a less expensive medical education elsewhere or a better one. The reasons differ.

"People we want are often accepted by three to five other premium schools," Herweg says, "and they make comparisons. Hopefully they'll select WUMS."

There are no quotas to fill at Washington University School of Medicine. The admissions committee judges applicants on the basis of the person and not on their race, religion, sex or geographical preference.

"We usually have 12 to 15 black students in each entering class," Herweg says. "We started our minority program in 1968 with three black students. Compared to many other schools, our minority program is doing well and we're still trying."

Herweg says WUMS gets a good share of the nation's black medical school applicants. This year there were about 2,300 nationwide with 514 applying to WUMS.

"We are getting more and more minority students who have had better and earlier educational opportunities."

As for women, currently 125 out of 547 students in the school are women. The applicant pool, Herweg says, is 25 per cent women. "They compete very

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Mitchell Seavey will receive a BS in the MIT course, Nutritional and Physiological Biochemistry. My responsibilities included the administrative and classroom aspects of teaching—from preparing and grading exams and problem sets, to lecturing on new material.

"I have participated in the Undergraduate Research Opportunities Program doing research in the Laboratory of Neuroendocrine Regulation. One investigation dealt with nutritional effects on brain neurotransmitter levels, and a second project focused on the effects of protein deprivation on pregnancy and milk production in rats. This work has given me a deeper understanding of the relationship between nutrition and health.

"This year I was elected captain of the MIT varsity heavyweight crew. I am responsible for providing leadership, and encourage new oarsmen in their efforts. I enjoy rowing and have developed a sense of discipline due to the year-round time commitment this sport demands. As a member of the boat which won the Intercollegiate Rowing Association Championships, I competed in the Royal Henley Regatta in England. This enabled me to meet people from all over the world and enjoy the experience of touring Europe.

"As vice president of my fraternity, my primary project has been organizing an affiliation with a learning center for retarded and handicapped children. This will benefit both the fraternity members and the children.

"I am eager to attend medical school. I have the enthusiasm and determination to become a competent and caring physician."
favorably with men," he says, "and make very good physicians." In addition there are usually one or two foreign students in each class.

Besides the fresh-out-of-college pre-med applicant, WUMS also occasionally accepts what might be considered unusual applicants as well as the applicant who has a non-science major.

"The committee looks at each applicant as an individual," Herweg emphasizes. "We think medicine needs people of all backgrounds and older applicants can offer strength and leveling to the group. Some applicants have had a career in some other area of endeavor. We will have one woman in our 1977 entering class who is an established researcher."

A woman who has young twin daughters will also join the freshman class. She convinced the committee this would not deter or distract her.

"When I see a student who has had a major other than pre-med or has done something else for awhile, I think here's a student who didn't follow the pack," says Mary Parker. "Here's someone who wants something else but still wants to get in medicine."

People from many experiences have been accepted. Ministers, a nun and a professional baseball player have been or are students.

Most are biology or chemistry or science majors, but as long as they have the minimum science course requirements for medical school, the major is unimportant. The academic requirements are math through integral calculus, college physics, chemistry through organic chemistry and eight hours of biological science.

People with majors in music, classical languages and engineering along with others, have successfully completed medical school.

The job of the admissions committee members may be tough, but they can be proud when the job is done and their candidates become worthy medical students. The reputation of the school in many ways depends on the quality of students accepted and graduated.

"To me," says David Brown, "it is so terribly important to keep the quality of students as high as possible. That's why I'm willing to give my time to the admissions committee. It has to be done and it is an important task."

A native St. Louisan, William Gee is the son of an administrator at The Jewish Hospital of St. Louis. He is a chemistry major at Cornell College, Mt. Vernon, Iowa. He has been active in many areas including track, choir and the Varsity Christian Fellowship. He has worked as an orderly and research laboratory assistant. Gee will be one of the 120 freshmen to enter WUMS this fall.

"I have a strong interest in the sciences. It is not narrowed to one specific field but covers the wide range from physics to chemistry and biology to psychology. The medical academics include all of these and medicine is a field made to order for a broad science interest such as mine."

"I have worked in Barnes Hospital for six summers. For two summers I walked the medical center as a transporter and I spent another two summers in ENT and general surgery operating rooms. In 1975, I was a Wuradach Fellow in the Lipid Research Lab at Washington University. I worked in the emergency room six weeks during an interim session and this summer I am a psychiatry technician on a semi acute psychiatric floor. These last two positions have provided me with valuable patient contact.

"My experiences have rewarded me through gratification from working with and helping the sick and I have been convinced that my life is compatible with that of a physician."
Treating the total person

By Sharon Stephens Murphy

Along with the treatment of physical ills, the medical team is responsible for the emotional and non-medical needs and problems which often arise as a result of illness. Washington University Medical Center and the School of Medicine recognize the specialized role social work plays in the treatment of the total person. The School of Medicine provides for social work services in its patient care areas. The following article will examine the role of social work in this medical setting.

T. is a four-year-old girl whose condition requires radiation treatment. Her mother is undecided about signing a treatment permit because she doesn't understand the treatment or know enough about the side effects of the therapy.

Mrs. C. is a middle-aged woman who requires dialysis. She is concerned about the financial burden this will put upon her family and worried that her husband will not accept her illness as being real.

Mr. L., a 40-year-old father of five children, entered the hospital with a broken neck after being struck by a hit-and-run driver. Now paraplegic, he has many concerns and emotional and financial problems as a result of his disability.

There was a day when such situations were viewed in a neutral way. If patients received “good medical care” during their hospital stay that was enough.

That day has passed. Today, neither the health professions nor the general public is willing to tolerate the waste of human resources and the inefficient use of health manpower and of costly hospital facilities. Preventive, rehabilitative and follow-up services are necessary and now are usually available to treat the social and emotional needs of the patient.

The first person to recognize and fulfill these needs was Richard Cabot, M.D., at Massachusetts General Hospital. In his book, Social Service and the Art of Healing, he cited infants who were repeatedly brought to the hospital and given free care for malnutrition. He followed up one such case and found the mother was ignorant of the principles of child care and nutrition, though capable of being taught. Cabot felt that neglecting the social needs of patients was not only detrimental to the health of the total person, but was costing the hospital money and inappropriately taking the time of physicians. In an effort to remedy the situation, Cabot established the first social service department in the country in 1905.

Shortly thereafter, in 1910, the social service department which evolved into what now serves Barnes Hospital and the School of Medicine was established. A committee of the Board of Managers of the St. Louis Children's Hospital was responsible for the creation of social service. It was a result of the special needs of sick children—special diets, braces and other appliances, transportation to and from the hospital, etc.

Throughout the years, social work services available in the Washington University Medical Center have expanded. Now each hospital, Barnes, Children's and Jewish, have separate departments. In the patient care areas owned and operated by the School of Medicine, social workers paid in full or in part by the University provide care. These areas include the Medical Care Group, the Irene Walter Johnson Institute of Rehabilitation, Chromalloy Kidney Center, Mallinkrodt Institute of Radiology and the Clinical Research Unit in Barnard Hospital.

Evelyn Bonander, ACSW, is director of the Barnes Department of Social Work and the Medical School's social work functions. "Social work in health settings was born through recognition of the emotional and social components of health," she explains. "It is the role of social work to assess and treat these components in concert with other health care team members."

Mr. T. is 23 years old, married and has two children. He was advised of decreasing kidney function about five years ago, but did not pursue follow-up care. Now, dialysis treatment is necessary.

Mr. T. has significant responsibilities and few family supports. He continues to work full-time and lives some distance from the medical center so he and his wife have decided to train for home dialysis. Mrs. T. wants to learn but is frightened and overwhelmed by the magnitude of the problem and her responsibility.

Mr. T. has difficulty accepting his need to be dependent upon his wife and a machine. His wife faces a different set of problems including anger at all the demands, guilt that she feels that way and fear of losing her husband and being alone with two children.

"Social work is active in the Chromalloy Kidney Center as a part of the evaluative process prior to a patient's acceptance of dialysis or as a candidate for transplant," explains Dean Kappel, MSW. "All end-stage renal disease patients are evaluated not only to identify social and emotional problems, but also to provide the other members of the medical team with a prediction as to how a patient will adjust. The above case illustrates some problems which are routinely identified and assist in an overall prediction.

"In this case the initial work-up iden-
Virginia Lenobel, ACSW, talks with a patient in the kidney dialysis center.

tified an unstable marriage with multiple personal problems exhibited by each partner. Therefore as home training was begun, other staff were made aware of the problems and the patient and his wife were offered marriage counseling.

Evaluation is one of the medical social worker's primary functions and consultation and collaboration with the rest of the medical team is equally as important.

"Given the many social and psychological stresses of chronic, long-term dialysis, it is important to know and understand the patient," explains Pat McKevitt, ACSW, "as well as family relationships and lifestyle, in order to predict how well the patient will adhere to the special treatment regimen, tolerate dependency on the machine in order to live, and integrate the treatment process into a meaningful and productive lifestyle.

"After identifying problems and strengths within the patient and family, the social worker can assist them in coping with and utilizing resources within their situation more effectively and provide information/management techniques to medical, nursing and dietetic staff," McKevitt says.

Evaluation and counseling for emotional and social problems are two direct services social work provides to patients and their families. Referral to community resources for medical aids, job training, institutionalization, transportation, finances and on-going care is another. Often a patient may have a need for which the community can provide.

Social work is active in planning programs with community agencies which will provide more services through the community resources. For example, the nephrology social workers have been working with the Red Cross volunteer office to provide a transportation program to meet the needs of patients coming to the Medical Center for dialysis. They have also prepared a proposal to the Kidney Foundation for the establishment of a Drug Bank Program and have worked with occupational therapy to establish services for dialysis patients.

A unique function of the social worker is that he/she is the one member of
the health care team whose job in­cludes knowing and informing the pa­tient of community resources which can help him cope with his illness and related problems.

In this case the patient’s circum­stances required the social workers to intervene on more than a community level.

A 38-year-old man developed end­stage renal disease while in this coun­try on a student visa. The patient taught school in his home country as did his wife. Their four children had to remain in their home village in the care of an aged grandmother, support­ed only by what the parents can send as there are no other relatives to care for them. The patient had just been accepted at a lo­cal university to work on an advanced degree when he be­came ill.

"The focus of social work has been in the area of helping patient and his wife to deal with the overwhelming problems which they are facing and which are exacerbating his medical problems," explains Virginia Lenobel, ACSW. "The patient initially expressed anxiety about his own survival, fear of treatment, difficulty in understanding medical program and sources of financial assistance.

"He is frustrated and depressed by the situation he cannot control and by concern for his children. Fears of being refused permission to remain in the United States have been abated by social work intervention with the Depart­ment of Immigration, who have placed the patient and his wife in a deferred category and have authorized wife to work.

"We contacted the U.S. Representative in the patient’s district," says Le­nobel, "with hopes of eventually intro­ducing special legislation to permit the family to be reunited on humanitarian grounds.

"Since the patient cannot obtain treatment in his own country the ultimate goal for the family is to remain in the U.S. It is the medical plan for the patient to be given an opportunity to regain strength so he can be re­ferred to the Department of Vocational Rehabilitation for training appropriate to his intellectual ability, eventually enabling him to support his family.

"Coordination of services for this patient/family situation has resulted in better medical and nursing understand­ing of stress the patient is experi­encing so that medical care can lead to a more successful outcome."

This example illustrates many of the skills a social worker may be called upon to use. "Occasionally," Dean Kapp­el explains, "social work becomes in­volved in situations which require almost detective-like skills."

An adolescent male was recently hospitalized and subsequently it was determined that he suffered from polycystic kidney disease and would re­quire hemodialysis within six months. At this point the patient and family stated that dialysis, as a treatment modality, was not compatible with their religious beliefs. Although dialysis was fully explained they continued to re­fuse treatment.

"Social work’s role was to insure that the patient and his family were making an informed decision," Kappel says, "and that they recognized the predict­ed consequences of their decision. In the fulfillment of this role it was learned that the essence of their re­jection of dialysis was their belief that the dialysis machine must first be primed with someone else’s blood prior to treatment. This was true during the early years of dialysis," he explains, "however, is no longer the case. With their new understanding the patient and family consented to treatment."

Medical social workers may be in­volved in life and death situations, as
well as in routine problem solving and decisions patients must make. The important involvement which the social workers have in the Chromalloy Kidney Center is repeated throughout the Medical Center in the various clinics and departments.

Mr. Y. is a 82-year-old, white, widowed male. He just didn’t think it would be worth the aggravation to make daily trips to radiation therapy. Mr. K. is 72, lives alone and says he is depressed. He didn’t know how he could make it for daily treatments. Mrs. S. is frightened of the treatment machines; Mrs. R. doesn’t feel sick and doesn’t see why she should receive radiation therapy.

All of these people were referred to the radiation oncology social worker, Laurie Braun, MSW, in the Mallinckrodt Institute of Radiology. Physicians, nurses, technicians and other members of the radiation oncology staff refer patients to Braun for many reasons.

"The patients mentioned were referred to me so I could assess with the patient the reasons they have for being ambivalent about receiving radiation therapy," Braun explains. "I interviewed these patients to help each identify and label the reasons. A social worker listens to the patient, allows him to ventilate feelings, provides information when it’s possible, and communicates the patient’s concerns to the medical staff.

"Often patients who have been given an opportunity to explore their feelings, have their questions answered and learn of community resources decide they do want to receive radiation therapy. I’m available to these and other patients and families who have concerns about their illness.

"Besides a counselor, I see myself as a resource person," Braun explains. "I work with the community agencies like the American Cancer Society and Peregrine Society who often can assist with patient’s concrete needs in ways I cannot."

Braun works with the patient and staff so that the patient can best cope with their illness and the need for treatment. With the support of the social worker, some patients who might

Evelyn Bonander, ACSW, director of the Department of Social Work, Barnes Hospital.
have otherwise been unable or unwilling to receive treatment, successfully complete a course of radiation therapy.

In the Clinical Research Unit, all patients admitted on diabetic protocols or for bone marrow transplants are similarly evaluated by social workers who provide appropriate assistance with emotional, social and financial concerns.

Another area in which social work plays an important part is in rehabilitation. Diana Reed, MSW, is the social worker in the Irene Walter Johnson Institute of Rehabilitation. "In rehabilitation," Reed explains, "the patient is engaged in mutual endeavors of learning what to do and how to do it, with or without prostheses and adaptive equipment. The processes of rehabilitation are directed toward preparing the individual and his family to cope with a problem or condition which may persist for the rest of his life."

Mr. W., 74, a bilateral below-knee amputee with multiple medical problems was referred by his physician in the Institute's Amputee-Brace Clinic. The physician wanted to know if the patient could utilize artificial limbs. He also noted that the patient's wife had a heart condition, should not lift the patient, and was having difficulty caring for the patient at home.

"I and other team members interviewed Mr. W. and his wife to assess his potential for utilization of prostheses," Reed explains. "Mr. W. had limited insight into his own strengths and limitations and little understanding of his medical situation. His wife appeared conscientious, overly helpful to the patient.

"Mr. W. had no desire for artificial limbs," Reed says, "but rather expressed a desire to remain in his own home to avoid the need for nursing home placement."

"In collaboration, the medical team and Mr. and Mrs. W. decided Mr. W. was not a prosthetic candidate but did have potential for increased function. The team established a training program preparing for maximum independence in self care enabling the patient to be cared for by his wife at home."

Reed explains that because not everyone will benefit from rehabilitation, it is important to establish as early as possible what limitations are imposed by the disability and to evaluate the capacity and willingness of the patient.

"The social worker in rehabilitation evaluated the patient's social, emotional and environmental status, identifying strengths as well as potential problem areas," Reed says. "I also contribute to the identification of treatment goals while working with other members of the team in assisting the patient and family to achieve them."

As part of the primary health care team providing services, the Medical Care Group (MCG) employs two social workers, Donna King, ACSW, and Wendell Drew, ACSW, who are full-time faculty members of the School of Medicine. The MCG of Washington University, a new concept in comprehensive health care, is a prepaid medical group practice plan available to members and their families of varied St. Louis area organizations, i.e. employer, union, or association sponsored health care programs.

Services provided by the MCG social workers include (1) evaluation and counseling to children and adults in relation to individual and family problems, marital conflicts, parent/adolescent difficulties, etc., (2) consultation to MCG staff, re: patient problems, and (3) preliminary screening of individuals considered for referral for psychiatric services.

"The primary objective of social work in responding to these expressed needs and concerns," King says, "is to provide timely and professional help to individuals, couples, families at critical periods in their functioning. Evaluation and counseling to members and their families is the major thrust of social work." A typical day at the MCG might include:

Oncology social worker Laurie Braun, MSW, talks with Thelma Bryant about a patient receiving radiology treatments.
A 49-year-old married woman experiencing generalized dissatisfaction with two children, requesting help with her professional career, advancing middle age and concerns of decreasing physical attractiveness and confidence.

A young couple, married eight years with no children, requesting help with marital problems . . . difficulties in communicating and in their sexual relationship.

A 17-year-old boy blinded in one eye as a result of a school accident struggles with family's sympathy and has difficulty discussing the ramifications of this injury, peer rejection, restrictions in activities, self image and the ever present worry of “what happens if I injure my one good eye?”

A 56-year-old married man, former alcoholic, business executive, struggling to maintain sobriety is concerned about his marriage, his career and problems with impotency.

A 16-year-old pregnant girl, uncertain about abortion, feeling pressure from her parents to “do the right thing” asks for counseling to involve her prospective marital partner to talk things over.

"For most," King says, “brief therapy (3 to 12 sessions) is beneficial and underscores that to define, understand, and deal with problems and concerns does not have to involve years of therapy."

"Regardless of age, socio-economic status, marital status, big people and little people experience similar problems in accepting their own worth, acknowledging their strengths rather than emphasizing or dwelling on their negatives, making decisions, and dealing with fears of failure and possible rejection."

"In essence," King explains, "many simply need some support, understanding and caring in the process of defining problems, understanding themselves and alternatives available to them in meeting their needs and dealing with problems."

This is the function of all social work, whether the problems are caused by an illness or other concerns.

In addition to direct services to patients and families and consultation and collaboration with the other members of the medical team, all the social workers in the Medical School are involved in either formal or informal teaching.

In the Kidney Center and other patient care areas the social workers teach informally on a case by case basis and as medical students rotate through the service.

In addition Diana Reed, who is a full-time faculty member, teaches one class in the physical therapy school and participates in the teaching of an eight-week extern training program for medical students between the freshman and sophomore years. Aims include teaching the students an understanding of rehabilitation practices and principles which may later be applied to the care of their patients.

In radiation oncology, Laurie Braun provides informal training for technician students in Mallinckrodt. She talks with them about the psychological aspects of receiving radiation therapy. She also discusses ways to deal with difficult types of patients and how the technician can respond to patients’ questions. She also explores mechanisms the technicians can use to cope with their feelings about working in a radiation oncology unit.

The two social workers at MCG provide education and teaching services to the staff regarding the dynamics of behavior, the impact of physical and mental illness on the patient/family/staff and the complexities of interpersonal interactions and communication. A family care conference held monthly and chaired by the social workers focuses on various problems and concerns of children and adults being treated by the MCG team of health care specialists.

Social workers in various departments also often provide informal training to social work students who do practicums in the Medical Center. Many of the social workers feel the teaching aspect of their responsibilities should be expanded on a formal...
basis to include the teaching of inter­viewing and listening skills as well as such things as psycho-social implica­tions of acute illness/injury, of chronic illness/treatment and of terminal ill­ness for patient and family.

Social workers also are sometimes involved in research. Laurie Braun in radiation oncology is currently involved in researching the psycho-social as­pects of radiation therapy. As part of a team with physicians and a statisti­cian, she designed a questionnaire relating to patients’ knowledge of their illness-radiation therapy and their feel­ings about receiving treatment. She hopes to utilize the information re­ceived by providing better information to the patients in the future, by having available social service to patients who belong to a population identified at risk and to inform the medical com­munity about patient’s and family’s re­sponses to radiation therapy.

The Chromalloy Kidney Center, radiation oncology, rehabilitation and the Medical Care Group aren’t the only areas in the hospital which utilize so­cial workers. Any patient can call upon the social service department for help. In each area, the social work program differs based on the needs of patients, social work time and financing.

“We assist the patients in making a multitude of adjustments to integrate medical care into a satisfactory lifestyle,” explains Virginia Lenobel.

“Illness means different things to each individual, but we try to help the patient and his family work out the emotional and social, as well as financial problems,” she says. “We also want to help with the concrete needs for equipment, medicine and transpor­tation.

In radiation oncology, Laurie Braun explains that social work plays an im­portant part in recognizing that these are people with many concerns and emotions. “We help them deal with their problems rather than shutting them off. Social work is interested in improving the quality of life of the pa­tients and families.”

Improving the quality of life is what health care is all about. As part of the health care team, a social worker goes beyond medical treatment.

“If a man loses his arm, even if he learns to function without it,” explains Diana Reed, “but he still resents or grieves about the loss, we haven’t really rehabilitated him.

“We’re not talking about just restor­ing muscle or function,” she empha­sizes, “but restoring the total person.”

A rehabilitation patient, Delia Diggs, prac­tices walking with the help of the parallel bars and physical therapist Jean Zoellner. Social worker Diana Reed (left) observes their progress.
Internship matching announced

This year 80 per cent of the 122 seniors participating in the National Intern and Resident Matching Program received their first, second or third preference. Forty graduates or about 29 per cent will be interning in the St. Louis area; 21 at Barnes, 4 at St. Louis Children’s, 12 at Jewish, 2 at St. John’s Mercy and 1 at St. Louis University Hospital. Fifty-eight students chose medicine residencies; 18—surgery, 13—pediatrics, 12—family practice, 8—flexible, 8—pathology, 7—obstetrics and gynecology, 3—anesthesiology, 2—radiology, 2—psychiatry and 1—orthopedic surgery.

**ALABAMA**
Birmingham
University of Alabama Medical Center
Gary L. Baker, Medicine
Nancy Cornatzer, Medicine

**ARIZONA**
Tucson
University of Arizona Medical Center
Kay Miller, Family Practices
John Rusche, Pediatrics

**CALIFORNIA**
Fresno
Valley Medical Center
Andrew Kochan, Flexible

Long Beach
St. Mary’s Medical Center
Irene L. Chennell, Medicine

Los Angeles
University of California Hospital
Richard A. Johnson, Family Practices
L.A. County—U.S.C. Medical Center
Roslyn Murov, Pediatrics
Calvin Terell, Medicine

Oakland
Kaiser Foundation Hospital
Kerwin Lee, Medicine

San Diego
Mercy Hospital
Eric C. Hisken, Medicine
Jonathan Horstmann, Flexible
University Hospital
William Lanzer, Orthopedic Surgery
Alan Newman, Surgery
U.S. Naval Hospital
Carl Ley, Surgery
James Steger, Rotating

San Francisco
Kaiser Foundation Hospital
Eric Willsky, Medicine
San Francisco General Hospital
Duane Mitzel, Flexible

**COLORADO**
Denver
University of Colorado Affil. Hospital
Douglas Tollefsen, Medicine

**CONNECTICUT**
New Haven
Yale-New Haven Medical Center
Steven Brody, Medicine
Lionelle Wells, Pathology
Waterbury
Waterbury Hospital
Joseph Marcella, Medicine

**DELAWARE**
Wilmington
Wilmington Medical Center
Pamela Ponce, Pediatrics

**DISTRICT OF COLUMBIA**
District of Columbia General Hospital, Georgetown Medical Serv.
Matthew Leiner, Medicine

Walter Reed Army Medical Center
Frank Robbins, Anesthesiology

**FLORIDA**
Jacksonville
U.S. Naval Hospital
Gary Lammert, Family Practices

Miami
University of Miami Affil. Hospitals
Victor H. Barredo, Medicine

**HAWAII**
Honolulu
Tripler Army Hospital
Kurt Kroenke, Medicine

**ILLINOIS**
Chicago
Michael Reese Hospital
Carol Ballou, Psychiatry
David J. Clardy, Medicine
Presbyterian St. Luke’s Hospital
Stanley W. Buck, Medicine
Allan L. Goodman, Diagnostic Radiology
Edward Paxton, Medicine
Christopher Thiel, Medicine

**INDIANA**
Indianapolis
Indiana University Medical Center
Jerry W. Adams, Medicine
William Steinmetz, Pathology
Methodist Hospital
Phillip Toth, Flexible

**IOWA**
Iowa City
University of Iowa Hospital
Hugh Tobin, Surgery

**KANSAS**
Kansas City
University of Kansas Medical Center
Richard Williams, Family Practices

**LOUISIANA**
New Orleans
Ochsner Foundation Hospital
Melody Ritter, Medicine
MARYLAND
Baltimore
- Johns Hopkins Hospital
  - Patrick N. Dwyer, Medicine
Bethesda
- National Naval Medical Center
  - Mitchell Fink, Surgery
MASSACHUSETTS
Boston
- Children's Medical Center
  - Richard Siegel, Pediatrics
  - Massachusetts General Hospital
  - Warner Greene, Medicine
MINNESOTA
Minneapolis
- Hennepin County General Hosp.
  - Mary H. Duncombe, Family Practices
  - University of Minnesota Hosp.
  - Glenn S. Gollonin, Medicine
  - Eugene Rich, Medicine
Rochester
- Mayo Graduate School of Medicine
  - Christopher Born, Medicine
MISSOURI
Columbia
- University of Mo. Medical Center
  - James L. Davis, Medicine
Kansas City
- Truman Medical Center
  - Rudolph Willis, Medicine
St. Louis
- Barnes Hospital
  - Jesse W. Adams, Medicine
  - Robert G. Armbruster, Diagnostic Radiology
  - James Barnes, Anesthesiology
  - Laird A. Bell, Ob-Gyn
  - Ellis R. Berkowitz, Anesthesiology
  - D. Michael Bitz, Surgery
  - Keith Bridwell, Surgery
  - Bruce Bryan, Ob-Gyn
  - John W. Campbell, Medicine
  - David H. Collier, Medicine
  - David D. Desper, Ob-Gyn
  - Pamela G. Freeman, Medicine
  - Scott Greenwood, Medicine
  - Edward Lewis, Surgery
  - Helen Michael, Pathology
  - D. Michael Nelson, Ob-Gyn
  - Jane Nottingham, Pathology
  - Barbara Reynolds, Surgery
  - John Schier, Surgery
  - Bernard Shore, Medicine
  - Howard Weglus, Medicine
  - Jewish Hospital
  - Barry Bernfeld, Surgery
Bonnie R. Bobzien, Medicine
Joseph P. Clabots, Medicine
Norman L. Foster, Medicine
Sidney Hanish, Medicine
Michael Hatlelid, Medicine
Jeneene Johnson, Medicine
Elliot Krauss, Medicine
Harlan Muntz, Surgery
Clifford Saper, Medicine
Frank Shirley, Surgery
Mark Wald, Medicine
St. John's Mercy Hosp.
Sheri Bortz, Flexible
Pamela McLain, Flexible
St. Louis Children's Hosp.
Timothy Fete, Pediatrics
Edward Kovnar, Pediatrics
Richard Sato, Pediatrics
Craig Spoering, Pediatrics
St. Louis University Group Hosp.
Charles Hershey, Medicine
Washington University School of Medicine
Walter Boron, Phy. & Biophysics
NEBRASKA
Omaha
- Creighton University Affil. Hosps.
  - Mary Pugsley, Medicine
  - Stuart Schlanger, Medicine
NEW YORK
Albany
- Albany Hosp.
  - Adele Srominger, Medicine
New York City
- Mt. Sinai Hosp.
  - Steven Sacks, Surgery
  - NYU—University Medical Center
  - Richard D. Edelstein, Psychiatry
NORTH CAROLINA
Chapel Hill
- North Carolina Memorial Hosp.
  - Christopher Aul, Family Practices
  - Peter L. Jacobson, Medicine
  - William McDonnell, Family Practices
  - Gary Meckler, Family Practices
  - Steven Pierson, Surgery
Durham
- Duke University Medical Center
  - Andrew Bragdon, Medicine
  - James Trig Brown, Medicine
OHIO
Cleveland
- Case Western Reserve University Hosp.
  - John Maksem, Pathology
  - Martin Ruddock, Ob-Gyn
  - Cleveland Metropolitan General Hosp.
  - Eugene Nunnery, Medicine
  - University Hospital of Cleveland
  - Joann Ater, Pediatrics
OKLAHOMA
Tulsa
- University of Oklahoma, Tulsa Medical College
  - John Rollings, Family Practices
OREGON
Portland
- University of Oregon Medical Center Hosp. & Clinic
  - Daniel L. Gleason, Pediatrics
PENNSYLVANIA
Danville
- Geisinger Medical Center
  - Paul Feil, Medicine
Philadelphia
- Children's Hosp. of Philadelphia
  - Caroline Eggerding, Pediatrics
  - Hosp. of the University of Penn.
  - Cheryl Nesler, Ob-Gyn
TEXAS
Dallas
- Children's Medical Center
  - Eileen Moore, Pediatrics
  - John Ogle, Pediatrics
  - University of Texas S.W. Affil. Hosp.
  - Richard M. Gilmore, Medicine
Galveston
- Texas Medical Branch Hosp.
  - Janne Bowen-Williams, Surgery
Houston
- Baylor College of Medicine
  - Vicki L. Altmeier, Pathology
San Antonio
- University of San Antonio Teaching Hosp.
  - Kent Raymond, Medicine
  - Robert M. Ingle, Medicine
  - Barbara Seaworth, Medicine
  - John Shore, Surgery
UTAH
Salt Lake City
- University of Utah Affil. Hosp.
  - Charles Carrasco, Medicine
  - Donald Marquardt, Family Practices
VERMONT
Burlington
- Medical Center Hosp. of Vermont
  - Scott Youngkin, Surgery
WASHINGTON
Seattle
Doctors Hosp.
Gary Koch, Family Practices
University of Washington Affil. Hosp.
Jonathan Dutton, Family Practices
Thomas Phillips, Medicine
Victor Schuster, Medicine

WISCONSIN
Madison
University Hosp.
Judson Jones, Ob-Gyn

UNDETERMINED
Edward Askew
John James Frost
Allergy Institute Established

Charles W. Parker, M.D. '53, professor of medicine, microbiology and immunology, has recently been appointed Director of the Howard Hughes Medical Institute Laboratory for the Study of Clinical Immunology and Allergy at Washington University School of Medicine. The Center, which opened in January of this year, is one of twelve funded by the Howard Hughes Medical Institute throughout the country. The funds cover Parker's research and also help support Dr. Anthony Kulczycki, a young investigator in the division. In recent years the Institute has funded a number of young investigators at the School but the establishment of a Center involves a larger commitment. Center directors are picked from more experienced investigators who have been productive over a number of years in areas the Institute considers important.

Parker's original work was in the area of drug hypersensitivity. His laboratory identified some of the important antigens in penicillin allergy and developed practical skin tests for the detection of penicillin allergy. He has also been interested in the application of sensitive radioimmunologic measurements for materials of clinical and biochemical importance. Parker was involved in the development of the first practical immunoassays for cyclic AMP, digitalis, morphine, and a heart muscle enzyme released during heart attacks known as creatine phosphokinase.

The major emphasis of the work currently going on in his laboratory is in clinical immunology. The funding by the Institute will enable Parker's laboratory to expand on promising research leads.

"We will be continuing ongoing research concerned with how the cells involved in immunologic inflammation—lymphocytes, mast cells, phagocytic cells—are controlled biochemically. This will include attempts to purify and characterize the receptors on these cells for antigens and antibodies and identify what enzymes are involved in transmitting their signals to the interior of the cell," Parker says.

He is also working with a fatty acid known as slow reacting substance (SRS) of anaphylaxis which appears to be important in the bronchospasm of bronchial asthma. Parker and his colleagues have evidence that SRS is formed from arachidonic acid which is of considerable interest because arachidonic acid has recently been shown to be a source of a number of biologically important lipids. They are now attempting to verify this relationship, determine SRS structure, and evolve more sensitive methods for its measurement.

"While the research is not yet in a clinically applied stage, if things go well, it soon will be. In pursuing this work we expect to obtain a better understanding of what causes asthma, and once the structure of SRS is known, antagonists can be synthesized and used in an attempt to better control asthmatic symptoms," Parker says.

Immunology has been an increasing area of interest since the late 1950's and currently is perhaps the most active area in all of biological research. However, Parker feels the area of allergy has been a neglected one. For a long time there has been a lack of well trained people in the area. However, as new developments arise the level of interest will almost certainly increase.

Names Make News

John T. Oldham, a third year medical student, has been selected for a Reader's Digest International Fellowship. The Fellowship program provides three-month assignments to rural mission hospitals and clinics in remote parts of the Third World. One of 32 students from the United States and Canada selected, Oldham will have an assignment in West Africa, January-April, 1978.

Joseph Hanaway, M.D., assistant professor of neurology and neurosurgery has published a book to aid in the interpretation of computed brain scans. The book, Atlas of the Human Brain and Orbit for Computed Tomography, is the second atlas of the human brain Hanaway has written in the last two years.

Thomas B. Ferguson, M.D., professor of clinical cardiothoracic surgery recently was elected vice president of the Council of Medical Specialty Societies, an organization composed of 20 scientific societies representing about 200,000 medical specialists. In October, 1977, he will be installed as chairman of the American Board of Thoracic Surgery, the organization responsible for certifying thoracic surgeons.

Saul Boyarsky, M.D., professor of genitourinary surgery, recently chaired a panel on "Surgery for Carcinoma of the Prostate" at the 41st annual meeting of the Southeastern Section of the American Urological Association.

Alex H. Kaplan, M.D., associate professor of clinical psychiatry, has been named president-elect of the American Psychoanalytic Association and will assume office in May, 1978. Kaplan is currently associate medical director of the St. Louis Psychoanalytic Institute.

Evens Becomes Radiology Fellow

Ronald G. Evens, M.D., Elizabeth Mallinckrodt Professor and director of the Mallinckrodt Institute of Radiology has been named a Fellow of the American College of Radiology (ACR).
Those honored as fellows earned their rank through scientific accomplishments in the field of radiology, the performance of outstanding service as a teacher, and by their acceptance as leaders in their specialty.

Evens also has been elected president of the Missouri Radiological Society, the state chapter of the ACR. The chapter represents radiologists throughout the state, and establishes and maintains the highest medical and ethical standards in the practice of radiology.

Evens is a 1964 graduate of Washington University School of Medicine and served his internship and residency at Barnes Hospital and Mallinckrodt Institute of Radiology. In 1970 he was elected vice president of the Washington University Medical School and Associated Hospitals. He was appointed director of Mallinckrodt Institute and head of the Department of Radiology at the School of Medicine in the spring of 1971.

**Venable Chosen Man, Teacher Of the Year**

H. Phillip Venable, M.D., director of the department of ophthalmology at Homer G. Phillips Hospital and assistant clinical professor of ophthalmology at Washington University School of Medicine has been chosen Man and Teacher of the Year by residents and students at Phillips. A plaque was presented to him at a banquet during the 32nd annual convention of the Homer G. Phillips Alumni Association.

In commenting on this honor, Venable said that more important than any of his medical achievements is his philosophy of life: “Give every man a chance to prove himself and attain his goal.”

Venable is an authority on glaucoma in the Negro and on pseudotumor cerebi, an eye disorder that affects mainly young and middle-aged obese black women.

Venable became a diplomat of the American Academy of Ophthalmology and Otolaryngology as of January 1, 1978. He is also a member of various state and local medical societies as well as national and international organizations such as the Pan American Congress of Ophthalmology, the American College of Surgeons, and the International Congress of Ophthalmology.

**Researcher Studies Vitamin D**

Vitamin D, essential for good tooth and bone development, can make a critical difference in the health of a newborn, especially one born prematurely, say researchers at the School of Medicine.

Laura S. Hillman, M.D., assistant professor of pediatrics, is currently studying the correlations of vitamin D to the health of infants. She is conducting the research under a $45,865 grant from the National Institutes of Health, in collaboration with John G. Haddad, Jr., M.D., associate professor of medicine.

Vitamin D, Hillman explains, is manufactured in the skin when activated by ultra-violet irradiation, such as sunlight. Next, it is converted to 25-hydroxy-vitamin D in the liver, and then to 1,25-dihydroxy-vitamin D in the kidney. After this last conversion, the vitamin finally is in a form that the body can utilize.

A deficiency in the converted form of vitamin D can result in retarded growth and adverse effects on tooth development, because vitamin D regulates the body’s levels of calcium and phosphorus, two essentials for building strong teeth and bones.

“Some of the babies I have seen had such low levels of 25-hydroxy-vitamin D that they had rickets,” Hillman says. Rickets, a disease characterized by soft, deformed bones, results from a prolonged vitamin D deficiency. The vitamin is measured in the 25-hydroxy state as levels cannot be determined before that, she explains.

In her studies, Hillman has found the problem of vitamin D deficiencies in babies is not only the amounts of the vitamin in their bodies, but in their capacities to convert it to the usable form. A newborn can be fed ample amounts of the vitamin, but it is useless unless the conversion processes take place in the liver and kidney.

Hillman also has found that the mothers’ levels of 25-hydroxy-vitamin D (the state of the vitamin after the first conversion) determine the babies’ levels. While this form of vitamin D is crucial in all babies, it is the premature infants who are most severely affected.

Since more premature infants from 26 to 29 weeks gestation are being saved than in previous years, Hillman says she is seeing more and more babies with deficiency problems. “Full-term babies born with a low level of 25-hydroxy-vitamin D can gradually increase their levels as their systems develop the ability to convert the vitamin. But premies’ low levels stay low, and normally the levels decrease once the babies are not getting nutrition from their mothers.”

Presently, Hillman and her associates are following 50 such premies, from birth on. Over a period of time, the researchers are checking the babies’ 25-hydroxy-vitamin D levels, x-raying their bones and observing tooth development. They hope to determine the frequency and time course of the problem and what factors contribute to increased problems so that rational prevention trials can be carried out.

Hillman also plans studying various preventions for the deficiency. Since the problem lies in the babies’ capacity to utilize the vitamin, Hillman believes there may be blocks in the infants’ systems preventing the two conversions. Hillman plans to investigate bypassing at least the first conversion by administering doses of 25-hydroxy-vitamin D. It must be determined, though, if this substance can be utilized by the newborns’ systems.

Because some of the problem begins with the mother, prevention of maternal vitamin D deficiency greatly concerns Hillman. She has found that women who were pregnant during the winter usually got less sunshine and had the lowest levels of 25-hydroxy-vitamin D. “We want to try and figure out what to do with the mothers, year around,” she says, “since little vitamin D can be stored over from the summer. We are just exploring the role of vitamin D in terms of its enabling the mother to...
hold onto calcium and phosphorus and transferring it to the growing baby. This, thereby, might possibly prevent some of the deficiency in the first place."

Kipnis Named To Advisory Board

David M. Kipnis, M.D., Busch Professor of Medicine and Chairman of the Department of Medicine has been appointed chairman of the National Diabetes Advisory Board.

The Department of Health, Education and Welfare has designated that the National Diabetes Advisory Board shall review and evaluate the implementation of the long-range plan formulated by the National Commission on Diabetes to combat diabetes mellitus. In carrying out this function, the Advisory Board shall advise and make recommendations to the Congress, the Secretary of HEW, and the heads of other appropriate federal agencies, in regard to the guidelines, policies and procedures of federal programs relating to diabetes.

The National Diabetes Advisory Board is composed of 23 members, including seven physicians and scientists, all appointed by the Secretary of HEW. Kipnis will serve as chairman through September 30, 1980.

Kipnis, who joined the Washington University faculty in 1955, has been chairman of the Department of Medicine since January 1973. He is an authority on endocrinology and diabetes and is a member of the American Academy of Arts and Sciences, the Institute of Medicine of the National Academy of Science, as well as many other professional societies.

Thach Named Biology Chairman

Robert E. Thach, Ph.D., a noted scientific investigator and leader, has been named chairman of the Department of Biology at Washington University.

Until his new appointment, Thach served as director of the Center for Basic Cancer Research at the Medical School, and director of the Graduate Program in Molecular Biology, Division of Biology and Biomedical Sciences. In accepting his new appointment, Thach has resigned both of these positions, but has expressed the hope that he will be able to maintain close ties with both groups in the future.

Thach began his career as a Research Fellow at Harvard University where he earned his Ph.D. degree in 1964. His dissertation was concerned with the mechanism of enzyme catalyzed polymerization reactions. Thach completed his undergraduate work at Princeton University where he earned his bachelor of arts degree in chemistry summa cum laude in 1961.

During his academic career at Harvard and now at Washington University, which he joined seven years ago, Thach has focused his attention on two basic areas. These are the regulation of protein biosynthesis, and the mechanism of viral replication.

Thach plans to continue to be active in teaching both at the undergraduate and graduate levels. Meanwhile, he and his colleagues have begun to make long-range plans for the Biology Department. He predicts that increasing attention will be focused on plant and developmental biology.

Thach serves on the editorial board of the Archives of Biochemistry and Biophysics and has published more than 40 articles in professional journals.

He has received fellowships from the Woodrow Wilson National Fellowship Foundation; the National Science Foundation; and the John Simon Guggenheim Memorial Foundation.

Alumni Annual Giving at Record Pace

At the end of the third quarter of 1976-77, $105,809 had been raised from physicians compared to $99,115 last year during the same period. Currently 557 members of the Century Club are enrolled as opposed to 529 last year. Former house staff physicians have increased their participation to $6,499, whereas $4,817 was raised during the same nine month period last year. The per cent of participation by all physicians is showing a fine increase over the preceding year.

We are most appreciative of the excellent support of our alumni and encourage consideration of similar help from all physicians.

Heinz E. Haffner, M.D., Chairman Alumni Annual Giving School of Medicine

Outlook Wins Excellence Award

Outlook Magazine has received an Award of Excellence from the International Association of Business Communicators (IABC). IABC annually sponsors a Gold Quill Awards competition in which recognition is given for superior achievements in business and organizational communications.

A Medical School/Alumni publication, Outlook was judged for content, writing, design, photography, illustration and production. It competed in a category which included government, trade and special interest associations and non-profit organization publications.

1977 Photo Contest details

Graduates of the 1977 Medical School class are invited to enter the graduation photo contest with their favorite or most unusual photo capturing their graduation day. Families and friends of graduates are also eligible to enter a graduate's picture.

The best three submissions will be published in the Summer Outlook and entrants will receive an 8 x 10 framed enlargement of their entry. In addition, at least two honorable mentions will be published. Entries can be any size print or color slide and will be returned.

In conjunction with the contest, alumni are invited to submit a favorite photo of their graduation whether it was 10, 20, 30 or more years ago. The best of these will be published along with the contest winners.

Send entries by July 15 to Public Relations, WUMS, 660 S. Euclid, St. Louis, MO 63110.
Former Registrar
Commemorated

William Bahlmann Parker, the late registrar for the School of Medicine, served the School for 51 years before retiring in 1967. He died June 19, 1976, and April 1, Dean M. Kenton King, M.D. conducted dedication ceremonies, unveiling a plaque commemorating Parker's many years of service. The plaque was placed outside the admission office.

Parker was born in Independence, Mo., on Sept. 7, 1898. He was graduated from the University of Missouri in 1921. From 1924-25, Parker served as assistant registrar at the University of Missouri, and came to the School of Medicine as registrar in 1925. He served in this position for the next 42 years. In 1955 he was given the title of secretary to the Executive Faculty, although he had served in this capacity without official appointment since 1925. He served as consultant to the dean from 1967 until his death last summer. During his tenure as registrar, Parker worked with seven Medical School deans.

At the time of his retirement, Parker was given a book of letters of appreciation from five former deans, three of whom are now deceased. As part of the dedication ceremonies, Dean King read passages from these letters. These letters are indicative of the great esteem in which Parker was held.

The late Robert A. Moore, M.D., who was dean from 1947-1954, said of Parker: “Your store of information was inexhaustible. I drew on your wisdom for assistance and you gave it to me freely. I sometimes shudder to think what I would have done without you. For eight years you remained that kindly, understanding, helpful man in the office across the hall where I could get unjustified advice on any problem. I cannot imagine the Dean’s office at Washington University without you.”

The late Carl V. Moore, M.D., dean from 1954-1955, said: “No one at the Medical School has more reason to be grateful to you or appreciative of your many contributions. Everyone who has been in the dean’s office, of course, has felt the value of your firm support... but even more important, I think, has been the way you have shepherded each class of medical students with kindness, but without any coddling, and with great wisdom about what action should be taken in difficult situations. The Medical School really does owe you a tremendous amount.”

Oliver H. Lowry, M.D., who was dean from 1955-1958 and is currently professor of pharmacology said: “It is impossible to think of a Medical School administration without you in it! I will always be grateful for the help you gave me as a completely inexperienced and naive dean. I would have been completely lost without your help.”

The late Edward W. Dempsey, M.D., dean from 1958-1964, said of Parker: “You can and should take great pride in the way you performed all your official duties for so many years. As one dean who worked with you, I know how well your obligations were discharged. I appreciated most the fact that you always advised what was right, not what was expedient. It will be impossible to think of the School without you. Your contributions as registrar, on the admission’s committee and as secretary to the Executive Faculty simply can’t be measured. A long and extraordinary tradition is ending.”

In his letter to William Parker, Dean King said: “You, more than any other single person, have given the School an aspect of dignity and integrity in the eyes of thousands of young people over many years. Your influence on medical education in the United States has accordingly been felt. No history of the Washington University School of Medicine would be complete without a chapter devoted entirely to W. B. Parker.”

John C. Herweg, M.D., registrar and associate dean for student affairs, said at the dedication ceremonies, “I’m another of William Parker’s fledglings in medical school administration. For many years, he was the admission’s office. He always aided students when they needed loans, and it is only fitting that his family has established the William B. Parker Medical Scholarship Fund. This is a fine, befitting honor.”

William Parker is survived by his wife, Florence, and two sons, Brent M. Parker, M. D., professor of medicine at the University of Missouri at Columbia, and Charles W. Parker, M.D., professor of medicine at Washington University School of Medicine. Both sons are graduates of the school William Parker served with distinction for so many years.

William Parker’s life exemplified the words inscribed on his memorial plaque: “ Everyday acts of wisdom and courage sprinkled over a half a century.”
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Outlook Magazine is sponsoring a 1977 graduation photo contest. Alumni also are invited to send their favorite picture of their graduation from medical school. For details see page 32.