

Introduction: Across the Red Line

I am sitting in a patient examining room, on a stool with wheels, waiting while a 67-year-old man rummages through his wife's pocketbook, looking for his list of questions. I'm thinking of trying to write down what this is like.

His shirt is unbuttoned and he cannot see well without his glasses and his wife is trying to help but she is nervous and in the way.

"Take your time," I say.

I am in no rush. Already I see and feel some things that must be told. This man is returning for his first postoperative visit after having most of his pancreas removed. It is clear already that he is doing well—and few extra minutes for me to savor *his* health is just fine with me. I know the questions on his list by heart, but I know he must ask them in his order, so I wait.

I am working on a way to tell what this surgical life is like. I hope to fill you with the sense of it, the feel of it, even the smell and sound of it. I wish for a book of it. I've thought about ways to organize things, but every time I do, the form seems contrived and drains the color out of what I experience each day. Things rush past me. Extraordinary and ordinary things fly by in a jumbled way, so an orderly progression of chapters seems not just beside the point, but contrary to the point.

So, I'm going to try to tell you what a life of an academic surgeon is like in the new century. It is a lush and varied story, much different and yet still the same as known by my predecessors.

Like my waiting in this patient's story, I can tell you that most of what I do is wait and respond. The practice of surgery is different from writing or original research, for rather than constructing something out of nothing, surgery is responding, adapting to the problem presented. It is less originally creative, I guess, than composing music or designing a building but it is exciting, captivating and rewarding work and for me, thirty years later, it is still neither predictable nor dull, ever.

And I must make clear that these days, although I am dismayed that the costs of medicine are so high and chagrined that some surgeons seem to live a high-end lifestyle and appear to be out of touch with their patients and the world in general, I celebrate the rich privilege accorded the practicing surgeon. The surgical life is really about bearing witness to the human condition and about respecting the many almost whimsical variations of biology and about the intersection of the two. It is remarkable, really, the way I get to know people so intimately so quickly, and get to observe the brave and often noble behavior in them, while I witness the relentless push of biology, the aging and decay, the growth and development, but most especially the healing, both physical and emotional. It is this natural drive of our bodies to repair themselves from all injuries that is the centerpiece of medicine. Without it no surgeon could cut.

Another piece of this life is the satisfyingly sweet tug-of-war between the challenge and the reward, the difficulty of the case and its accomplishment, that touchdown, end-

zone, spike-the-ball feeling a brave patient gets when he prospers after a difficult operation. The residents, students and I feel it too. Or the remorse and agony I feel when it does not go well. This pain is for the patient, the family, and for me. It is intimate. Can it truly be that this sadness has its own interior fulfillment?

Then there is the university medical school life—one of lectures and papers and residents and students and academic trappings. It is the young that make it all worthwhile. But there's also the political infighting, the jealousies and the small-mindedness. You should know about them, too. Even though the philosophers and historians often find medical school to be not much more than a glorified trade school (I work with my hands, after all), I get all the expectant joy and tribulation attendant to raising the young—all the while aware that I am participating in the education of the woman or man who may one day operate on me. I hope we are both doing a good job.

Finally, can I possibly explain the camaraderie and elation, the black humor and shared care that makes this life of surgery and medicine so full? Each of my colleagues and every one of the surgical residents has sought out this way of living and they are, for the most part, straightforward, generally optimistic souls, who have seen and felt many of the things that so move me. I can say to one of them, "you know that place under the pancreas where the portal vein sits? You know how badly it can bleed there?" and I can tell from her eyes that she knows exactly what I mean and that no further explanation or description would add to her knowingness.

I would like you to know about that place and about the connection I feel with it and these craftsmen and our

apprentices. To know about that place and those people is to know about things that most people don't think about. It just never comes into conscious thought.

Most of us go about our lives with this remarkable lack of awareness about the extraordinary "ordinary" health we enjoy and many don't want to pull that curtain back. But even today a few of us will start moving from health to illness. We'll see what we didn't choose to see—the business end of medicine. This is definitely not like on TV.

We will go to a doctor in his office or in an emergency room. Although most of us will prove to have no serious malady and be told to take this antibiotic or that ulcer medicine and to drink less, get more exercise, a few of the few of us will not find such happy outcome. Someone's story will raise a doctor's eyebrow and some tests will produce "worrisome" results and plans will be made.

Some of these patients will harbor serious illness and will require aggressive therapy and some may die of one or the other.

A few who venture out this morning will not come home. An accident or a bullet or a heart attack will send them careening into a hospital and into the maw of modern medicine.

About-to-be patients are reminiscent of zebras on the African plains. Lions stalk the herd, but it (and the soon-to-be patient) is unaware of the presence of menace. Then a twig snaps, a lump is felt or some bleeding is noticed, a car skids, and the victim is suddenly aware of a threat too close and so horrible.

And some of these patients, both those with subtle evolving symptoms and those with sudden catastrophic evidence of big trouble, will need a surgeon. For those patients the best chance of survival is an operation.

What that patient does not see and cannot know is that the surgeon sits at the bottom of this big funnel; of those who set out today, just a few will have a symptom or accident which brings them to see a doctor and only a few of those will need an operation. So, by the time they get to me, every patient has a fascinating and compelling story in progress. They are about to cross over a line—quite literally. In fact, outside of every operating room suite I have known there is a red line painted on the floor. Its purpose is to signal the point beyond which you may not go in street clothes; a scrub suit is required. The line separates the accessible part of the hospital from the “off limits” part. For those who do not work in the operating room, the line is inviolate. Only the patient and the staff cross over into the clear area that sits outside the actual operating room.

It is not the River Styx, exactly, but the boundary function is clear. The rational reason for the line is to decrease the bacterial count in the area surrounding the operating rooms by limiting traffic. There is a special relationship among the staff on the far side of the line. The intensity of the work makes for a certain forgiveness among us. Many who work in the operating room never venture out to the “civilian” side of the hospital. In fact, because they are going to change into scrub suits right away, the operating room staff comes to work in slacks, even shorts and T shirts, carrying their lunch pails. If it were not for the fact that they are mostly women, this group, chewing gum, could be mistaken for a carpentry crew. They, too, are craftsmen.

So the patient and the surgeon are the only two who cross the red line in both directions. And, on the far side, the patient is soon asleep. What I want to set down is about

the crossing the line; about seeing the inside of another human being and, a day later, being shown pictures of his grandchildren. I want to tell you how the things I see on one side of the line affect the things I feel on the other. And it definitely goes both ways.

Coming down the funnel and into the operating room, any patient's final conscious act before a general anesthetic is the surprisingly cumbersome act of getting on the operating room table. Today's patient has found his list now, but I remember four weeks ago watching him lying on a movable stretcher, an intravenous running in each arm, trying to move over onto the complex \$50,000 operating room table so as not to fall in between, struggling on his back to move over without ripping the IVs out or revealing his genitals. He literally had one foot on the dock and the other on the rowboat, but I have never decided which is which.

This is what it feels like to step up to that operating table and to take the responsibility; about putting out my hand, feeling the gentle slap of the instruments, laying my other hand softly on the patient so as to get my bearings, then drawing the knife across and through the skin, down, down into the person himself, doing the work, closing, then slowly walking down the corridor back over the red line to the waiting family.

This book is about the people who are the patients and the people who try to help them, about the beauty of the biology and the trouble that comes when the biology goes awry. There will be, I'll bet, a story or two about the resilience of human beings, and their frailties, and one or two about surgical success and surgical failure and about how that feels. Here please find the admitted contrivances and conceits this surgeon must employ so that he can bear to do the job.

My route to these stories was not unusual: I wanted to be a surgeon like my father since about eight. I went to college and medical school at Cornell, did surgical and laboratory training at Washington University in St. Louis, then joined the faculty at the University of Chicago where I developed an interest in cancer. In 1983, I came to Tampa, to the young University of South Florida's medical school, to help start up the Moffitt Cancer Center, and I've lived here ever since, serving first as founding Medical Director of the Cancer Center and now as Chairman of the Department of Surgery at the University. I am 56 years old. I love to fly airplanes, play squash, and bother my wife, children, and dog.

I got the writing bug from Eugene C. Patterson. He's the editor emeritus of the Saint Petersburg *Times*, the largest Florida newspaper. Gene Patterson worked his way across Germany as a tank commander for General George Patton, went into the newspaper business after the war and won the Pulitzer Prize while he was editor of the Atlanta *Constitution* during the sixties, when he broke with most white southern editors and became, along with Ralph McGill and others, a courageous champion for integration and racial equality. Strong and possessed of an enabling charm, Gene encouraged me to write from the moment I met him as a member of the Moffitt Cancer Center's Board of Directors.

I'd often tell Gene stories from the operating room or lecture hall and he'd say, "Write it down!" One night over dinner I asked him if I should take a writing class. "Hell no!" he said, "Just write and write and write and remember: English is a guttural language." I've tried to do just that. There are no long or arcane words in what follows.

I'll start these stories by letting you listen in to my introduction to third-year medical students as they start out

their clinical life. These wonderful doctors-in-the-making have just finished the first two years of medical school, which consists of classroom learning, for the most part, of biochemistry, physiology, pathology and an introduction to medicine. They have come to medical school right out of college and they are about to be whiplashed into a new life. It is always in July and it is always hot and humid in Florida when I meet them in a classroom on a Monday morning.

Introduction to the Third-Year Class

Good morning.

You are about to experience the most rapid growth and learning of your life. You will be turning away from your friends and family and you will be joining another social order. No amount of careful explanation or patient description will allow those familiar with your original moorings to fully comprehend the life you are joining. They may respect you, envy you, be proud of you, but they cannot know what you will know. You are privileged.

Those of you here today drew the short straw: you are starting your clinical life on the Surgery Service. This has some obvious disadvantages. The Surgery Service is the most demanding in terms of time. You will probably get up at 4:00 A.M. and not get home until after 8:00 that night. Unless you're on call. In that case you'll get home the next night around 8:00. Surgeons tend to be less measured in their medicine. They are big and forceful, sometimes curt and gruff. There will be very little time for reading. All through high school, college, and the first two years of medical school, you succeeded because you learned to read and study and practice and then pass the test. Now you will have no time for all the warm-up. Questions will dart out of an attending surgeon's mouth and there will be no place to hide, no way to think it over, write an essay about the topic. It is not a relaxing business, this starting on the surgery service.

On the other hand, there are some advantages. You're jumping right into the fire. You'll know soon as to whether you've got the

stamina. You'll become immediately comfortable with the thought of touching another human being in an effort to make them well. Internal medicine doctors are much more cerebral and often touch the patient only in a ceremonial way. You'll be touching them in a therapeutic way, and you'll be surprised as to how reassuring it is to both you and the patient that touching is required for the getting better.

There's a certain relaxation of the rules in surgery that invites intimacy. You'll get into the operating room. The social norms there will take your breath away. You'll be one of those in scrub suits standing so close to one another that you will touch each other without thinking about it. As for the patient, you'll touch another human being in a way that beggars description.

You will witness the basic optimism of surgeons. You can't do this kind of work without some form of basic belief that it is all going to turn out okay. And you will watch how different surgeons handle the defeat in times when it doesn't all turn out well.

Bid your family and friends farewell, for you will soon see what they do not. In the next eight weeks, one of you in this room will see a human being die on an operating table or in an emergency room. You will be changed forever by that experience. You will know that life is fragile in a way that your family pays homage to but doesn't really understand. You will see somebody your age, who left the house this morning expecting to be home by six, but finds himself looking up at you in fear from an articulated table under bright lights. As you look down at him with a fear of your own, you will slowly realize that he can't move either leg.

No one else in your high school class will know these sights. You are just 26. Your proud mother has no idea as to the earthly business of medicine. She does not know that you will start to wonder exactly what the urine looked like. She will not be reassured when you tell her that your physician forebears wanted to know what it tasted like. Patients will tell you secrets. You will watch a brave 45-year-old father prepare his wife and children for his death by a rare and undeserved cancer. How can he be so strong, you wonder.

I know you worry about the lifestyle of a surgeon. Your teachers seem like madmen, coming in early and leaving very late. They are

fierce and determined. Their intensity scares you. I'll admit, it scares me, too. I know them well, but the size of their presence takes me aback sometimes.

Remember that they are like all the rest of us, scared and puzzled. I know they work too hard. I'd like for them to work less, have more perspective, more measure to their healing. But it is hard to stop. When you've worked long and hard to develop a reputation as a good surgeon, how do you turn down a referral of a good and challenging case? Isn't that what you've been bred and trained for?

The surgical residents are even more driven. They've dreamed of being surgeons for a long time and they know that they've got five to eight years to learn how. They work ungodly hours, bear abuse from attending surgeons, nurses, ungrateful patients and, if you're not careful, you. Yes, you can make life worse by not helping, by complaining about the hours they take for granted, by dragging your feet. Please try not to.

Also, try not to judge a surgical career on the lifestyle of the surgical resident, for you will never even consider surgery as a life. Look beyond the residency on to the life of the established surgeon. You may be surprised to see that the hours may be better than those of a busy internist. I rarely get to work before 7:00 A.M. and I am rarely in the hospital after 7:00 P.M. Just a short twelve hours!

I guess that tells you that a career in medicine is really a way of life. Doctors in the old days knew this in their bones. Their lives were forever being disrupted by the needs of patients. It has only been in the last few decades that physicians even thought to protect some time for being human, being a mother, a father, a husband or wife, a son or daughter. It is a natural tug-of-war. It is never satisfactorily resolved and there is no hope for an easy solution. When you leave the hospital and the patient, the disease and the healing go on without you. Every minute away dilutes the essential satisfactions of being a doctor, yet without some surcease you will soon be depleted.

Why not do emergency medicine? Steady hours, the drama of surgery, but a predictable life of frenzied healing alternating with time to one's self? It sounds attractive. I fear, though, for me, it would be little

more than a series of one-night stands, a violent interaction of patient and doctor, without the introduction and sweet goodbye that punctuate the life of a surgeon. For me, it is just too detached, too impersonal.

So recognize that we're talking about a life here, not a job. Once you see it that way, it gets easier. Surgery is demanding, but it is doable.

You will see all sorts of defense mechanisms at work in surgeons. When you get to Psychiatry, I imagine you'll have some fun talking about us and our very obvious defense mechanisms. We need them, though. Nobody would dare pick up a sharp object and open another human being with intent to set right what nature or accident has made wrong without some sort of way to defend herself against the weight of the responsibility and the fear of defeat.

Some surgeons work too hard. Their defense is the premise that "If I just work hard enough at it, it will turn out all right." Other think too hard. "If I just read every article, if I just use my brain, if I just think as much as I can, it will be all right. After all, my fine brain got me this far, I must just think harder." Others have a well-developed sense of humor. Sometimes this humor is black in nature. Their jokes are best not repeated at nonmedical social events.

Others are relentlessly nice. "If I am just earnest and pleasant and friendly enough to my patients, the nurses, the clerks, it will be all right." These surgeons tend to court favor and admiration of all, sometimes at the expense of doing the right thing.

You tell me why you might like a career in surgery. The drama, the intensity. Then there's the critical nexus that the surgeon occupies. The surgeon is never trivial. You like the technical aspects, the machinery, the balance of the shining instruments. I know that these things rivet your imagination and focus your yearning.

You will need these glories to sustain you, not just during your training, but during your whole professional life. Surgery is too hard, too long, too persistent to endure without some sense of glory about the discipline. Allow yourself the sentimental and the celebrated drama; it will help you. It is dramatic and it is rich with sentiment.

Misused, these emotions become cheap sentimentality or, worse, excuse for sanctimonious behavior. Beware the surgeon who tells you she is holding the human heart in her hands. She did not build it; she's just visiting it, trying to fix it.

Surgery is not so much a triumph of the technical, but an exercise in stamina. Patients and their diseases and their families will vex and frustrate you. Your ultimate ability to help and to fix will largely swirl around your perseverance. Great surgeons have great capacity to hang in there. Somehow, they enlist their patients, too, in the job of hanging tight.

I tell our more athletic residents that the real pros get the job done under all sorts of circumstances. A good pitcher wins on a night even when his fastball is not working well. He doesn't win one-to-nothing, but he does win six-to-five and he may get a single in the sixth to help himself along. Surgeons need to win when the case isn't smooth, the anesthesia isn't seamless, the bleeding is more than expected. Once you've started the case, you cannot leave for lunch or call in a new management team. The responsibility is directly ascribable.

I know that the drama and technical aspects of surgery fascinate you. They did me, too. But that is not what captivates me now. I'd like to finish by telling you the view from thirty years ahead. The reasons I loved surgery are not the reasons I love it now.

It is the people, not the blood, the pathos. It is the people. The brave and singular souls who work alongside me. The braver and even more remarkable individuals we care for. There are hundreds of stories that can reveal bits of this life, but even in aggregate, they cannot convey the feeling of what it is like to pick up a knife and cut down through the fat to muscle, to enter in. In many ways the developing affection I have for the patient and my colleagues makes the job harder. It matters more to me now. Here are some stories as to what it is like. Take them with you as you begin your life as a physician. Take them as sustenance. Keep a few in reserve for the hard times. I did not make them up, I'm just passing them on.

I'll see you tomorrow morning at M & M.

1 M & M

“Did you split the sternum?” asks Dr. Stack, the attending trauma surgeon. He wants to know if the operative team opened the breastbone in order to gain access to the heart. “Yes,” responds the fifth-year resident. He is the chief resident on the Trauma Service and this is his last year of training.

It’s Monday, 7:30 A.M. We’re at M & M. It means Morbidity and Mortality Conference. Once a week the entire surgery department gathers together in a lecture hall at the medical school. The purpose: to discuss each error, each complication, each bad result and every death that has occurred in the last week on all of the university teaching services. There are several teaching services. At the big municipal hospital the University oversees the cardiovascular, trauma, pediatrics, transplant service, and two elective surgical services. And there are several services at the VA Hospital and one at the cancer center.

Almost all the residents and “attending” surgical faculty are here—about 65 surgeons and surgeons-in-training in all.

Right now the trauma chief resident is in the pit, facing up at tiered auditorium seats that hold his inquisitors. His job is to describe the case, tell what went wrong, and respond to staccato bursts of questions coming from the faculty. He’s learning to think on his feet, a skill that he will find useful at the operating table and at the bedside.

I glance at the Xeroxed sheets in my hand. The first two pages have short descriptions of the complications (morbidity) and deaths (mortality). Behind that there are ten pages listing every operation done by members of the department during the past week.

The case under review is described as:

24 y.o.w.m. unrestrained MVA hemoperitoneum, exploratory laparotomy, right hepatectomy, hypothermia, hypotension, coagulopathy, packs, expired in RR.

So that's the gist of it. From the sheet I learn that this 24-year-old white male was in an automobile accident (MVA—motor vehicle accident) and he was not wearing a seat belt (it is amazing how common that is). He had a distended abdomen when brought to the emergency room. It was immediately recognized that the abdomen was full of blood (hemoperitoneum). He was taken to the operating room, anesthetized and his abdomen was opened and explored (exploratory laparotomy).

I can imagine the scene; blood filling the abdomen, the surgeons scooping it out with their hands and mopping it up with twelve-inch by twelve-inch pieces of cloth called lap pads. There's a race going on. The surgeons must find the bleeding source and control it before the patient bleeds to death. But it is hard to see with all the blood in the way. Suckers are used to suck unclotted blood out of the abdomen, but some of the blood has clotted; this man's body is trying to stop the leak, too. Wherever the blood is coming from, it is leaking out too fast to be occluded by clot. So the blood spills out into the abdomen, covers the intestines, the liver, the pancreas and clots there, futilely, too late. The horse is out of the barn. The clotted blood clogs the suckers and must be scooped out by the surgeons

who put it in a big sterile wash basin that the scrub nurse holds right next to the wound, for they are all in a hurry.

The sheet tells that the right lobe of the liver was removed (right hepatectomy) and that the patient got cold (hypothermia) first from lying at the accident site, then from the cool fluids administered to his veins in the ambulance, now from having his abdomen open. The open abdomen loses lots of heat by convection and this cooling must be reckoned with in all operations that open a body cavity. I know his blood pressure was perilously low (hypotension) and that these factors and others caused the normal blood clotting mechanism to collapse (coagulopathy) and he was not clotting at all by the time the surgeons got there. And now I read that they packed the abdomen with gauze packs to stop the bleeding by tamponade and took him to the recovery room (RR) to warm him under hot blankets and lights with the hope that restoring his temperature to normal would restore his clotting. It is there that he expired.

Despite the defeat, the chief resident is disciplined in his description of events, even though he's interrupted by faculty peppering him with questions.

It is a very bad feeling when the blood doesn't clot and the body isn't warm and blood diluted by saline infusions leaks from everywhere, even where no discernible blood vessel can be seen. It feels cold on the hands. Almost everyone in the room has seen this before. But there is no mercy in their attitude, no forgiveness in their questions.

"Did you put a shunt in?" The faculty man wants to know if a tube was put in the vena cava to control bleeding.

"No."

"Why the hell not?"

“The bleeding was from the liver, not the vena cava. A shunt wouldn’t have helped.” Score one for the chief resident.

“The literature shows that liver resection rarely works, it’s better to pack,” accuses a fellow chief resident. That’s unusual; they usually leave each other alone and do not question one another. After all, each chief takes his turn in the pit and a hostile peer could do considerable damage. Maybe these two are feuding; one may have stolen a good case from another or maybe it’s a private matter.

“The right lobe was macerated, it couldn’t be packed. I felt we had to take it out.”

No damage done.

“Did you do a Pringle maneuver?” asks another faculty member.

“Yes.”

The Pringle maneuver is a way to occlude all blood flow into the liver from the portal vein and hepatic artery, two major sources of liver blood supply. But the liver is so vascular and the Pringle doesn’t stop vena cava blood from entering it, so in this kind of injury it often doesn’t help much. Almost everyone in the room knows this and they all must think it was a stupid question. The chief handled it well. He did not say “of course” or hint annoyance at such a trivial point. After all, the patient was bleeding to death right under his hands. Even though it is hard to remember what to do at first when someone is bleeding to death and you’re in charge, this chief has had lots of experience by now. Naturally he would do anything he could to stop the bleeding.

There are more questions about the physiology of blood clotting, about how long it took to get to the operating room after he got to the emergency room, and about how

long it took to get to the emergency room in the first place; questions about other bleeding sites, about whether the aorta was clamped in an attempt to raise the blood pressure, but to deny the lower half of the body arterial blood inflow. (“No.”)

It becomes clear the chief did mostly the right things, and that this patient was probably unsalvageable.

So the questioners ease up and the inquiry becomes more respectful and compassionate:

“Did you consider the cell saver?” That’s a device that sucks up the blood, washes the patient’s own blood cells so they can be reinfused into a vein by the anesthesiologists in an attempt limit the amount of banked blood the patient gets. But it doesn’t suck very fast.

“Did you consider” is much less hostile than “Why the hell not.” The chief resident has survived this one.

This dead 24-year-old would be listed as an error in judgment: they wasted too much time taking the liver lobe out and should have packed earlier. It’s not clear if the blood given to resuscitate the patient’s circulatory volume was warmed properly. So E-J (error-judgment) is marked next to the case by the official record keeper, either the Department of Surgery chairman or a senior professor. There is no final report card; this is as far as it goes unless some unethical or malpractice-like event has occurred. It is harrowing. Even now as the attending surgeon (senior even!) I am tense when a case of mine comes up. Will somebody say: “That was stupid. You should have done this. Or that.”?

Did I overlook anything? It is amazing how much fault you can find with your own work when you look back over a patient’s management. Little things that seem so trivial at the time take on a huge impact when the result is

bad. Should I have started a different antibiotic? Was the operation done too soon? Too late? At this stage of my career (the middle) my mistakes are rarely technical. They are errors of judgment. I am reminded of the old story of the young surgeon asking the senior surgeon, "Where did you get such good judgment? Your patients do so well."

"From experience," is the reply.

"How did you get experience?"

"From bad judgment."

Sometimes, if the resident is weak, the questioners get exasperated, intolerant, even harsh. The smart residents admit when they don't know the answer. Faking it is unpardonable.

Sometimes, the resident knows the course chosen is indefensible and he comes to the lectern looking like a dog who knows he has done wrong. Usually, the mistake is proclaimed loudly and the hair shirt is worn prominently. This is done to take the guns out of the hands of the audience—and it works, sometimes.

For the most part, though, each resident stands up straight, almost daring the audience to prove he or she did something wrong.

If the case has been badly mismanaged, the accusations pass up to the attending surgeon. After all, he or she was there and was responsible for the decisions, and has done the operation.

This gets very interesting, especially when senior faculty are involved. There is respect for the senior surgeon, but some satisfaction to the others that even an experienced and well regarded person can do illogical things or have a bad result. It is a much more level playing field than I have ever seen in the worlds of administration or business. There is a certain purity to this process even if the whole

purpose is to examine dirty linen. That's the idea and the power of it.

The proceedings are not secret exactly, but only surgeons and surgeons-in-training make up the audience. The medical students used not to be invited for fear that they would misinterpret some frank discussion about a mistake. They may not yet know that surgeons are human. But now, I let them in. The process is so clean, so powerful, that the benefit to them and to us outweighs the risk. I have never heard of a university M & M discussion being used in a malpractice case, it is called "privileged communication," but I suppose it could happen. We are careful to throw out the M & M sheets in the wastebasket by the auditorium door as we leave.

Occasionally a great case of surgical derring-do comes to light by chance.

"What's this case 62310, the mesenteric ischemia?" asks the moderator.

The room rustles with turning pages while the group turns to the page of listed cases done on the emergency service. There has been no complication in this case, so it's not listed on the front pages. It's buried in the back between a gunshot wound to the thigh and a case of appendicitis.

"Oh, that was an interesting case," says the chief resident. This resident is just about finished with four years of medical school followed by five years of surgical training and he's one of the best. He's tall and poised and handsome and his dad's in practice in town and he's going to join his father in a few months. He almost didn't get a residency slot because his medical school record was only average and most surgical training programs are pretty competitive. But he got a job and has blossomed into a careful, thought-

ful, aggressive surgeon. I'd let him operate on me, and that's saying a lot.

Now he's got the audience.

"Well, this was a 59-year-old gentleman who had developed vague abdominal pain the night before he came to the hospital. The next morning the pain was worse, and he came to the emergency room, and I just happened to be walking by and I saw he was in a lot of pain."

The residents sometimes walk through the emergency room and the medical floors looking for cases. They might find an "acute abdomen" (a perforated ulcer or ruptured colon diverticulum—cases that require emergency operation) or a patient with gallstones who might need her gallbladder out later on. Sometimes, if they have rapport with the nurses or medical residents, they can steal the case from the service to which the cases would ordinarily be assigned. This "trolling for cases" is held in high regard; it's thought to be a sign of aggressiveness and interest in surgery.

"His labs were all normal. I mean his wbc's (white blood cell counts—indicator of inflammation and almost always elevated in patients with surgical emergencies), his amylase (a chemical released from the pancreas when it's inflamed as in pancreatitis) and his liver function tests were all normal. He was writhing with pain, but when I examined him his belly was soft."

Wow, what a great case. Here's a patient with extreme pain, but no laboratory or physical findings to match. This is a notorious sign: this constellation of pain without the usual signs of inflammation is seen in acute deprivation of blood to the intestines—sort of a heart attack of the intestinal tract. If this condition is not recognized immediately and blood flow restored to the intestines, the bowel will die and so will the patient.

We know from reading the sheet that this resident knew that and moved to get an arteriogram (an x-ray of the blood vessels going to the intestine) to verify his clinical hunch.

“We got an arteriogram and it showed total occlusion of the SMA.” He’s describing just what was suspected: no blood flow through the superior mesenteric artery (SMA). “So we took him to the OR and took some clot out of the artery.”

Simple as that! A throwaway line, “So, we took him to the OR and took some clot out.”

Most of the room knows that you can’t save a patient like this unless you are almost standing there when it happens; there is so little time between the catastrophe and when its effects become irreversible and fate is sealed.

So our hero says only: “We took him to the OR and took some clot out.”

He might as well have said: “I was in the emergency room looking for something to do and I found this man in terrible pain and I recognized the situation for what it was and I got the right tests and I called the right attending surgeon and then we took him to the OR without a minute to spare and opened the artery and took out the offending clot and we were greeted with a great rush of blood and we then carefully sewed up the artery with plastic suture so fine you can’t see it without the magnifying glasses we wear, and then he was sick as hell postoperatively but we stayed up with him, night and day for three or four days until he stabilized and then he got better and went home, normal, healthy.”

He should have said: “I saw it, knew what it was, I did the right thing, I saved his life, you guys got any questions?” But he would *never* say that.

“Good save,” says the chief. “Next case.”

I don’t know of any other group inside medicine (or out, for that matter) that has as its ethic a structured, organized, scheduled way to examine mistakes of its members that is so rigorous. And, in one form or another, this phenomenon is reproduced in each and every medical school surgery department in the country.

I take a great pleasure in these proceedings. I’m proud to be part of a group that has the strength to stare mistakes and bad results right in the eye. I think each of my colleagues, faculty and residents, recognizes that this is important, difficult work that distinguishes us from those who would rather duck the ascribable responsibility. I do know that it is good training for taking responsibility in the examining room and in the operating room. It’s good practice for bellying up to the task. As a resident I was very frightened of these meetings. I’d read about the case, I’d learn the data in the literature. In time I learned that the way I presented the case could affect how I was treated by the attendings. Now, I still read about problems that I’ve encountered; and I’m a lot better at defending my decisions. I’m proud to be in the same company of the chief resident who saved the man with intestinal ischemia. I’ve never done that, but the others don’t know this secret of mine. I have had lots of other grand experiences in medicine, but I have never had the thrill of saving just such a patient. My own life and experience has been augmented just by sitting with these people on a Monday morning.

I have thought that the president, his cabinet, and the leadership of General Motors and IBM, and American medicine itself might benefit from a little M & M.

But that’s not likely to happen, and I’m not sure I know why. I do know there is a big difference between corporate,

government decisions and surgery. Certainly the president makes decisions that affect or cost many lives. Yet when that happens he is pictured handing a folded flag to a symbolic bereaved wife or mother. He's got the marines, and the helicopter and the secret service to distance him from the decision. I do know this; he doesn't walk out of that recovery room after a 24-year-old motor vehicle accident victim has died; down the dimly lit corridor at five in the morning to the surgery waiting room to ask for the relatives. He doesn't take the family to the side of the room by the hall right then and tell them their son is dead. And while they cry he doesn't look down and notice, for the first time, the patient's blood splattered on the pant legs of his scrub suit.

After their tears, the surgeon dresses wearily and walks out through the big municipal hospital emergency room doors. They hiss their pneumatic salute as he leaves. No one plays "Hail to the Chief." The sun is coming up and he passes the fresh incoming staff for the 7 A.M.–3 P.M. shift, and feels the windless, warm, humid air. He's going home to shave and to shower and to get clean clothes and to come back to work, wondering, some of that time, if he should have done it differently and how it will go at M & M.