



## The Changing Role of Oncology Surgeons

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# The Changing Role of

**A**s our health care system reforms, as cancer treatments improve, and as surgical techniques advance, oncology surgeons are finding they, too, must change and adjust to new roles. Letting go of control is difficult for individual surgeons to accept. Yet, as members of the multidisciplinary cancer care team, surgeons are being challenged to become team players in treatment planning.

Not only are surgeons finding they must improve their communication with the cancer care team, they are also being asked to interact more frankly and less dogmatically with patients. Increasingly, they are finding they must discuss quality of life issues with the cancer patient and his or her family before making the decision to operate. Openness and humility are key clinical skills that all surgeons must learn and perfect.

## **CANCER SURGERY: THE EARLY YEARS**

Surgery is the oldest documented intervention for cancer. The French physician Claude Gendron (1663-1750), rejecting the 17th century theory that cancer was caused by acid ferments, concluded after years of research that cancer arises locally as a hard, growing mass, untreatable with drugs, that must be removed with all its "filaments."<sup>1</sup>

John Hunter (1728-1793), Scottish anatomist, pathologist, and surgeon, raised surgery from a technique to a science. He taught that if a tumor

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were moveable, it could be surgically removed, as could resulting cancers in proper reach. If enlarged glands were involved, he advised against surgery.<sup>2</sup>

In the late 1880s, U.S. surgeon William S. Halstead and others began removing growths that pathologists had labeled as cancer. Although administration of anesthesia was still fairly new at that time, the procedure was adequate enough for amputation, such as limb removal or mastectomy. Halstead developed the technique of mastectomy to control the local growth of a tumor, thereby controlling the ulceration and smell associated with extensive tumors. Eventually he was able to demonstrate that by removing tumors early enough, and in some cases removing associated lymph tissue, patients were cured.

At the same time Halstead was exploring the removal of tumors, Swiss surgeon E. Theodor Kocher was developing the technique of bowel anastomosis. By the end of the last century, U.S. neurosurgeon Harvey W. Cushing was investigating the removal of brain tumors, and brothers Charles and William Mayo were planning postgraduate education in surgery of the abdomen, chest, head, and neck.

Over the next forty to fifty years, surgeons were the only physicians who treated cancer for cure. Anesthesia improved and new drugs were developed, which allowed surgeons to perform more extensive procedures, including removing abdominal tumors and eventually chest tumors. Internists were limited to diagnosis and pain control. Radiology, still in its infancy in the first third of the 20th century, was playing little or no role.

These early years of cancer treatment created a situation where the surgeon was clearly in charge of cancer treatment, while other physicians were relegated to the sidelines. New procedures, techniques, and instruments such as closed inhalation anesthesia and electrocautery were developed over the first part of the century. Although more lives were saved, cure rates were affected dramatically by infection.

As anesthesia continued to improve, and as new drugs were developed, more and more lives were being saved by aggressive surgery. In the 1940s, when antibiotics were first developed, radiology was becoming both a diagnostic tool and a treatment modality for certain diseases, such as goiter and skin warts. During this time cancers were also treated by radiation techniques, crude as they were. In many cases, breast cancer was treated in the 1940s by a combination of surgery and radiation. This was the first time that another specialty of medicine was involved in primary treatment of the cancer patient. Since radiologists were not clinicians, however, the surgeon still remained in control of the patient's treatment.

In the late 1940s, studies showed that a drug called 5-fluorouracil slowed and perhaps stopped the growth of malignant tumor cells. This finding opened the door for numerous other chemotherapeutic drugs to be tried on tumor cells, first on animals and then on humans. The results, although not dramatic, were promising. Indeed, a few drugs like methotrexate actually cured some cancers. These exciting results would eventually change the entire cancer treatment approach.

During the 1940s and 1950s, surgery was the primary mode of treating a cancer patient with a solid tumor. Occasionally, radiation

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therapy was included in the treatment plan. When chemotherapy was used, often on an experimental basis, the surgeon was the administering physician. The only exception was the use of chemotherapy for blood-forming tumors, such as leukemia, when a pediatrician or internist would administer the drug.

## **CHANGING ROLES: THE SIXTIES AND SEVENTIES**

In the mid-to-late 1960s, when surgeons were the primary providers of care for cancer patients, changes in treatment were already taking place. Experimental chemotherapeutic drugs were being studied in pediatric leukemia patients. Although many trials were underway, most of the children died of the disease.

With adults, chemotherapy was proving more promising. Internists with a special interest in the challenges of caring for the cancer patient were participating in scientific protocols, which explored toxic drugs that could potentially prolong the lives of patients with residual cancer following surgery. Internists were also showing an interest in palliative medicine, including pain management and other symptom control, as well as what was to become hospice care.

Surgeons struggled with their colleagues in internal medicine to try to keep control of their patients' treatment. Other surgeons were glad to pass the control of the cancer patient to their medical colleagues. It truly was a turning point as surgeons began to reluctantly relinquish their dominant role as the primary care physician for the cancer patient.

In the 1970s, the subspecialty of medical oncology joined the subspecialty of radiation oncology to complete the team of physicians treating cancer patients. Because most

surgery for cancer is performed by general surgeons or the appropriate subspecialist in surgery (such as thoracic surgery, urology, and neurosurgery), surgical oncology as a distinct subspecialty never developed to the level of medical and radiation oncology.

Research and the specialty work in cancer expanded beginning in the early 1970s with the passage of the National Cancer Act of 1971 and the establishment of the National Cancer Institute. This Act allowed for government funds to be directed to cancer research. Up to this time, research funds were mostly from the private sector, with the bulk coming from American Cancer Society funds.

All this activity increased the involvement of the medical oncologist in cancer research, treatment, and palliative care. At the same time, fewer surgeons were giving chemotherapy to their patients,

although surgery continued to be the initial treatment modality.

The results of studies showing that adjuvant chemotherapy improved the cure rate in breast cancer led to other cancers being treated both adjuvantly and preoperatively. One cancer, squamous cell carcinoma of the anus and anal canal, was treated preoperatively with radiation therapy and chemotherapy. After a number of cases, it was clear that some of these cancers were cured with preoperative treatment alone; radical surgery requiring a colostomy was not needed in many cases. Breast surgery was greatly affected by research. The National Surgical Adjuvant Breast and Bowel Project, under the leadership of surgeon Bernard Fisher, showed that radical surgery was not necessary in many cases and that lumpectomy and removal of auxiliary lymph nodes with accompanying radiation were effective.

## **A COMPLEMENTARY VIEW**

Shauna T. Williams, M.D., P.A., is one of twelve surgeons working at Saint Alphonsus Regional Medical Center in Boise, Idaho. She, too, emphasizes the importance of cooperation and communication between surgeons and oncologists.

"In the past, surgeons have gone ahead and done surgery without the oncology team," said Williams. "Now, surgeons must involve medical and radiation oncologists at an earlier phase in the treatment process." For example, deciding whether to radiate prior to surgery means increased dialogue between the surgeon and radiation oncologist.

One example of increased cooperation between surgeons and

other members of the cancer care team involves working together on tumors not fully resected.

"Sometimes the surgeons put on surgical clips to help guide the radiation therapist," said Williams.

"In addition, I will sometimes put in a pelvic sling at the time of surgery so that I can keep the small bowel out of the pelvis. That helps the radiation therapists when they are giving treatment. The radiation oncologists appreciate little things like this, and it helps with treatment afterwards."

"We all recognize the importance of the oncology team," concluded Williams. "However, the degree of cooperation depends on the attitude of the particular surgeon and on how receptive the team is."

The changes of the 1960s and 1970s challenged surgeons into becoming team players. In many hospitals across the country, tumor boards developed to review cancer care by all specialists—not just surgeons. Surgeons perceived they were “losing control” of the cancer patient, even as the American College of Surgeons was leading the way in cancer care with the establishment of the Commission on Cancer and the accreditation of cancer programs in hospitals.

### ADJUSTING TO THE PRESENT

The rise of new surgical procedures and other oncologic specialties and the reality that other physicians are performing biopsies are changing how surgeons perform preoperatively, intraoperatively, and postoperatively.

Prior to new sophisticated studies and procedures (such as CT scans, percutaneous gastrostomies, and percutaneous drainage of biliary obstruction), operations were performed on many cancer patients, although their quality of life was not improved. Today, surgeons are faced with discussing a recommendation that an operation may *not* be in the best interest of the patient.

Because of the public's increased knowledge about cancer prevention, diagnosis, and treatment, patients and their families often request second opinions. The surgeon must not be threatened by such requests. Most of the time they do not reflect on the patient's confidence in the individual surgeon.

Before proceeding with surgery, the surgeon has to consider whether radiation or chemotherapy should be administered. While in the past surgeons used to present their cases almost exclusively after they had removed the tumor, tumor boards are now considering more cases prior to the start of treatment. This change, of course, requires more of a team approach, which in many respects is new to the surgeon.

Diagnostic surgery has changed dramatically. The interventional radiologist and CT and MRI scans have helped surgeons decide on surgical approaches and at the same time have lessened the need for exploratory surgery to make the diagnosis.

Radiologists, internists, and pathologists are performing many of the needle biopsies that were once

### TEN TIPS FOR SURGEONS

#### How to Improve Patient Interaction Skills

1. Take the time to listen.
2. Try to determine and understand where the patient is coming from.
3. Be willing to repeat information many times to the patient and family.
4. Explain all options clearly, including nonsurgical choices.
5. Try to remain nonjudgmental of patient or family decisions as long as everyone is well informed.
6. Be aware that most patients are well informed, although they can benefit from additional information.
7. Have family members present during consultative sessions if acceptable with the patient.
8. Be as truthful as possible, yet still leave room for hope.
9. Make sure the team as well as other consulting physicians give a consistent message to the patient.
10. Smile and sit down when talking with patients and family.

performed by surgeons. At the same time, because of the need for intravenous nutrition and chemotherapy, surgeons are frequently placing central lines.

Intraoperatively, the rise of new techniques such as laparoscopy, thoracoscopy, intraoperative gastro-duodenoscopy, and colonoscopy are influencing the amount of surgery and types of surgical approach by decreasing the number of large incisions and tissue exposure. The results are shorter hospital stays and more efficient staging of tumors.

Although these new techniques challenge surgeons to learn new eye-hand coordination skills, most surgeons have greeted these technological achievements with enthusiasm.

Surgeons must consider intraoperative radiation therapy in cancers, especially of the pancreas or pelvic areas, and use them when appropriate. Using radiation treatment in the operating room is a new way of thinking for the surgeon.

With postoperative care, the surgeon must be in close contact with the primary care physician,

radiation oncologist, and medical oncologist. Good communication between the surgeon and other involved physicians is essential if cancer patients and their families are to receive a consistent message.

Follow-up must be coordinated among the physicians. All too often, surgeons see patients only until wound healing, turning care over to the medical oncologists. Today, however, the opposite is true. Surgeons are more than just technicians; they provide a special psychological and emotional support to the patient who has had surgery as well as to the family. In other words, surgeons must be a part of the team even after the surgery is completed.

### BECOMING A TEAM PLAYER

Today, the surgeon is no longer the gatekeeper or primary care physician for cancer patients. Surgeons are now part of a team that consists of medical oncologists, radiation oncologists, radiologists, primary care physicians, and other cancer care specialists, including enterostomal therapists, clinical nurse specialists, social workers, psychologists, and physician assistants. In this interactive environment, the patient becomes a key member of the team.

As a member of the team, surgeons must be open and willing to work more closely with others. Surgeons can improve their team interaction skills by attending tumor boards more frequently and making comments even if not presenting a patient. They might even consider chairing a tumor board. If possible, cases can be presented prior to surgery. Surgeons can help educate other physicians about surgical roles by commenting or presenting a didactic talk.

The world of medicine is ever-changing clinically, socially, and politically. Surgeons must meet the challenge by learning new, rapidly improving techniques, by interacting as a team player with multiple cancer subspecialists, and by being sensitive to the developing knowledge of what cancer care means to the patient and family. ■

### REFERENCES

<sup>1</sup>National Cancer Institute, *Closing in on Cancer*, NIH Publication 87-2955, page 16, 1987.

<sup>2</sup>National Cancer Institute, *Closing in on Cancer*, NIH Publication 87-2955, page 17, 1987.