

# What Is a Surgical Oncologist?

By the Editors of the *Annals of Surgical Oncology*

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The designation “surgical oncologist” has many different meanings. In this editorial we will attempt to synthesize the viewpoints of surgeons and other oncology specialists.

## AREAS OF DISTINCTIVENESS

Surgical oncology exists as a distinctive body of knowledge and experience within all surgical specialties. We define a surgical oncologist as a surgeon who has acquired special skills and expertise and has made a commitment to treating patients who have neoplasms. The surgical oncologist brings a body of knowledge that extends to all facets of cancer, including prevention, diagnosis, treatment, rehabilitation, and surveillance. Although surgical treatment is the centerpiece of our subspecialty, what differentiates surgical oncology from other areas of surgery is the oncology experience and expertise needed in dealing with all aspects of cancer management in a multidisciplinary fashion. The salient feature of

differentiation is that surgical oncology is both a technical and a cognitive specialty involving a chronic disease process that encompasses all organ systems and therefore involves many physiologic and biologic processes. The following characteristics can be ascribed to a surgical oncologist:

1. Spends all or most of his or her practice in the treatment of cancer patients;
2. Has an extensive knowledge of the disease process, the potential therapies available, and the ability to guide the patient appropriately with the best combination and sequence of cancer treatments;
3. Is both a competent technical surgeon and a skilled oncologist;
4. Usually has additional training or a concentrated experience in cancer management beyond residency training;
5. Can manage cancers involving a diverse number of anatomic sites;
6. Can handle complex and unusual presentations of cancer;
7. Has the knowledge and judgment to safely apply surgical treatment options ranging from the conservative to the radical in individual patients based on the biology of their disease;
8. Provides institutional leadership in cancer prevention, screening, and diagnosis;
9. Is able to coordinate multidisciplinary cancer care and be an effective partner on a multidisciplinary care team of oncologists from different specialties;
10. Can bring to patient care all levels of cancer rehabilitation, including teaching psychosocial coping, maximizing quality of life, and returning the patient to employment as soon as possible;
11. Provides long-term follow-up care for detecting recurrences and second primaries;

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Reprint of *Annals of Surgical Oncology* (1994) 1: 1. <https://doi.org/10.1007/BF02303533>

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This editorial is a synthesis of viewpoints submitted by the following authors: Charles M. Balch, MD; Kirby I. Bland, MD; Murray F. Brennan, MD; John L. Cameron, MD; Bruce A. Chabner, MD; Edward M. Copeland III, MD; William J. Hoskins, MD; Constantine P. Karakousis, MD, PhD; John E. Niederhuber, MD; Raphael E. Pollock, MD, PhD; Jerome P. Richie, MD; Jack A. Roth, MD; Jatin P. Shah, MD; Jerry M. Shuck, MD, DSc; and David P. Winchester, MD.

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First Received: 22 November 2017;  
Published Online: 29 November 2017

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12. Is able and willing to participate in the design and implementation of clinical protocols;
13. Provides educational leadership in cancer surgery and oncology management to surgical residents and medical students;
14. Provides educational and consultative assistance to the practicing physician in the community regarding multidisciplinary care of common malignancies.

Some have perceived that surgical oncology is an ill-defined specialty because of the absence of credentials and specialty certification by most parent boards of surgical specialties. However, the American Board of Surgery has recently incorporated surgical oncology as one of the 10 primary components of general surgery and has defined it as “coordinated multidisciplinary care of the cancer patient, including screening, diagnosis, surgical treatment, adjunctive therapy, rehabilitation and follow-up.” The American Board of Obstetrics and Gynecology has gone a step further and has created the specialty of gynecologic oncology as a board certifiable subspecialty of gynecology.

The evolution of subspecialization involving surgical oncology has many facets, but largely stems from (a) the increasing complexity and burgeoning knowledge of oncology advances that must be applied to the surgical patient with cancer; (b) the expanding opportunities in clinical and laboratory research relating to cancer biology; (c) the rapid increase in the number of medical oncologists and radiation oncologists, which threatens to diminish the traditional role of the surgeon in coordinating the management of cancer patients (even those with early disease); and (d) the public pressures and expectations that surgeons will have the latest information and be able to deploy the newest treatments for cancer.

On the other hand, the community surgeon should not be excluded from practicing cancer care because the differences in competence between the surgical oncologist and a well-trained, dedicated general surgeon or specialty surgeon who takes care of cancer patients are not distinct, especially for the common malignancies.

## **SURGICAL ONCOLOGY IN ACADEMIC AND COMMUNITY SETTINGS**

Although the majority of surgical oncologists work in university-based tertiary hospitals, many also play a valuable role practicing in major community centers. Indeed, many believe that every major community medical center would be well served to have at least one surgical oncologist. Certainly, every surgical residency program should have dedicated surgical oncologists to provide educational leadership regarding oncology principles and to prepare trainees to be competent clinical cancer surgeons.

Obviously, not all of the surgical management of cancer patients at any one institution will be directed by a surgical oncologist. The goal is for the surgical oncologist to have a vital leadership role within the surgical department.

Within surgery programs at university medical centers, it is especially important that surgical oncology be represented within the “community of scholars” that comprises the academic center. A leadership role in this setting is crucial to ensure that surgery is well represented in institutional cancer planning and resource allocation for specific cancer programs. Another key element is the surgeon’s involvement in translational and basic research—this is the common thread that binds cancer physicians of all disciplines. Equally important are the surgical oncologist’s roles in providing a tertiary level of surgical and oncology care and the educational contributions of teaching surgical residents about advances in oncology care. The academic surgical oncologist also has the responsibility of exporting this knowledge by communicating to the surgical community new approaches to cancer diagnosis and treatment.

## **CLINICAL RESPONSIBILITIES**

A surgical oncologist is a broad-based surgeon and an oncologist in a global sense. He or she must be able to coordinate all oncology-related aspects of patient care and communicate with the medical oncologist and radiation oncologist in a competent and well-informed manner. This requires a sound knowledge of cancer biology.

### *Surgical care*

The surgical oncologist has the training, judgment, and experience to safely and adeptly perform cancer operations with the goals of cure, local disease control, staging, or a combination thereof. Usually, this involves an en bloc resection of the primary tumor and any regional extensions in order to minimize the probability of tumor recurrence, prevent further spread, and reduce or eliminate the tumor burden. On the other hand, he or she must know when to apply more conservative surgery where appropriate and safe as a cancer operation, especially when it preserves function, reduces morbidity, or is less disfiguring than more radical surgery. The surgeon must also know how to perform palliative operations to resect tumors that threaten bodily functions, relieve existing symptoms, reduce tumor burden, and enhance the capabilities of other modalities to eradicate the cancer.

### *Nonsurgical care*

The surgical oncologist has the important responsibility of coordinating multidisciplinary cancer care and counseling patients about the appropriate combinations and sequences of cancer treatment options appropriate for their stage of disease. Thus, the surgical oncologist has a pivotal role in therapy planning and management. To do this, the surgeon must fully understand the indications, risks, and benefits of using adjuvant chemotherapy, hormone therapy, and radiotherapy, especially when there is demonstrable benefit from prospective clinical trials. The surgical oncologist must also be able to fully use all resources for physical and emotional restoration of the patient to a maximum state of rehabilitation.

### **EDUCATIONAL RESPONSIBILITIES**

All surgical oncologists have an educational responsibility and teaching role that should benefit their surgical colleagues (through continuing education) and, in teaching centers, to medical students, surgical residents, and surgical oncology fellows. Indeed, the surgical oncologist should have the capacity for developing effective training programs and teaching tools for surgical oncology advances and principles that are of value to both trainees and practicing physicians.

### **RESEARCH RESPONSIBILITIES**

All surgical oncologists, including those in community centers, should participate in cancer clinical trials as is appropriate for their area of disease specialty. This includes meaningful participation in national trials involving multidisciplinary cancer care. Whether the surgical oncologist pursues a career in an academic setting or in private practice, he or she must contribute to and maintain an active intellectual interest in clinical trials. The surgical oncologist maintains a unique position in the design, conduct, and evaluation of investigational methods for the therapy of cancer. Thus, he or she is an important member of the design team and is critical to providing surgical quality control guidelines in monitoring, educating participating surgeons about the standards of care to be provided, and participating in the evaluation of the data collected.

In an academic setting, the surgical oncologist will be called upon to meld current treatment modalities with

translational research to allow molecular, biologic, and other basic science concepts to be integrated into the therapeutic scheme. Many surgical oncologists participate in meaningful laboratory research that spans a variety of science subjects and contributes new knowledge to understanding the biology and management of cancer presentations that occur in surgical patients.

Like all cancer specialists, the surgical oncologist must have a firm grasp on the basic principles of cancer biology and must be prepared to implement advances in genetics, immunology, and molecular biology into new diagnostic and treatment strategies.

### **THE FUTURE OF SURGICAL ONCOLOGY**

Surgical oncology is one of the major growth areas in most surgical specialties. We are confident that the role of the surgical oncologist will increase substantially during the next decade because rapid advances in cancer management (many made by surgeons) will increasingly demand a cadre of surgical oncology specialists to fulfill those functions described here. It is uncommon today and will be rare in the future for a cancer patient not to be treated in a multidisciplinary environment; therefore, all surgeons must be trained and equipped to participate meaningfully in this rapidly evolving oncology field. Surgical oncologists of the next decade must be knowledgeable about basic science, especially as it relates to molecular and cellular processes, as well as have a firm background in immunology. Powerful new tools and techniques will allow us to understand this complex and diverse disease at a much more fundamental level in the near future. This, in time, will lead to more precise staging of patients with microscopic and macroscopic disease and allow us to precisely apply a combination of treatments designed to eradicate the disease and restore the patient to health.

In summary, the surgical oncologist provides leadership and forms a partnership with the surgical community and the other oncology specialists at their medical institutions. The surgical oncologist uniquely provides the primary cognitive and teaching roles within a surgical department, cancer center, or major community hospital; leadership in developing, implementing, and analyzing clinical and translational laboratory research; and treatment of the complex, unusual, and uncommon manifestations of solid tumors.