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<p>The sequencing of the human genome and the ability to rapidly identify genes and proteins, both normal and mutant, that are involved in tumorigenesis and malignant phenotypes, have changed the ability to understand malignant cells. Understanding and applying this information to the diagnosis and treatment of cancer are facilitated best with a multidisciplinary team. The cancer surgeon plays a pivotal role in this team. This article briefly summarizes: (1) the clinically relevant applications of molecular biology to the cancer surgeon, (2) the current understanding of the molecular basis for cancer, and (3) the current targeted agents and their clinical applications.</p>	
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<p>An important component of quality healthcare is that it be patient-centered with a focus on the patient, including his or her preferences, values, and beliefs. The goal of this article is to provide a broad overview of patient-centered outcomes in oncologic research. It starts with an introduction to the different types of patient-centered measures including patient satisfaction, decision regret, patient preference, and health-related quality of life. It then offers an overview of survey instrument design and selection. Finally, it provides examples of existing approaches to measurement and previously validated instruments for each type of patient-centered outcome.</p>	
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to the treatment of complications secondary to advanced malignancies, the data herein can also be extrapolated to other chronic, terminal diseases. Guidelines for patient selection are discussed, using currently available outcomes data as a platform for the critical decision making process. Suggestions for a multidisciplinary team approach are offered, using the palliative triangle as the ideal model of communication and cooperation. Finally, methods for measuring success are detailed, along with proposals for how to better equip the surgeons of tomorrow with the knowledge and experience needed to tackle these difficult and intimate problems.

### **Multimodal Treatment for Head and Neck Cancer**

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Miriam N. Lango

Head and neck cancers are relatively less common tumors, but with complex anatomic and physiologic relationships to the structures from which they arise. Multimodal management is required for advanced stage disease, while single modality treatment is usually sufficient for early lesions. Treatment paradigms have shifted toward more functional preservation of speech and swallowing, when possible. Increased use of radiation, systemic/targeted therapies and function-preserving surgical approaches have allowed for organ preservation without compromising oncologic outcomes in properly selected patients.

### **The Role of Invasive Treatments in Surgical Oncology**

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Mark S. Choh and James A. Madura II

This article reviews the use of minimally invasive surgical and endoscopic techniques in the field of surgical oncology. It reviews the indications and techniques of the use of minimally invasive surgery for several oncologic indications in general surgery. In particular, it reviews the currently published literature discussing the oncologic outcomes of these techniques.

### **Multidisciplinary Approach to Esophageal and Gastric Cancer**

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Roderick M. Quiros and Courtney L. Bui

The incidence of esophageal and gastric malignancies has increased over the last decade. Historically, surgery has been considered the best treatment for these cancers. However, long-term survival after surgery is fair at best, because of the tendency of disease to recur locally and distantly. Presently, the management of these cancers involves surgery, chemotherapy, and radiation therapy. This article discusses various treatment strategies that employ these modalities either alone or in combination, in an attempt to improve survival rates for patients who have gastroesophageal malignancies.

**Liver-Directed Treatment Modalities for Primary and Secondary Hepatic Tumors** 97

Brett Yamane and Sharon Weber

Colorectal cancer liver metastases and hepatocellular carcinoma remain significant health problems in the United States and worldwide. Although surgical resection is often the treatment of choice, patient comorbidities or disease extent may preclude this option. Alternative approaches to primary and secondary hepatic malignancies have been developed, and their impact on disease control has been the subject of much recent study. These therapies can be administered alone but can also be effective when used in combination, or with other chemotherapeutic regimens. This article reviews the different techniques of liver-directed therapy and the available literature on short- and long-term outcomes.

**Multidisciplinary Approach to Tumors of the Pancreas and Biliary Tree** 115

Kimberly M. Brown

Tumors of the pancreas and biliary tree remain formidable challenges to patients and clinicians. These tumors elude early detection, rapidly spread locally and systemically, and frequently recur despite apparently complete resection. Cystic tumors of the pancreas, however, may represent a subset of patients who do not uniformly require aggressive resection, and a thoughtful, evidence-based approach to work-up allows for the rational application of surgical therapy. Increasing evidence supports treating patients who have pancreaticobiliary disease in a multidisciplinary setting.

**Multidisciplinary Care for Patients with Breast Cancer** 133

Melissa C. Hulvat, Nora M. Hansen, and Jacqueline S. Jeruss

The care of patients with breast cancer has become increasingly complex with advancements in diagnostic modalities, surgical approaches, and adjuvant treatments. A multidisciplinary approach to breast cancer care is essential to the successful integration of available therapies. This article addresses the key components of multidisciplinary breast cancer care, with a special emphasis on new and emerging approaches over the past 10 years in the fields of diagnostics, surgery, radiation, medical oncology, and plastic surgery.

**The Multidisciplinary Management of Rectal Cancer** 177

Kenneth L. Meredith, Sarah E. Hoffe, and David Shibata

Advancements have been made in multiple aspects of diagnostic and therapeutic approaches to rectal cancer. These advances include clinical staging such as endorectal ultrasound and pelvic MRI, surgical approaches such as transanal excision, and adjuvant treatments such as new chemotherapeutic agents and refined radiotherapy techniques. Optimal patient outcomes depend on multidisciplinary involvement for tailored therapy. The successful management of rectal cancer requires a multidisciplinary approach, with treatment decisions based on precise patient

evaluations by a group of clinicians, including surgeons, gastroenterologists, medical and radiation oncologists, radiologists, and pathologists. The accurate identification of patients who are candidates for combined modality treatment is particularly essential to optimize outcomes. Technical and technologic advances have led to the availability of a wide range of surgical approaches for managing rectal cancer. Concomitantly, similar critical developments and refinements have also occurred in the administration of radiation and chemotherapeutic agents. This article provides an overview of the multimodal treatment of patients who have rectal cancer, with a focus on staging, surgical techniques, and the application of chemotherapy or radiation in the adjuvant and neoadjuvant settings.

### **Multidisciplinary Treatment of Gastrointestinal Stromal Tumors**

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T. Peter Kingham and Ronald P. DeMatteo

Gastrointestinal stromal tumor (GIST) has been recognized as a unique tumor only in the last decade. Although rare as a clinical entity, there is much interest in the pathology and treatment because the *KIT* protooncogene mutation common to most GISTs can be inhibited by imatinib mesylate. Diagnosing and treating GIST requires a multidisciplinary approach, given the combination of pathologic and radiographic evaluation, surgical treatment, and oncologic care required to successfully treat patients with GIST.

### **Soft Tissue Sarcomas: Current Management and Future Directions**

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Robert J. Kenney, Richard Cheney, Margaret A. Stull, and William Kraybill

This article reviews the current state of diagnosis and treatment of soft tissue sarcomas. Etiology, staging, imaging, tissue sampling, and current treatment are all reviewed using updated references. Current standards for surgical treatment are emphasized and the future directions of treatment addressed.

### **The Surgical and Systemic Management of Neuroendocrine Tumors of the Pancreas**

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Gerard J. Abood, Aileen Go, Deepak Malhotra, and Margo Shoup

Neuroendocrine tumors of the pancreas comprise a class of rare tumors that can be associated with symptoms of hormone overproduction. Five distinct clinical endocrinopathies are associated with neuroendocrine tumors; however, most of these tumors remain asymptomatic and follow an indolent course. Complete surgical resection offers the only hope for cure, but understanding the basic biology of the tumors has advanced the medical management in metastatic disease. Surgical resection of hepatic metastases offers survival advantage and should be performed when feasible. Although hepatic artery embolization is currently the preferred mode of nonsurgical palliation for pain and hormonal symptoms, other modalities may play a role in metastatic disease.

**Multidisciplinary Treatment of Primary Melanoma** 267

Katharine Yao, Glen Balch, and David J. Winchester

This article covers the multidisciplinary treatment of primary melanoma. Excision margins and the need for sentinel lymphadenectomy are mainly dictated by the Breslow thickness although exceptions to this dictum do exist. Interferon is the only FDA approved adjuvant therapy for high risk melanoma although its overall survival benefit is minimal. Trials examining different doses or duration of interferon therapy have not demonstrated any promising survival data so far. There have been several randomized vaccine trials for melanoma but none have shown an overall survival benefit. Research into T-cell regulation continues and will hopefully bring promise for the future of melanoma treatment.

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