

## Esophageal Cancer

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### **Epidemiology and Biology of Esophageal Cancer**

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**Background:** Worldwide, squamous cell is the most common type of esophageal cancer, but in the United States and other Western countries there has been a remarkable change in the epidemiology of esophageal cancer over the past 50 years.

**Methods:** A review of the epidemiology and biology of esophageal and gastroesophageal junction cancer from the world literature and the University of Southern California experience.

**Results:** In the United States, adenocarcinoma of the esophagus and gastroesophageal junction has replaced squamous cell as the most common esophageal cancer, and the incidence of esophageal adenocarcinoma is increasing faster than that of any other malignancy. Risk factors include gastroesophageal reflux disease and obesity. Surveillance in patients with Barrett's esophagus is identifying adenocarcinoma at an earlier, more curable stage, and at the same time new endoscopic and surgical options that reduce morbidity and mortality are available for the treatment of these localized tumors. Tumors that invade into the submucosa have a significant risk of lymph node metastases, and patients with four or more node metastases are at high risk for systemic disease and require systemic therapy. The risk of systemic metastases can be predicted based on the pathologic stage of the tumor, and molecular markers for metastases or systemic disease will likely help refine staging and prognostic algorithms in the near future. The type of esophagectomy (transhiatal vs. en bloc) impacts survival for patients treated with either primary resection or after neoadjuvant therapy, and a meaningful possibility of long-term survival in patients with residual disease is only seen with an en bloc resection.

**Conclusions:** The increasing incidence of esophageal adenocarcinoma provides opportunities to devise treatment strategies that maximize survival and minimize morbidity. Esophageal cancer is not systemic in all patients at the time of diagnosis, and rational use of endoscopic ablation and resection techniques, esophagectomy, and chemotherapy and radiotherapy requires a comprehensive understanding of the biology of this disease.