To be amenable for conservative laryngeal surgery the malignancies contained within this anatomic structure must be limited in size and in extent of growth. In a relative sense this is equivalent to an early stage of the cancer. In absolute terms the duration of the tumor may represent months or even years. Most “small” and “early” laryngeal carcinomas are discovered at an early stage of their evolution because they produce symptoms. Hoarseness is the hallmark symptom of laryngeal cancer and in particular those of the vocal cords. Therefore, the remainder of this discussion is directed at early cancer of the true vocal cords. This group of tumors is representative of those that are most acceptable for conservation surgery.

For practical purposes nearly all laryngeal malignancies are carcinomas that have their origin from the squamous or ciliated pseudostratified epithelium of the mucous membranes (Fig. 1). Carcinomas from minor salivary gland tissue and sar-

Fig. 1. Normal stratified squamous epithelium of the vocal cord. The cells have normal maturation from the basal layer to the prekeratinized superficial layers. HE, × 250
Basics of Diagnosis and Planning of Therapy

Fig. 2. Carcinoma in situ of the vocal cord. The most striking feature is the lack of normal maturation. Nearly the entire thickness is replaced by cells that are large, have an increased nuclear cytoplasmic ratio, nuclear pleomorphism and hyperchromatism. These changes are of sufficient degree to place it in the malignant rather than dysplastic category even though some maturation is present on the very surface. A line of condensed collagen, the so called basement membrane is intact. HE, ×250

Carcinomas from the various connective tissues of the larynx are relatively rare and will receive no further discussion.

It is very likely that carcinoma of the larynx is preceded in most instances by a condition of “cancer susceptibility” of the epithelium that may express itself morphologically as keratosis or dysplasia. These are epithelial changes that are relatively well known to pathologists because of their common occurrence in the epidermis and in the uterine cervix. It is also likely that carcinogenic factors exert influence on laryngeal epithelium. However, documentation of such factors has been elusive. To date only the smoking of tobacco and the ingestion of alcohol have withstood the scrutiny of epidemiological studies.

Carcinoma in situ is the earliest morphologically recognizable form of laryngeal cancer (Fig. 2). It is defined as a neoplastic condition in which malignant cells as determined by microscopic examination replace the normal cells in the laryngeal epithelium. The malignant cells may be variable in appearance. This variation usually reflects changes and alterations in the cytoplasm. For practical purposes, however, carcinoma in situ is defined as a lack of maturation and a disorderly proliferation of cells that usually have a similarity in size and structure to the basal cells of this epithelial layer. There is nuclear hyperchromatism, increased nuclear cytoplasmic ratio, increased mitotic activity and other nuclear abnormalities. The cytoplasm of malignant cells is capable of differentiation, a change that is manifest in laryngeal epithelial cells by keratin production. Thus, carcinoma in situ of the larynx may appear