Superficial spreading melanoma, also referred to as pagetoid melanoma, is the most frequent form of melanoma, constituting about 70% of all cases. It is characterized by the invasion of the epidermis by melanocytes. Histologic examination remains the gold standard for accurate diagnosis and plays a crucial role in establishing the diagnosis of melanoma. Despite advances in diagnostic tools, the importance of histologic evaluation cannot be overstated, as it provides essential information about the extent and depth of the tumor, which is critical for determining the appropriate treatment plan.
**Histopathology**

Architectural pattern features of importance in the diagnosis include the large diameter of the lesions, poor demarcation from the normal skin, and variability in the thickness of the tumor. Lesions may be patchy and perivascular as in a dysplastic nevus but are typically dense and bandlike, especially in invasive lesions.

Cytologically, the lesional cells are rather uniform and have abundant cytoplasm containing varying amounts of melanin that often exhibits a "spider-web" appearance. Cytoplasmic atypia is of considerable diagnostic importance and contrasts with the random cytologic atypia of dysplastic nevi.

When the lesion is in situ, the basement membrane is intact and there are no lesional cells in the dermis. In an invasive but nontumorigenic lesion, the lesional cells are arranged in a nest that is larger than the largest intraepidermal nest, and/or there may be lesional cell mitoses in the dermis.

**Histogenesis**

On electron microscopic examination, melano-somes are present in great numbers in the large pagetoid tumor cells. Their presence confirms the melanocytic origin of these cells. The presence of prominent nesting and pagetoid scatter of melanocytes—criteria similar to those for superficial spreading melanoma—were

Histological examination, immunohistochemical staining, and electron microscopy are crucial in the diagnosis of superficial spreading melanoma.
more likely than other melanomas to be associated with BRAF or NRAS mutations. These evolving genetic data will lead to refinement of the clinicopathologic melanoma classification system in the near future.

**Differential Diagnosis**

A junctional nevus differs from superficial spreading melanoma in radial growth phase by a lack of atypia in the tumor. This may be particularly difficult to diagnose when a biopsy from one of these sites is examined. Caution should be exercised when what at first appears as melanoma in situ is restricted to the epidermis that overlies a surgical or traumatic scar because this must be differentiated from the neoplastic basal cell layer by atypical melanocytes. Problematic cases can be reported as malignant melanoma (in situ or microinvasive, etc.) without designation as to type.

When tumorigenic vertical growth phase is present, it does not differ appreciably from that in any other form of melanoma. Classification of such complex tumorigenic primary melanomas is based on the morphology of the radial growth phase.

Among the nonmelanocytic neoplasms that must be differentiated from superficial spreading melanoma in situ are Paget's disease and pagetoid examples of Bowen's disease (squamous cell carcinoma in situ). Paget's disease usually shows remnants of compressed basal cells beneath the tumor cells, whereas in superficial spreading melanoma in situ, the tumor cells extend to the basement membrane. In Paget's disease, the tumor cells may stain positively for carcinoembryonic antigen. Other neoplasms that may be difficult to differentiate from melanoma include higher grade keratoses, pityriasis sparsa, and erythroplasia of Queyrat.
antigen and keratin and are negative for HMB-45 and Melan-A. S100 reactivity, although unusual, may occasionally be...

A final pitfall in evaluating nonmelanocytic mimics of intraepidermal melanoma involves the variable tendency...( Considerations...