



## Malignant Melanoma

Most malignant melanomas arise in the epidermis (usually as primary pigmented nodules) or in the dermis (usually as nodules). They are characterized by the presence of atypical melanocytes, which are cells that produce melanin. The cells are arranged in nests or cords, and they often show significant nuclear atypia, including large nuclei, prominent nucleoli, and mitotic figures. The tumor cells may also show evidence of invasion into the surrounding tissue.

All major types of melanoma originate almost invariably from melanocytes at the epidermal-dermal junction

more than half of them arise either as new or have completely supplanted the precursor nevus at the

<b>Classification</b>	<b>of</b>	<b>Melanoma</b>
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There are two major categories of melanoma, which are the superficial and the deep, or invasive, types. The superficial type is the most common, accounting for about 70% of all melanomas. It is characterized by its location in the epidermis, the outermost layer of the skin. The deep type is less common, accounting for about 30% of all melanomas. It is characterized by its location in the dermis, the layer of skin beneath the epidermis. The deep type is more aggressive and has a higher risk of metastasis.

About 5% to 10% of melanomas are in different series, which are the nodular, the lentiginous, and the desmoplastic. The nodular type is the most aggressive, accounting for about 15% of all melanomas. It is characterized by its location in the dermis and its rapid growth. The lentiginous type is the most common, accounting for about 50% of all melanomas. It is characterized by its location in the epidermis and its slow growth. The desmoplastic type is the least common, accounting for about 5% of all melanomas. It is characterized by its location in the dermis and its slow growth.

Finally, the separate description of the morphologic variants has nosologic and pedagogic value, facilitating the understanding of the disease and its treatment.

## Morphology of Tumorigenic and Nontumorigenic Melanoma

In their nontumorigenic stage, melanomas tend to expand horizontally, spreading along the epidermis. In their tumorigenic stage, they tend to expand vertically, invading the dermis and the underlying tissues. The horizontal expansion is characterized by the presence of nests of melanocytes in the epidermis. The vertical expansion is characterized by the presence of nests of melanocytes in the dermis.

recent guidelines have emphasized the value of the "ugly duckling" sign of the changing or different-look

Histologically, most of the lesional cells in nontumorigenic melanocytic nevi are located in the epidermis. In contrast, malignant melanomas are characterized by the presence of nests of atypical melanocytes in the dermis, which may be associated with pagetoid spread of melanocytes in the epidermis.

Clinically, the tumorigenic vertical growth phase is qualitatively different from the plaque-like radial growth

quite uniform and may be pink rather than blue-black, and the diameter of the tumor nodule itself is often

The major histologic feature that distinguishes a tumorigenic melanoma is the capacity for proliferation of

*Tumorigenic melanoma* A mass of melanoma cells is present in the dermis, defined as at least one cluster

*Nontumorigenic melanoma* No mass of melanoma cells is present in the dermis (there is no cluster larger than

*Vertical growth phase* . A lesion is classified as vertical growth phase if it is tumorigenic or if there are at

<i>Radial growth</i>	phase	( <i>RGP</i> ).	A lesion is classified as radial g
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In rare instances, a mass is formed in the dermal component of a melanoma by the accretive piling up o

phase" . These lesions are nontumorigenic. However, if any mitoses are present in such a lesion, it wou

In a study conducted by the Pathology Panel of the Cancer Research Campaign in the United Kingdom,

Molecular Pathology	of	Melanoma	.	Knowledge
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The Nontumorigenic Compartment	Primary Malignant Melanoma (Radial Growth Phase)
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The following sections describe the morphology of the nontumorigenic compartment of the different forms of melanoma.
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Two major patterns of nontumorigenic melanoma have been distinguished: the radial and the lentiginous pattern.
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Not all superficial melanocytic proliferations can be reliably differentiated by histology, and these lesions which

recur, and grow inexorably, although without metastatic potential should be diagnosed as such, where patient

## Superficial Spreading Melanoma

Superficial spreading melanoma, also referred to as pagetoid melanoma , is the most frequent form of m



<i>Histopathology</i>	.
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Architectural pattern features of importance in the diagnosis include the large diameter of the lesions, po
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Cytologically,	the lesional cells are rather uniform and have abundant cytoplasm containing v
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When the lesion is	<i>in situ</i> ,	the basement membrane is intact and there are no lesio
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<i>Histogenesis</i>	.	On electron microscopic examination, melano-somes ar
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more likely than other melanomas to be associated with BRAF or NRAS mutations . These evolving gen

Differential Diagnosis	.	A junctional nevus differs from a superficial spreading melanoma
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When tumorigenic vertical growth phase is present, it does not differ appreciably from that in any other f

Among the nonmelanocytic neoplasms that must be differentiated from a superficial spreading melanoma	Basaloid cystic carcinoma
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antigen and keratin and are negative for HMB-45 and Melan-A. S100 reactivity, although unusual, may c

A final pitfall in evaluating nonmelanocytic mimics of intraepidermal melanoma involves the variable tenc