

## Clinical and Dermoscopic Morphology In Diagnosis of Melanoma in Childhood

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**Table 1.** Summary of Melanoma Subtypes in Children and Adolescents

	Conventional melanoma	Spitzoid melanoma	Melanoma arising in large congenital melanocytic nevi
Age	Most common in postpuberty	Any age	Most common in prepuberty
Race-phenotype	Fair skin/hair/eyes Nevus-prone phenotype	Any kind	+ Large CMN
Patient genetic background	Family or personal MM history (CDKN2A)	Unknown	Unknown
Natural history	Nevus-like or arising in a nevus	Pink fast-growing papule	Lesion arising within the LG-CMN or in central nervous system (CNS)
Location most common	Trunk	Limbs and head	Any location (skin or CNS)
Clinical appearance	<b>Classical ABCD:</b> <ul style="list-style-type: none"> <li>• <b>Asymmetry</b></li> <li>• <b>Borders irregular</b></li> <li>• <b>Color uneven</b></li> <li>• <b>Diameter &gt;6 mm</b></li> </ul>	<b>Modified ABCD:</b> <ul style="list-style-type: none"> <li>• <b>Amelanotic</b></li> <li>• <b>Bump-bleeding</b></li> <li>• <b>Color uniformity</b></li> <li>• <b>De novo</b></li> </ul>	Any kind: skin or neuromeningeal MM (+/- neuromeningeal melanocytosis in MRI)
Dermoscopic patterns	<ul style="list-style-type: none"> <li>• Multicomponent with classic melanoma features</li> </ul>	<ul style="list-style-type: none"> <li>• Pink vascular spitzoid</li> <li>• Pigmented spitzoid (atypical starburst)</li> </ul>	<ul style="list-style-type: none"> <li>• Classic MM features</li> <li>• Blue homogeneous or not applicable if dermal/subcutaneous MM</li> <li>• Not applicable if neuromeningeal MM</li> </ul>
Histopathology of melanoma	Arising in a nevus (60%) ~ 70% invasive	De novo spitzoid MM ~ 100% invasive	Arising in LGCMN (100%) Dermal or neuromeningeal
Tumor genetic background	UVR damage signature BRAF-MAPK, TERT and PTEN pathways	ALK-fusions and other kinase fusions (not BRAF)	NRAS mutations

**Abbreviations:** CMN: congenital melanocytic nevus; LGCMN: large-giant congenital melanocytic nevus; CNS: central neural system; MM: melanoma; MRI: magnetic resonance imaging, UVR: ultraviolet radiation.