

## KDL DermPath Update

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# Melanoma Staging

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The world of melanoma is gaining with increasing complexity from year to year. In order to understand this complex arena, we must have a common language with which to evaluate a patient's prognosis. It is with this goal in mind, that the staging system for melanoma has undergone multiple changes over the last few years. As our ability to track and research patients and their outcomes has improved, our staging system has undergone necessary changes. In a recent *The Melanoma Letter*, there is a preview of the upcoming 2002 American Joint Committee on Cancer staging system of melanoma. Since the previous publication of the last staging system in 1997, there have been several revisions and updates, which have forced this change.

Since 1997, a reanalysis of data has shown that evaluation of primary tumor has gone much further beyond just the examination of Clark and Breslow levels. In 1983, the AJCC and the Union Internationale Contre le Cancer (UICC) provided the first internationally recognized guidelines for melanoma staging. These contain the familiar TNM (tumor-node-metastasis) classification and original levels and cut offs. Current reevaluation of this data, however, shows that while Clark level and thickness are important, thickness and the **presence or absence of histologic ulceration** of the primary tumor were deemed the most important staging criteria for stages I and II melanoma. Ulceration is defined as the absence of intact epidermis overlying the melanoma.

Clark levels were concluded to be a useful consideration only for melanomas less than 1 mm (thin melanomas) and provide limited or inconsistent prognostic value for tumor thickness groups greater than 1 mm. Furthermore, there has been a refinement in the measurement of tumor thickness to cut off points to less than 1 mm, 1-2 mm, 2-4 mm, and greater than 4 mm to achieve a 3 basic points of: 1) simplicity, 2) increased prognostic value, 3) consistency with current management guidelines. (insert table here)

Some changes reflect our ability to track not only the presence of metastatic tumor, but also the tumor load in metastatic sites. The new final version of the staging system includes the presence of micrometastases, which have since been detected with increasing sensitivity with sentinel node biopsy.

Other significant changes include the designation of in-transit and satellite lesions in the stage III category. These are considered to have a significantly worse prognosis occurring along with metastatic regional nodes. Significantly, gross extracapsular extension of metastatic melanoma as noted by the surgeon or pathologist has been found to confer a negative prognosis similar to patients with greater than 4 involved lymph nodes. Despite the dividing of the distant metastases categories (M) classification into three categories within stage IV, there has is little difference in these groups in terms of survivability.

Hopefully, with increasing methods of description, classification, and detection, we will be able to enhance our ability not only to develop a common schema by which we describe patients with melanoma, but also provide better methods and modes of treatment.

**Table 1. Cox Regression Analysis of 13,581 Stage I and II Patients from the AJCC Melanoma Staging Committee Data Set**

<b><u>Tumor variable</u></b>	<b><u>X<sup>2</sup></u></b>	<b><u>P value</u></b>
Thickness	244.3	.00001
Ulceration	189.5	.00001
Age	45.6	.00001
Anatomic site	41.0	.00001
Level of invasion	32.7	.00001
Gender	15.1	.001

**Table 2. AJCC 2002 Revised Melanoma Staging**

**OVERALL SURVIVAL**

<b>STAGE</b>	<b>HISTOLOGICAL FEATURES/TNM Classification</b>	<b><u>1-year</u></b>	<b><u>5-year</u></b>	<b><u>10-year</u></b>
0	Intraepithelial/in situ melanoma (TisNOMO)		100%	100%
IA	≤ 1 mm without ulceration and Clark Level II/III (T1aNOMO)		95%	88%
IB	≤ 1 mm with ulceration or level IV/V (T1bNOMO)		91%	83%
	1.01-2 mm without ulceration (T2aNOMO)		89%	79%
IIA	1.01-2 mm with ulceration (T2bNOMO)		77%	64%
	2.01-4 mm without ulceration (T3aNOMO)		79%	64%
IIB	2.01-4 mm with ulceration (T3bNOMO)		63%	51%
	>4 mm without ulceration (T4aNOMO)		67%	54%
IIC	>4 mm with ulceration (T4bNOMO)		45%	32%
IIIA	Single regional nodal micrometastasis, nonulcerated primary T1-4aN1aMO)		69%	63%
	2-3 microscopic regional nodes, nonulcerated primary		63%	57%

IIIB	(T1-4aN2aMO)			
	Single regional nodal micrometastasis, ulcerated primary (T1-4bN1aMO)	53%	38%	
	2-3 microscopic regional nodes, ulcerated primary (T1-4bN2aMO)	50%&	36%	
	Single regional nodal macrometastasis, nonulcerated primary (T1-4aN1bMO)	59%	48%	
	2-3 macroscopic regional nodes, nonulcerated primary (T1-4aN2bMO)	46%	39%	
IIIC	In-transit met(s)/satellite lesion(s) without metastatic lymph nodes (T1-4a/bN2cMO)	30-50%		
	Single macroscopic regional node. Ulcerated primary (T1-4bN1bMO)	29%	24%	
	2-3 macroscopic regional nodes, ulcerated primary (T1-4bN2bMO)	24%	15%	
	4 or more metastatic nodes, matted nodes/gross extracapsular extension, or in-transit met(s)/satellite(s) and metastatic nodes (anyTN3MO)	27%	18%	
IV	Distant skin, subcutaneous, or nodal mets with normal LDH (anyTanyNM1a)	59%	19%	16%
	Lung mets with normal LDH (anyTanyNM1b)	57%	7%	3%
	All other visceral mets with normal LDH or any distant mets with increased LDH (anyTanyNM1c)	41%	9%	6%

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