

MALIGNANCY WAIVERS

CONDITION: MALIGNANT MELANOMA (ICD9 172.9)

Revised: April 2003

AEROMEDICAL CONCERNS: The ultimate aeromedical concern is the risk of an in-flight incapacitating event. Failure to recognize early disease will compromise cure and result in the loss of the aviator. Advanced disease can affect many organ systems, especially the Central Nervous System (CNS), with obvious risks to aviation safety.

WAIVERS:

1. Initial Applicants:

- a. Class 1A/1W: Exception to policy for initial flight applicants will be considered for cases of malignant melanoma that are less than 2 mm in depth and do not show lymph node involvement or distant metastases (AJCC stage IA and IB). For lesions between 2 and 4 mm, without nodal involvement, there must be a 5-year disease free interval prior to consideration (AJCC stage IIA and IIB). Lesions deeper than 4 mm, or that involve lymph nodes or distant metastases will not generally be considered for an exception to policy since the risk of CNS disease recurrence is greater than acceptable limits (AJCC Stage IIC, IIIA/B/C, IV).
- b. Class 2, 3, 4: Waivers will routinely be granted for cases of malignant melanoma where the lesion is less than 2 mm in depth without evidence of lymph node involvement or distant metastases. For lesions between 2 and 4 mm there must be a 5-year disease free interval prior to consideration (AJCC Stage IIA and IIB). Lesions deeper than 4 mm, or that involve lymph nodes or distant metastases will not generally be considered for a waiver since the risk of CNS disease recurrence is greater than acceptable limits (AJCC Stage IIC, III A/B/C, IV).

2. Rated Aviation Personnel (All Classes): Lesions that are less than 2 mm in depth without lymph node involvement are good candidates for a waiver (AJCC Stage IA and IB). Lesions that are between 2 and 4 mm, without ulceration or nodal involvement (AJCC Stage IIA), may be considered for a waiver after complete excision and necessary follow up. For those lesions with AJCC Stage II B/C and III A/B/C there must be a 5-year disease free interval (after completing all necessary treatment) prior to consideration for waiver, provided all follow up evaluations show no evidence of disease. Those lesions deeper than 4 mm or any lesion with distant metastases (AJCC IV) will not generally be considered for a waiver since the risk of CNS disease recurrence is greater than acceptable limits. Patients who have had melanoma of the uveal tract with enucleation of the orbit cannot be considered for waiver.

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INFORMATION REQUIRED:

1. Complete AMS with results of surgery, including lymph node involvement and metastatic work-up. Metastatic work up for localized lesions should include an alkaline phosphatase, LDH and CXR. For Stage IIA and IIB lesions a sentinel node analysis is required prior to consideration for return to flight status.
2. Complete mucocutaneous examination performed by a dermatologist.
3. Neurological and lymph node exam (performed by the flight surgeon).
4. CXR.
5. Tissue examination performed by a dermatopathologist that must include a comment about the presence or absence of ulceration and the breslow depth. A simple Clark's level description is not sufficient. If no dermatopathologist is available then tissue sample should be sent to AFIP for diagnosis.
6. Tumor board report and medical board report returning the member to full duty (if applicable).
7. MRI of the brain is required only if neurologic abnormalities are discovered.
8. If neurologic abnormalities are discovered a complete neurology consult is required.

FOLLOW-UP: Aviators must examine their excision site and skin monthly for signs of new lesions. Flight surgeons must take an active role in educating the aviator on how to do this exam and what to look for. For Stage IA a dermatology exam every 6 months for 2 years and then every year is recommended. For Stage IB a dermatology exam every 6 months for 3 years and then every year is recommended. A dermatology consult should be obtained every year. For Stage II and III a full mucocutaneous exam every 6 months for 5-years and then annually is recommended. A dermatology consult should be obtained every year. The dermatologist or other subspecialist may direct additional studies.

TREATMENT: Surgical excision of the primary lesion is the primary means of treatment. Lymph node dissection may play a role in improving survival in some stages, but should not be done simply to increase the chance of waiver approval.

DISCUSSION: Two different studies found tumor ulceration the second most powerful prognostic indicator. The presence or absence of ulceration on histology heralds a high risk of metastases and its presence upstages the prognosis of all lesions. Patients with the excision of tumors ≤ 1.0 mm without evidence of ulceration are considered cured after the appropriate margin is performed at the area of biopsy and there is a careful dermatopathologist review of the excision with comment on clear histological margins. These lesions should be reviewed regularly because of the propensity for the melanoma to recur at the original site or elsewhere. The aviator should be educated to look for pigmented lesions in addition to reporting nodular developments or the development of amelanotic lesions in and around the area of the initial biopsy. Tumors of the head, neck, trunk, hands and feet have a worse prognosis than those on

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the arms and legs and should be monitored more vigilantly. The 10-year survival rate reported by the American Joint Committee on Cancer Staging (AJCC) for tumors without evidence of ulceration is 87.9 percent for lesions with a depth \leq 1.0mm, 80.0 percent for tumors 1.0 to 2.0 mm, 63.8 percent for tumors 2.0 to 4.0 mm, and only 53.9 percent for those $>$ 4.0 mm.

Lymphatic mapping and sentinel lymphadenotomy are technological advances that allow the more accurate staging of melanoma. The AJCC recommends all patients with tumors \geq 1.0 mm in depth have pathologic nodal staging with lymphadenectomy. Newer technologies are being investigated for the staging of malignant melanoma and include reverse transcriptase polymerase chain reaction, positron emission tomography scanning, and the use of antimelanoma antibodies. These modalities are still being investigated and are not required for submission with a waiver request.

REFERENCES:

1. Balch CM, Buzaid AC. *Final Version of the American Joint Committee on Cancer Staging System for Cutaneous Melanoma*. Journal of Clinical Oncology, Vol 19, no 16, 2001: pp 3635-3648.
3. <http://www.guideline.gov>.
4. <http://www.utdol.com> (can be accessed through <http://medlinet.amedd.army.mil> with AKO username and password).
5. <http://www.aadassociation.org/Guidelines/CutaneousMel.html> .