

Primary tumour excision with a surrounding margin of 3 cm reduced recurrence in melanomas > 2 mm thick

Thomas JM, Newton-Bishop J, A'Hern R, *et al.* Excision margins in high-risk malignant melanoma. *N Engl J Med* 2004;**350**:757–66.

Clinical impact ratings Dermatology ★★★★★☆ Oncology ★★★★★☆ Surgery ★★★★★☆

Q In patients with high risk malignant melanoma, is primary tumour excision with a surrounding margin of 3 cm more effective than a margin of 1 cm for reducing recurrence and improving survival?

METHODS

-  **Design:** randomised controlled trial.
-  **Allocation:** concealed.*
-  **Blinding:** blinded (monitoring committee).*
-  **Follow up period:** a median of 60 months.
-  **Setting:** 21 hospitals, 2 infirmaries, 1 cancer therapy network in the UK, and 1 cancer centre in Poland.
-  **Patients:** 900 patients >18 years of age (mean age 57 y, 52% men) who had a single primary localised cutaneous melanoma (≥2 mm in thickness) on the trunk or limbs (excluding the palms of hands or the soles of the feet) where a 3 cm excision margin was technically possible. Exclusion criteria included pregnancy, a history of cancer (except basal cell carcinoma), and treatment with immunosuppressive agents.
-  **Intervention:** primary tumour excision with a total surrounding margin of 1 cm (n=453) or 3 cm (n=447). All excisions were extended to or included the deep fascia.
-  **Outcomes:** incidence of local, in transit, or nodal tumour recurrence and a composite endpoint comprising tumour recurrence and all cause mortality.
-  **Patient follow up:** 99% (analysis was by intention to treat).

*See glossary.

Commentary

The origins of the recommendation for wide excision of melanomas come from pathology dissections nearly 100 years ago.¹ This concept has been much studied since. The principle behind excision of normal skin around a primary cutaneous melanoma is to reduce the risk of residual disease at the site and, subsequently, mortality. Most people now agree that a margin up to 1 cm is sufficient for thin tumours of Breslow thickness ≤1 mm. However, controversy still remains with respect to thicker tumours. The study by Thomas *et al* attempted to answer this question. But, like many previous studies, it came up with an answer that is not definitive enough for one to be able to recommend to clinicians what they should do with patients who have the thick tumours.

In the large series of 900 patients studied by Thomas *et al*, the data had sufficient power to show that a 1 cm margin compared with a 3 cm margin for a melanoma of ≥2 mm in thickness is associated with a significantly increased risk of regional residual disease, which would become clinically apparent over a 3 year follow up period. Ironically, with the numbers of patients and the length of time for which they were followed, the authors were unable to show a statistically significant difference in survival rate between the 2 groups. More time, greater numbers, and fewer variables all may have been of value in trying to tease out a difference in survival between the 2 groups, but, unfortunately, a straightforward answer does not exist.

So, how does this article help the clinician? The recommendation made by the authors is not a positive one, which is a reflection of their results. They were confident enough to suggest that a 1 cm margin is not sufficient for patients with melanomas that are ≥2 mm thick. On the other hand, they were unable to recommend either a 2 or 3 cm margin and instead suggested that ‘the patient should make the choice after an informed discussion.’ This latter suggestion seems to be based more on the effect of current legal interventions in the doctor-patient relationship than on the contribution of scientific research to decision making. After all, most patients will still ask the treating clinician, ‘‘What do you recommend?’’

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1 Handley WS. The pathology of melanotic growths in relation to their operative treatment. *Lancet* 1907;1:927–33.

MAIN RESULTS

The rate of local, in transit, or nodal tumour recurrence was greater in the 1 cm group than in the 3 cm group (table). The groups did not differ for the rate of the composite outcome or for all cause mortality alone (table).

CONCLUSIONS

In patients with high risk malignant melanoma, primary tumour excision with a surrounding margin of 3 cm was more effective than a margin of 1 cm for reducing recurrence. However, the groups did not differ for all cause mortality.

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Primary tumour excision with a surrounding margin of 1 cm v 3 cm in high risk malignant melanoma at a median follow up of 60 months*

Outcomes	1 cm margin	3 cm margin	RRI (95% CI)	NNH (CI)
Local, in transit, or nodal tumour recurrence	38%	32%	20% (0 to 43)	16 (8 to ∞)†
All cause mortality	32%	31%	6% (-13 to 28)	Not significant
Composite outcome	49%	44%	15% (-1 to 30)	Not significant

*Composite outcome = tumour recurrence or all cause mortality. Other abbreviations defined in glossary; event rates, RRI, NNH, and CI calculated from data in article.

†Borderline significance (p=0.05).