



## 805P: Predicting recurrence-free survival for patients with stage II melanoma – a validated tool to guide selection for adjuvant systemic therapy

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### Background

- Keynote 716: improved recurrence-free survival (RFS) for sentinel node negative Stage IIB/C melanoma patients given adjuvant pembrolizumab<sup>1</sup>
- Risk:benefit assessment for adjuvant systemic therapy requires accurate, personalised prediction of RFS
- AJCC 8th Edition (AJCC-8) estimates melanoma-specific survival (MSS)<sup>2</sup>

### Objective

- To develop a user-friendly, externally validated tool for predicting RFS and overall survival (OS) in stage II melanoma patients (with or without sentinel node biopsy)

### Methods

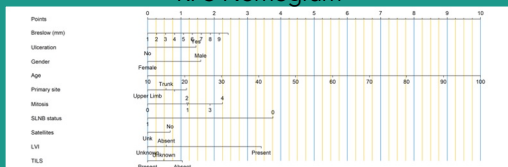
- Development cohort: Melanoma Institute Australia (MIA) database (n=3243)
- Stage II melanoma diagnosed 01/01/1985 – 31/12/2010 (sentinel node negative or no sentinel node biopsy done)
- Multivariable Cox regression RFS and OS prediction models developed
- External validation cohorts:
  - Dutch national cancer registry (PALGA) (n=8631)
  - MD Anderson Cancer Center (n=703)
- Performance assessment: C-statistics (AUC), decision curve analyses and calibration plots

### Conclusions

- Large discrimination gains over AJCC-8 staging:
  - RFS AUC gain (7.5-12.2%)
  - OS AUC gain (4.6-15.7%)
- Good calibration
- External validation: good performance in both institutional and national registry datasets
- Online tool will be at [www.melanoma.org.au](http://www.melanoma.org.au) (once published)

### Results

#### RFS Nomogram

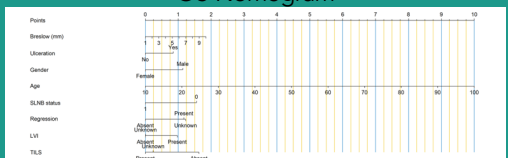


#### MIA Nomogram

#### AJCC 8<sup>th</sup> Ed Stage

Years	MIA AUC (95% CI)	MDA AUC (95% CI)	Dutch AUC (95% CI)	Years	MIA AUC (95% CI)	MDA AUC (95% CI)	Dutch AUC (95% CI)
5	68.8% (66.8-70.8%)	69.4% (65.2-73.6%)	71.8 (70.6-73.0%)	5	60.5% (58.6-62.5%)	61.9% (57.8-66.0%)	64.3% (63.2-65.5%)
10	71.7% (69.3-74.0%)	69.7% (64.3-75.2%)	74.0% (72.5-75.6%)	10	59.5% (57.1-61.9%)	61.3% (55.9-66.7%)	62.3% (60.7-64.0%)

#### OS Nomogram



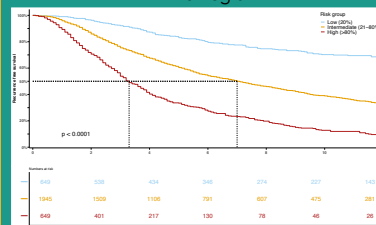
#### MIA Nomogram

#### AJCC 8<sup>th</sup> Ed Stage

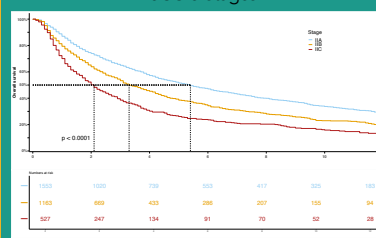
Years	MIA AUC (95% CI)	MDA AUC (95% CI)	Dutch AUC (95% CI)	Years	MIA AUC (95% CI)	MDA AUC (95% CI)	Dutch AUC (95% CI)
5	70.6% (68.6-72.6%)	66.2% (61.6-70.9%)	75.0% (73.8-76.1%)	5	62.5% (60.5-64.5%)	61.6% (57.2-66.1%)	64.8% (63.5-66.0%)
10	74.0% (71.9-76.1%)	65.1% (59.8-70.5%)	77.2% (75.8-78.6%)	10	60.6% (58.3-62.8%)	57.1% (52.0-62.3%)	61.5% (59.9-63.1%)

#### RFS Kaplan-Meier Curves

##### MIA Nomogram




##### AJCC-8 Stages



### Online Tool

#### Input Page



#### Risk Prediction Tools

#### Stage II Survival Prediction

Enter eligible patient's details below:

**Age (Years)**

18 24 30 36 42 48 54 60 66 72 78 84 90+

**Breslow thickness (mm)**

0 1 2 3 4 5 6 7 8 9 10+

**Ulceration**

**Gender**

**Body Site**

**Mitoses**

**Satellites**


**Lymphovascular Invasion**

**TILS**

**Regression**

**Sentinel Node Status**

#### Output Page



#### Risk Prediction Tools

#### Stage II Survival Prediction

##### Recurrence-free Survival

5 Years: 41% | 10 Years: 23%

##### Overall Survival

5 Years: 71% | 10 Years: 52%

**These results are based on:**

Age	45 years
Breslow	3.2 mm
Ulceration	Yes
Gender	Male
Body Site	Lower limb
Mitoses	2 per mm <sup>2</sup>
Satellites	No
Lymphovasc Invasion	No
TILS	No
Regression	No
Sentinel Node Status	Unknown

#### Results Interpretation

The following information may be useful for clinicians when discussing with patients

##### Recurrence-free Survival

The probability of being recurrence-free in five years from now is 92%. Therefore, 92 out of 100 people with the same clinicopathological features of melanoma as your patient will be alive and recurrence-free in five years from now. Similarly, in 10 years from now, 73 out of 100 people will be alive and recurrence-free.

##### Overall Survival

The probability of being alive in five years from now is 92%. Therefore, 92 out of 100 people with the same clinicopathological features of melanoma and receiving the same treatment as your patient will be alive in five years from now. Similarly, in 10 years from now, 77 out of 100 people will be alive.

### References

- Luke JJ et al. Lancet 2022
- Gershenwald et al. CA: a cancer journal for clinicians 2017

### Acknowledgements

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### Conflicts of Interest (AV)

Honorarium received from Novartis