

# 31-gene expression profile assessing metastatic risk in melanoma patients: Issues impacting patient selection

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## Background

- Genetic evaluation of melanoma plays an increasingly important role in clinical practice
- A 31-gene expression profiling (31-GEP) test (Decision-DX-Melanoma, Castle Biosciences, Inc., Friendswood, TX) to predict metastatic risk in cutaneous malignant melanoma (CMM) has been validated and is available for clinical use
- The impact of the results of this test on clinical decision making has been studied, but little is known about which clinical factors impact dermatologists' decision to utilize the test

## Objective

- To determine which factors impact the decision to utilize the 31-GEP test for metastatic risk stratification in CMM patients

## Methods

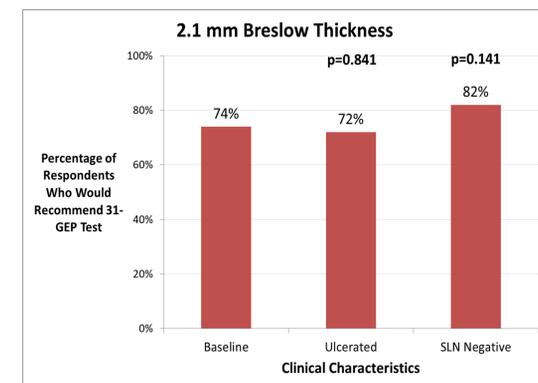
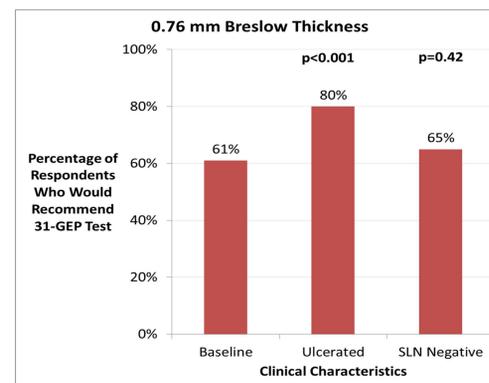
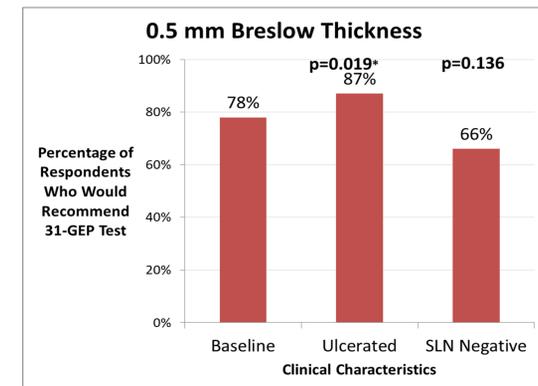
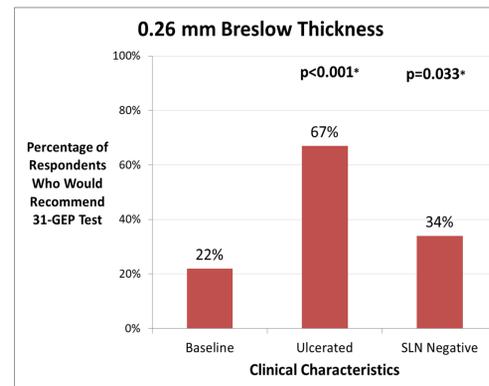
- 181 dermatologists attending the 2017 Winter Clinical Dermatology Conference-Hawaii<sup>®</sup> completed a series of questions based around four clinical vignettes using an audience response system
- Vignettes assessed the impact of three factors on the decision to order the 31-GEP test:
  - Breslow thickness
  - Ulceration
  - Sentinel lymph node biopsy (SLNBx) status
- Chi-squared tests were used to compare the proportion of respondents who would order the test at baseline and in the presence of ulceration and a negative SLNBx for each Breslow thickness

## Clinical Characteristics of Patient Vignettes

Patient Vignette	Age, Gender	Melanoma Location	Breslow Thickness
1	45, Female	Right leg	0.76 mm
2	42, Male	Right back	0.50 mm
3	35, Male	Right arm	0.26 mm
4	72, Female	Right neck	2.10 mm

## Results

### Percentage of Dermatologists Who Would Order 31-GEP Test in Different Clinical Scenarios



\*statistically significant

\*\*p-value comparing proportion who would order test at baseline and in presence of ulceration or SLN negative status for given thickness

### Percent of Sample Who Would Use 31-GEP Test to Predict Metastatic Risk in Malignant Melanoma

Breslow Thickness	0.26 mm	0.50 mm	0.76 mm	2.1 mm	p-value*
Non-ulcerated	22%	78%	61%	74%	<0.001
Ulcerated	67%	87%	80%	72%	<0.001

\*Using chi-squared test to compare the proportion who would order the 31-GEP test at each Breslow thickness

## Limitations

- Subjects were given a brief introductory lecture on the background of the 31-GEP test immediately prior to the survey; this may have introduced bias
- Sample may not be representative of the overall population of practicing United States dermatologists

## Conclusions

- A majority of Dermatologists in this sample would order the 31-GEP test for melanomas of any Breslow thickness in the presence of ulceration and melanomas with Breslow thickness  $\geq 0.50$  mm in the absence of ulceration
- Despite the fact that 2/3rds of CMM patients who develop metastases initially have a negative SLNBx, negative SLNBx status does not seem to be a significant stimulus to ordering the test