Melanoma is a form of skin cancer caused by mutations in pigment-producing cells (melanocytes).\(^1\)
It presents as pigmented lesions or moles on the skin.\(^1\)
It is projected to affect 100,640 people in the U.S. in 2024.\(^1\)

**THE PROBLEM:** **SUBJECTIVITY IN MELANOMA SCREENING**

Dermatologists rely on subjective visual cues to screen for melanoma using a dermatoscope.

Asymmetry
Border
Color
Diameter
Evolving

The lesions highlighted in red are melanomas.

The dermatoscope is the current clinical gold standard.

This subjectivity results in many unnecessary biopsies.

For every positive melanoma biopsy, 26.8 unnecessary skin biopsies are taken.\(^5\)

**Effects of screening bias are amplified for patients with darker skin.**

Rate of accuracy in examination and recommendation for biopsy are significantly lower for patients with skin of color.

**OUR APPROACH:** **TISSUE MECHANICS**

Literature shows that melanoma lesions have greater tissue stiffness than healthy moles.

To be clinically applicable, this property needs to be quantitatively characterized in situ.

**THE NEED:** **OBJECTIVITY**

Melanoma research specialists need to quantitatively characterize the mechanical properties of melanoma tissue to facilitate the development of a more objective screening pathway.

**Our solution will be:**
- Noninvasive
- Output quantitative measurement to distinguish melanoma from healthy tissue
- Unbiased by skin tone/color
- Portable, Maneuverable

**References**