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Lundeen/Bazzel Award

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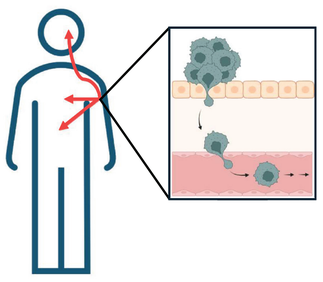
Contributions of Centrosome Dysregulation to Melanoma Progression

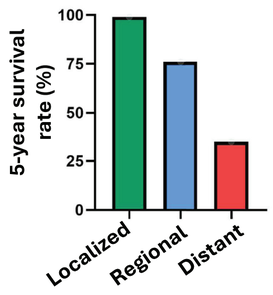
By using melanoma models, we can investigate how centrosomes – cellular organelles that control cell division and migration – contribute to melanoma progression. This work can help identify new diagnostic tools and drug targets to inform novel therapeutics and support patient outcomes in the future.

Cancer is a leading global cause of death

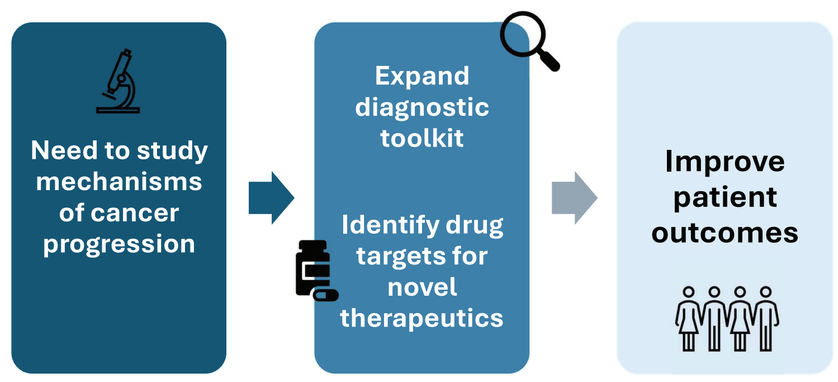
Metastasis: main contributor to cancer-related death



Melanoma: skin cancer with high metastatic potential

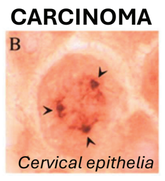


How can we prevent cancer metastasis?

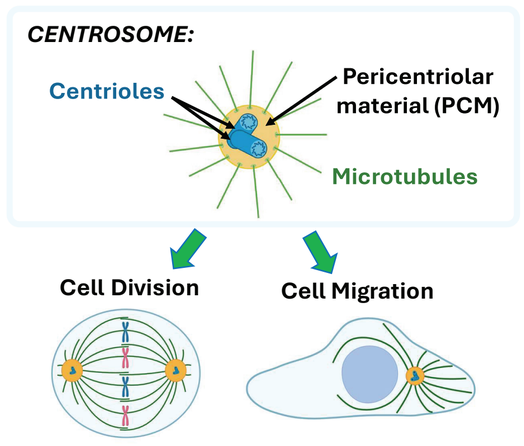


Centrosomes are abnormal in cancer

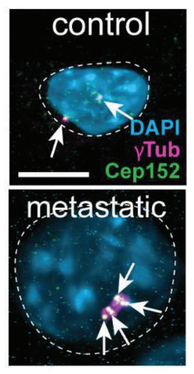




Pihan, G.A., et al. (2003) *Cancer Res.*

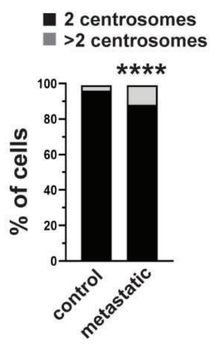


Metastatic melanoma cells have too many and larger centrosomes

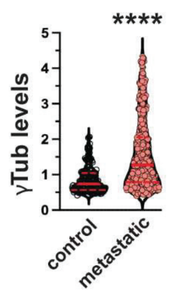


Arrow: centrosome
Scale bar: 10 μm

↑ # centrosomes

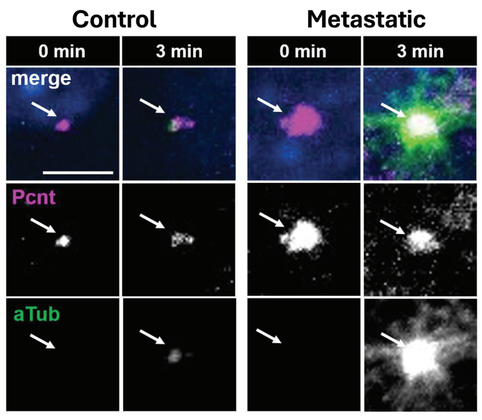


↑ PCM



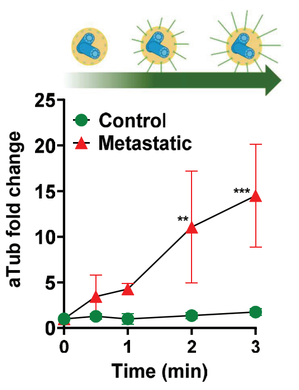
Data from Mike Hamersky

Microtubules regrow faster in metastatic melanoma cells



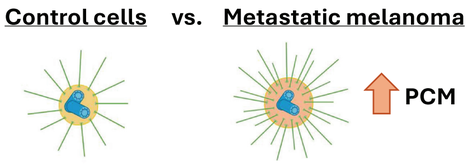
Arrow: centrosome, scale bar: 5 μm

↑ microtubule regrowth

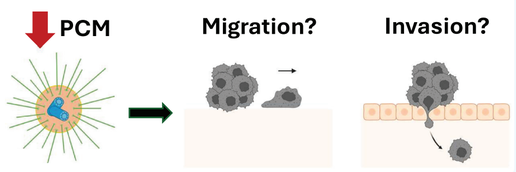


Hypothesis: Altered centrosome regulation contributes to melanoma progression.

Aim 1: Define centrosome composition in melanoma models.



Aim 2: Examine altered centrosome function in melanoma models.



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