UW Medicine
NEUROLOGICAL SURGERY

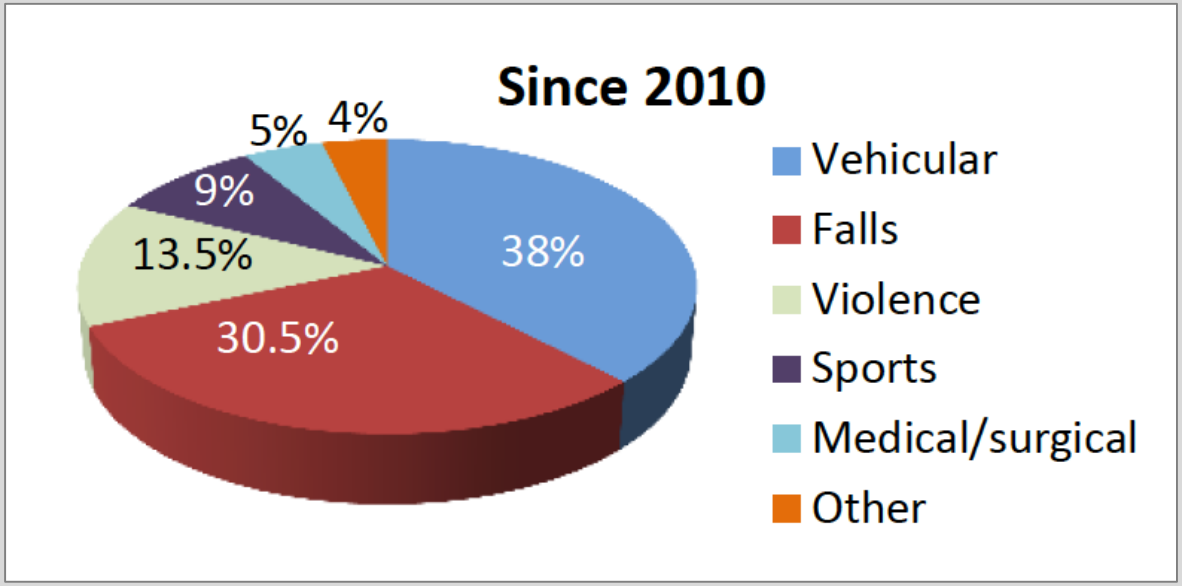
Effects of Hemostatic Nanoparticles after Rodent Spinal Cord Injury

UW Neurological Surgery Summer Student Program

August 10th, 2018

Chuc Le

Prevalence of spinal cord injury



For a 25 year old patient, the estimated lifetime costs due to spinal cord injury can range from $681,843 to over $3 million

Currently, there are ~ **280,000** people living with traumatic SCI, and **~ 17,000** new cases each year in the US

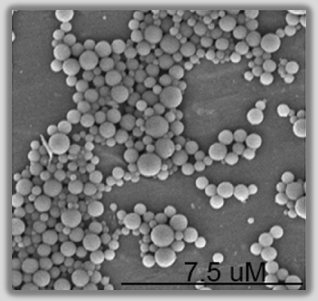
1.6 million folks with spinal cord dysfunction

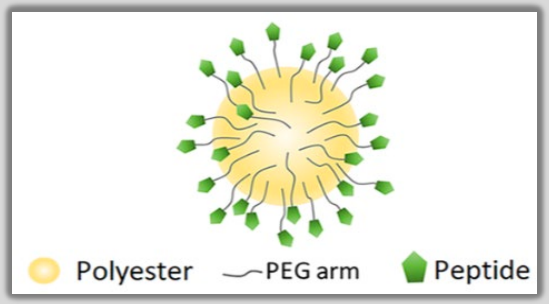
Data obtained from the National Spinal Cord Injury Statistical Center (https://www.nscisc.uab.edu/)

Human spinal cord injury

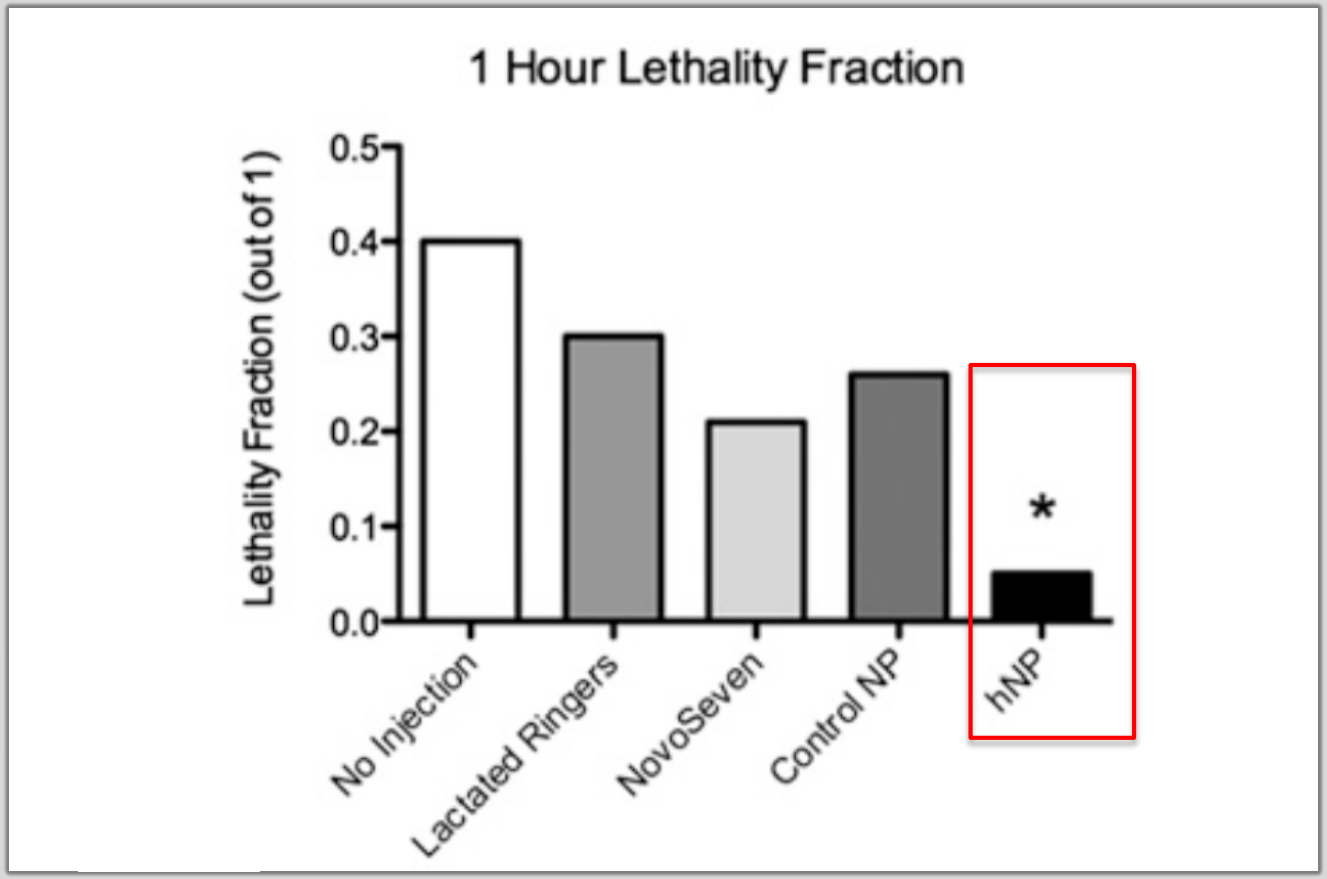
Courtesy of K.C. Hayes & B. Kakulas (Western Australian SCI Databank)

Hemostatic Nanoparticles (hNPs)





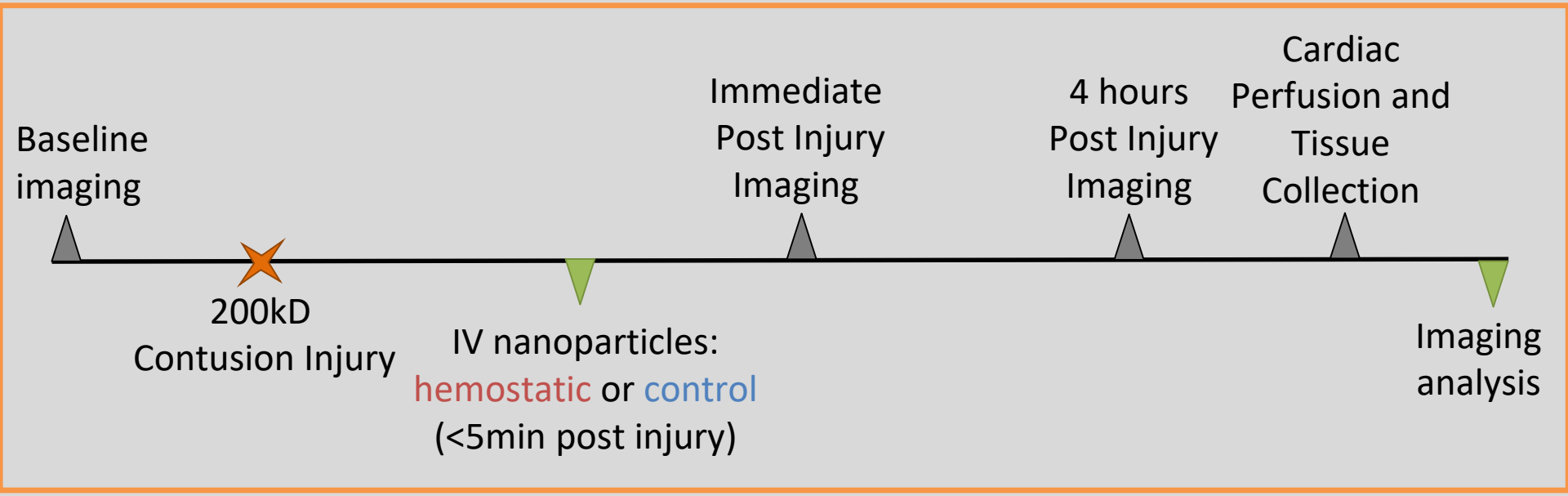
Onwukwe et al., 2018. Bioconjugate Chem



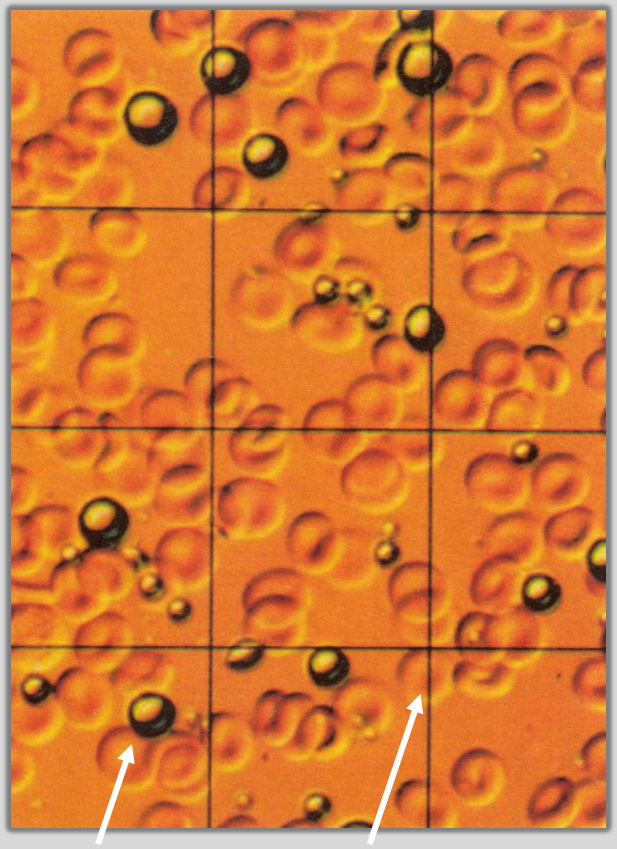
Lashof-Sullivan et al., 2014. PNAS

Study timeline

Acute study

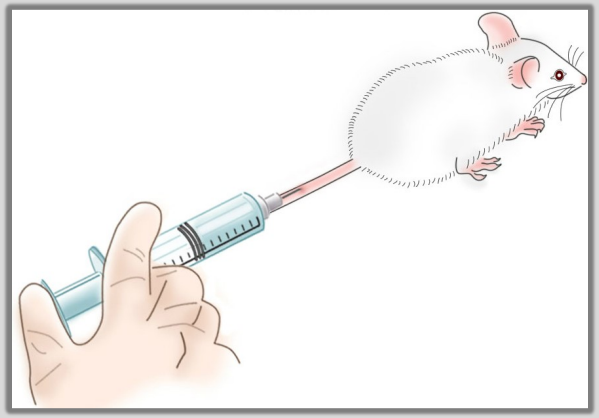


Contrast Enhanced Ultrasound (CEUS)



Contrast and Red Blood Cells

Definity vial

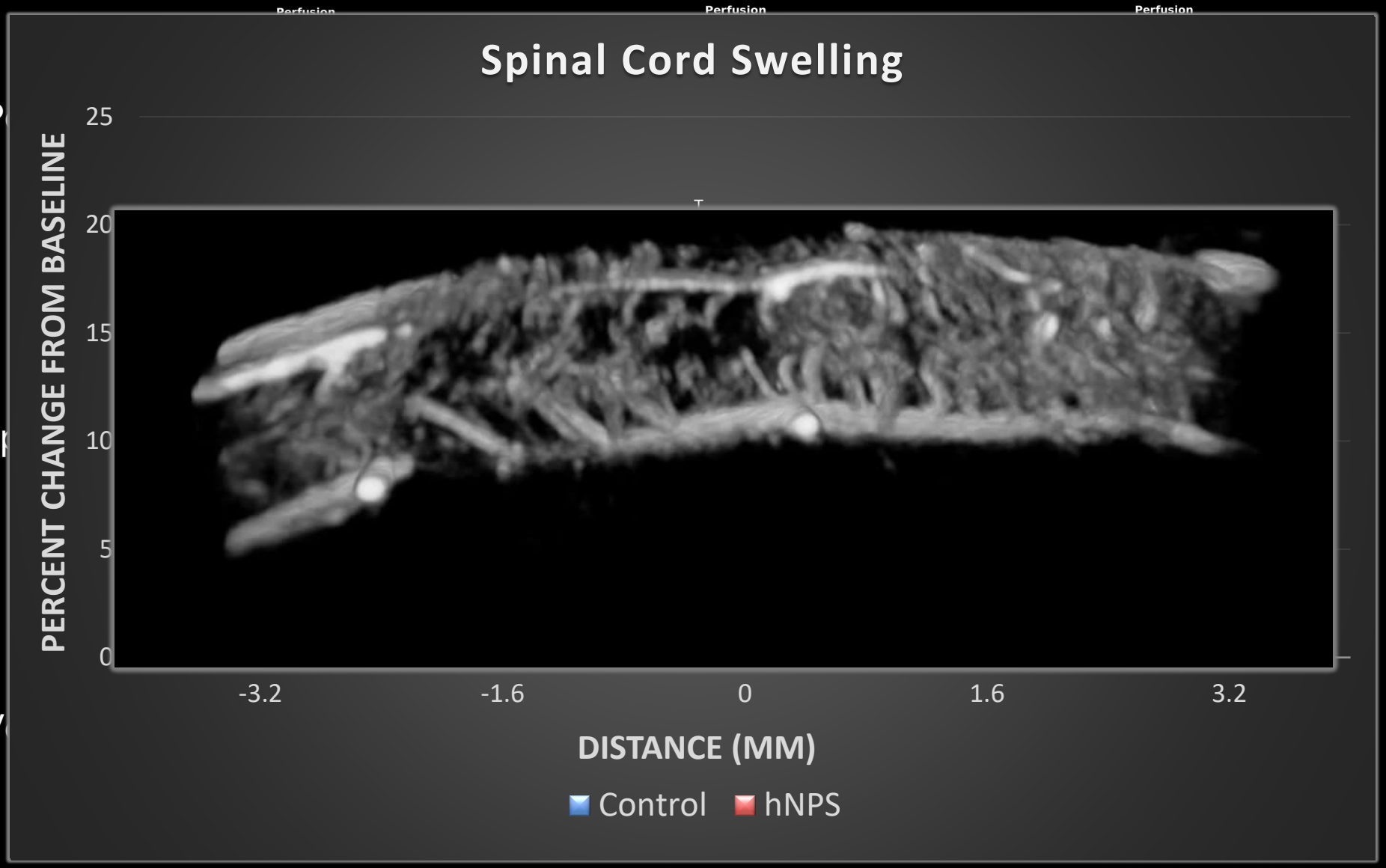


Intravenous Injection

Baseline

Acute post injury

4 hours post injury



Future Directions

- Do hNPs have any effects in **blood clotting** after SCI?
- Do hNPs help in **recovering** motor or sensory function after SCI?

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