



Seth Stravers Tigchelaar

MD Student with Scholarly Concentration in Clinical Research, expected graduation Spring 2024

Research & Scholarship

RESEARCH PROJECTS

- Characterization of therapeutic effects of human neural stem cell-secreted paracrine factors in a distal middle cerebral artery occlusion model of stroke

LAB AFFILIATIONS

- Gary Steinberg, Steinberg Lab (11/11/2019)

Publications

PUBLICATIONS

- **Countersinking the Lag Screw or Blade During Cephalomedullary Nailing of Geriatric Intertrochanteric Femur Fractures: Less Collapse and Implant Prominence Without Increased Cutout Rates.** *The Journal of the American Academy of Orthopaedic Surgeons*
Henry Goodnough, L., Wadhwa, H., Tigchelaar, S. S., Pfaff, K., Heffner, M., van Rysselberghe, N., DeBaun, M. R., Gardner, M. J., Bishop, J. A.
1800; 30 (1): e83-e90
- **Single position lateral decubitus Anterior Lumbar Interbody Fusion (ALIF) and posterior fusion reduces complications and improves perioperative outcomes compared with traditional anterior-posterior lumbar fusion.** *The spine journal : official journal of the North American Spine Society*
Ashayeri, K., Leon, C., Tigchelaar, S., Fatemi, P., Follett, M., Cheng, I., Thomas, J. A., Medley, M., Braly, B., Kwon, B., Eisen, L., Protopsaltis, T. S., Buckland, et al
2021
- **Duraplasty in Traumatic Thoracic Spinal Cord Injury: The Impact on Spinal Cord Hemodynamics, Tissue Metabolism, Histology and Behavioral Recovery Using a Porcine Model.** *Journal of neurotrauma*
Streijger, F., Kim, K., So, K., Manouchehri, N., Shortt, K., Okon, E., Morrison, C., Fong, A., Gupta, R., Allard Brown, A., Tigchelaar, S., Sun, J., Liu, et al
2021
- **Tranexamic acid does not affect intraoperative blood loss or in-hospital outcomes after acetabular fracture surgery.** *European journal of orthopaedic surgery & traumatology : orthopedie traumatologie*
Wadhwa, H., Tigchelaar, S. S., Chen, M. J., Koltsov, J. C., Bellino, M. J., Bishop, J. A., Gardner, M. J.
2021
- **Indications for cement augmentation in fixation of geriatric intertrochanteric femur fractures: a systematic review of evidence.** *Archives of orthopaedic and trauma surgery*
Goodnough, L. H., Wadhwa, H., Tigchelaar, S. S., DeBaun, M. R., Chen, M. J., Graves, M. L., Gardner, M. J.
2021
- **Hypotensive Anesthesia does not reduce Transfusion Rates during and after Acetabular Fracture Surgery.** *Injury*
Wadhwa, H., Chen, M. J., Tigchelaar, S. S., Bellino, M. J., Bishop, J. A., Gardner, M. J.
2021
- **Medial Column Support in Pilon Fractures Using Percutaneous Intramedullary Large Fragment Fixation.** *Journal of orthopaedic trauma*
Goodnough, L. H., Tigchelaar, S. S., Van Rysselberghe, N. L., DeBaun, M. R., Gardner, M. J., Hecht, G. G., Lucas, J. F.

2021

- **Decoding the Cross-Talk Between Grafted Neural Stem Cells and Host Brain to Predict the Molecular Mechanisms of Stem Cell-Induced Functional Recovery After Stroke.**
Tigchelaar, S. S., Azevedo-Pereira, R. L., Dong Chen, Liang Xibin, Bliss, T., Steinberg, G.
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Incidence and Outcomes of Posterior Circulation Involvement in Moyamoya Disease.**
Tigchelaar, S. S., Wang, A., Li Yiping, Steinberg, G.
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Cephalomedullary helical blade is independently associated with less collapse in intertrochanteric femur fractures than lag screws.** *European journal of orthopaedic surgery & traumatology : orthopedie traumatologie*
Goodnough, L. H., Wadhwa, H., Tigchelaar, S. S., Pfaff, K., Heffner, M., Van Rysselberghe, N., DeBaun, M. R., Bishop, J. A., Gardner, M. J.
2021
- **Gluteus Minimus Debridement During Acetabular Fracture Surgery Does Not Prevent Heterotopic Ossification - A Comparative Study.** *Journal of orthopaedic trauma*
Chen, M. J., Tigchelaar, S. S., Wadhwa, H. n., Frey, C. S., Bishop, J. A., Gardner, M. J., Bellino, M. J.
2021
- **Proteomic Portraits Reveal Evolutionarily Conserved and Divergent Responses to Spinal Cord Injury** *MOLECULAR & CELLULAR PROTEOMICS*
Skinnider, M. A., Rogalski, J., Tigchelaar, S., Manouchehri, N., Prudova, A., Jackson, A. M., Nielsen, K., Jeong, J., Chaudhary, S., Shortt, K., Gallagher-Kurtzke, Y., So, K., Fong, et al
2021; 20: 100096
- **Advanced Age Does Not Impact Outcomes After 1-level or 2-level Lateral Lumbar Interbody Fusion.** *Clinical spine surgery*
Wadhwa, H., Oquendo, Y. A., Tigchelaar, S. S., Warren, S. I., Koltsov, J. C., Desai, A., Veeravagu, A., Alamin, T. F., Ratliff, J. K., Hu, S. S., Cheng, I.
2021
- **Management of the posterior wall fracture in associated both column fractures of the acetabulum.** *European journal of orthopaedic surgery & traumatology : orthopedie traumatologie*
Chen, M. J., Hollyer, I. n., Wadhwa, H. n., Tigchelaar, S. S., Van Rysselberghe, N. L., Bishop, J. A., Bellino, M. J., Gardner, M. J.
2021
- **Lateral Distractor Use During Internal Fixation of Tibial Plateau Fractures Has Minimal Risk of Iatrogenic Peroneal Nerve Palsy.** *Journal of orthopaedic trauma*
Chen, M. J., Salazar, B. P., Tigchelaar, S. S., Frey, C. S., DeBaun, M. R., Goodnough, L. H., Bellino, M. J., Bishop, J. A., Gardner, M. J.
2020
- **Cardio-centric hemodynamic management improves spinal cord oxygenation and mitigates hemorrhage in acute spinal cord injury.** *Nature communications*
Williams, A. M., Manouchehri, N. n., Erskine, E. n., Tauh, K. n., So, K. n., Shortt, K. n., Webster, M. n., Fisk, S. n., Billingsley, A. n., Munro, A. n., Tigchelaar, S. n., Streijger, F. n., Kim, et al
2020; 11 (1): 5209
- **Trochanteric fixation nail advanced with helical blade and cement augmentation: early experience with a retrospective cohort.** *European journal of orthopaedic surgery & traumatology : orthopedie traumatologie*
Goodnough, L. H., Wadhwa, H. n., Tigchelaar, S. S., DeBaun, M. R., Chen, M. J., Bishop, J. A., Gardner, M. J.
2020
- **Trochanteric osteotomy for acetabular fracture fixation: a case series and literature review.** *European journal of orthopaedic surgery & traumatology : orthopedie traumatologie*
Chen, M. J., Wadhwa, H. n., Tigchelaar, S. S., Frey, C. S., Gardner, M. J., Bellino, M. J.
2020
- **Continuous optical monitoring of spinal cord oxygenation and hemodynamics during the first seven days post-injury in a porcine model of acute spinal cord injury.** *Journal of neurotrauma*
Cheung, A. n., Tu, L. n., Manouchehri, N. n., Kim, K. T., So, K. n., Webster, M. n., Fisk, S. n., Tigchelaar, S. n., Dalkilic, S. S., Sayre, E. C., Streijger, F. n., Macnab, A. J., Kwon, et al
2020

- **MicroRNA Biomarkers in Cerebrospinal Fluid and Serum Reflect Injury Severity in Human Acute Traumatic Spinal Cord Injury** *JOURNAL OF NEUROTRAUMA*
Tigchelaar, S., Gupta, R., Shannon, C. P., Streijger, F., Sinha, S., Flibotte, S., Rizzuto, M. A., Street, J., Paquette, S., Ailon, T., Charest-Morin, R., Dea, N., Fisher, et al
2019; 36 (15): 2358–71
- **Differences in Morphometric Measures of the Uninjured Porcine Spinal Cord and Dural Sac Predict Histological and Behavioral Outcomes after Traumatic Spinal Cord Injury.** *Journal of neurotrauma*
Kim, K. T., Streijger, F. n., So, K. n., Manouchehri, N. n., Shortt, K. n., Okon, E. B., Tigchelaar, S. n., Fong, A. n., Morrison, C. n., Keung, M. n., Sun, J. n., Liu, E. n., Cripton, et al
2019
- **Integrated systems analysis reveals conserved gene networks underlying response to spinal cord injury** *ELIFE*
Squair, J. W., Tigchelaar, S., Moon, K., Liu, J., Tetzlaff, W., Kwon, B. K., Krassioukov, A., West, C. R., Foster, L. J., Skinnider, M. A.
2018; 7
- **Review of the UBC Porcine Model of Traumatic Spinal Cord Injury** *JOURNAL OF KOREAN NEUROSURGICAL SOCIETY*
Kim, K., Streijger, F., Manouchehri, N., So, K., Shortt, K., Okon, E. B., Tigchelaar, S., Cripton, P., Kwon, B. K.
2018; 61 (5): 539–47
- **Changes in Pressure, Hemodynamics, and Metabolism within the Spinal Cord during the First 7 Days after Injury Using a Porcine Model** *JOURNAL OF NEUROTRAUMA*
Streijger, F., So, K., Manouchehri, N., Tigchelaar, S., Lee, J. T., Okon, E. B., Shortt, K., Kim, S., McInnes, K., Cripton, P., Kwon, B. K.
2017; 34 (24): 3336–50
- **Serum MicroRNAs Reflect Injury Severity in a Large Animal Model of Thoracic Spinal Cord Injury** *SCIENTIFIC REPORTS*
Tigchelaar, S., Streijger, F., Sinha, S., Flibotte, S., Manouchehri, N., So, K., Shortt, K., Okon, E., Rizzuto, M. A., Malenica, I., Courtright-Lim, A., Eisen, A., Van Keuren-Jensen, et al
2017; 7: 1376
- **Serum and CSF Biomarkers to Predict Functional Recovery After Spinal Cord Injury** *AOSpine Masters Series: Spinal Cord Injury and Regeneration*
Tigchelaar, S., Kwon, B., et al
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- **Responses of the Acutely Injured Spinal Cord to Vibration that Simulates Transport in Helicopters or Mine-Resistant Ambush-Protected Vehicles** *JOURNAL OF NEUROTRAUMA*
Streijger, F., Lee, J. T., Manouchehri, N., Melnyk, A. D., Chak, J., Tigchelaar, S., So, K., Okon, E. B., Jiang, S., Kinsler, R., Barazanji, K., Cripton, P. A., Kwon, et al
2016; 33 (24): 2217–26
- **The Evaluation of Magnesium Chloride within a Polyethylene Glycol Formulation in a Porcine Model of Acute Spinal Cord Injury** *JOURNAL OF NEUROTRAUMA*
Streijger, F., Lee, J. T., Manouchehri, N., Okon, E. B., Tigchelaar, S., Anderson, L. M., Dekaban, G. A., Rudko, D. A., Menon, R. S., Iaci, J. F., Button, D. C., Vecchione, A. M., Kononov, et al
2016; 33 (24): 2202–16
- **A Novel Porcine Model of Traumatic Thoracic Spinal Cord Injury** *JOURNAL OF NEUROTRAUMA*
Lee, J. T., Jones, C. F., Okon, E. B., Anderson, L., Tigchelaar, S., Kooner, P., Godbey, T., Chua, B., Gray, G., Hildebrandt, R., Cripton, P., Tetzlaff, W., Kwon, et al
2013; 30 (3): 142–59
- **A Contusive Model of Unilateral Cervical Spinal Cord Injury Using the Infinite Horizon Impactor** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*
Lee, J. T., Streijger, F., Tigchelaar, S., Maloon, M., Liu, J., Tetzlaff, W., Kwon, B. K.
2012
- **Lack of neuroprotective effects of simvastatin and minocycline in a model of cervical spinal cord injury** *EXPERIMENTAL NEUROLOGY*
Lee, J. T., Tigchelaar, S., Liu, J., Stammers, A. T., Streijger, F., Tetzlaff, W., Kwon, B. K.
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