Neuroplasticity of Spinal Interneurons after Cervical Spinal Cord Injury

December 7

Tuesday, 12:30pm

Online Webinar

For Researchers

Speaker:

Michael Lane, Ph.D.

Associate Professor
Department of Neurobiology & Anatomy
Drexel University – College of Medicine
Philadelphia, PA

Host: Julia Kaiser, Ph.D.

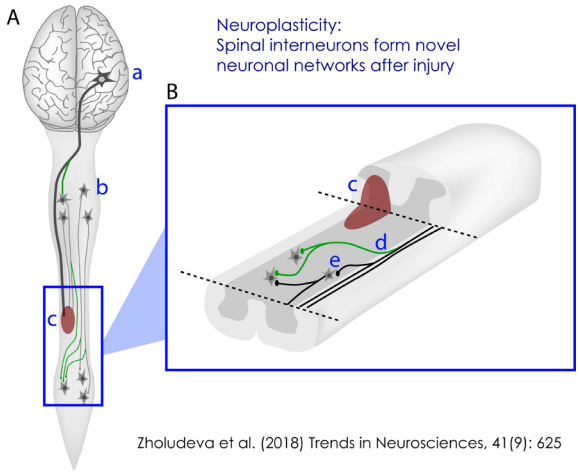
For more information contact

Darlene White

daw9085@med.cornell.edu

Abstract

Impaired breathing is a devastating consequence of cervical spinal cord injury (SCI), representing a significant burden to injured people and increasing the risk of mortality. Respiratory dysfunction and associated secondary complications remain the leading cause of morbidity and mortality in people with cervical SCI. Particularly concerning are reports indicating that the number of cervical SCIs has increased in recent years. While there is mounting clinical and experimental evidence for spontaneous improvements in respiration, the extent of recovery – or functional plasticity – remains incomplete. However, plasticity is reliant on spared neural substrates after incomplete spinal cord injury (SCI). Thus, the extent of recovery without therapeutic intervention and anatomical repair is limited. To address this limitation, and amplify plasticity and recovery of breathing following cervical SCI, our ongoing research aims to use novel therapies to promote repair of phrenic motor pathways that control function of the diaphragm – a respiratory muscle essential to breathing.



Zholudeva et al. (2018) Trends in Neurosciences, 41(9): 625

1. Locke K, Randelman ML, Hoh DJ, Zholudeva LV, Lane MA (2021). **Respiratory plasticity following spinal cord injury: Perspectives from mouse to man.** In press at Neural Regeneration Research

2. Zholudeva LV, Abraira V, Satkunendrarajah K, McDevitt TC, Goulding MD, Magnuson DK, Lane MA (2021) **Spinal interneurons as gatekeepers to neuroplasticity after injury or disease.** Journal of Neuroscience, 41(5): 845-854

3. Fischer I, Dulin J, Lane MA (2020) **Transplanting neural progenitor cells to restore connectivity after spinal cord injury.** Nature Reviews Neuroscience, 21(7): 366-383

Burke Neurological Institute
Academic Affiliate of Weill Cornell Medicine
785 Mamaroneck Avenue, White Plains, NY 10605
burke.weill.cornell.edu/events

Burke Neurological Institute
The science hope demands

Weill Cornell Medicine