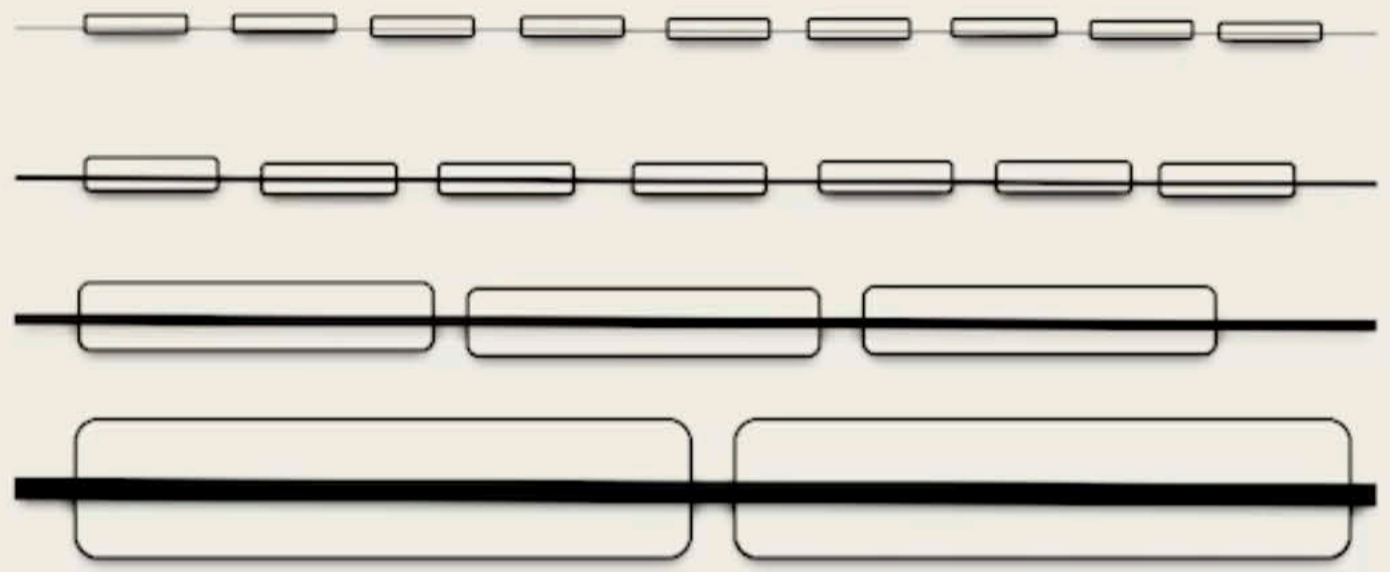


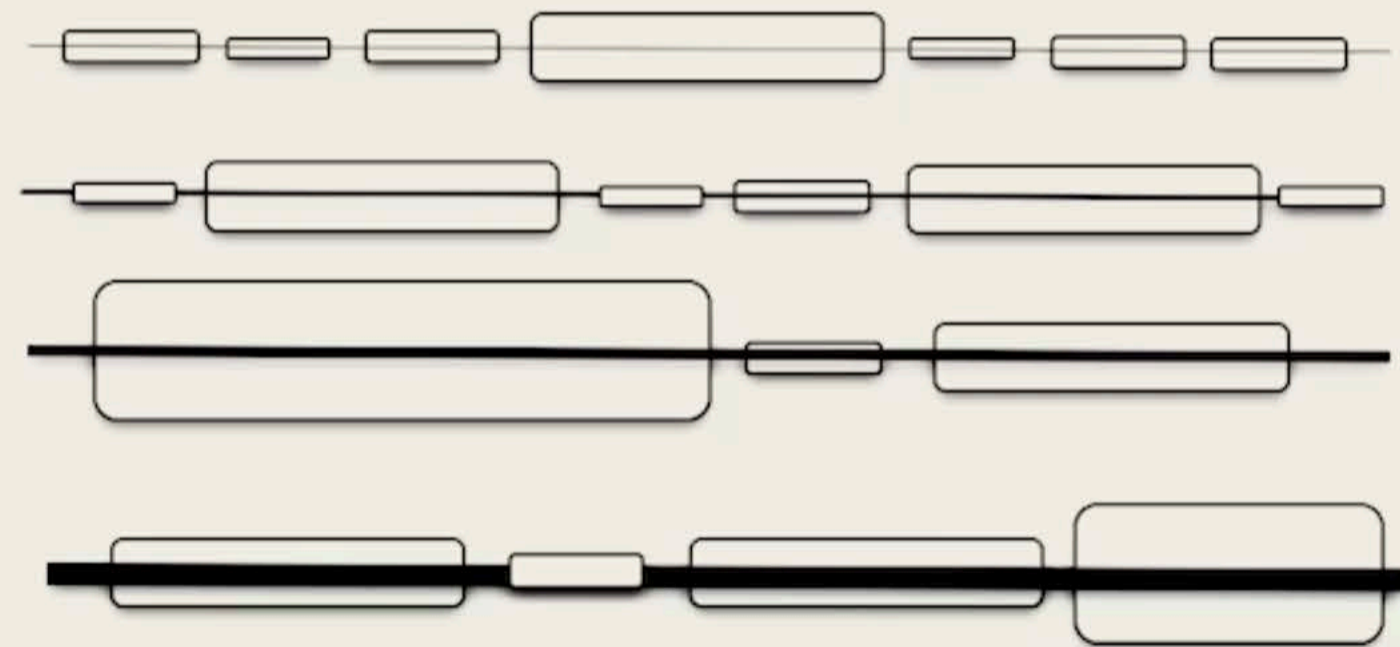
# Estimating Underlying Nerve Pathology

Mark B. Bromberg, MD, PhD

# Nerve Pathology

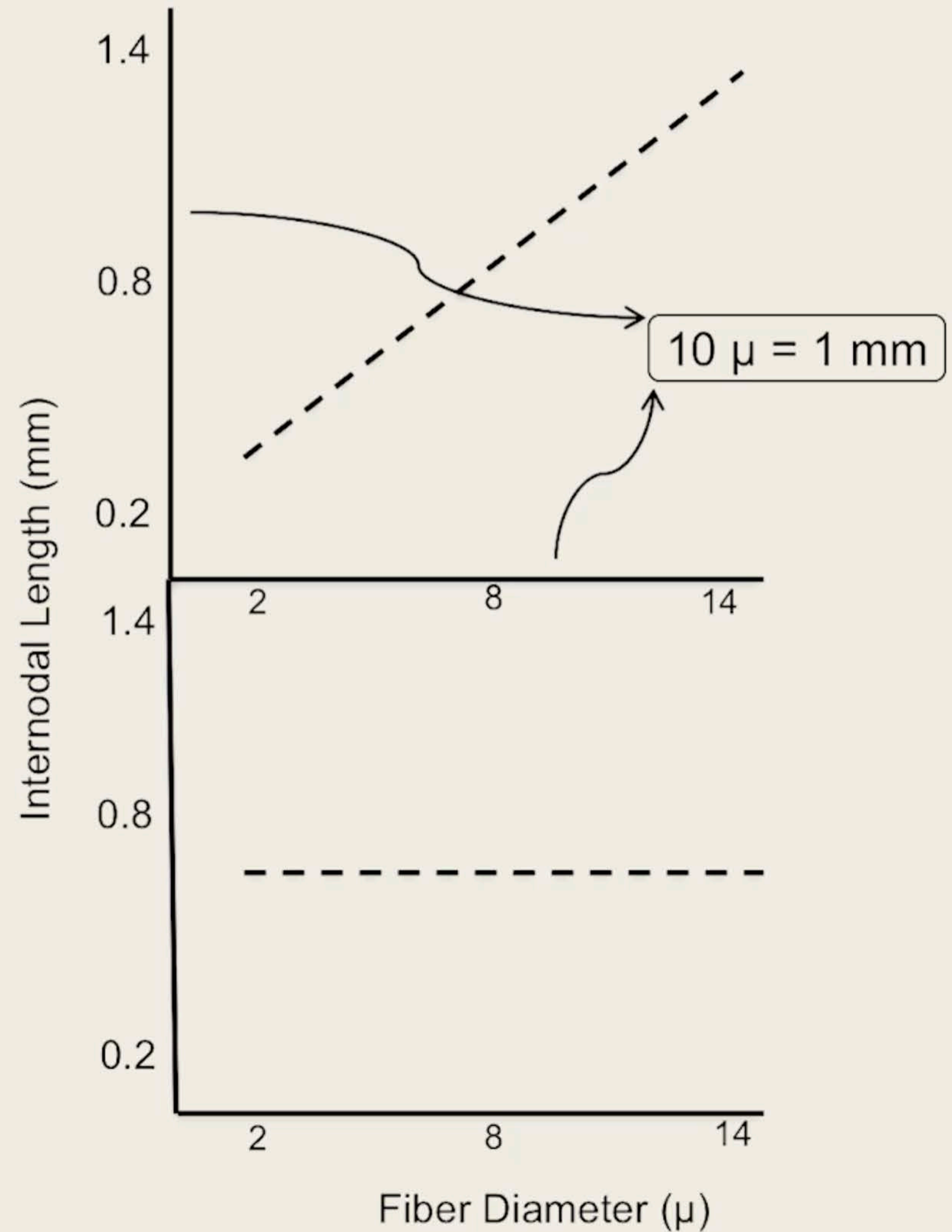


Normal



Remyelination

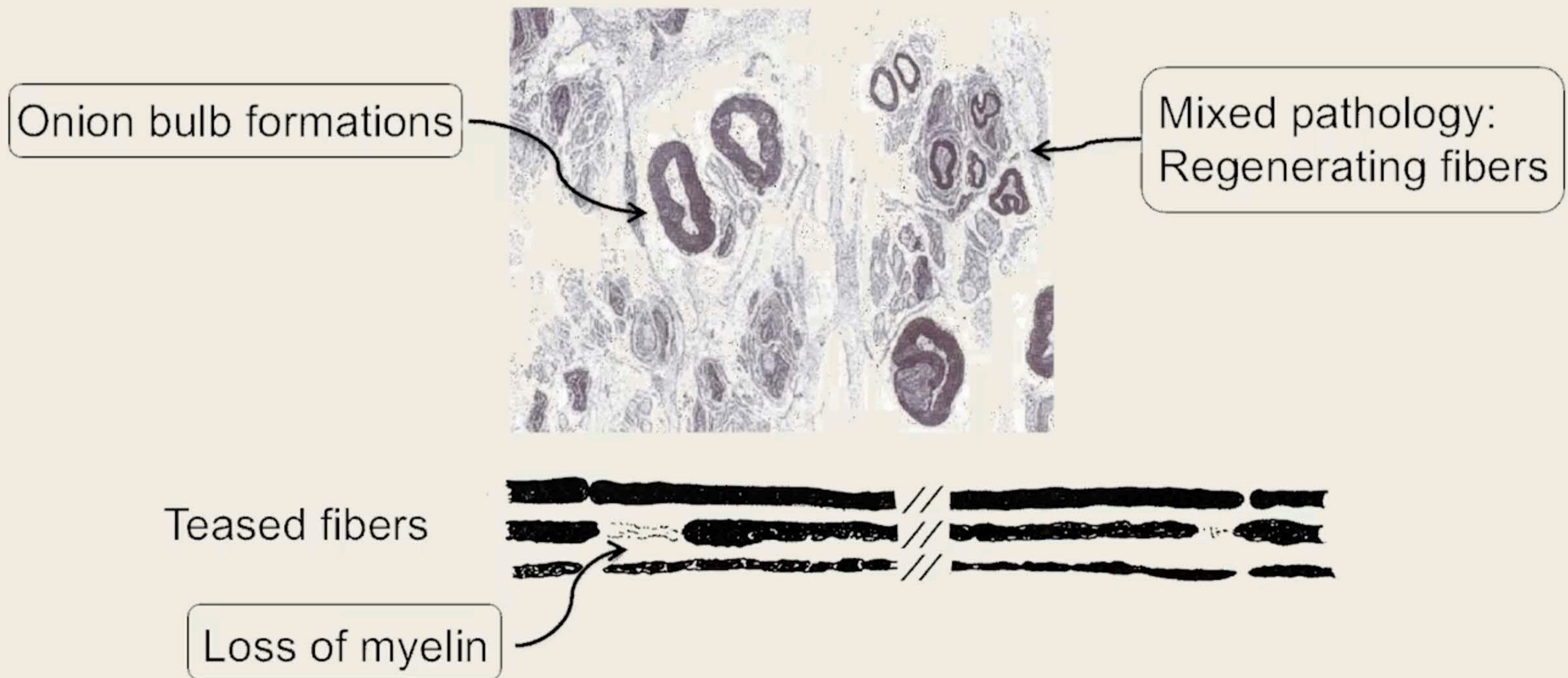
Images courtesy of Mark Bromberg, MD, University of Utah, Salt Lake City, UT.



# Nerve Pathology

- Micrographs

Primary demyelination/remyelination + axonal loss

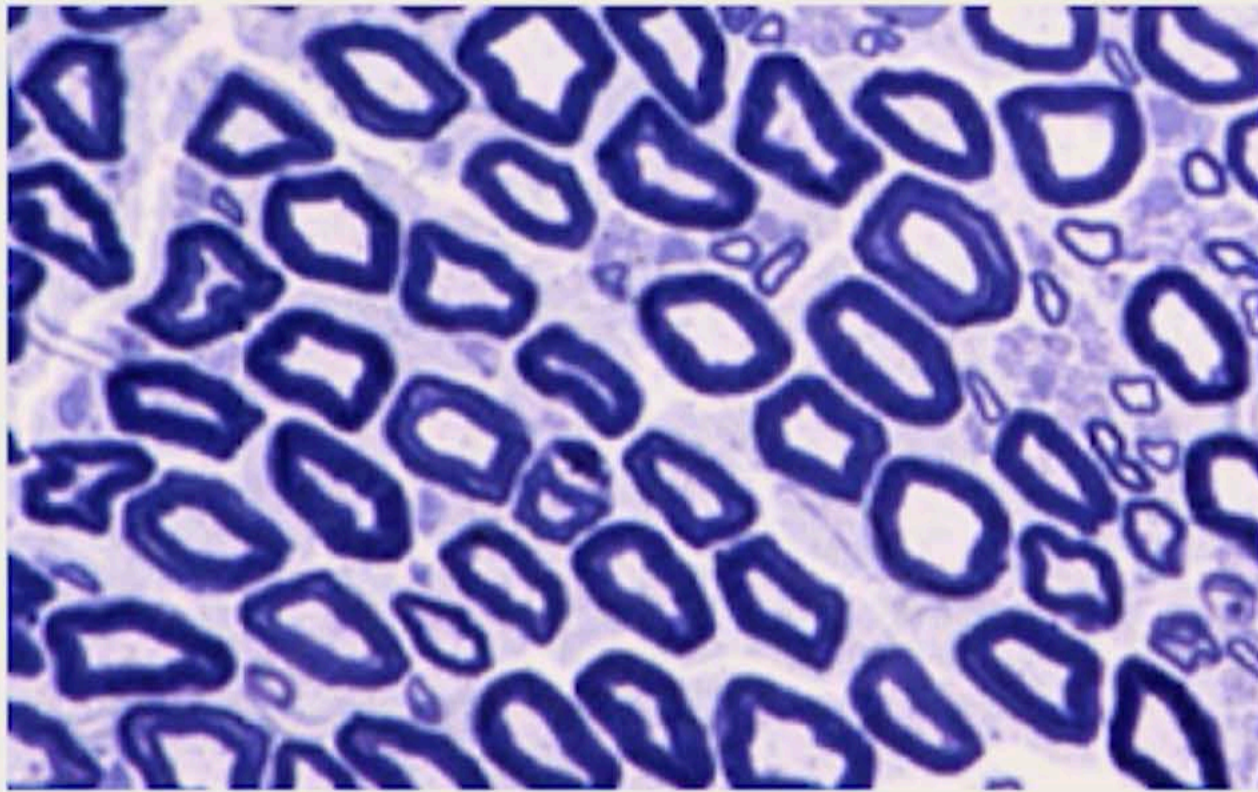


# Nerve Pathology

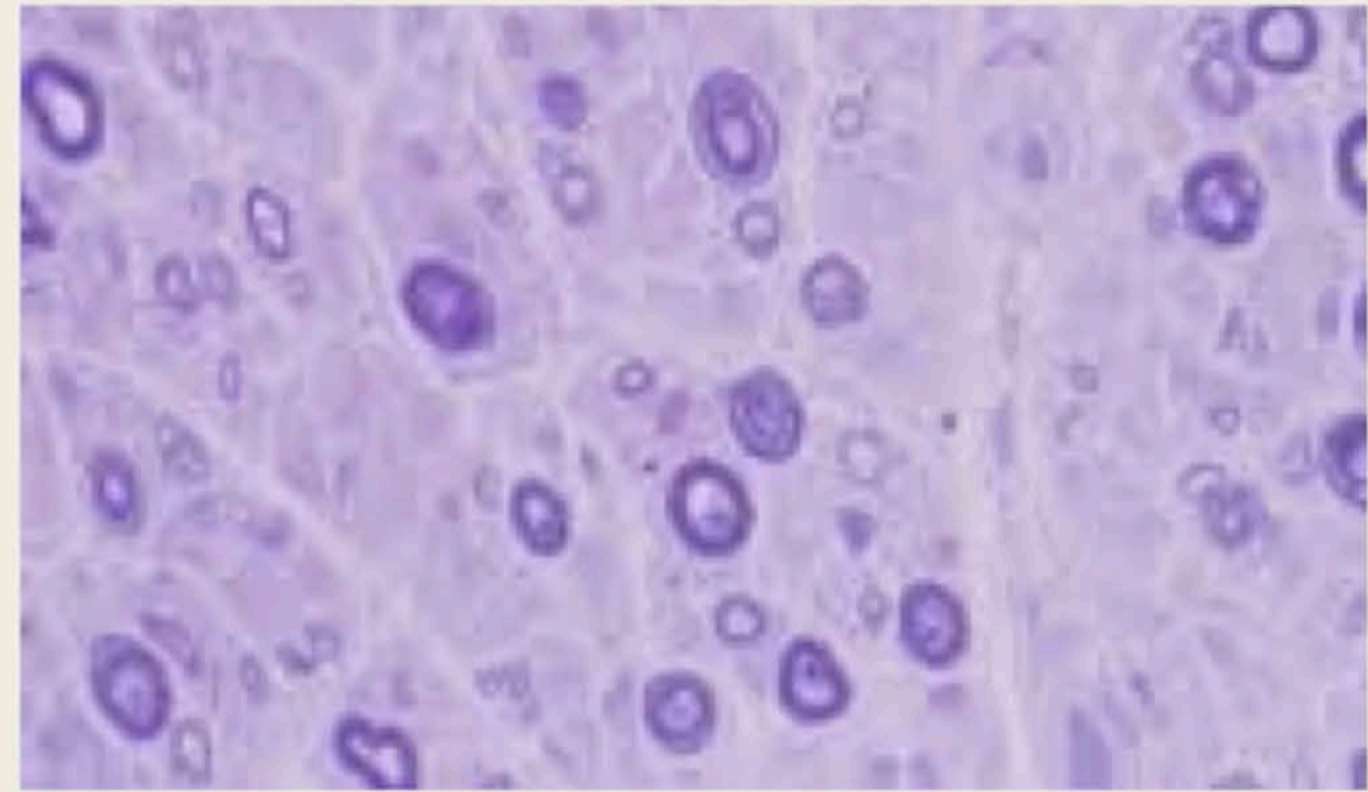
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- Micrographs (sural nerve)

Normal



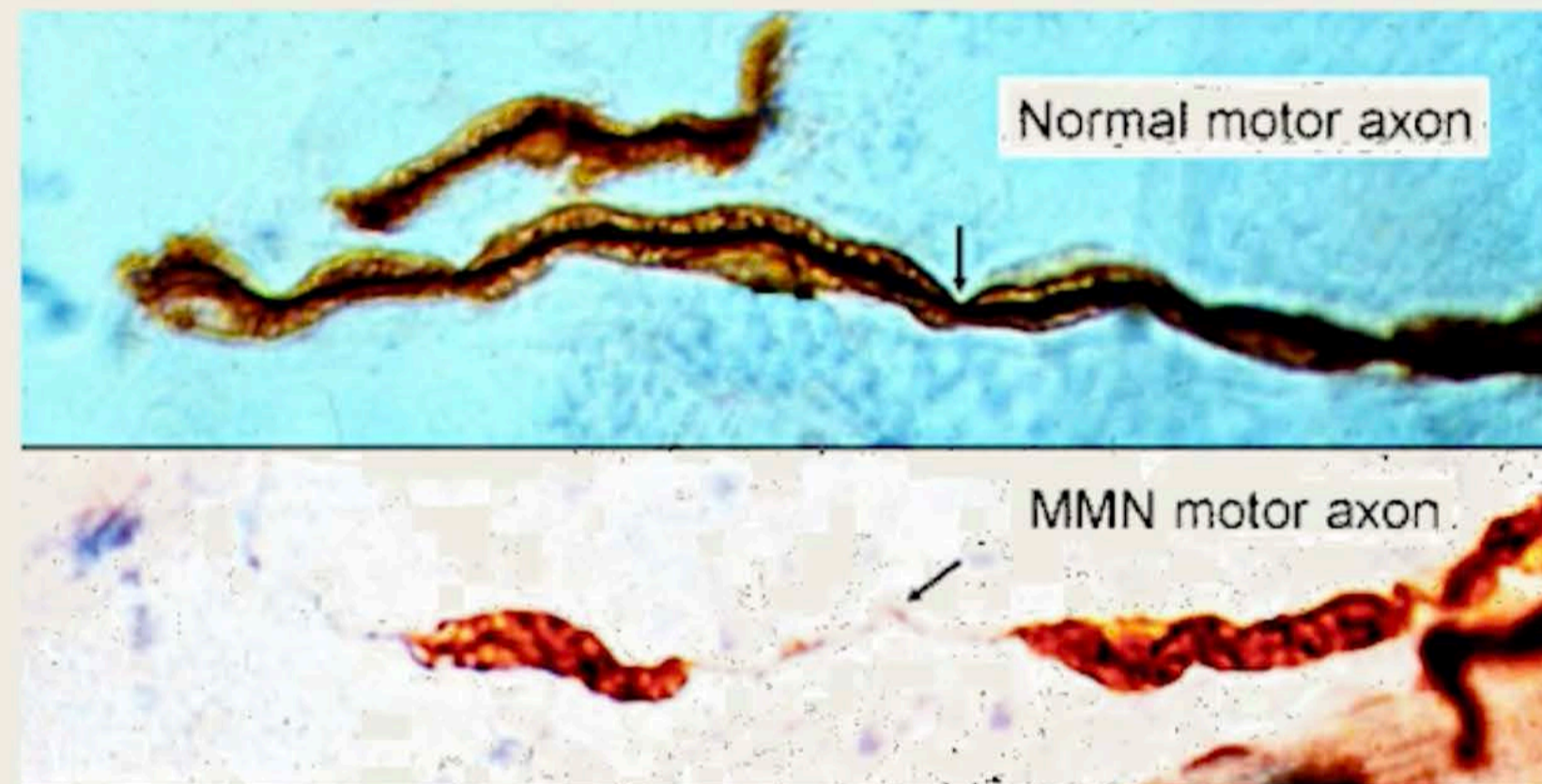
Primary Axonal



# Nerve Pathology

- Conduction block away from sites of entrapment

- Teased fiber



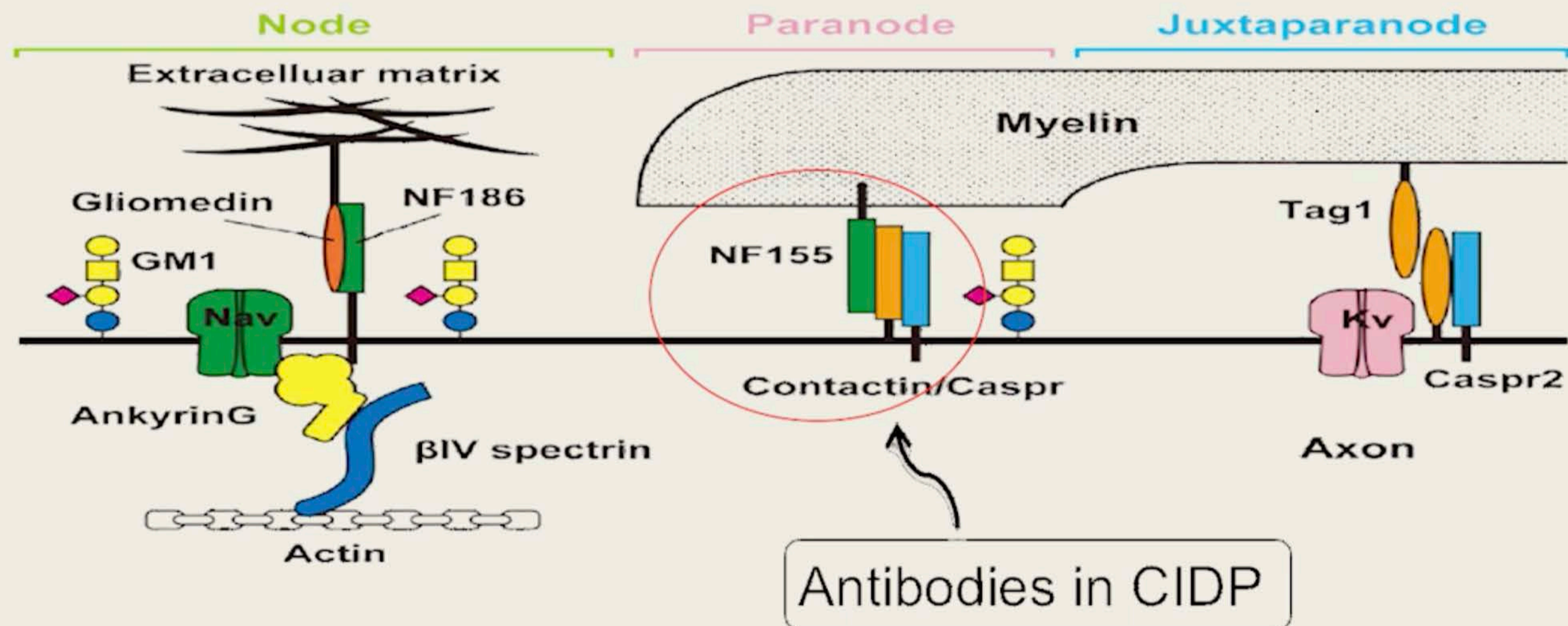
<http://neuromuscular.wustl.edu/antibody/pnimdem.html>. Accessed February 9, 2017.  
Reprinted with permission of Alan Pestronk, MD, Washington University in St. Louis,  
St. Louis, MO.

- May be no structural pathology
- Nodopathy

# Nodal Pathology

- Antibody-mediated conduction block
  - Major factor in GBS<sup>1</sup>
  - Antibodies to NF155 and contactin in CIDP<sup>2</sup>

## Molecular Organization at the Nodal Region<sup>3</sup>



Caspr, contactin-associated protein; GBS, Guillain-Barré syndrome; NF, neurofascin; TAG-1, transient axonal glycoprotein 1.

**References:** 1. van den Berg B, et al. *Nat Rev Neurol*. 2014;10(8):469-482. 2. Querol L, et al. *Neurol Neuroimmunol Neuroinflamm*. 2015;2(5):e149. 3. Uncini A, Kuwabara S. *J Neurol Neurosurg Psychiatry*. 2015;86(11):1186-1195. Image reproduced from Uncini A, Kuwabara S. *J Neurol Neurosurg Psychiatry*. 2015;86(11):1186-1195 with permission from BMJ Publishing Group Ltd.