### Translational Neuroscience Core

As one of Emory’s Integrated Core Facilities (EICF), the Translational Neuroscience Core (TNC) is supported by the Department of Neurosurgery and Emory University School of Medicine. The TNC supports investigators interested in translating novel neurological therapies at an accelerated pace, providing the necessary specialists, tools, training, and space for clinical translation of animal studies to human studies. The TNC provides investigators and translational programs with a variety of specialized neurosurgical techniques and instrumentation, from pilot experiments to preclinical testing, as well as consulting services. Its surgeons perform highly specialized neurosurgical procedures to advance preclinical research in the fields of gene and stem cell therapy, nerve repair, neuromodulation, chronic pain, and other therapies. The core primarily serves members of the Georgia Research Alliance, but it also helps external researchers in academic medicine and biomedical industry with procedures in the brain, spinal cord, and peripheral nerves.

The TNC practices surgery atEmory’s Division of Animal Resources (DAR),the Emory National Primate Research Center, or at contract research organizations (CROs) that demonstrate compliance with Good Laboratory Practice (GLP). For procedures performed at Emory University, EmoryDivision of Animal Resourcesprovides facilities, personnel, and equipment for animal care. In addition to specialized neurosurgical services, the TNC also provides investigators and customers with consulting services in the field, as well as preparation of Animal Protocols and Final Reports. In compliance with FDA requirements for preclinical applications of new techniques and surgical procedures, the TNC assists in building and executing training programs for surgeons.

Individual members of the Translational Neuroscience Core have personal workstations to support their core activities and share office and laboratory space on the 6th floor of the Woodruff Memorial Research Building. The TNC laboratory area includes dedicated office space for administration and management of its resources. It also maintains adjacent storage space for its equipment.

TNC equipment includes:

OmniPlus/OSM200 Surgical Microscope: Microscope includes integrated 4K Streaming video and 19" Exor Vision LCD Monitor.

Midas Rex™ Legend Stylus® High-Speed Neurosurgical Drill

Sterrad NX Sterilization System: A next-generation low-temperature hydrogen peroxide gas plasma system that offers fast terminal sterilization with a standard 28-minute cycle time and an advanced 38-minute cycle time.  The system can sterilize a wide range of instruments, including single-channel flexible endoscopes, semi-rigid ureteroscopes, power drills, batteries, cameras, light cords, rigid scopes, general surgical instruments, and more. The system provides the flexibility of having dry, packaged, sterile instruments ready when needed.

State-of-the-art Neurosurgical Equipment and Instruments for Spinal Cord Procedures

·         4 complete sets of neurosurgical tools specific for performing laminectomies

·         4 complete sets of spinal platforms designed for spinal cord injections

·         3 microinjector pumps for therapeutics delivery

·         4 external spinal immobilization apparatus

·         Customized injection cannulas for therapeutics delivery

Specialized Neurosurgical Equipment for Brain Procedures

·         Stealth hardware equipment

·         Head frames

·         Manthis catheters and pumps

·         Customized injection cannulas