

Noble Life Sciences offers a wide range of testing GLP services to ensure both the efficacy and safety of medical devices with significant expertise in orthopaedic, cardiovascular, trauma, and wound models. We provide surgical expertise and support utilizing state of the art equipment.

**SERVICE OPTIONS**

- GLP and non-GLP protocol development
- Prototype evaluation
- Multi-species *in vivo* testing
- Novel preclinical model development
- Complex surgical procedures
- Regulatory support

**OPERATIONS**

- FDA inspected GLP facility
- Standard operating procedures (SOP's) that cover all aspects of animal care, animal procedures, equipment operation and facility operation
- Accredited by the Association for the Assessment and Accreditation of Laboratory Animal (AAALACi) since 1989
- Operates in full accordance with the Animal Welfare Act and the PHS Policy on Humane Care and Use of Laboratory Animals and the NRC Guide for the Care and Use of Laboratory Animals

**FACILITIES**

- 24,000 square feet of animal housing, support, and laboratory space securely situated in a one hundred acre campus
- 8,000 sq. ft. of conventional and 14,000 sq. ft. of specific pathogen free (SPF) housing and support space

**CAPABILITIES**
**SURGERY**

- Two surgical suites with recovery room, intensive care area, and preparation area
- Wide range of imaging, surgery and specialized equipment

**LABORATORY**

- Blood collection and processing
- Necropsy, histology, pathology/histopathology
- Clinical pathology – clinical chemistry, hematology, coagulation factor and urinalysis

**IMAGING**

- Biophotonic imaging system for whole body, real-time *in vivo* imaging
- C-arm imaging scanner intensifier with radiographic capabilities for animal imaging
- Radiography
- Computed Tomography (CT) 32 + 64 slice
- Magnetic Resonance Imaging (MRI) 1.5T + 3T scanner
- Ultrasound

**STAFF**

- Surgeons, board-certified veterinarians, and AALAS-certified technicians with more than 15 years of medical device and GLP experience.
- Research interventionalist to help with protocol development; catheter and device placement; and basic cardiology and electrophysiology
- Quality assurance professionals over 25 years of experience

**MODEL OPTIONS**
**ORTHOPEDICS**
**Joint Models**

- Osteoarthritis
- Arthroplasty (hip, knee) and other types of articular cartilage repair
- Anterior cruciate ligament (ACL) repair/meniscectomy
- Artificial meniscus
- Reconstruction/fixation of other ligaments and tendons
- Artificial ligaments and tendons

**Bone Defect Models**

- Osteotomy of femur, tibia and radius
- Critical size defect models in the calvarium, tibia, fibula, femur, radius and ulna

**Spinal Fusion Models**

- PLIF
- PLIBF

**CARDIOVASCULAR**

- Models of acute myocardial infarction (with or without reperfusion)
- Heart valve studies
- Peripheral arterial disease
- Thrombosis models
- Venous/arterial grafts
- Cardiac assist devices
- Microvascular surgery

**TRAUMA**

- Critical care training for traumatic injuries
- Hemostasis

**WOUND HEALING**

- Full thickness defect
- Skin graft
- Burn models
- Diabetic models

**SPECIES OPTIONS**

- Small animals: mice, rats, guinea pigs, hamsters, rabbits, and ferrets
- Large animals: sheep, goats, domestic swine, mini pigs and other large animals