**Neuropathic Pain: Spared Nerve Injury**

**Model Overview**
CNS|CRO’s rodent model of neuropathic pain provides a sensitive method for testing therapeutics aimed at modulating neuropathic pain pathways. Using a spared nerve injury (SNI) paradigm, this model allows for repeated testing as well as assessment of efficacy at various time points post-treatment. Additionally, several routes of test article administration, including intraplantar injection, topical, gavage, and intra-nasal application can be employed.

**Differentiation & Advantages**
- a reproducible, validated model of neuropathic pain
- tactile allodynia develops within a week of SNI and persists for at least 5 weeks post-surgery
- model may be reused following appropriate washout periods between trials
- various compound administration routes are available, including gavage, intra-nasal, intraplantar injection, and topical application
- allows for on-going compound efficacy monitoring, with testing time points ranging from short (minutes) to long (hours) term
- testing methods include mechanical allodynia assessments (Von Frey) and temperature sensitivity
- *in vivo* electrophysiology available as an add-on

**Validation**

- **Lidocaine Reverses Tactile Alloodynia In SNI Mice**
- Intraplantar injection of 5% lidocaine (20μg) alleviates the increased sensitivity response up to 30 minutes post-administration.

**Baseline Response to Mechanical Stimuli**
Post surgery SNI mice demonstrate persistent tactile allodynia as indicated by a statistically significant reduction in paw withdrawal threshold.

**In vivo electrophysiology**
Especially valuable for pain studies

**Additional Measures (rat only):**
- If desired, evoked responses providing nerve conduction velocity and response amplitude data may be obtained via electrophysiology
  - immediately prior to surgery (baseline)
  - 5 minutes after damage
  - subsequent time points as required

**Ultrasonic vocalization (USV)** testing is also available as an add-on feature for this model, allowing for assessment of affective state.