

Cardiovascular Services - Electrocardiography (ECG) and Telemetry

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Expand

Electrocardiography (ECG) and Telemetry Because of difficulties in detecting arrhythmias in anesthetized mice, a commercially-available system for recording ECG data in unanesthetized, unrestrained animals is used. Small (< 4 gm) telemetry devices (Data Sciences, Inc.) are implanted under anesthesia in the peritoneum and the wires tunneled to appropriate locations (generally left shoulder and right leg). The animals recover within a day, and ECG data can then be obtained for many hours via a telemetry receiver placed under the cage. The system has been adapted to allow detection of periods of irregular heart beat (as is seen with ventricular ectopic activity or atrial fibrillation), and analysis of heart rate variability. Data acquisition procedure consists of recording ECG data for 30 minutes from each animal typically followed by intra-peritoneal administration of isoproterenol (100 µg). An electrophysiologist examines raw and analyzed data and insures quality control.