1. Purpose

To provide guidance on commonly used methods for sterilization of surgical instruments and other materials.

1. Scope

This guideline applies to all surgical instruments, plastic implantable materials, suture, surgical clips/staples, surgical drapes, and other materials that come in direct contact with the surgery site.

1. General Guidance

Several techniques (e.g., steam, dry heat, gas sterilization or chemical agents) can be used to sterilize instruments and other materials that will come in contact with the animal’s tissues. Specific sterilization methods should be selected based on the physical characteristics of the materials to be sterilized. Steam or dry heat are the preferred methods to sterilize surgical instruments.Other methods (e.g., chemical) may be used but must be documented in the IACUC approved protocol.

1. Sterilization can be achieved by the following methods
2. Steam: 250°F, 15 psi, for 30 minutes. Sterilization indicators (e.g., sterilization chemical indicator strips or autoclave indicator tape) must be used to validate that materials have been properly sterilized. If instruments are placed inside a sealed wrapped instrument pack, a sterility indicator strip must be placed inside of the pack to ensure steam penetration and effective sterilization of the contents of the pack. Instrument packs must be labeled with the date of sterilization and must be used within one year of sterilization.
3. Chemicals: Chemicals used to sterilize surgical instruments must be classified as a sterilant, not a disinfectant. Chemical sterilants must be prepared and used according to the manufacturer’s recommendations. All instruments sterilized by chemicals must be rinsed in sterile water before use in tissues.
4. Physical: One sterile instrument pack may be used on a maximum of 5 rodents when multiple animals undergo surgery during the same time period (e.g., the same afternoon) provided that the instruments are resterilized between animals. A glass bead sterilizer may be used for this purpose. Remove organic debris by wiping the instrument tips clean with sterile gauze and processing the tips of the instruments in a glass bead sterilizer for 20-30 seconds (follow manufacturers’ guidelines). Cool the tips of the instruments before use. Tips may be cooled by dipping them in sterile water. Note: glass bead sterilizers can produce severe burns. Use caution when using a glass bead sterilizer. Follow manufacturer instructions and safety precautions to avoid injury. Place sterilized instruments on a sterile drape or in a sterile glass beaker lined with sterile gauze to reduce the chances of contamination.