

Surgical Note

Proper Techniques for Maximizing the Use of the Suture Rib

The HD product line utilizes an external suture rib made of a flexible material that has been demonstrated to be effective in securing the transmitter body to the body wall. The suture rib is optional and is not needed nor recommended when subcutaneous placement of the device is desired. For the suture rib to perform optimally, DSI recommends the following best practices.

- **Select an appropriate suture size per species.** Inappropriate size suture may place undue stress on the suture rib. Suture that is too small may cut into the suture rib material, especially if the knots are tied very tightly. Additionally, suture that is too large may cause a tissue reaction and/or discomfort in the animal. Please refer to the [Rodent Suture Material and Size Recommendations](#) tech note on the DSI Support Center for more information.
- **Do not apply excessive tension on ribs when tightening throws.** This will put unnecessary strain on the suture rib material and will slow the wound healing process. Excessively tightened sutures will pinch the muscle tissue and create an ischemic state around the incision, resulting in tissue necrosis, pain, and an increased likelihood of wound dehiscence. The suture should be tied just enough to bring the two edges of tissue together.
- **Ensure proper knot tying technique.** A surgeon's throw is recommended as the first throw when securing an implant with a suture rib. The surgeon's throw is used in areas of tension and this throw distributes the tension across the incision while keeping it closed, and this helps prevent overtightening of the suture.
- **Use the correct needle.** A taper needle is recommended for closure of the abdominal wall to minimize tissue trauma. Avoid using a reverse cutting needle because the sharp inner curve of the needle may damage or weaken the suture rib material as it passes through the lumen of the rib.
- **Place the suture needle through lumen of rib, not through the material.** It is critical that the needle be placed fully through the lumen of the rib and does not pierce through the pliable rib material. The integrity of the rib may be compromised if the material is pierced during the suturing process.
- **Exercise care when explanting device and removing from animal.** Use caution when removing the device from the animal. DSI recommends carefully cutting the suture that holds the rib in place or just along the incision to ensure the ribs are not cut or damaged during explant.
- **Handle the suture ribs gently.** Do not squeeze or pinch the ribs with sharp fine forceps as this may compromise the strength of the suture ribs.