



SAMSON CORPECTOMY® SYSTEM

This package insert covers the Samson Corpectomy® System and Manual Surgical Instruments that are used for the implantation of this system. Specific sections for implants and instrumentation highlight important user information for only those devices.

DESCRIPTION

The Samson Corpectomy® is designed to restore the biomechanical integrity of the anterior, middle and posterior spinal column, to achieve anterior decompression of the spinal cord and neural tissues, and to restore the height of a collapsed vertebral body. The implants have ridges or teeth in both the superior and inferior directions, which resist migration. The implants have cavities to accept packing of autograft and/or allograft. The entire structure is radiolucent so that healing can be assessed by normal radiographic methods. Additionally, radiotherapy can be performed immediately after surgery. The materials used in the implant are listed on the packages. Implants are made from PEEK or Titanium Alloy per ASTM F2026. To ensure radiographic visibility for inspecting the implant position, they contain marker pins made of x-ray opaque implant material (Tantalum) per ASTM F560.

INDICATIONS

The Samson Corpectomy® is a vertebral body replacement system indicated for use to replace a vertebral body that has been resected or excised due to tumor or trauma/fracture. The device is intended for use as a vertebral body replacement in the thoracolumbar spine (from T1 to L5). The Samson Corpectomy® is intended for use with supplemental fixation and is to be used with autograft and/or allograft.

CONTRAINDICATIONS

1. Fractures
2. Scoliosis
3. Active infection
4. Allergy to tantalum, PEEK or Titanium Alloy (Ti-6Al-4V ELI)
5. Bone tumors in the region where the implant would have to be anchored
6. Unwillingness or inability of the patient to follow the instructions for postoperative treatment
7. Any medical or surgical condition that could preclude the potential success of the implantation
8. Pregnancy
9. Osteoporosis or similar loss of bone density
10. Systemic or metabolic diseases
11. Drug abuse or alcoholism
12. Generally poor condition of the patient
13. Morbid obesity
14. Psychosocial issues; inadequate co-operation by the patient
15. Fever or leukocytosis
16. Any case not needing a fusion
17. Patients with a known hereditary or acquired bone friability or calcification problem should not be considered for this type of surgery
18. These devices must not be used for pediatric cases, nor where the patient still has general skeletal growth
19. Any case where the implant components selected for use would be too large or too small to achieve a successful result
20. Any case that requires the mixing of metals from two different components or systems
21. Any patient having inadequate tissue coverage over the operative site or inadequate bone stock or quality
22. Any patient in which implant utilization would interfere with anatomical structures or expected physiological performance
23. Prior fusion at the level to be treated
24. All cases that are not listed under indications

WARNINGS

1. CORRECT SELECTION OF THE IMPLANT IS EXTREMELY IMPORTANT. The potential for satisfactory anterior column support is increased by the selection of the proper size device. While proper selection can help minimize risks, the size and shape of human bones present limitations on the size, shape and strength of implants. Internal fixation devices cannot withstand activity levels equal to those placed on normal healthy bone. No implant can be expected to withstand indefinitely the unsupported stress of full weight bearing.
2. IMPLANTS CAN BREAK WHEN SUBJECTED TO THE INCREASED LOADING ASSOCIATED WITH DELAYED UNION OR NONUNION. Internal fixation appliances are load-sharing devices that are used to obtain an alignment until normal healing occurs. If healing is delayed, or does not occur, the implant may eventually break due to material fatigue. The degree or success of union, loads produced by weight bearing, and activity levels will, among other conditions, dictate the longevity of the implant. Notches, scratches or bending of the implant during the course of surgery may also contribute to early failure. Patients should be fully informed of the risks of implant failure.



PRECAUTIONS

- **SURGICAL IMPLANTS MUST NEVER BE REUSED.** An explanted implant should never be reimplanted. Even though a device appears undamaged, it may have small defects and internal stress patterns that may lead to early breakage.
- **ADEQUATELY INSTRUCT THE PATIENT.** Postoperative care and the patient's ability and willingness to follow instructions are among the most important aspects of successful bone healing. The patient must be aware of the limitations of the implants. The patient should be encouraged to ambulate to tolerance as soon as possible after surgery, and instructed to limit and restrict lifting and twisting motions and any type of sports participation until the bone is healed. The patient should understand that implants are not as strong as normal healthy bone and could loosen, bend and/or break if excessive demands are placed on it, especially in the absence of complete bone healing. Implants displaced or damaged by improper activities may experience migration to the devices and damage to nerves or blood vessels.

MAGNETIC RESONANCE ENVIRONMENT

The Samson Corpectomy® has not been evaluated for safety and compatibility in the MR environment. It has not been tested for heating, migration, or image artifact in the MR environment. The safety of the device in the MR environment is unknown. Scanning a patient who has this device may result in patient injury.

POSSIBLE ADVERSE EFFECTS

Potential adverse effects may include, but are not limited to the following:

1. Bending or fracture of implant. Loosening of the implant.
2. Implant material sensitivity, or allergic reaction to a foreign body.
3. Infection, early or late.
4. Decrease in bone density due to stress shielding.
5. Pain, discomfort, or abnormal sensations due to the presence of the device.
6. Nerve damage due to surgical trauma or presence of the device. Neurological difficulties including bowel and/or bladder dysfunction, impotence, retrograde ejaculation, radicular pain, tethering of nerves in scar tissue, muscle weakness, and paraesthesia.
7. Vascular damage could result in catastrophic or fatal bleeding. Malpositioned implants adjacent to large arteries or veins could cause erosion of these vessels and catastrophic bleeding in the later postoperative period.
8. Dural tears experienced during surgery could result in need for further surgery for dural repair, a chronic CSF leak or fistula, and possible meningitis.
9. Bursitis.
10. Death.
11. Spinal cord impingement or damage.
12. Fracture of bony structures.
13. Reflex sympathetic dystrophy.
14. If a pseudarthrosis occurs coupled with the Samson Corpectomy®, a mechanical grinding action could possibly occur which might generate wear debris. Most types of wear debris have shown the potential of initiating local osteolysis in articulating joints.
15. Degenerative changes or instability in segments adjacent to fused vertebral levels.

Patients with previous spinal surgery at the levels to be treated may have different clinical outcomes compared to those without a previous surgery

PACKAGING: Packages for each of the components should be intact upon receipt. Damaged packages and products should not be used and should be returned to Spinal Elements.

STERILIZATION:

Products not clearly marked as sterile should be assumed non-sterile.

For Sterile Implants and Instruments:

Implants and instruments provided sterile will be clearly labeled as such in an unopened sterile package provided by Spinal Elements. The contents are considered sterile unless the package is damaged, opened, or the expiration date on the device label has passed. The integrity of the packaging should be checked to ensure that the sterility of the contents is not compromised. Implants supplied sterilized from Spinal Elements must **not** be re-sterilized.

For Non-Sterile Implants and Instruments:



Implants and instruments used in surgery not clearly labeled as sterile must be sterilized by the hospital prior to use. Remove all packaging materials prior to sterilization where applicable.

Only sterile products should be placed in the operative field.

Recommended Cleaning and Sterilization Procedures for Samson Corpectomy® System Instrumentation and Implants:

Manufacturer: Spinal Elements, Inc. **Method:** Manual Cleaning and Steam Sterilization

Device(s): Trays/Implants/Instruments

CAUTIONS:	<p>The Samson Corpectomy® (VBR) system components provided NON-STERILE should be cleaned and sterilized before use.</p> <p>Automated cleaning may not be effective. A thorough, manual cleaning process is recommended.</p> <p>Cleaning agents with chlorine or chloride as an active ingredient are corrosive to stainless steel and should not be used.</p> <p>Saline solution has a corrosive effect on stainless steel and should not be used.</p> <p>Use only neutral pH cleaning agents and detergents.</p> <p>Samson Corpectomy® System IMPLANTS are single use. Therefore these guidelines are not intended for USED Samson Corpectomy® spinal implants or DISPOSABLE, single use instruments.</p> <p>The Samson Corpectomy® System has not been evaluated for safety and compatibility in the MR environment. The Samson Corpectomy® (VBR) System has not been tested for heating or migration in the MR environment.</p>
Limitations on Reprocessing:	<p>Repeated processing has limited effect on REUSABLE instruments.</p> <p>End of life is normally determined by wear and damage due to use.</p>

INSTRUCTIONS	
Point of use:	Use clean flowing water and disposable wipes to remove excess soil. Reprocess instruments as soon as possible to prevent body fluid and tissue from drying on instruments prior to cleaning.
Preparation for decontamination:	Disassemble all components to provide maximum exposure for cleaning.
Cleaning -Automated	Automated washer/disinfector systems are not recommended as the sole cleaning method for surgical instruments. An automated system may be used as a follow-up method to manual cleaning.
Cleaning-Manual	<ol style="list-style-type: none"> 1. Disassemble all components before cleaning. 2. Completely submerge instruments in enzyme solution and allow to soak for a minimum of 20 minutes. Use a soft-bristled, nylon brush to gently scrub the device until all visible soil has been removed. Particular attention must be given to crevices, lumens, mated surfaces, connectors and other hard-to-clean areas. Lumens should be cleaned with a long, narrow, and appropriately sized soft-bristled brush (e.g. pipe cleaner brush). 3. Remove the devices from the enzyme solution and rinse in tap water for a minimum of 3 minutes. Thoroughly and aggressively flush lumens, holes and other difficult-to-reach areas. 4. After manual cleaning, and all visible blood, soft tissue, and bone have been removed ultra-sonic cleaning may be used. Place prepared cleaning agents in a sonication unit.

	Completely submerge device in cleaning solution and sonicate for a minimum of 10 minutes at 45-50kHz.
	<ol style="list-style-type: none"> 5. After manual cleaning, and all visible blood, soft tissue, and bone have been removed ultra-sonic cleaning may be used. Place prepared cleaning agents in a sonication unit. Completely submerge device in cleaning solution and sonicate for a minimum of 10 minutes at 45-50kHz. 6. Rinse instrument in purified water for at least 3 minutes or until there is no sign of blood or soil on the device or in the rinse stream. Thoroughly and aggressively flush lumens, holes and other difficult-to-reach areas. Use de-ionized water for final rinse of all components. 7. Repeat the sonication and rinse steps above until all visible contamination has been removed. 8. Thoroughly and promptly, remove excess moisture from the instrument with a clean, absorbent and non-shedding wipe. Allow the tray and components to dry for a minimum of 15 minutes. The tray and components must be thoroughly dry prior to sterilization cycle.
Disinfection:	Disinfection is only acceptable as an adjunct to full sterilization for reusable surgical instruments.
Maintenance, inspection, and testing;	<p>Carefully inspect each device to ensure that all visible blood and soil have been removed.</p> <p>Inspect lumens to confirm that all foreign material has been removed.</p> <p>Visually inspect for damage and/or wear.</p> <p>Note: If any damage or wear is noted that impairs the function of the instrument, contact your Spinal Elements representative for a replacement.</p>
Packaging:	This set of components may be loaded into a dedicated tray, supplied by the manufacturer, for sterilization.
Sterilization:	<p>Visually inspect all components for any remaining debris prior to sterilization.</p> <p>The Samson Corpectomy® system components provided NON-STERILE should be autoclave sterilized using the sterilizer manufacturer's instructions and the institution's procedures for ensuring sterility. The sterilization cycle should occur in a calibrated autoclave.</p> <p>Sterilize utilizing a pre-vacuum steam autoclave for a <u>minimum of 4 minutes</u> at 270°F (132°C.)</p> <p>The 4 minute, 270° pre-vacuum steam sterilization cycle is not considered by the Food and Drug Administration to be a standard sterilization cycle. It is the end user's responsibility to use only sterilizers and accessories (such as sterilization wraps, sterilization pouches, chemical indicators, biological indicators, and sterilization cassettes) that have been cleared by the Food and Drug Administration for the selected sterilization cycle specifications (time and temperature).</p>
Drying:	<p>A minimum drying time of 20 minutes, after sterilization, is recommended.</p> <p>Drying times may vary according to load size and should be increased for large loads.</p> <p>Dry, thoroughly and promptly, after both cleaning and sterilization.</p>
Storage:	Store components in a clean, dry, limited access area that is well ventilated and provides protection from dust, moisture, insects, vermin, and extremes in humidity and temperature.

The instructions provided above have been validated by Spinal Elements as being CAPABLE of preparing a medical device for reuse. It remains the responsibility of the processor to ensure that the reprocessing as actually performed, using equipment, materials, and personnel in the reprocessing facility, achieves the desired result. This normally requires validation and routine monitoring of the process. Any deviation by the re-processor from these instructions should be properly evaluated for effectiveness to avoid potential adverse consequences.



Information

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| REF | Catalog Number | MAT | Material |
| LOT | Batch Code | QTY | Packaged Quantity |
| | Manufacturer | | Date of Manufacture |
| | Caution, Consult Accompanying Documents | | Do Not Re-Use |
| | NON-STERILE Device Not Sterile | | |
| | Instruction for Use are provided electronically at ifu.spinalelements.com | | |

Rx Only Prescription Only

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Patents: patent.spinalelements.com

CAUTION: Federal Law (USA) restricts these devices to sale by or on the order of a physician.



Spinal Elements, Inc.
3115 Melrose Dr., Suite 200
Carlsbad, CA 92010
U.S.A.
760.607.0121