**DESCRIPTION**

The Tether ACP System is an anterior cervical plate fixation system. The system consists of a number of plates and screws. The plates feature a normal lordotic curvature as well as a transverse plane curvature for anatomic fit and come in a variety of lengths in 1, 2, 3, and 4 level configurations. Screws contain a locking ring and come in fixed and variable angle styles as well as multiple lengths to fit individual patient pathologies. The set contains ancillary products and instruments. All implants are machined from implant grade titanium alloy, Ti-6Al-4V (ELI) per ASTM F136.

**INDICATIONS FOR USE**

The Tether ACP System is indicated for temporary stabilization of the cervical spine from C2 to C7 during the time interval required for arthrodesis due to:

- Trauma
- Deformity (lordosis, kyphosis and scoliosis)
- Pseudarthrosis
- Previously failed cervical spine fusion
- Tumor
- Degenerative Disc Disease (DDD is defined as back pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies)
- Spondylolisthesis
- Spinal Stenosis

**POSSIBLE ADVERSE EVENTS**

Like other spinal system implants, the following adverse events are possible. This list is not exhaustive:

- Delayed union or nonunion (pseudarthrosis)
- Bending, disassembly or fracture of implant and instrumentation. These conditions are significant events and may impact the performance of the system
- Loosening of spinal fixation implants may occur due to inadequate initial fixation, latent infection, and/or premature loading, possibly resulting in bone erosion, migration or pain
- Pain, discomfort, or abnormal sensations due to the presence of the device
- Pressure on skin where inadequate tissue coverage exists over the implant, with potential extrusion through the skin.
- Dural leak requiring surgical repair.
- Cessation of growth of the fused portion of the spine.
- Subsidence of the implant into adjacent bone.
- Loss of proper spinal curvature, correction, height and/or reduction.
- Increased biomechanical stress on adjacent levels.
- Improper surgical placement of the implant causing stress shielding of the graft or fusion mass.
- Intraoperative fissure, fracture, or perforation of the spine.
- Postoperative fracture due to trauma, defects, or poor bone stock.
- Serious complications associated with any surgery may occur. These include, but are not limited to: wound complications, infection, genitourinary disorders, gastrointestinal disorders, vascular disorders, including thrombus; bronchopulmonary disorders, including emboli; burstitis, hemorrhage, myocardial infarction, paralysis or death.

**WARNINGS AND PRECAUTIONS**

- Patients having inadequate tissue coverage over the operative site or where there is inadequate bone stock, bone quality, or anatomical definition
- Unsuitable or insufficient bone support
- Bone immaturity
- The patient’s activity level, mental condition, occupation and/or a patient unwilling to cooperate with the postoperative instructions
- Any case where implant utilization would interfere with anatomical structures or expected physiological performance
- Use of incompatible materials and/or components from other systems

**Spondylolisthesis** with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor and failed previous fusion (pseudarthrosis). The safety and effectiveness of these devices for any other condition is unknown.

**CONTRAINDICATIONS**

Any medical or surgical condition which would preclude the potential benefit of spinal implant surgery is a contraindication. The following conditions may reduce the chance of a successful outcome and should be taken into consideration by the surgeon. This list is not exhaustive:

- Absolute contraindications:
  - Infection in or around the operative site
  - Allergy or sensitivity to implant materials
  - Any case not described in the indication
- Relative contraindications:
  - Local inflammation
  - Morbid obesity
  - Pregnancy
  - Fever or leukocytosis
  - Prior fusion at the level(s) to be treated
  - Grossly distorted anatomy due to congenital abnormalities
  - Rapid joint disease, bone absorption, osteopenia, and/or osteoporosis
  - Elevation of sedimentation rate unexplained by other diseases, elevation of white blood count (WBC), or a marked left shift in the WBC differential count
- Any case not requiring bone graft and fusion or where fracture healing is not required

**MRI SAFETY**

This device 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 this device in the MR environment is unknown. Scanning a patient who has this device may result in patient injury.

**CLEANING AND DECONTAMINATION**

All instruments and implants that have been previously taken into a sterile surgical field must be decontaminated and cleaned using established hospital methods before sterilization and re-introduction into the sterile surgical field. The following recommendations are for the manual cleaning and decontamination of surgical instruments. These recommendations are considered guidelines with the ultimate responsibility for verifying adequate cleaning remaining with the user. Automated cleaning systems differ between hospitals and therefore must be qualified by the hospital.

**Manual Cleaning Procedure**

1. Remove all gross visible soiled with a damp gauze pad or wipe.
2. Prepare an enzymatic cleaning solution (such as Prolystica® 2X Enzymatic) per manufacturer’s instructions.
3. Immerse the instruments in the cleaning solution and actuate all features so the enzymatic cleaner contacts all mated surfaces and soak for 15 minutes.
4 Transfer the instruments to fresh cleaning solution (such as Prolystica® 2X Enzymatic). Thoroughly scrub all instruments with a soft bristle cleaning brush while immersed in the enzymatic cleaning solution. Be sure that thorough scrubbing also includes any lumens with an appropriate size brush. Actuate device to allow access to hard to reach areas.

5 Thoroughly rinse all instruments with warm running water and dry with a clean cloth and/or air to dry.

Automated Cleaning Procedure

1 Remove all gross visible soil with a damp gauze pad or wipe. Special attention will be required to examine products with tight crevices, voids, and lumens. Lumens may require pre-cleaning with dampened soft bristle brushes and tight crevices, voids, lumens should be flushed with a syringe.

2 Prepare an enzymatic cleaning solution (such as Prolystica® 2X Enzymatic) per manufacturer’s instructions. Immerse the instruments in the cleaning solution and actuate all features so the enzymatic cleaner contacts all mated surfaces and soak for a minimum of 15 minutes.

3 Transfer items to a washer and run a cycle with the parameters listed in the following steps.

4 PRE-WASH: Cold tap water for a minimum of 2 minutes.

5 ENZYME WASH: Enzyme wash using cleaner (such as Prolystica® 2X Enzymatic) per manufacturer’s recommendations, hot tap water for a minimum of 4 minutes.

6 DETERGENT WASH: Detergent wash using detergent (such as Prolystica® 2X Alkaline) per manufacturer’s recommendations, hot tap water (minimum temp of 66°C/150°F) for a minimum of 2 minutes.

7 RINSE 1: Rinse, hot tap water for a minimum of 2 minutes.

8 RINSE 2: Purified water rinse (minimum temp of 66°C/150°F) for a minimum of 15 seconds.

9 DRYING: Hot air dry (minimum temp of 82°C/180°F) for a minimum of 12 minutes.

10 Remove items from the washer and remove any residual moisture with a lint free clean cloth.

STERILIZATION

The implants, components and instrumentation in the Tether ACP System are to be sterilized by the hospital prior to surgery.

Double wrap trays using FDA-cleared sterilization wraps (2 wraps). The recommended sterilization cycle will provide a Sterility Assurance Level of (SAL 10°). Following AAMI ST79 guidelines, the validated sterilization cycle for a fully loaded tray is:

<table>
<thead>
<tr>
<th>Method</th>
<th>Steam Cycle</th>
<th>Gravity Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>270°F (132°C)</td>
<td>For 4 minutes</td>
</tr>
<tr>
<td>Exposure Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drying Time</td>
<td></td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

PACKAGING

All packages containing implants should be sealed and intact upon receipt. If the package or product is damaged, the product should not be used and should be returned. The product must be handled, stored, and opened in such a way that it is protected from inadvertent damage or contamination. If a loaner or consignment system is used, all sets should be carefully checked for completeness and all components should be carefully checked for damage before use.

SURGICAL TECHNIQUE

This package insert is designed to assist in using the product and is not intended to provide information on surgical technique. Contact a SeaSpine Representative, customerservice@seaspine.com or 760-727-8399 for a Surgical Technique Guide.

IMPLANT SELECTION

Verify that all parts and necessary instruments are present prior to surgery, including sizes larger and smaller than those that are expected for use. The construct should be assembled prior to surgery.

PREOPERATIVE WARNINGS

- Only patients that meet the criteria described in the indications should be selected.
- Patient condition and/or predispositions such as those described in the contraindications should be avoided.
- Care should be used in the handling and storage of the implants. The implants should not be scratched or damaged. Implants and instruments should be protected during storage and from corrosive environments.
- All non-sterile parts should be cleaned and sterilized before use. Additional sterile components should be available in case of unexpected need.
- Devices should be inspected for damage prior to implantation.
- Care should be used during surgical procedures to prevent damage to the device(s) and injury to the patient.

INTRAOPERATIVE WARNINGS

- Consult Surgical Technique Guide for system specific intraoperative warnings, precautions and recommendations.
- Extreme caution should be used around the spinal cord and nerve roots. Damage to the nerves will cause loss of neurological function.
- Breakage, slippage, or misuse of instruments or implant components may cause injury to the patient or operative personnel.
- Unless otherwise described in the indications, autogenous bone graft must be placed in the area to be fused and the graft must be in contact with viable bone.

- Implants and components should not be bent, reshaped, contoured or otherwise modified.
- Use great care to ensure that the implant surfaces are not scratched or notched which may reduce the functional strength of the construct.
- The plates should not be repeatedly or excessively bent or reverse bent in the same location. Use great care to insure that the implant surfaces are not scratched or notched, since such actions may reduce the functional strength of the construct.
- PRECAUTION: Do not over tap or use a screw that is either too long or too large. Over tapping or using an incorrectly sized screw/bolt may cause nerve damage, hemorrhage, or the other possible adverse events listed elsewhere in this package insert. If screws/bolts are being inserted into spinal pedicles, use as large a screw/bolt diameter as will fit into each pedicle.
- If the construct contains screws, prior to soft tissue closure, recheck all screws to ensure they are tightened. Failure to do so may cause loosening of the other components.

POSTOPERATIVE WARNINGS

- Surgeons should advise patients regarding the risks of surgery and the importance of post-operative compliance.
- The patient should be advised to limit and restrict physical activities, especially lifting and twisting motions and any type of sport participation.
- The patient should be advised that implants may bend, break or loosen despite restriction in activity.
- The patient should be advised to avoid mechanical vibrations that may loosen the device.
- The patient should be advised not to smoke or consume alcohol during recovery.

COMPLAINTS

Immediately notify SeaSpine or a SeaSpine representative by phone, fax or email regarding complaints, malfunctions or adverse events associated with this product. When possible, retain the product involved in the complaint and return to SeaSpine as instructed by SeaSpine Customer Service.

PRODUCT INFORMATION DISCLOSURE

This warranty ("Warranty") applies to the Products (defined below) purchased on or following the date set forth above. SeaSpine provides this Warranty only to the entity that purchases the Product directly from SeaSpine, (the "Purchaser").

“Products” means the following products of SeaSpine Orthopedics Corporation and its affiliates including SeaSpine Sales LLC, IsoTis OrthoBiologics, Inc., and SeaSpine, Inc. (collectively referred to herein as “SeaSpine”):

i. Medical devices or accessories used to perform actions during surgery, but not intended to be implanted in the patient, provided in non-sterile condition and sterilized by the end-user prior to use ("Instruments");

ii. Medical devices intended for implantation provided in non-sterile condition and sterilized by the end-user prior to use ("Non-Sterile Implants"); and

iii. Medical devices or biologics intended for implantation delivered in sterile condition ("Sterile Implants").

1. Warranty. Instruments. SeaSpine warrants to the Purchaser only that the Instrument is free from manufacturing defects in material and workmanship under normal use and service, for (i) with respect to new Instruments, for a period of two (2) years commencing on the date of delivery by SeaSpine to the Purchaser, and (ii) with respect to used Instruments, for a period of one (1) year commencing on the date of delivery by SeaSpine to the Purchaser.

Non-Sterile Implants. SeaSpine warrants to the Purchaser only that the Non-Sterile Implant is free from manufacturing defects in material and workmanship under normal use and service for a period of two (2) years commencing on the date of delivery by SeaSpine to the Purchaser and ending one hundred eighty (180) days after the date of such delivery.

Sterile Products. SeaSpine warrants to the Purchaser only that the Sterile Product is free from manufacturing defects in material and workmanship under normal use and service for a period commencing on the date of delivery by SeaSpine to the Purchaser and ending on the earlier of (i) one hundred eighty (180) after such delivery date, or (ii) the expiration date stated on the Product’s labeling.

2. Warranty Conditions. This Warranty shall not apply (i) if the Product is not used or stored in accordance with the Product’s instructions for use supplied by SeaSpine and/or included in the product packaging, (ii) to any Product that has been repaired by anyone other than an authorized SeaSpine service representative or altered in any way so as, in SeaSpine’s judgment, to affect its stability or reliability, or (iii) to any Product which has been subject to misuse, negligence or accident.

If the Purchaser seeks to invoke the terms of the Warranty, the Purchaser must notify the SeaSpine customer service department at the address set forth in the product labeling, which can be found at www.seaspine.com, of the covered defect during the warranty period, and the Product must be returned as directed by SeaSpine. The defective Product should be returned promptly, properly packaged and postage prepaid. Loss or damage in return shipment to SeaSpine shall be at sender’s risk.

SEASPIE’S SOLE RESPONSIBILITY AND LIABILITY UNDER THIS WARRANTY SHALL BE, AT SEASPIE’S SOLE DISCRETION, REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT, OR REFUND OR CREDIT OF THE PRICE PAID FOR THE DEFECTIVE PRODUCT, SUBJECT TO THE
TERMS OF THIS WARRANTY AND APPLICABLE AGREEMENTS. SEASPINE DISCLAIMS ALL
OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF
MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION OR
WARRANTY OF QUALITY. No warranty or guarantee
may be created by any act or statement nor may this
warranty be modified in any way, except as a result of a
writing signed by an officer of SeaSpine. These
limitations on the creation or modification of this
warranty may not be waived or modified orally or by any
conduct.
3. Liability Limitations.
TO THE MAXIMUM EXTENT PERMITTED BY
APPLICABLE LAWS, IN NO EVENT, REGARDLESS
OF THE FAILURE OF THE SOLE AND EXCLUSIVE
REMEDY SET FORTH HEREIN, SHALL SEASPINE
BE LIABLE FOR ANY INCIDENTAL, INDIRECT,
CONSEQUENTIAL OR PUNITIVE DAMAGES IN
CONNECTION WITH THE ACQUISITION OR USE
OF ANY SEASPINE PRODUCT.