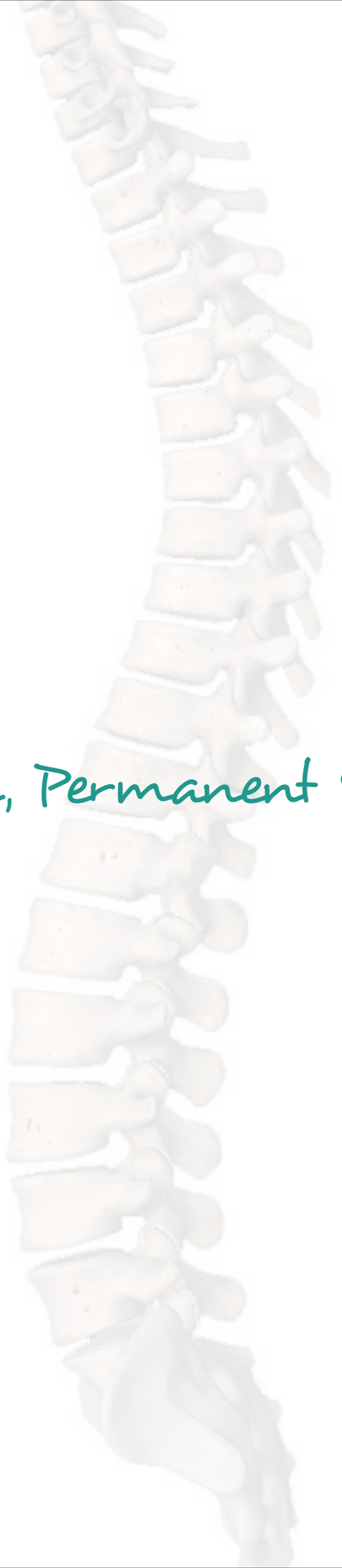
biomech

LIGAMED®

MEDICAL

medbionic



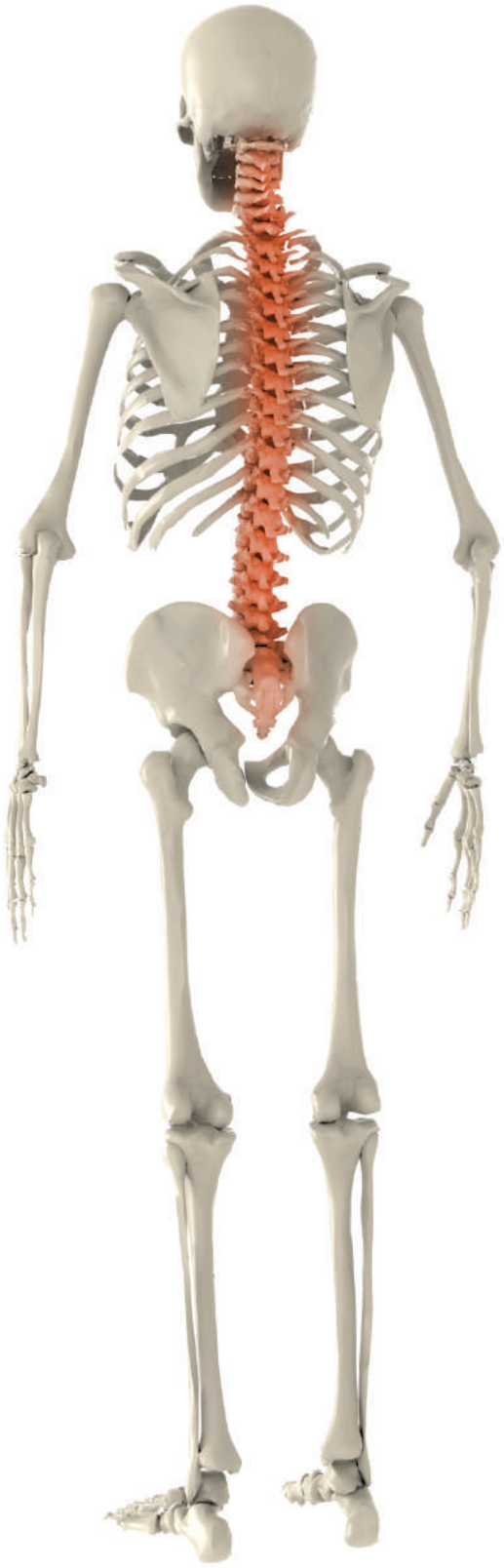
Creative, Permanent Solutions

Ligamed Medical Supplies Industry and Trade Co. Ltd. operates under the brand Biomech and Medbionic as designer, manufacturer and seller of spinal surgery implants. Our product portfolio consists of “Thoracolumbar Stabilization System”, “Cervical Cage & Prosthesis System”, “Lumbar Cage System”, “Anterior Cervical Plate System”, “Posterior Cervical System” and “Corpectomy Mesh System”.

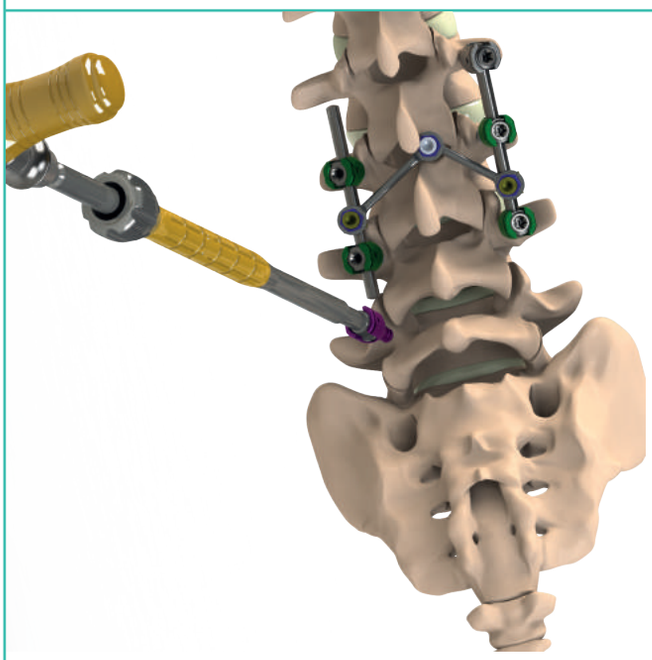
In our catalogue, we present our innovative implants, surgical instruments and set structures that exist in Spine Systems, to our valued business partners and users.

LIGAMED®
MEDICAL

SPINAL SYSTEMS



THORACOLUMBAR STABILIZATION SYSTEM



SPINAL STABILIZATION SCREWS (POLYAXIAL – MONOAXIAL – SPONDYLOLISTHESIS – CANNULATED)

- Polyaxial and Spondylolisthesis screws enable screw angulations up to ±27, 22° degrees
- With their double grooved and double diameter features, pedicle screws are highly resistant to loosening. Besides, it helps its user for faster and more controlled implantation
- They are flexible enough to be implanted wherever needed
- Color coding enables to differentiate between screw sizes
- A specific thread structure is used to increase the compatibility of screw body and the locking screw (nut). Thus, pedicle screw, rod and locking screw can grip more safely
- There are many screw sizes for different anatomies. The diameters of the screws; these are 4.5 - 5.5 - 6.2 - 6.5 - 7.0 - 7.5 - 8.5 mm


Polyaxial Screw


Polyaxial Double Threaded Screw


Monoaxial Screw


Spondylolisthesis Screw

RODS

- Titanium alloy rods “Ti6Al4V-ELI, grade 5”, Chromium-Cobalt alloy rods “Cr-Co-Mo”, PEEK and Dynamic Rods that are used for dynamic stabilization
- They provide optimum load distribution
- Rod diameters are 5.5 mm
- Rod lengths vary between 45 mm and 600 mm


Titanium Rods


Dynamic Rods


Chromium-Cobalt Rods


Peek Rods

LOCKING SCREWS

- Three different types
- It locks the movement mechanism
- A special thread profile (reverse angle) is applied to the locking screw, for a tighter hold and stabilization

You may find this special thread profile in the pictures below.


Long Locking Screw


Locking Screw


Grooved Locking Screw

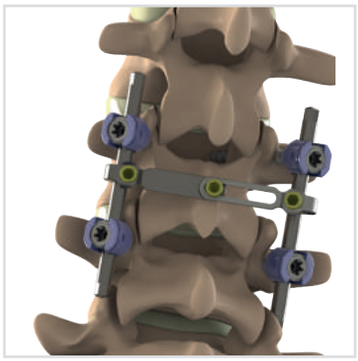
TRANSVERSE CONNECTOR (CROSSLINK)

- Designed for faster and easier connection
- Has a simple clamping system
- Has one-step locking system
- Holds easily and with less effort
- Lengths are 40-60-80-100 mm



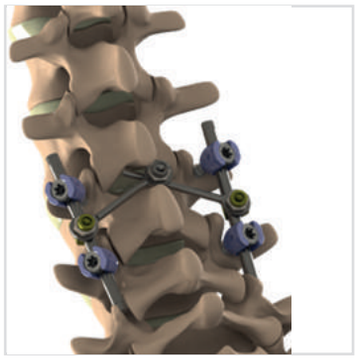
MULTIAXIAL CONNECTOR

- Locks the movement mechanism with one screw
- Transvers connectors can be angulated and adjusted
- Easy application and locking system
- Fits the rod perfectly and provides strong hold
- Lengths are 40-60-80-100 mm


OMNIAXIAL CONNECTOR

- Easy application and locking system
- Fits the rod perfectly and provides strong hold
- Enables 360° angulation
- Lengths are 40-60-80-100 mm



DOMINO (ROD CONNECTOR)

Found in various configurations, as double side domino and single side domino.

Double Side Domino

One Side Domino

One - Double Side Domino

LATERAL CONNECTORS

- Accommodates rod attachment of non-linear screws
- Allows for increased angle of screw trajectory
- Accounts for screw height differences

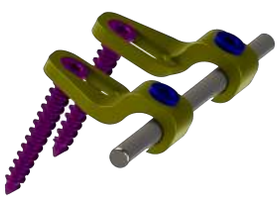
HOOKS

There are six hook options: Pedicle Hooks, Laminar Hooks, Poliaxial Hooks, Offset Hooks, Transverse Hooks and Hook with Screw

Pedicle Hook

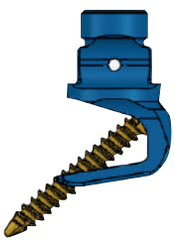
Laminar Hook

Poliaxial Hook



Offset Hook

Transverse Hook



Hook with Screw

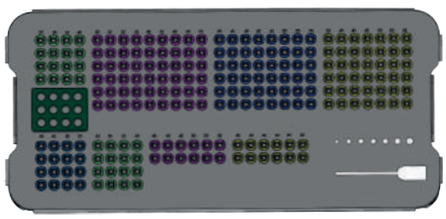
Indications

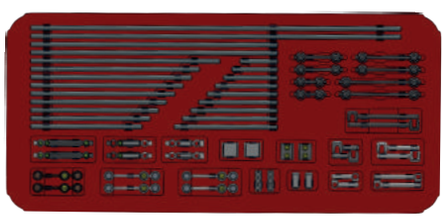
- Deformities (i.e. scoliosis, kyphosis and/or lordosis, Scheuermann's disease)
- Degenerative disc disease
- Spondylolisthesis
- Trauma (i.e. fracture or dislocation)
- Tumour
- Stenosis
- Pseudoarthrosis
- Failed previous fusion
- Iatrogenic or primary instabilities

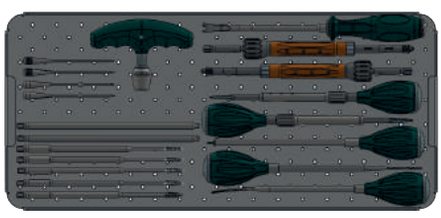
Contraindications

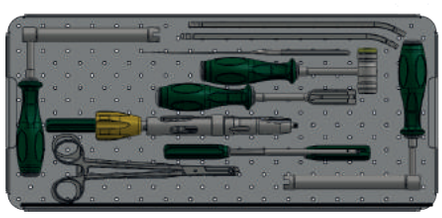
- Osteoporosis
- Local infections or inflammation
- Fever or leukocytosis
- Pregnancy
- Physical illnesses such as morbid obesity
- Suspected or proven metal allergy or allergy to titanium alloys
- All diseases that are not specified in indications

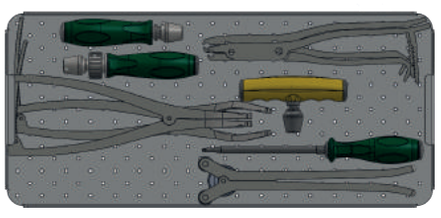
THORACOLUMBAR STABILIZATION SYSTEM SET

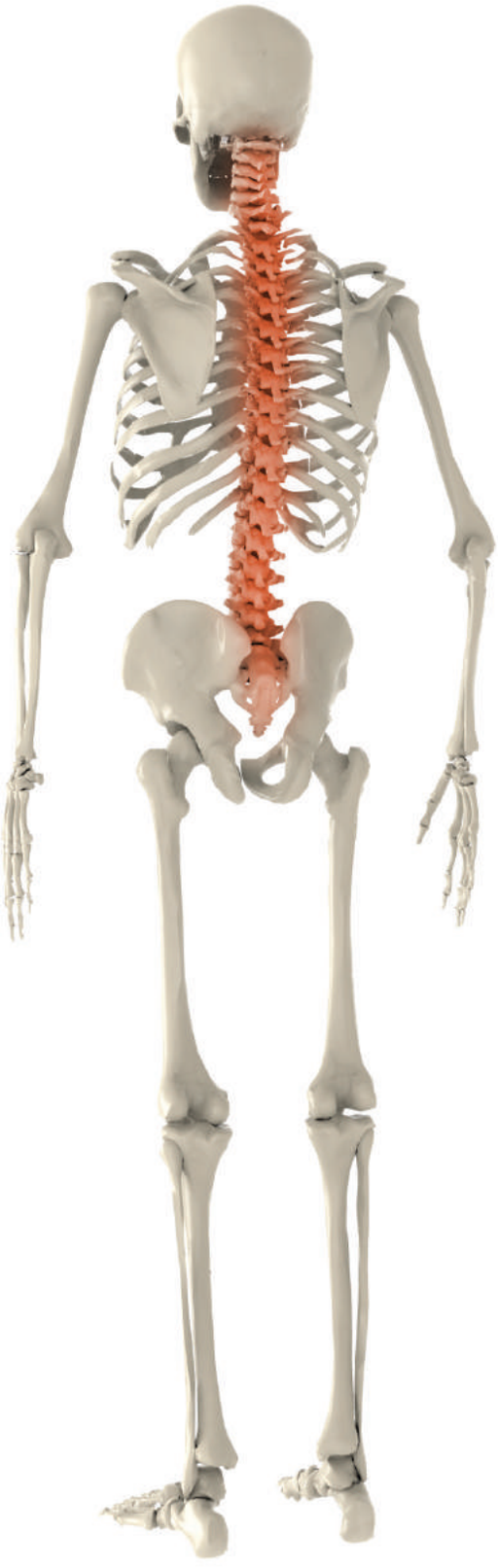




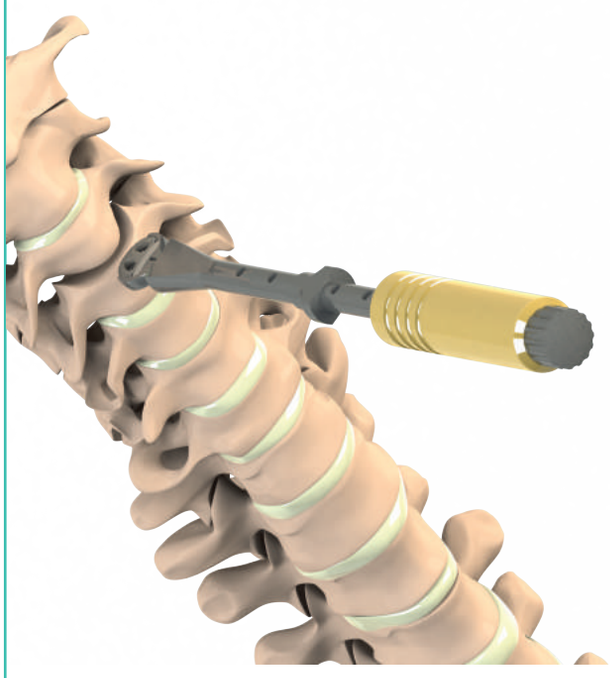








CERVICAL CAGE & PROSTHESIS SYSTEM



CERVICAL CAGE

Cervical Peek Cage is manufactured from PEEK and Titanium material which is compatible with MRI and CT.
Does not allow any lesional problems. It's implanted from anterior approach using Smith-Robinson technique. Through it's toothed surface feature which facilitates a strong fixation by superior and inferior area, any additional implantation such as plate is not necessary. Determination of appropriate size through trials and implantation with only one instrument offer an easy application and advantage of time saving to the user.

- The areas of the cages in contact with the corpus are serrated and make it easy to hold
- The cages are perforated and designed to be filled with bone grafts
- The large surface of the cage contacts the corpus and prevents it from collapsing
- There are cage sizes for different anatomies. The sizes of the cages; it is between 4 mm and 10 mm

Indications

Cervical pathologies for which segmental arthrodesis is indicated:

- Degenerative disc diseases and instabilities
- Ruptured and herniated discs
- Pseudarthrosis or failed spondylodesis

Contraindications

- Osteoporosis
- Severe instabilities
- Vertebral body fractures
- Spinal tumors
- Infections


Titanium Cage (Curved)


Titanium Cage (Rigid)


Cervical Peek Cage


Cervical Peek Cage (Blade)


Cervical Peek Cage (Post. Expandable)


Cervical Peek Cage (Ant. Expandable)

DISC PROSTHESIS

Cervical Disc Prosthesis is intended to replace a diseased and/or degenerated disc of the cervical spine in patients with symptomatic cervical disc diseases (SCDD). The Cervical Disc Prosthesis procedure is intended to significantly reduce pain by allowing for the removal of the diseased disc while restoring disc height and providing the potential for motion at the affected vertebral segment.

Disc Prosthesis is manufactured from PEEK and Titanium alloy material which is compatible with MRI, CT and the anterior Smith - Robinson approach. It is a threaded structure that can provide grip on the superior or inferior surfaces.

In order to continuously maintain the movement of the implant in order to reduce the corrosion and fracture coefficient in the prosthesis, it is coated with alloy. It can be placed and fixed with one hand tool. Prosthesis; ± 8 ° flexion / extension, ± 8 ° lateral flexion and ± 5 ° rotation. There are size options for different anatomies. Prosthesis sizes; it is between 4.5 mm and 9.5 mm.

Indications

Symptomatic Cervical Disc Disease (SCDD), which is defined as neck or arm (radicular) pain and/or a functional/neurological deficit with at least one of the following conditions confirmed by imaging (CT, MRI or X-rays):

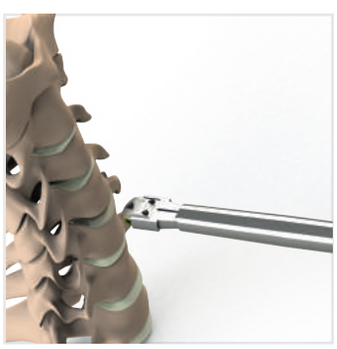
- Herniated nucleus pulposus,
- Spondylosis (defined by the presence of osteophytes),
- Loss of disc height.

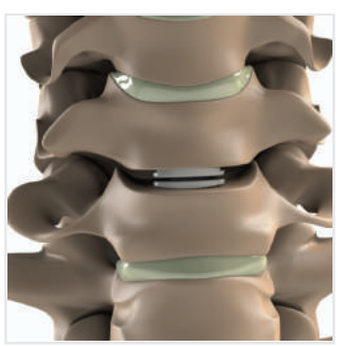
Specific Contraindications

- Fractures, infections, tumours
- Spinal stenosis by hypertrophic spondylarthrosis
- Facet joint degeneration
- Increased segmental instability
- Ossification of posterior longitudinal ligament (OPLL)

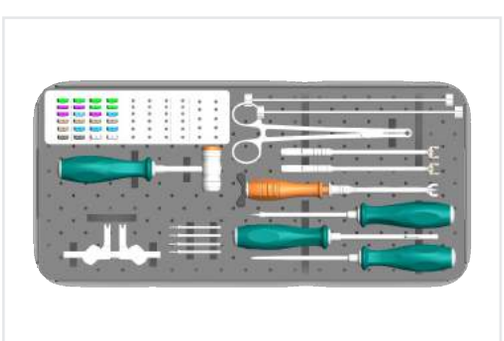
General Contraindications

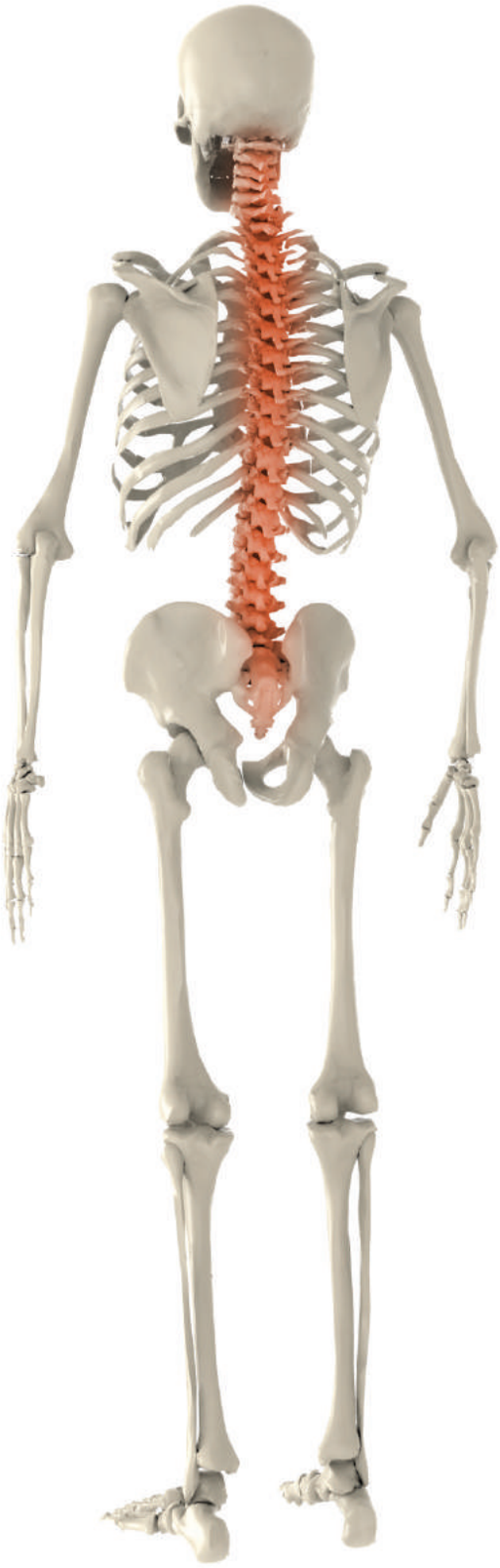
- Osteoporosis, Osteochondrosis, and severe Osteopenia
- Acute or chronic systemic, spinal, or localized infections
- Systemic and metabolic diseases
- Any medical and surgical conditions precluding the benefits of spinal surgery
- Foreign body sensitivity to the implant materials
- Dependency on pharmaceutical drugs, drug abuse or alcoholism
- Pregnancy
- Severe obesity
- Lack of patient cooperation

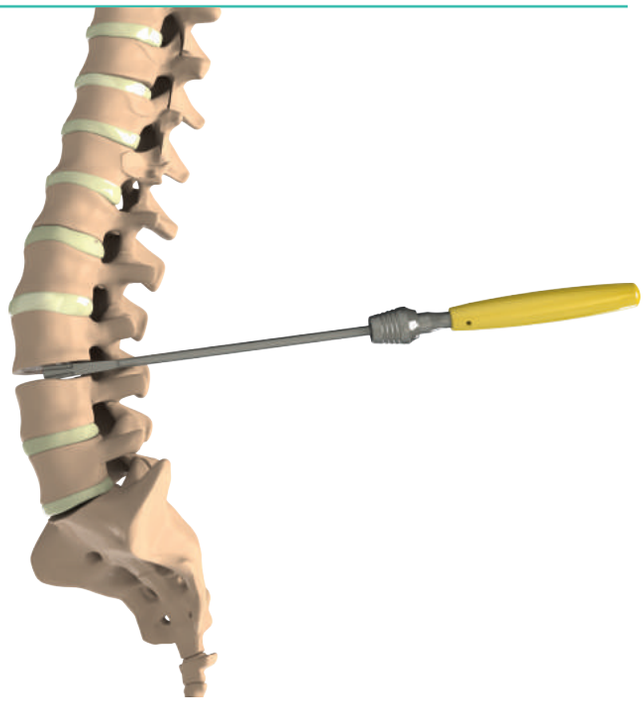


CERVICAL CAGE & PROSTHESIS SYSTEM INSTRUMENT SET



LUMBAR CAGE SYSTEM



TRANSFORAMINAL LUMBAR INTERBODY FUSION (TLIF)

An adaption of the Posterior Lumbar Interbody Fusion (PLIF) procedure, the TLIF technique employs a unilateral approach to the disc space through the intervertebral foramen. Requiring only a partial unilateral facet resection, the TLIF procedure when compared to a PLIF;

- Preserves the laminar arch and contralateral facet
- Avoids bilateral scarring
- Avoids significant dural retraction which may reduce the risk of intraoperative dural tears
- Offers a revision strategy that may not exist with a PLIF due to bilateral scarring

The unique unilateral TLIF approach requires specific implants and instrumentation to facilitate thorough disc space preparation and accurate cage placement.

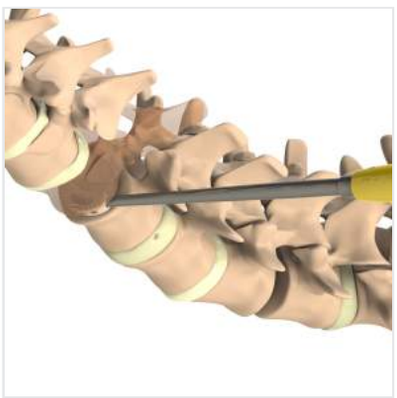
Transforaminal Lumbar Interbody Fusion is designed as compatible to anatomical constitution at different sizes. It is manufactured from PEEK and Titanium alloy material which is full compatible with body. It allows to obtain full and quick fusion through the slots which are on it's surface. These slots doesn't effect the endurance which cage resists against the pressure caused by body weight. It is fixed to body strongly through the tooths at it's inferior and superior surface.

There are cage sizes for different anatomies. The sizes of the cages; it is between 6 mm and 16 mm.

Indications

Indications are lumbar and lumbosacral pathologies in which segmental spondylodesis is indicated, for example:

- Degenerative disc diseases and spinal instabilities
- Revision procedures for post-discectomy syndrome
- Pseudarthrosis or failed spondylodesis
- Degenerative spondylolisthesis
- Isthmic spondylolisthesis

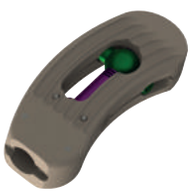


Contraindications

- Vertebral body fractures
- Spinal tumors
- Major spinal instabilities
- Primary spinal deformities
- Osteoporosis

Titanium TLIF

PEEK TLIF



PEEK TLIF (Expandable)

PEEK TLIF (Adjustable)

POSTERIOR LUMBAR INTERBODY FUSION (PLIF)

The Posterior Lumbar Interbody Fusion (PLIF) procedure is intended to stabilize the spine by causing bone to grow between the two vertebral bodies, thus limiting motion at that level. PLIF achieves spinal fusion in the low back by inserting two cages directly into the disc space and is supplemented by a posterolateral spinal fusion surgery, typically a pedicle screw construct.;

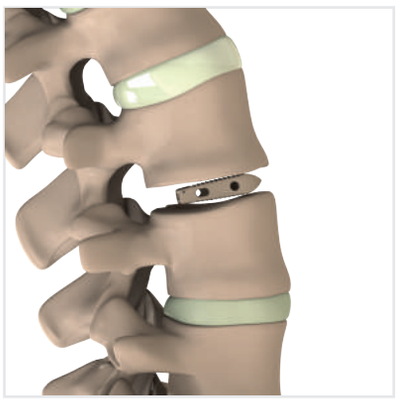
Posterior Lumbar Interbody Fusion Cage is manufactured from PEEK and Titanium alloy material which is compatible with MRI and CT. Does not allow any lesional problems. It's implanted from posterior approach for following indications: Mechanical Instability, Spondylolisthesis, Degenerative Disc Disease. It's toothed surface feature facilitates a strong fixation by superior and inferior area. Through it's grafting spaces, it's possible to reach appropriate fusion by grafting technique.

There are cage sizes for different anatomies. The sizes of the cages; it is between 6 mm and 13 mm.

Indications

Indications are lumbar and lumbosacral pathologies in which segmental spondylodesis is indicated, for example:

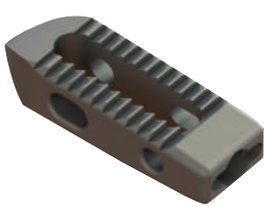
- Degenerative disc diseases and spinal instabilities
- Revision procedures for post-discectomy syndrome
- Pseudarthrosis or failed spondylodesis
- Degenerative spondylolisthesis
- Isthmic spondylolisthesis



Contraindications

- Vertebral body fractures
- Spinal tumors
- Major spinal instabilities
- Primary spinal deformities

PEEK PLIF



Titanium PLIF

PEEK PLIF (Expandable)

Titanium PLIF (Expandable)

ANTERIOR LUMBAR INTERBODY FUSION (ALIF)

Anterior Lumbar Interbody Fusion (ALIF) alleviates pain through the removal of a damaged or diseased disc through an anterior approach. This procedure involves the complete removal of the intervertebral disc and the implantation of an interbody fusion device to restore intervertebral height and fuse the vertebral bodies of the affected segment.

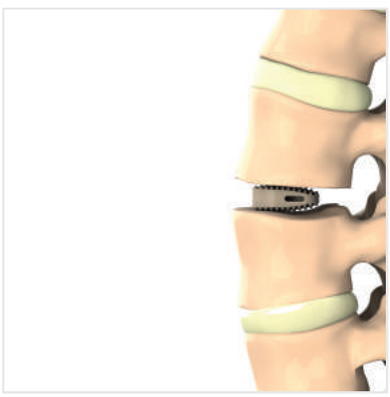
Anterior Lumbar Interbody Fusion Cage is manufactured from PEEK and Titanium alloy material which is compatible with MRI and CT.

There are cage sizes for different anatomies. The sizes of the cages; it is between 9,5 mm and 15,5 mm.

Indications

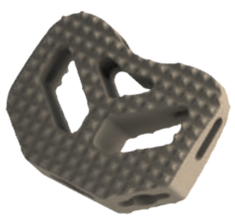
Lumbar and lumbosacral pathologies which may requir anterior segmental arthrodesis, including:

- Localised symptomatic degenerative disc disease
- Revision surgery for failed decompression syndrome
- Pseudoarthrosis

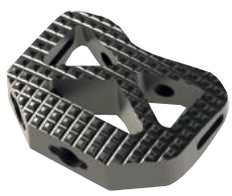


Contraindications

- Spinal fractures
- Spinal tumor
- Osteoporosis
- Infection

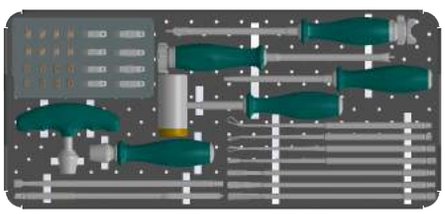


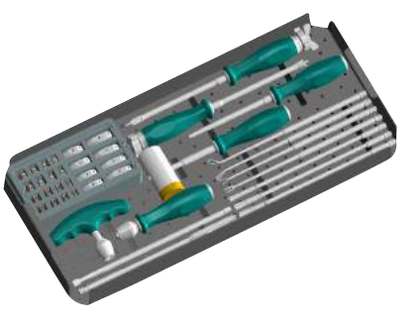
PEEK ALIF

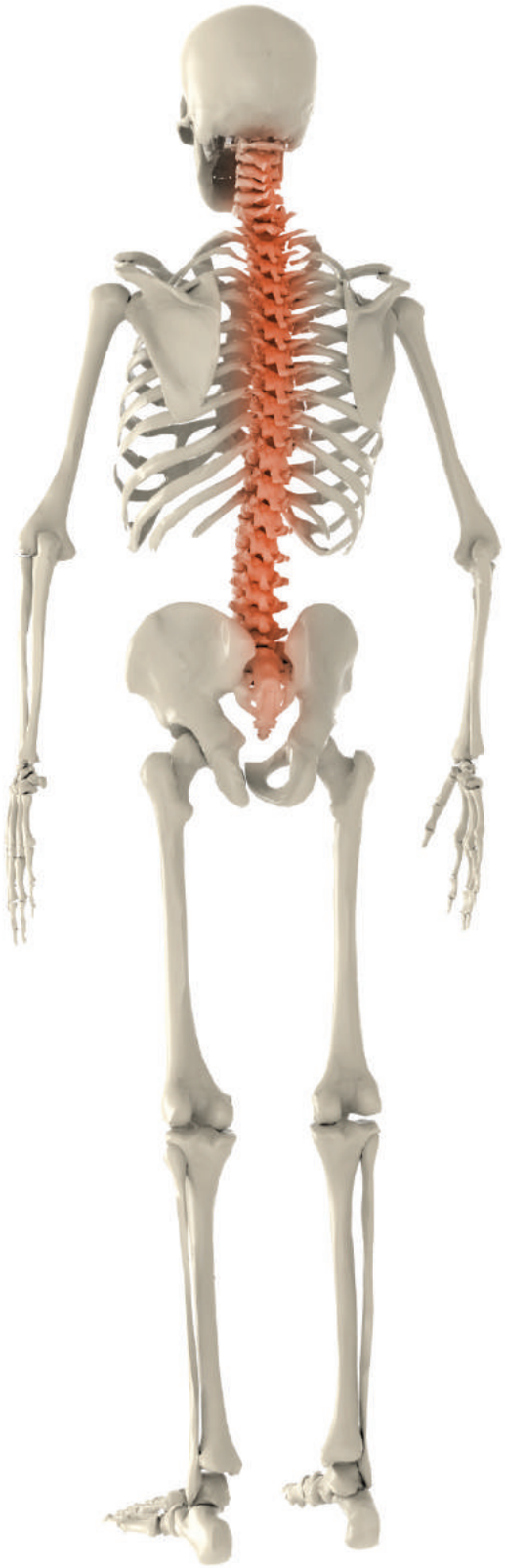


Titanium ALIF

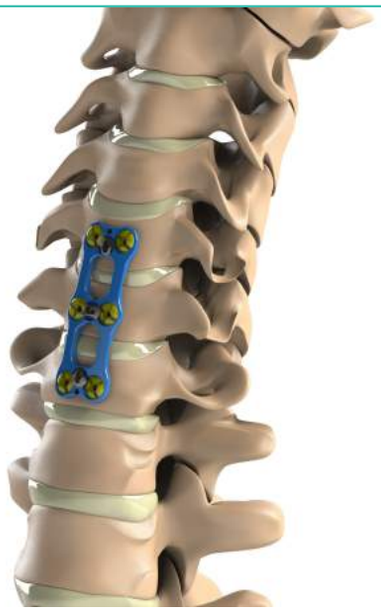
LUMBAR CAGE SYSTEM INSTRUMENT SET







ANTERIOR CERVICAL PLATE SYSTEM



ANTERIOR CERVICAL PLATE SYSTEM

Anterior Cervical Plate System consists of mobile and fixed safety screws, plate which provides high strength with low thickness, screws of mobile and fixed bone anchorage. Blocking system that avoids the anteropulsion of screws are compatible and effective with the plate. The mobile safety screws allow poliaxial angulation of 15°. The fixed safety screws are placed perpendicularly to the plate in order to obtain more solid fixings. The ionically anodized surface avoids friction wearing out and boosts resistance to fatigue. The rounded peripheral rim lowers the aggressiveness of the implant over soft tissues. It provides effective and simple use.

- Improved intraoperative application and various dimension options
- Low profile design with specially designed screw locking
- It has a slim outer appearance (2 mm)
- The size range of the plates is from 14 mm to 100 mm
- There are screws with diameters of 4 mm and 4.5 mm
- Screw lengths vary between 12 mm and 20 mm
- Structure easy to apply

Indications

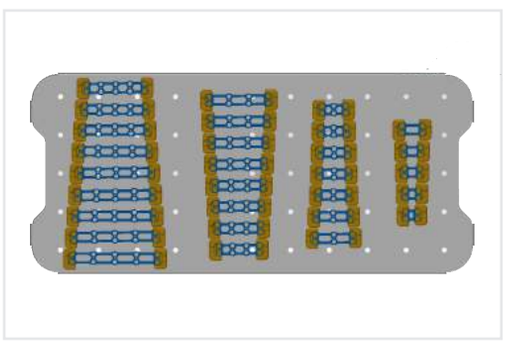
Anterior Cervical Plate System is intended for anterior screw fixation to the cervical spine (C2–C7) for the following indications:

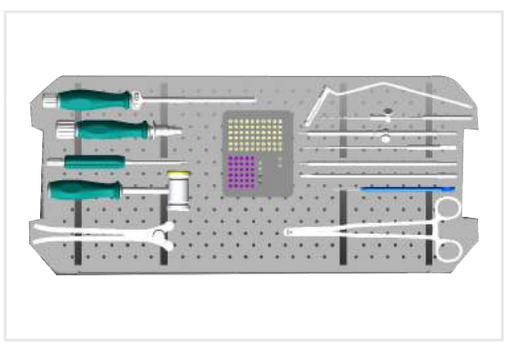
- Degenerative disc disease (DDD, defined as neck pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies)
- Spondylolisthesis
- Spinal stenosis
- Tumors (primary and metastatic)
- Failed previous fusions
- Pseudarthrosis
- Deformity (i.e kyphosis, lordosis and/or scolosis)

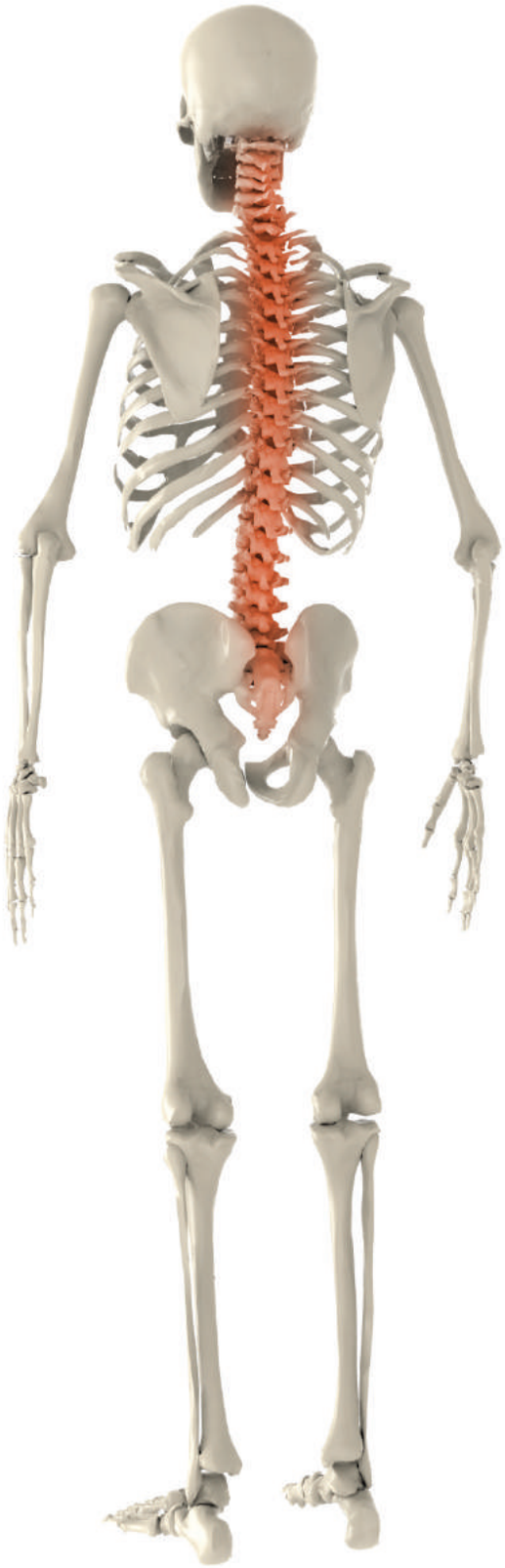
Contraindications

- Severe osteoporosis
- Any indication where fusion is not required

ANTERIOR CERVICAL PLATE SYSTEM SET







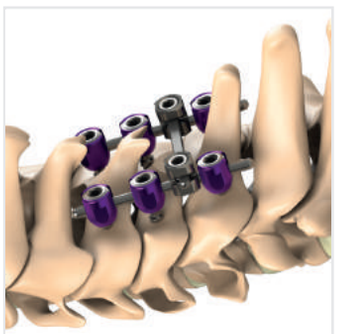
POSTERIOR CERVICAL SYSTEM

POSTERIOR CERVICAL SYSTEM

Posterior Cervical Fusion is a procedure intended for the stabilization of the cervical spine through a posterior approach. The procedure is commonly performed using hooks, plates, screws and rods as an adjunct to the fusion. Posterior Cervical Fusion is performed to treat instabilities which arise from: degenerative disc disease, spondylolisthesis, spinal stenosis, fracture/dislocation, atlantoaxial fractures with insatiability, occipito-cervical dislocation, revisions of previous cervical spine surgery and tumors.

Posterior Cervical System is an enhanced set of instruments and implants, including variable size screws, hooks, connectors, domino and rods, designed for posterior stabilization of the upper spine. These implants provide the flexibility required to accommodate variations in patient anatomy.

- Completely compatible with the cervical anatomy
- Low profile design and special designed screw locking
- Color anodizing for specifying the different screw diameters
- Suitable lengths and diameters for each level (Many alternative size)
- There are screws with diameters of 3.5 mm and 4.0 mm
- Posterior Cervical System uses 3.5 mm titanium alloy rods.
- Structure easy to apply



Indications

Instabilities in the upper cervical spine and in the occipito-cervical region:

- Rheumatoid arthritis
- Congenital anomalies
- Posttraumatic conditions
- Tumors
- Infections

Instabilities in the lower cervical and upper thoracic spine:

- Posttraumatic conditions
- Tumors
- Iatrogenic instabilities following laminectomy etc.

Degenerative and painful posttraumatic conditions in the lower cervical and upper thoracic spine.

Anterior cervical fusions requiring additional posterior stabilization.

Contraindications

- Spinal destruction accompanied by a loss of ventral support (caused by tumors, fractures and infections) results in major instability of the cervical spine and upper thoracic spine. In this situation, stabilization with this system alone is not sufficient. Additional anterior stabilization is crucial.
- Severe osteoporosis

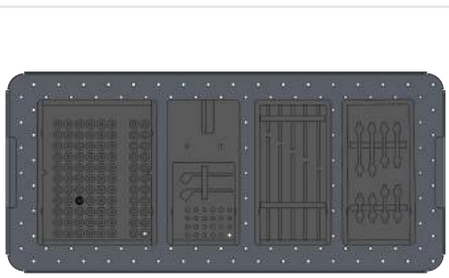
Post. Cervical
Polyaxial Screw

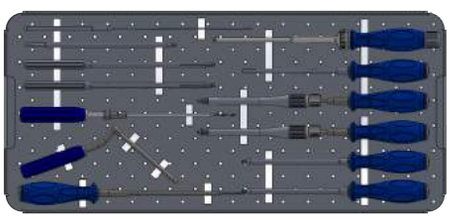
Post. Cervical
Rod

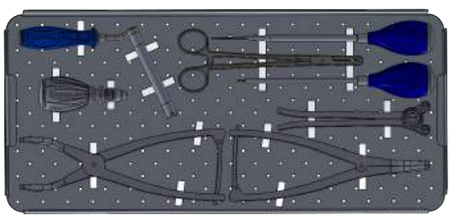
Post. Cervical
Transverse Connector

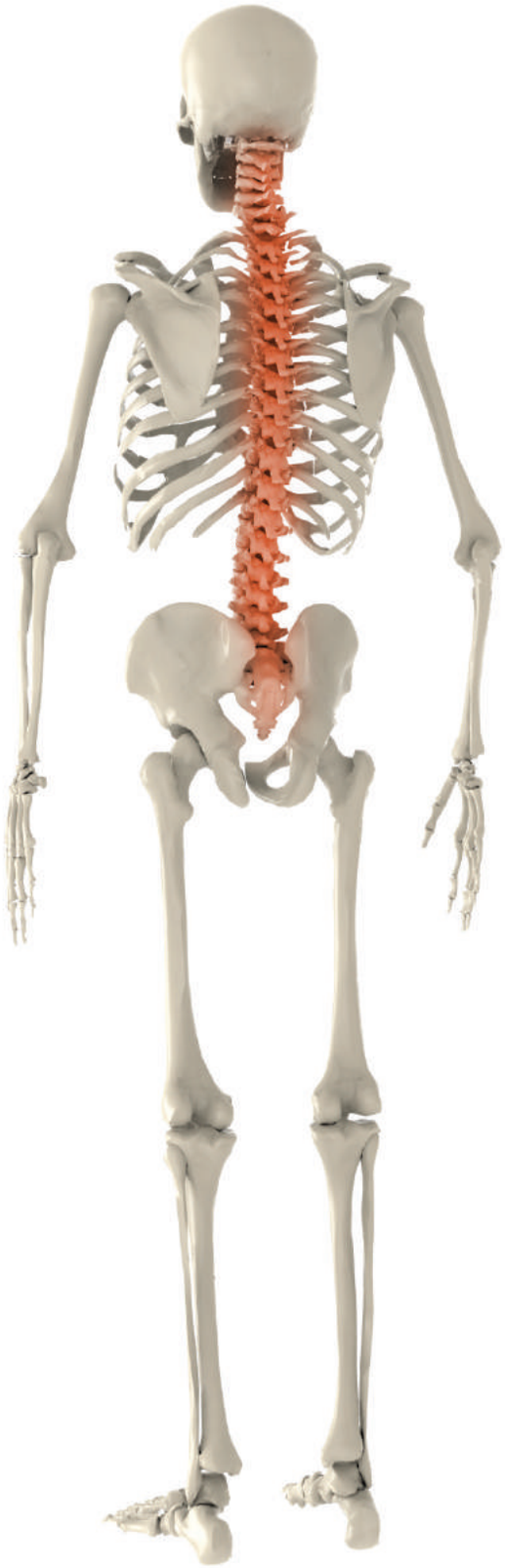
Post. Cervical
Domino (Rod Connector)

POSTERIOR CERVICAL SYSTEM SET

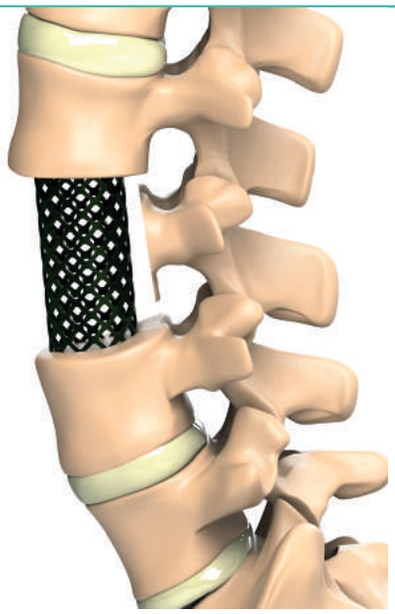








CORPECTOMY MESH SYSTEM



CORPECTOMY MESH SYSTEM

Corpectomy Mesh is a vertebral body replacement device for the cervical, thoracic and lumbar spine. Titanium alloy implants in various footprints and heights enable the surgeon to choose the configuration that is best suited to the patient's individual pathology and anatomy. The mesh may also be trimmed for a custom fit.

The implants can be inserted anteriorly, laterally or anterolaterally.

- The round and cylindrical implants are designed to treat defects in the cervical, thoracic and lumbar spine
- Available in a wide variety of diameters, lengths and styles
- Greater strength limits deformation
- Greater thickness provides more surface area coming into contact with host bone
- Less deformation during impaction and even stress distribution
- Less risk of damaging soft tissues
- Smooth insertion
- Easier manipulation into tight spaces
- Provides enhanced imaging and excellent biocompatibility

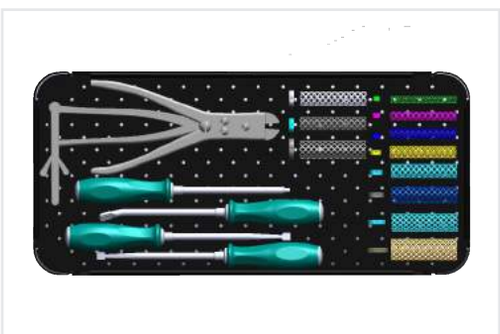
Indications

- To replace collapsed, damaged or unstable vertebral bodies due to tumour or trauma (e.g. fractures)

Corpectomy Mesh

Corpectomy Profil Mesh

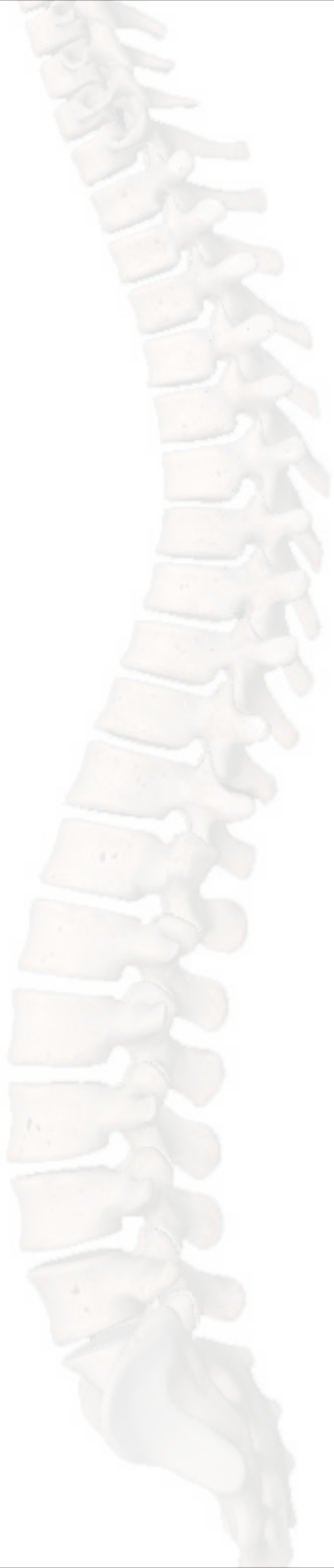
CORPECTOMY MESH SYSTEM SET



Ligamed is continuing its operations with system and product quality certifications such as EN ISO 13485, EC Certificate to go on manufacturing while staying in both national and international traceability chain and keeping the standards.

Notes;

Notes;



Creative, Permanent Solutions

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