

# Surgical Technique

## Mesh cage

---

# about us

Auxein Medical is an integrated, research based, orthopaedic Implants & instruments manufacturing company, producing a wide range of quality, affordable generic implants, trusted by healthcare professionals and patients across geographies. It is the Company's constant endeavor to provide a wide basket of generic and our innovator products that exceed the highest expectations of customers in term of quality and safety. The company has world-class manufacturing unit established in india and serves customers in over 75 countries worldwide.

## Our Achievements



# Guidelines

This publication sets forth detailed recommended procedures for using Auxein Medical devices and instruments.

It offers guidance that needs to be heeded. However, with any such technical guide, each surgeon must consider the unique needs of each patient and make appropriate adjustments when and as required.

A workshop training under DAIS Academy by Auxein will provide assistance prior to first surgery. It is vital to know that all non-sterile devices must be cleaned and sterilized before use.

Moreover, multi-component instruments must be disassembled for cleaning. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

**Please NOTE** that all the bone screws referenced in this document here are not approved for screw attachment or fixation in the areas not mentioned in this publication.

**Warning:**

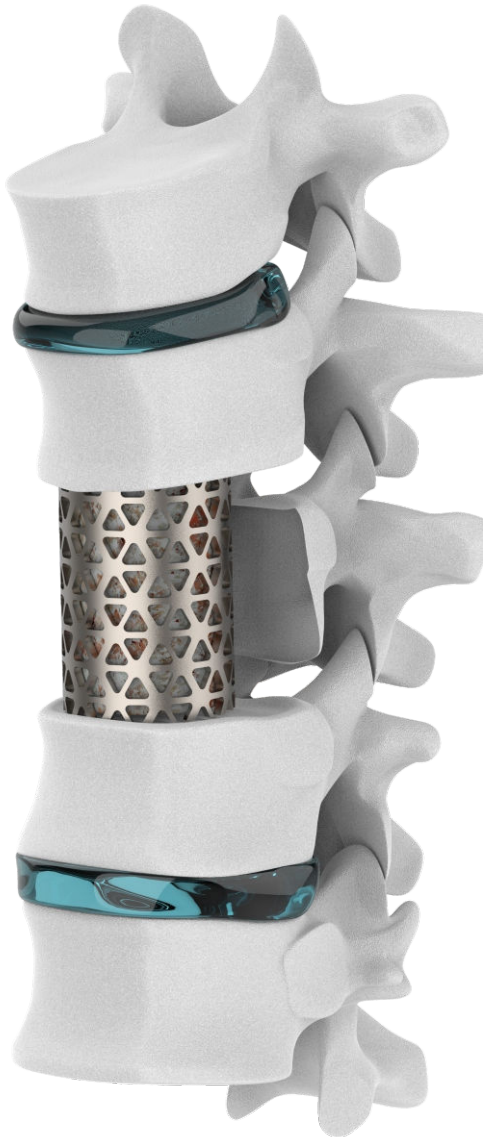
This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.



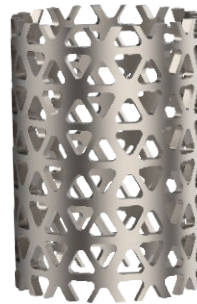
# Contents

Product Overview	01
Indications	03
Surgical Steps	04
Surgical implants & instruments	08

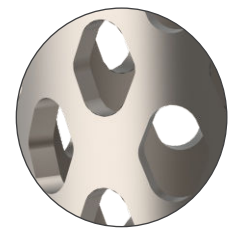
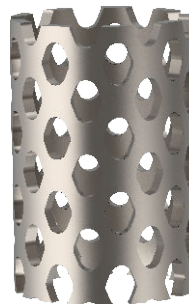
## Product Overview



AUX Mesh Cage



T- Mesh Cage



## T-Mesh Cage & AUX Mesh Cage

AUX Mesh Cage is a vertebral body replacement system with titanium implants available in various footprints and heights to fill a range of vertebral defects. AUX Mesh Cage implants are designed to restore normal spinal alignment and improve the bone-to-implant interface. The system features instruments that allow simultaneous distraction and implantation.

**Integral Ring Incorporated into Mesh Pattern**

- Less Deformation During Impaction and Even Stress Distribution

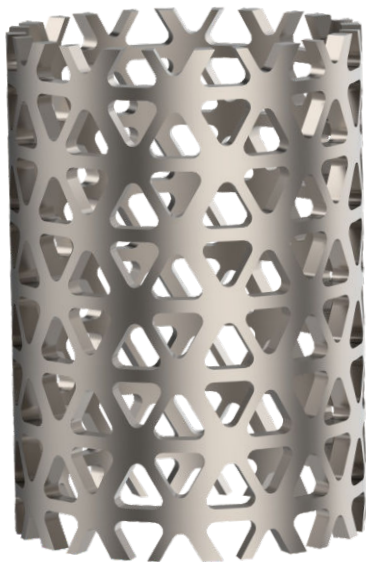
**Contoured Edges**

- Less Risk of Damaging Soft Tissues
- Smooth Insertion
- Easier Manipulation into Tight Spaces

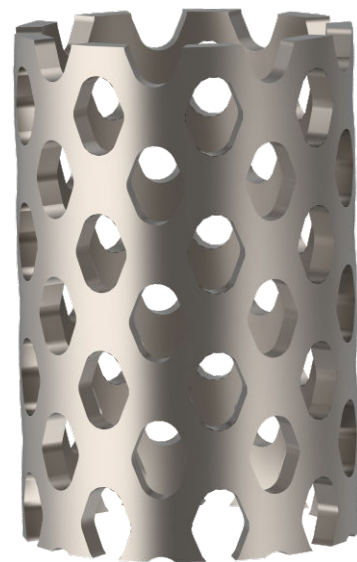
**System features:**

Open architecture to allow bony fusion – Instruments that allow simultaneous distraction and insertion

T-Mesh Cage & AUX Mesh Cage implants are designed with an open architecture to optimize bony ingrowth. They are available in six footprints and in a range of heights to enable the surgeon to choose the configuration that is best suited to the individual pathology and anatomical conditions of the patient. The mesh may also be trimmed for a custom fit.



AUX Mesh Cage



T-Mesh Cage

## Indications:

The AUX Mesh Cage spacer is a vertebral body replacement device intended for use in the thoracolumbar spine (T1–L5) to replace a collapsed, damaged, or unstable vertebral body due to tumor or trauma (i.e., fracture). The interior of the AUX Mesh Cage spacer can be packed with bone graft. The AUX Mesh Cage System is designed to provide anterior column support, even in the absence of fusion for a prolonged period.

## AO Principles

In 1958, the AO formulated four basic principles<sup>1</sup> which have become the guidelines for internal fixation. They are:

- Anatomic reduction
- Stable internal fixation
- Preservation of blood supply
- Early, active mobilization

The fundamental aims of fracture treatment in the limbs and fusion of the spine are the same. A specific goal in the spine is returning as much function as possible to the injured neural elements.

### AO Principles as Applied to the Spine

#### **Anatomic alignment**

Restoration of normal spinal alignment to improve the biomechanics of the spine.

#### **Stable internal fixation**

Stabilization of the spinal segment to promote bony fusion.

#### **Preservation of blood supply**

Creation of an optimal environment for fusion.

#### **Early, active mobilization**

Minimization of damage to the spinal vasculature, dura, and neural elements, which may contribute to pain reduction and improved function for the patient.

## Surgical Steps:

### 1. Select approach and perform corpectomy

Use an anterior, lateral or anterolateral approach, depending on the spinal level involved. Perform a partial or complete corpectomy, as required.

**Note:** Remove only the superficial layers of the entire cartilaginous endplate and expose bleeding bone.

**Caution:** Excessive removal of subchondral bone may weaken the vertebral endplate. If the entire endplate is removed, subsidence and a loss of segmental stability may result.

### 2. Determine implant size

Distract the corpectomy site to the desired correction using the parallel distractor, and measure the height of the defect using the Corpectomy Caliper.



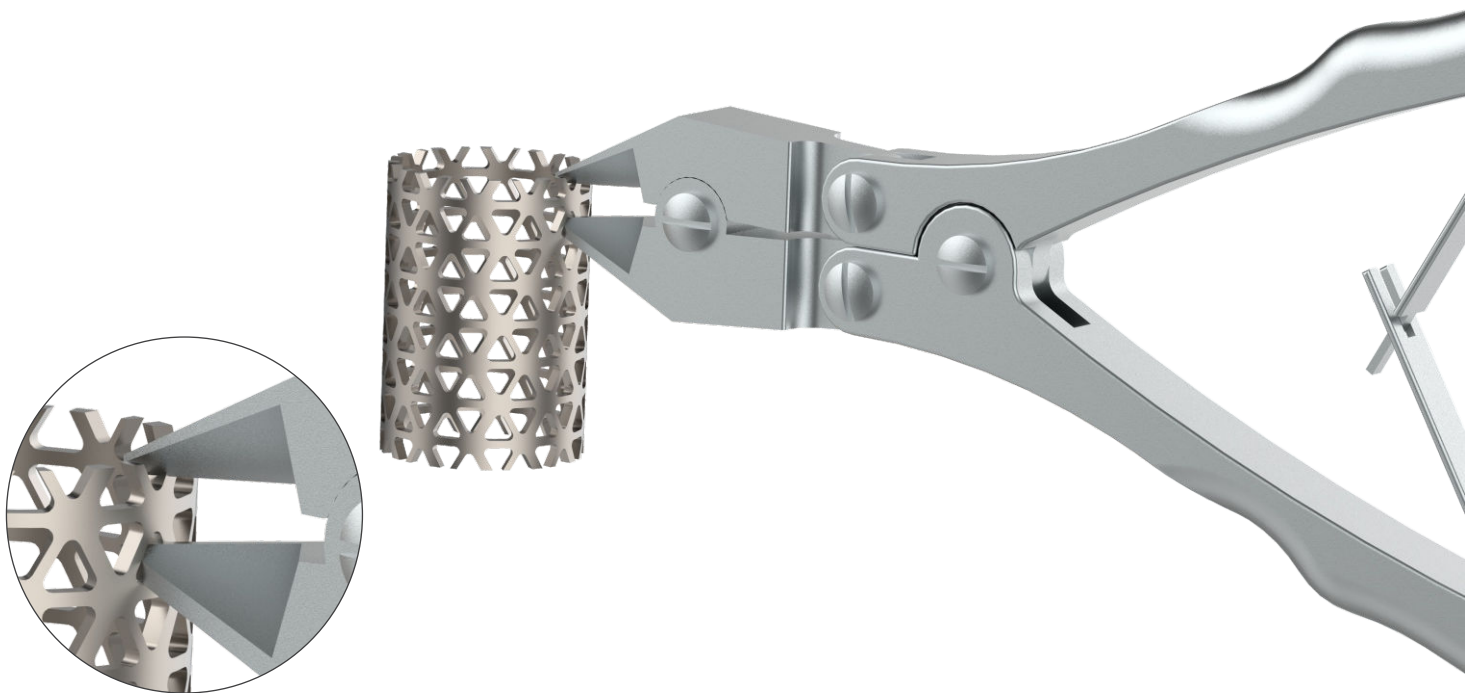


### 3. Determine implant size continued

Use the preoperative planner and the following considerations to select an implant and simplify building of the construct

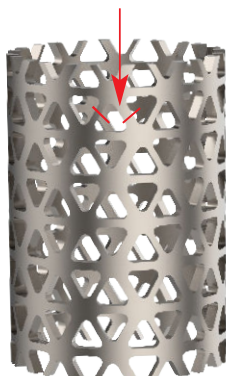
### 4. Cut mesh (if necessary)

Use the AUX Mesh Cage cutter (**SP-132**) to trim the mesh to the appropriate height.

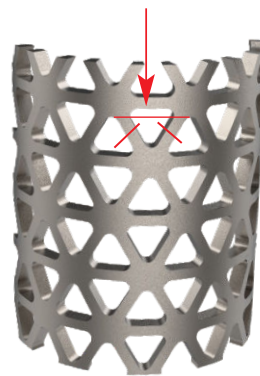


For the 10 mm and 12 mm round mesh, cut on the diagonal of mesh.  
For the 15 mm round mesh and all oblong mesh, make either diagonal or horizontal cuts.

Cut on diagonal

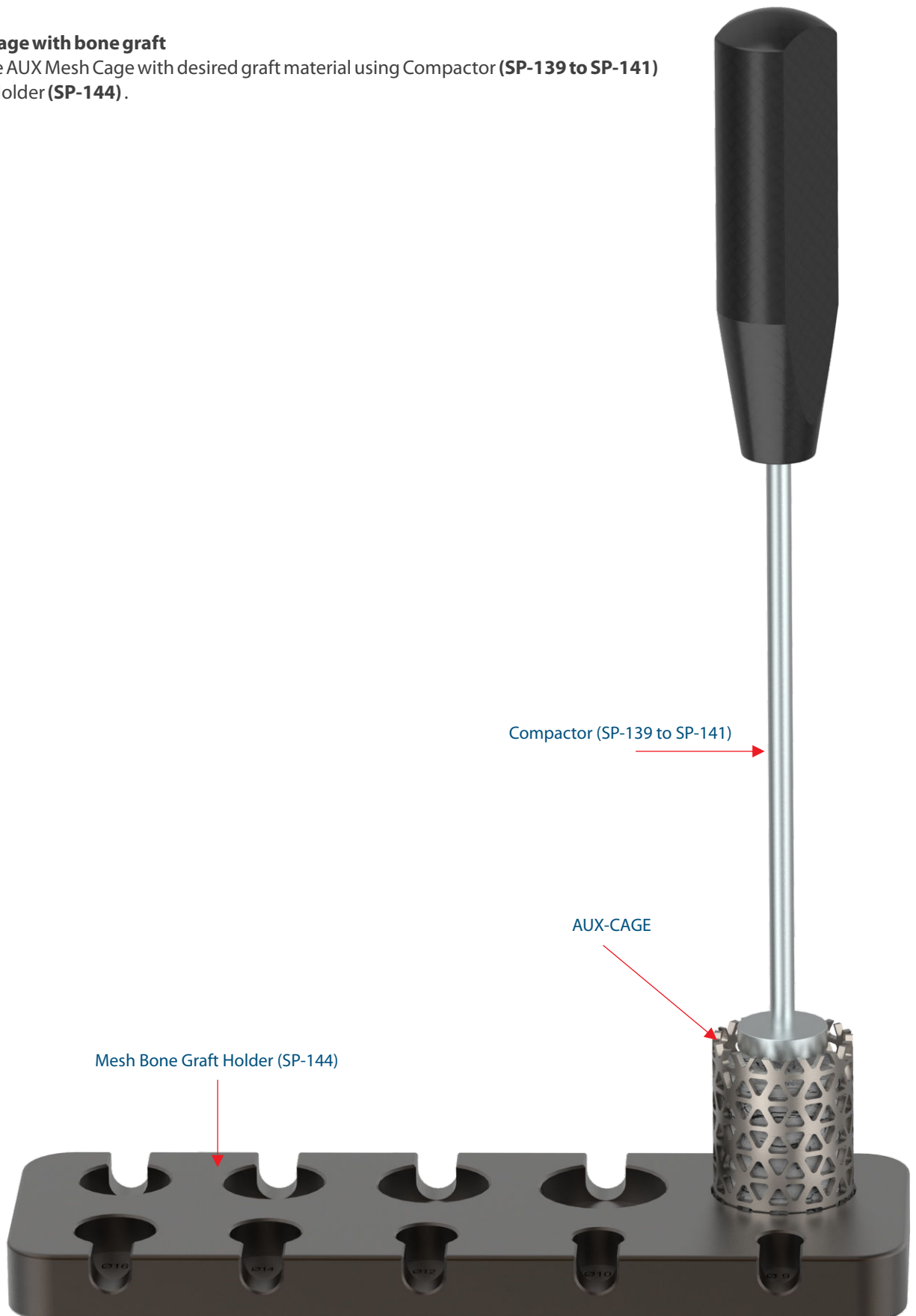


Cut on diagonal or horizontal



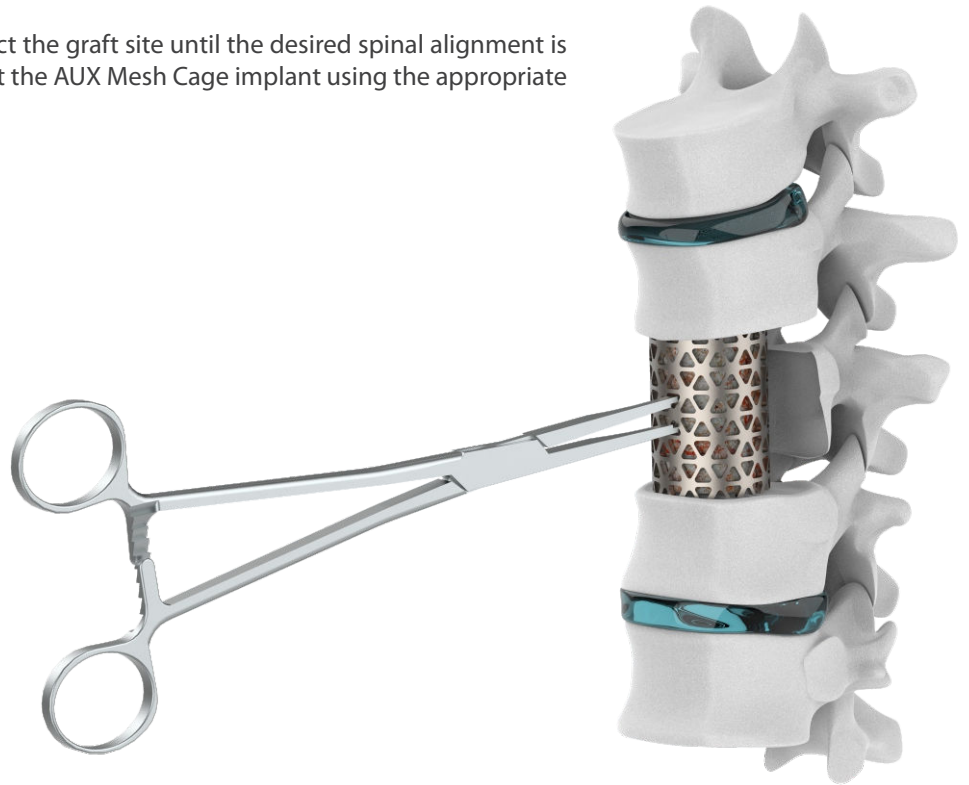
**5. FILL AUX Mesh Cage with bone graft**

Fill the interior of the AUX Mesh Cage with desired graft material using Compactor (SP-139 to SP-141) & Mesh Bone Graft Holder (SP-144).

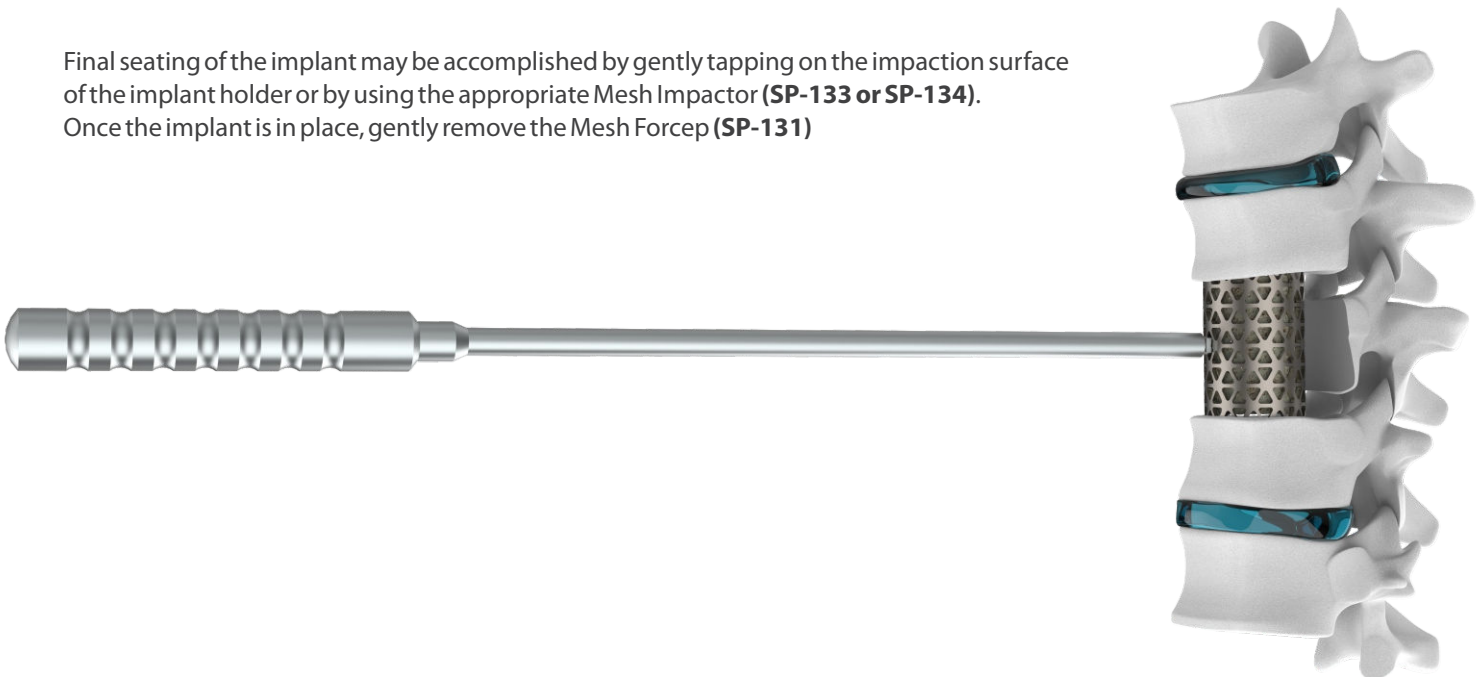


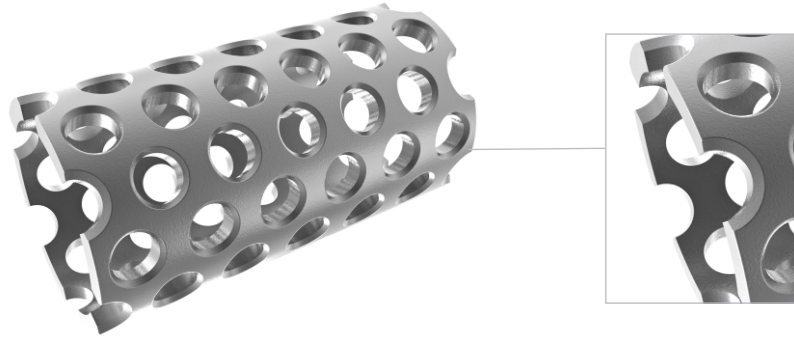
### 6. Distract and insert implant

Using the Mesh Forcep (**SP-131**), distract the graft site until the desired spinal alignment is achieved. While under distraction, insert the AUX Mesh Cage implant using the appropriate implant holder.



Final seating of the implant may be accomplished by gently tapping on the impaction surface of the implant holder or by using the appropriate Mesh Impactor (**SP-133 or SP-134**). Once the implant is in place, gently remove the Mesh Forcep (**SP-131**)



**T- Mesh Cage**


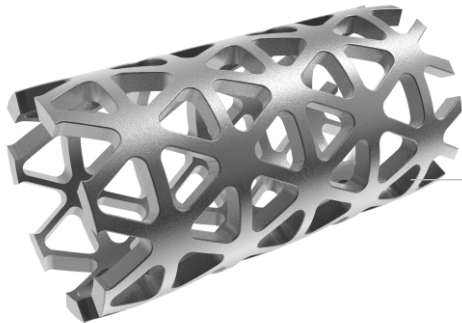
Code	Dia X Length
<b>SP-988</b>	Ø9mm x 20mm
<b>SP-989</b>	Ø9mm x 30mm
<b>SP-990</b>	Ø9mm x 40mm
<b>4-019-045TI</b>	Ø9mm x 45mm
<b>SP-991</b>	Ø10mm x 10mm
<b>SP-992</b>	Ø10mm x 15mm
<b>SP-993</b>	Ø10mm x 20mm
<b>4-020-022TI</b>	Ø10mm x 22mm
<b>SP-994</b>	Ø10mm x 25mm
<b>4-020-026TI</b>	Ø10mm x 26mm
<b>4-020-028TI</b>	Ø10mm x 28mm
<b>SP-995</b>	Ø10mm x 30mm
<b>SP-996</b>	Ø10mm x 35mm
<b>SP-997</b>	Ø10mm x 40mm
<b>SP-998</b>	Ø10mm x 45mm
<b>SP-999</b>	Ø10mm x 50mm
<b>SP-1000</b>	Ø10mm x 55mm
<b>SP-1001</b>	Ø10mm x 60mm
<b>SP-1002</b>	Ø12mm x 10mm
<b>SP-1003</b>	Ø12mm x 15mm
<b>SP-1004</b>	Ø12mm x 20mm
<b>4-021-022TI</b>	Ø12mm x 22mm
<b>4-021-024TI</b>	Ø12mm x 24mm
<b>SP-1005</b>	Ø12mm x 25mm
<b>4-021-026TI</b>	Ø12mm x 26mm
<b>4-021-028TI</b>	Ø12mm x 28mm
<b>SP-1006</b>	Ø12mm x 30mm
<b>SP-1007</b>	Ø12mm x 35mm

Code	Dia X Length
<b>SP-1008</b>	Ø12mm x 40mm
<b>SP-1009</b>	Ø12mm x 45mm
<b>SP-1010</b>	Ø12mm x 50mm
<b>SP-1011</b>	Ø12mm x 55mm
<b>SP-1012</b>	Ø12mm x 60mm
<b>SP-1013</b>	Ø14mm x 10mm
<b>SP-1014</b>	Ø14mm x 15mm
<b>SP-1015</b>	Ø14mm x 20mm
<b>4-022-022TI</b>	Ø14mm x 22mm
<b>4-022-024TI</b>	Ø14mm x 24mm
<b>SP-1016</b>	Ø14mm x 25mm
<b>4-022-026TI</b>	Ø14mm x 26mm
<b>4-022-028TI</b>	Ø14mm x 28mm
<b>SP-1017</b>	Ø14mm x 30mm
<b>SP-1018</b>	Ø14mm x 35mm
<b>SP-1019</b>	Ø14mm x 40mm
<b>SP-1020</b>	Ø14mm x 45mm
<b>SP-1021</b>	Ø14mm x 50mm
<b>SP-1022</b>	Ø14mm x 55mm
<b>SP-1023</b>	Ø14mm x 60mm
<b>SP-1024</b>	Ø16mm x 10mm
<b>SP-1025</b>	Ø16mm x 15mm
<b>SP-1026</b>	Ø16mm x 20mm
<b>4-023-022TI</b>	Ø16mm x 22mm
<b>4-023-024TI</b>	Ø16mm x 24mm
<b>SP-1027</b>	Ø16mm x 25mm
<b>4-023-026TI</b>	Ø16mm x 26mm
<b>4-023-028TI</b>	Ø16mm x 28mm

Code	Dia X Length
<b>SP-1028</b>	Ø16mm x 30mm
<b>SP-1029</b>	Ø16mm x 35mm
<b>SP-1030</b>	Ø16mm x 40mm
<b>SP-1031</b>	Ø16mm x 45mm
<b>SP-1032</b>	Ø16mm x 50mm
<b>SP-1033</b>	Ø16mm x 55mm
<b>SP-1034</b>	Ø16mm x 60mm
<b>SP-1035</b>	Ø18mm x 10mm
<b>SP-1036</b>	Ø18mm x 15mm
<b>SP-1037</b>	Ø18mm x 20mm
<b>4-024-022TI</b>	Ø18mm x 22mm
<b>4-024-024TI</b>	Ø18mm x 24mm
<b>SP-1038</b>	Ø18mm x 25mm
<b>4-024-026TI</b>	Ø18mm x 26mm
<b>4-024-028TI</b>	Ø18mm x 28mm
<b>SP-1039</b>	Ø18mm x 30mm
<b>SP-1040</b>	Ø18mm x 35mm
<b>SP-1041</b>	Ø18mm x 40mm
<b>SP-1042</b>	Ø18mm x 45mm
<b>SP-1043</b>	Ø18mm x 50mm
<b>SP-1044</b>	Ø18mm x 55mm
<b>SP-1045</b>	Ø18mm x 60mm
<b>SP-1046</b>	Ø20mm x 10mm
<b>SP-1047</b>	Ø20mm x 15mm
<b>SP-1048</b>	Ø20mm x 20mm
<b>4-025-022TI</b>	Ø20mm x 22mm
<b>4-025-024TI</b>	Ø20mm x 24mm
<b>SP-1049</b>	Ø20mm x 25mm
<b>4-025-026TI</b>	Ø20mm x 26mm
<b>4-025-028TI</b>	Ø20mm x 28mm
<b>SP-1050</b>	Ø20mm x 30mm
<b>SP-1051</b>	Ø20mm x 35mm
<b>SP-1052</b>	Ø20mm x 40mm
<b>SP-1053</b>	Ø20mm x 45mm
<b>SP-1054</b>	Ø20mm x 50mm
<b>SP-1055</b>	Ø20mm x 55mm
<b>SP-1056</b>	Ø20mm x 60mm
<b>SP-1057</b>	Ø22mm x 10mm
<b>SP-1058</b>	Ø22mm x 15mm
<b>SP-1059</b>	Ø22mm x 20mm

Code	Dia X Length
<b>SP-1060</b>	Ø22mm x 25mm
<b>4-026-024TI</b>	Ø22mm x 24mm
<b>4-026-026TI</b>	Ø22mm x 26mm
<b>4-026-028TI</b>	Ø22mm x 28mm
<b>SP-1061</b>	Ø22mm x 30mm
<b>SP-1062</b>	Ø22mm x 35mm
<b>SP-1063</b>	Ø22mm x 40mm
<b>SP-1064</b>	Ø22mm x 45mm
<b>SP-1065</b>	Ø22mm x 50mm
<b>SP-1066</b>	Ø22mm x 55mm
<b>SP-1067</b>	Ø22mm x 60mm
<b>4-027-030TI</b>	Ø24mm x 30mm
<b>4-027-045TI</b>	Ø24mm x 45mm
<b>SP-1068</b>	Ø25mm x 10mm
<b>SP-1069</b>	Ø25mm x 15mm
<b>SP-1070</b>	Ø25mm x 20mm
<b>SP-1071</b>	Ø25mm x 25mm
<b>SP-1072</b>	Ø25mm x 30mm
<b>SP-1073</b>	Ø25mm x 35mm
<b>SP-1074</b>	Ø25mm x 40mm
<b>SP-1075</b>	Ø25mm x 45mm
<b>SP-1076</b>	Ø25mm x 50mm
<b>SP-1077</b>	Ø25mm x 55mm
<b>SP-1078</b>	Ø25mm x 60mm
<b>SP-678</b>	Ø28mm x 10mm
<b>SP-679</b>	Ø28mm x 15mm
<b>SP-720</b>	Ø28mm x 20mm
<b>SP-721</b>	Ø28mm x 25mm
<b>SP-722</b>	Ø28mm x 30mm
<b>SP-723</b>	Ø28mm x 35mm
<b>SP-899</b>	Ø28mm x 40mm
<b>SP-973</b>	Ø28mm x 45mm
<b>SP-1150</b>	Ø28mm x 50mm
<b>SP-1152</b>	Ø28mm x 55mm
<b>SP-1163</b>	Ø28mm x 60mm

## AUX Mesh Cage



50% Great Wall Thickness

**Integral Ring Incorporated into Mesh Pattern**

-Less Deformation During Impaction and Even Stress Distribution

**Contoured Edges**

-Less Risk of Damaging Soft Tissues

-Smooth Insertion

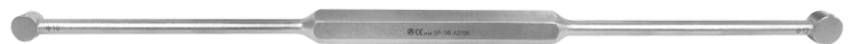
-Easier Manipulation into Tight Spaces

Code	Dia X Length
SP-1173	Ø10mm x 10mm
SP-1174	Ø10mm x 15mm
SP-1175	Ø10mm x 20mm
SP-1176	Ø10mm x 25mm
SP-1177	Ø10mm x 30mm
SP-1178	Ø10mm x 35mm
SP-1179	Ø10mm x 40mm
SP-1180	Ø10mm x 45mm
SP-1181	Ø10mm x 50mm
SP-1182	Ø10mm x 55mm
SP-1183	Ø10mm x 60mm
SP-1193	Ø12mm x 10mm
SP-1194	Ø12mm x 15mm
SP-1195	Ø12mm x 20mm
SP-1196	Ø12mm x 25mm
SP-1197	Ø12mm x 30mm
SP-1198	Ø12mm x 35mm
SP-1199	Ø12mm x 40mm
SP-1200	Ø12mm x 45mm
SP-1201	Ø12mm x 50mm
SP-1202	Ø12mm x 55mm
SP-1203	Ø12mm x 60mm
SP-1204	Ø14mm x 10mm
SP-1205	Ø14mm x 15mm
SP-1206	Ø14mm x 20mm
SP-1207	Ø14mm x 25mm
SP-1208	Ø14mm x 30mm
SP-1209	Ø14mm x 35mm

Code	Dia X Length
SP-1210	Ø14mm x 40mm
SP-1211	Ø14mm x 45mm
SP-1212	Ø14mm x 50mm
SP-1213	Ø14mm x 55mm
SP-1214	Ø14mm x 60mm
SP-1215	Ø16mm x 10mm
SP-1216	Ø16mm x 15mm
SP-1217	Ø16mm x 20mm
SP-1218	Ø16mm x 25mm
SP-1219	Ø16mm x 30mm
SP-1220	Ø16mm x 35mm
SP-1221	Ø16mm x 40mm
SP-1222	Ø16mm x 45mm
SP-1223	Ø16mm x 50mm
SP-1224	Ø16mm x 55mm
SP-1225	Ø16mm x 60mm
SP-1226	Ø18mm x 10mm
SP-1227	Ø18mm x 15mm
SP-1228	Ø18mm x 20mm
SP-1229	Ø18mm x 25mm
SP-1230	Ø18mm x 30mm
SP-1231	Ø18mm x 35mm
SP-1232	Ø18mm x 40mm
SP-1233	Ø18mm x 45mm
SP-1234	Ø18mm x 50mm
SP-1235	Ø18mm x 55mm
SP-1236	Ø18mm x 60mm
SP-1237	Ø20mm x 10mm

Code	Dia X Length
<b>SP-1238</b>	Ø20mm x 15mm
<b>SP-1239</b>	Ø20mm x 20mm
<b>SP-1240</b>	Ø20mm x 25mm
<b>SP-1241</b>	Ø20mm x 30mm
<b>SP-1242</b>	Ø20mm x 35mm
<b>SP-1243</b>	Ø20mm x 40mm
<b>SP-1244</b>	Ø20mm x 45mm
<b>SP-1245</b>	Ø20mm x 50mm
<b>SP-1246</b>	Ø20mm x 55mm
<b>SP-1247</b>	Ø20mm x 60mm
<b>SP-1248</b>	Ø22mm x 10mm
<b>SP-1249</b>	Ø22mm x 15mm
<b>SP-1250</b>	Ø22mm x 20mm
<b>SP-1251</b>	Ø22mm x 25mm
<b>SP-1252</b>	Ø22mm x 30mm
<b>SP-1253</b>	Ø22mm x 35mm
<b>SP-1254</b>	Ø22mm x 40mm
<b>SP-1255</b>	Ø22mm x 45mm
<b>SP-1256</b>	Ø22mm x 50mm
<b>SP-1257</b>	Ø22mm x 55mm
<b>SP-1258</b>	Ø22mm x 60mm
<b>SP-1259</b>	Ø25mm x 10mm

Code	Dia X Length
<b>SP-1260</b>	Ø25mm x 15mm
<b>SP-1261</b>	Ø25mm x 20mm
<b>SP-1262</b>	Ø25mm x 25mm
<b>SP-1263</b>	Ø25mm x 30mm
<b>SP-1264</b>	Ø25mm x 35mm
<b>SP-1265</b>	Ø25mm x 40mm
<b>SP-1266</b>	Ø25mm x 45mm
<b>SP-1267</b>	Ø25mm x 50mm
<b>SP-1268</b>	Ø25mm x 55mm
<b>SP-1269</b>	Ø25mm x 60mm
<b>SP-1270</b>	Ø28mm x 10mm
<b>SP-1271</b>	Ø28mm x 15mm
<b>SP-1272</b>	Ø28mm x 20mm
<b>SP-1273</b>	Ø28mm x 25mm
<b>SP-1274</b>	Ø28mm x 30mm
<b>SP-1275</b>	Ø28mm x 35mm
<b>SP-1276</b>	Ø28mm x 40mm
<b>SP-1277</b>	Ø28mm x 45mm
<b>SP-1278</b>	Ø28mm x 50mm
<b>SP-1279</b>	Ø28mm x 55mm
<b>SP-1280</b>	Ø28mm x 60mm

**SP-131** Mesh Forcep**SP-132** Mesh Cutter**SP-133** Mesh Impactor - Straight**SP-134** Mesh Impactor - Angled**SP-135** Measure, Ø10-12mm**SP-136** Measure, Ø14-16mm



**SP-137** Measure, Ø18-20mm



**SP-138** Measure, Ø22-25mm



**SP-139** Compactor, Ø6mm



**SP-140** Compactor, Ø12mm



**SP-141** Compactor, Ø18mm



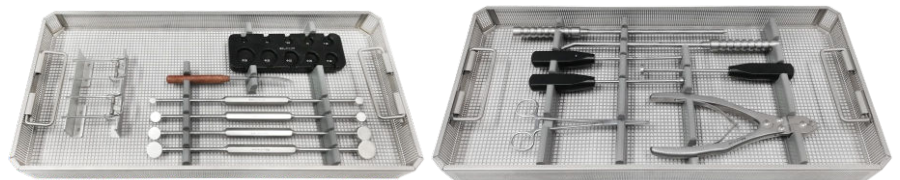
**SP-142** Trimming Rasp



**SP-144** Mesh Bone Graft Holder



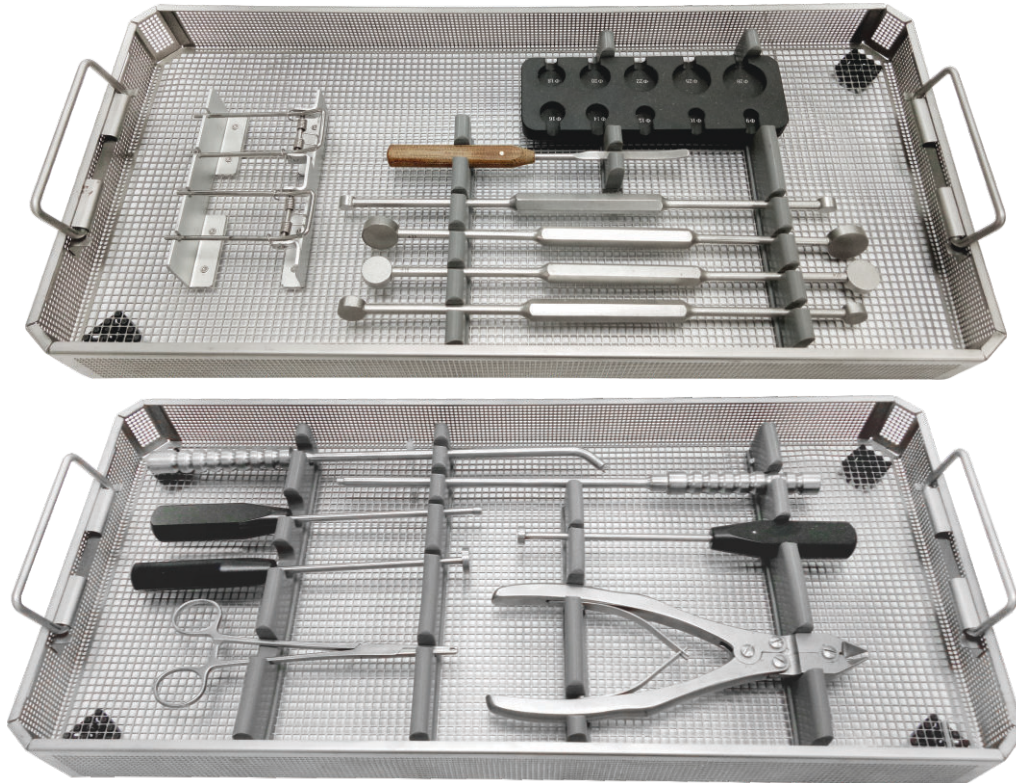
**SP-471** Mesh Tray for Mesh Cage Instrument Set



**SP-130** Sterilization Container for Mesh Cage Instrument Set



## SP-129 Mesh Cage Instrument Set



Code	Set Consisting of	Qty.
SP-131	Mesh Forcep	1
SP-132	Mesh Cutter	1
SP-133	Mesh Impactor - Straight	1
SP-134	Mesh Impactor - Angled	1
SP-135	Measure, Ø10-12mm	1
SP-136	Measure, Ø14-16mm	1
SP-137	Measure, Ø18-20mm	1
SP-138	Measure, Ø22-25mm	1
SP-139	Compactor, Ø6mm	1
SP-140	Compactor, Ø12mm	1
SP-141	Compactor, Ø18mm	1
SP-142	Trimming Rasp	1
SP-144	Mesh Bone Graft Holder	1
SP-471	Mesh Tray for Mesh Cage Instrument Set	2
SP-130	Sterilization Container for Mesh Cage Instrument Set	1



**USA**

Auxein Inc.  
1500 Nw 89th Court, Suite 107-108  
Doral, Florida 33172  
Tel: +1 305 395 6062  
E Fax: +1 305 395 6262  
Email: USoffice@auxein.com

**MEXICO**

Auxein México, S.A. de C.V.  
Tepic 139 int 801, Colonia Roma Sur,  
Alcaldía Cuauhtémoc, CDMX,  
México, C.P. 06760  
Tel: +521 55 7261 0318  
Email: info@auxein.mx

**INDIA**

Auxein Medical Pvt. Ltd.  
Plot No. 168-169-170, Phase-4,  
Kundli Industrial Area,  
HSIIDC, Sector-57, Sonapat - 131028, Haryana  
Tel: +91 99106 43638 | Fax: +91 86077 70197  
Email: info@auxein.com