Luminary T-PLIF Spacer.
An allograft spacer for transfuraminal posterior lumbar interbody fusion.

Processed by MTF, designed and available through Synthes Spine.

SYNTHERES®
Spine
Luminary T-PLIF Spacer

The Luminary T-PLIF Spacer has been engineered to meet the specific demands of transforaminal posterior lumbar inter-body fusion procedures. Demineralized surfaces and a large central lumen are key features of the Luminary T-PLIF. Nine precise implant heights accommodate individual patient anatomy.

- Chamfer on distal end facilitates implant insertion
- Pyramidal teeth on superior and inferior surfaces minimize migration and resist expulsion
- Precisely machined instrument slot ensures secure fit between implant and implant holder
- Demineralized surfaces expose proteins, inherent to bone growth, necessary for fusion and incorporation of the implant with the vertebral bodies
- Large central lumen accommodates osteobiologic material packing and fusion through the implant

Please refer to package insert for the full list of indications, contraindications, warnings and/or precautions.
Spacer Dimensions and Lumen Graft Volumes

Luminary T-PLIF Spacer Dimensions

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<th>Item Number</th>
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<th>Anterior Height (mm)</th>
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Figure 1. Luminary T-PLIF Spacer Graft Volume (cc)¹

Graph shows that an 11 mm height Luminary T-PLIF Spacer will hold approximately 1 cc of graft material.

Mechanical Testing Summary

Sound engineering principles, extensive anatomical research and mechanical testing are the basis for the Luminary T-PLIF design.

**Compressive strength**
Tests were conducted to ensure that the Luminary T-PLIF Spacer withstands the compressive loads in the lumbar spine. The ultimate compressive strength of the vertebral body is 8,000 N.\(^2\) The design goal for the Luminary T-PLIF Spacer was to achieve compressive strength of at least 8,000 N. Loads above this would result in failure of the vertebral body before failure of the implant. Test results show that the Luminary T-PLIF Spacer has a compressive strength above 24,000 N (Figure 2).\(^3\)

**Resistance to expulsion**
Testing was also conducted to ensure that the Luminary T-PLIF Spacer is capable of resisting expulsion at clinically relevant loads. The maximum shear force that the lumbar spine (human disc) can withstand is approximately 150 N.\(^4\) Test results show that the Luminary T-PLIF Spacer can withstand expulsion loads of 768 N (Figure 3).\(^3\)

Spacer Instrumentation

Synthes instrumentation is designed to make the Luminary T-PLIF Spacer implantation procedure quick and simple.

Sets

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<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>01.806.002</td>
<td>T-PLIF Trial Spacer 10 mm Instrument Set</td>
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<tr>
<td>105.151</td>
<td>T-PLIF Minimally Invasive Instrument Set</td>
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<tr>
<td>105.152</td>
<td>T-PLIF Auxiliary Instrument Set</td>
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Synthes has partnered exclusively with the Musculoskeletal Transplant Foundation (MTF) for over 10 years to provide high quality tissue for patients. Although there are national standards for tissue banks, they only set a baseline for the industry. Beyond that, regulations leave a lot to interpretation, so standards vary significantly from tissue bank to tissue bank. MTF offers safe allografts processed from among the most carefully selected donors.

**Directed by Surgeons**
MTF utilizes a Medical Board of Trustees comprised of more than forty surgeons from world-renowned academic institutions. MTF's board sets standards, which are among some of the most stringent in the industry.

**Selecting the Ideal Donor**
MTF's extensive network of participating organ procurement organizations ensures that MTF has access to a broad selection of qualified donors. MTF holds itself to stringent standards for donor selection and processing criteria. MTF defers more donors than they accept.

**Preserving and Protecting Tissue Integrity**
MTF's approach ensures a high level of safety, without compromising biological and mechanical integrity. MTF has developed and validated several tissue cleaning technologies to provide safe and high quality allograft bone. Allograft bone processed by MTF may result in improved incorporation in humans when compared to allograft bone processed from other sources based on results of in vivo testing*. Since MTF's inception, MTF has maintained an exemplary safety record distributing almost 4.2 million allografts from nearly 80,000 donors.

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