

PD 6.3 Tarpšlankstelinio tarpo implantai atlikti stuburo priekinei intervertebralinei dezei kaklinėje stuburo dalyje (cage)

PD 6.4 Juosmeninės stuburo dalies tarpšlankstelinio tarpo implantas „banano“ formos.

PD 6.5 Juosmeninės ir krūtininės stuburo dalies tarpšlankstelinio tarpo implantai "kulkos formos"- smailėjančiu užapvalintu priekiu



## The Evolution of Fusion



Avenue® - T Ti



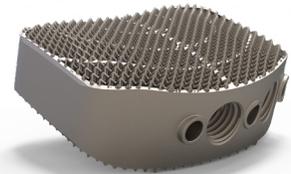
Avenue® - P Ti



Avenue® - C Ti

# Avenue® Ti

## 3D Printed Fusion Solutions



Avenue® - A Ti



Avenue® - L Ti





# Introducing Avenue® Ti Porous Ti Interbody System

Advancing patient care with our newest 3D printed titanium interbody platform. Avenue Ti's interbody spinal cages are created with a distinctive internal porous lattice ("net") structure. This scaffold design, structured from uniformly interconnected pores ranging from 500-700µm, along with the 6-10µm micron roughened surface topography fosters a cellular relevant environment for adhesion and bone ingrowth.

This range of devices have been engineered for both improved on-growth and ingrowth<sup>1</sup>, compared to PEEK and solid titanium cages, and to comprise of a modulus of elasticity close to that of bone.

Studies have shown that the lattice structure of 3D printed titanium cages, which provide a bone comparable modulus of elasticity, can withstand loading and promote fusion through providing a porous framework for bony in-growth<sup>2</sup>, can sustain intra-disc height, reduce the occurrence of subsidence compared to solid titanium cages<sup>3</sup> and PEEK cages<sup>2,4</sup> and provide a more evenly distributed endplate pressure under static load, compared to solid titanium and PEEK spinal cages<sup>4</sup>.

## The Evolution of Fusion

The Avenue Ti is designed to have the following surface, structural, and anatomic features:

### Porosity

- 3D printed titanium interbody spinal cages
- Balance of porosity and strength
- Engineered with an internal porous lattice structure of uniformly interconnected pores ranging in size from 500-700µm

### Texture

- Microporous surface roughness of 6-10µm for potential cellular adhesion

### Structure

- Able to withstand loading and promote Fusion
- Internal lattice structure which provides additional surface area for optimum colonisation and bone formation

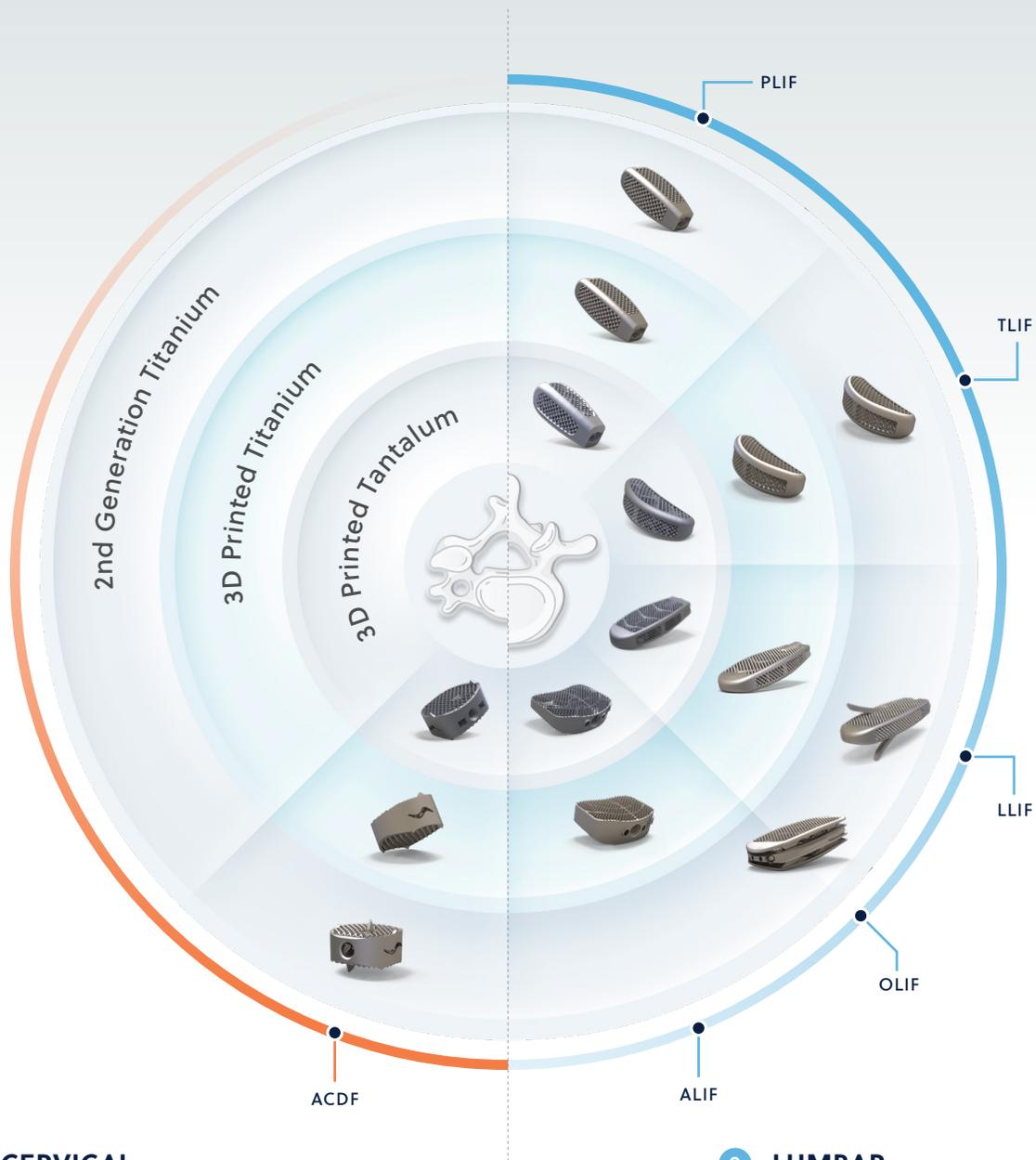
### Anatomic Design

- Matching patients anatomy and surgeons preferences
- Microporosity and surface roughness designed to increase friction and limit micromotion for excellent stability

### Portfolio Offerings

- Static, Built-in Fixation, and Expandable options
- Wide variety of Footprints, Heights, and Lordosis Angles
- Also available in 3D Printed Tantalum

<sup>1</sup> Rao, P.J., et al., Spine interbody implants: material selection and modification, functionalization and bioactivation of surfaces to improve osseointegration. Orthop Surg, 2014. 6(2): p. 81-9. <sup>2</sup> Chan, J.L., et al., Evolution of Bioactive Implants in Lateral Interbody Fusion. Int J Spine Surg, 2022. 16(S1): p. S61-S68. <sup>3</sup> Zhu, Y., et al., Effect of Elastic Modulus on Biomechanical Properties of Lumbar Interbody Fusion Cage. Journal of Materials Sciences and Technology, 2009. 25(03): p. 325-328. <sup>4</sup> Fogel, G., et al., Choice of Spinal Interbody Fusion Cage Material and Design Influences Subsidence and Osseointegration Performance. World Neurosurg, 2022. 162: p. e626-e634.



## 1 CERVICAL

### Cervical Fusion Portfolio

Avenue® 3D Printed Interbody Spinal Cages are available in 3D Tantalum, 3D Titanium, and 2nd Generation Titanium.

## 2 LUMBAR

### Lumbar Fusion Portfolio

Avenue® 3D Printed Interbody Spinal Cages are available in 3D Tantalum, 3D Titanium, and 2nd Generation Titanium.

### Avenue® Ti – Porous Ti Interbody Platform | 3D Printed Titanium

Description		Footprint	Lordosis	Height
	Avenue - P Ti PLIF	24 x 10 mm, 29 x 10 mm	0°, 5°, 8°, 14°	7 - 15 mm (1 mm increments)
	Avenue - T Ti TLIF	26 x 9 mm, 29 x 9 mm, 32 x 9 mm, 32 x 10 mm	0°, 5°, 8° 15°, 20°, 25°*	7 - 15 mm (1 mm increments)
	Avenue - L Ti LLIF	42 x 18 mm, 48 x 18 mm, 52 x 18 mm, 58 x 18 mm	0°, 5°, 8°, 14°	7 mm, 9 mm, 11 mm, 13 mm
	Avenue - A Ti ALIF	24 x 10 mm, 29 x 10 mm	5°, 8°, 14°	6 - 15 mm (1 mm increments)
	Avenue - C Ti ACDF	24 x 10 mm, 29 x 10 mm	0°, 5°, 10°	4 - 9 mm (1 mm increments)

\*15°, 20°, and 25° are available for 32 x 10mm only. NOTE: Variations of sizes may not be available in all markets.

For more information, visit [ZimVie.com](https://www.zimvie.com)



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