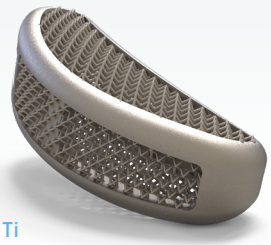
The Evolution of Fusion

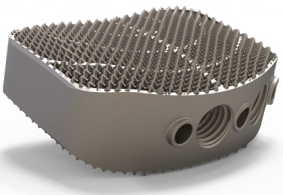


Avenue®- T Ti

Avenue®- P Ti

Avenue® Ti

3D Printed Fusion Solutions



Avenue®- A Ti

Avenue®- C Ti

Avenue®- L Ti

ZimVie

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[1], 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[2], can sustain intra-disc height, reduce the occurrence of subsidence compared to solid titanium cages[3] and PEEK cages[2, 4] and provide a more evenly distributed endplate pressure under static load, compared to solid titanium and PEEK spinal cages[4].

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

[1] 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. [2] Chan, J.L., et al., Evolution of Bioactive Implants in Lateral Interbody Fusion. Int J Spine Surg, 2022. 16(S1): p. S61-S68. [3] 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. [4] 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

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