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LA-ST5-07 REV B**

# MECHANOBIOLOGY

mech • an • o • bi • ol • og • y

The emerging field of science at the interface of biology & engineering focusing on how physical forces and changes in the mechanical properties of cells and tissues contribute to development, cell differentiation, proliferation, and healing.





## MECHANOBIOLOGY AT WORK

4WEB Medical's proprietary Truss Implant Technology™ delivers strain to adjacent cellular material which stimulates a mechanobiologic response.



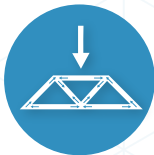
Novel Truss Implant Technology™ provides a Snow Shoe Interface that distributes load across the endplate minimizing point loading and reducing the risk of subsidence.\*



Hierarchical surface roughness spans from the macro to nano scale. These surface features have been shown to stimulate increased gene expression of certain osteogenic markers when compared to other interbody surfaces and materials.<sup>1</sup>



Open architecture design allows for greater graft volume and bone growth throughout the entire construct.\*



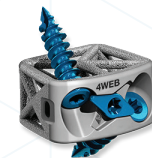
Distribution of load through the implant struts delivers strain to adjacent cellular material which stimulates a mechanobiologic response.



Truss Implant design provides maximum strength with a minimal amount of material, which limits imaging artifacts.

## IMPLANT FUNCTION THROUGH STRUCTURAL DESIGN

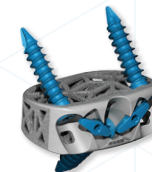
The Spine Truss System features a complete line of titanium interbody fusion devices with an Advanced Structural Design produced with additive manufacturing. The truss implants are designed to actively participate in the fusion process in order to optimize patient outcomes.



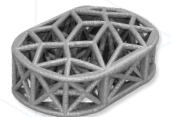
STANDALONE  
CERVICAL SPINE  
TRUSS SYSTEM



CERVICAL SPINE  
TRUSS SYSTEM



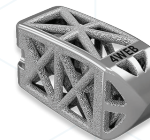
STANDALONE  
ANTERIOR SPINE  
TRUSS SYSTEM



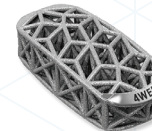
ANTERIOR SPINE  
TRUSS SYSTEM



POSTERIOR SPINE  
TRUSS SYSTEM  
CURVED



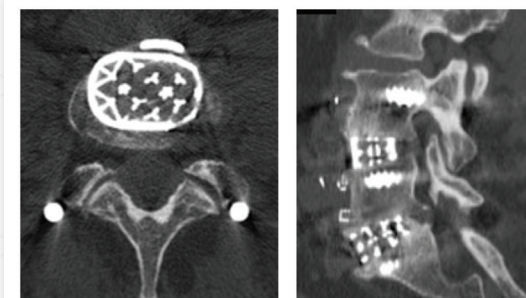
POSTERIOR SPINE  
TRUSS SYSTEM  
STRAIGHT



LATERAL SPINE  
TRUSS SYSTEM



LATTUS360  
ACCESS SYSTEM



3 Month CT Scan Post Operative Results of an Anterior Spine Truss System

<sup>1</sup> Rowe et al, SMISS, AnnualForum'19, p.52

\* Data on file