THE DATA IS IN

**Driving performance and screw holding power**

Biomechanical testing demonstrates that orthopedic screws have a similar haptic response in human bone and 3D printed bone models.[1]

**Curate mechanical performance of spine models**

Mechanical tests confirm spine models accurately simulate the natural axes of movement of the human spine as the following force is applied: disc compression, extension, flexion, lateral bending, and axial tension. [2]

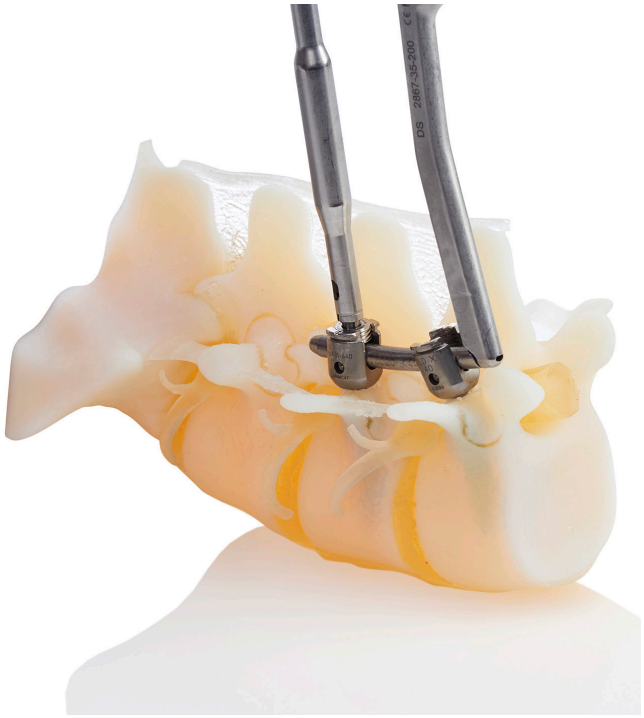
- **See** accurate bone articulation with variations in cancellous and cortical density.
- **Feel** realistic feedback while tapping, reaming, sawing, inserting screws and attaching plates.

**For more information, contact**

# J750 Digital Anatomy™ Solutions

# Better preparation. Better outcomes.

## Digital Anatomy Applications: Orthopedic



Models created with the Digital Anatomy Printer from Stratasys replicate close to the same biomechanical properties as human bone to provide exceptionally realistic training—all at a cost reduction of up to 70% compared to fabricated simulators, animals, and cadavers.

Take advantage of a system that was developed and refined over years of expert testing, in partnership with top academic medical centers and hospitals across the globe. Better prepare for complex surgeries by printing synthetic models that match the exact patient anatomy you're looking to study. Feel similar tactile feedback when performing medical procedures with surgical instruments and devices - enabling better surgical skills and improved patient outcomes.

**Provide better clinical training.**

### Accurate

Biomechanical testing confirms that 3D printed models respond similarly to native bone when force is applied such as discectomy, drilling, reaming or sawing.[1]

- Create a perimeter on an orthopedic model that allows for screw insertion without the model cracking.
  - Control the location, size and shape of the screw insertion site.

### Realistic

Validated by physicians to demonstrate the same feel and biomechanical performance as human anatomy

- Autogenerate the intricate, unique structures of bone in each region: proximal, distal, cortical, cancellous, and the medullary canal.
- Match internal structure to the proximal and distal edges of long bones.
- Mimic different anatomies, fibrotic tissues, and cartilage with layers and coatings.

### Functional

- Simulate clinical procedures for physician training in a risk-free setting.
- Feel realistic, consistent feedback while tapping, reaming, sawing, inserting screws, and attaching plates.
- Standardize delivery of care.

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1 Dahan, Gal et al., “Screw Pull-Out and Driving Torque Experiments,” Computational Mechanics and Experimental Biomechanics Lab, Final Report (2020).
2 Barak, Yaron, “Biomechanical Evaluation of a Printed Digital Anatomy Lumbar (L3-S1 Spine Model), Technion Institute of Technology Materials Science and Engineering Laboratory, Final Report (2020).

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