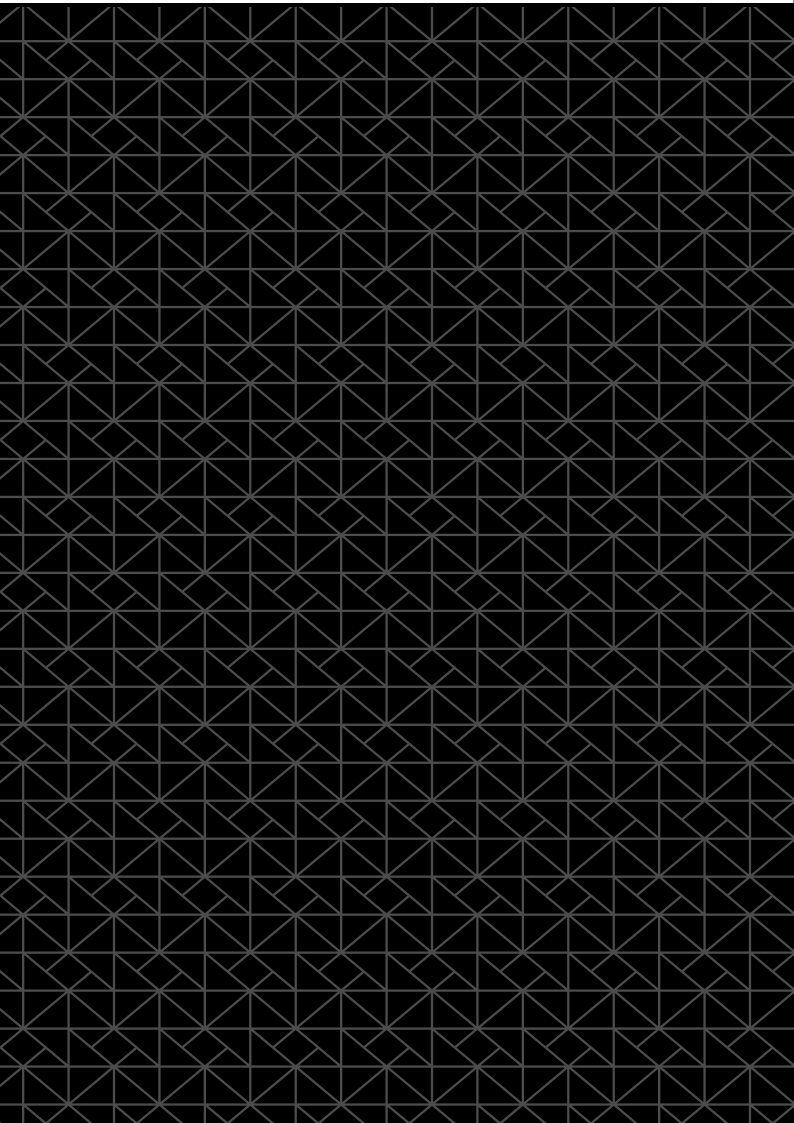
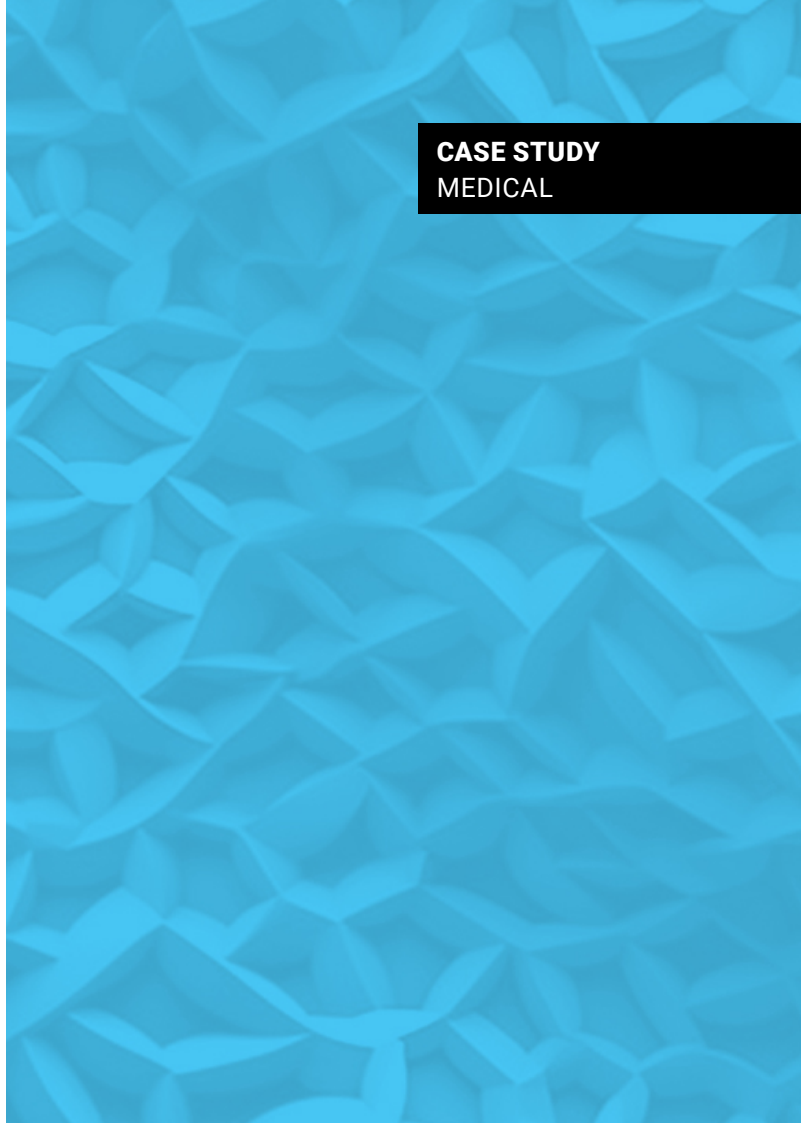




CASE STUDY
MEDICAL

Building a Center of Excellence in Dental Education with Digital Anatomy Models

How Galilee Medical Center
is Advancing Dental Education
Through High-Fidelity 3D-Printed
Anatomical Simulation





The Challenge

Limited access to realistic hands-on surgical training

- Difficult to train large cohorts of residents across multiple dental specialties
- Limited access to cadaveric and other biological tissues for surgical education
- Need for standardized, repeatable clinical practice before patient care

The Solution

Realistic, repeatable 3D printed dental anatomical models

- High-fidelity, multi-material anatomical realism
- Mimics bone, gingiva, and soft tissue behavior
- On-demand, reproducible, pathology-specific models
- Integrated into routine clinical education workflows

The Impact

Establishing a center of excellence for dental education

- Standardized, repeatable training across dental specialties
- Greater institutional consistency and preparedness
- Building a scalable simulation-based model for next-generation dental education



The Challenge:

Advancing Clinical Training at Scale

In dental and maxillofacial education, preparing clinicians for independent practice requires repeated hands-on experience before they begin treating patients. For institutions training large numbers of residents across multiple specialties, delivering that experience consistently, safely, and at scale remains a significant educational challenge.

At Galilee Medical Center in Nahariya, Israel, this challenge is especially important. Home to a leading College of Dental Sciences and a high-volume oral and maxillofacial surgery department, the institution trains more than 60 residents annually in specialties such as oral surgery, periodontics, endodontics, and orthodontics. With such a broad range of clinical disciplines and complex procedural demands, the institution needs educational methodologies that support consistent, scalable hands-on surgical skill development.

"Clinicians need opportunities to develop real surgical experience before they begin treating patients," says Professor Samer Srouji, Head of Oral and Maxillofacial Surgery and the College of Dental Sciences. "The traditional training methods available, like cadavers, present significant limitations. Organic tissue raises concerns about safety, hygiene, and handling, while also making training difficult to standardize."



“

Working with these models helps our students and residents approach patient care with greater confidence and preparation.”

Professor Samer Srouji

Head of Oral and Maxillofacial Surgery
and the College of Dental Sciences



The Solution:

A New Model for Modern Dental Education

To address these challenges, Galilee Medical Center established an advanced 3D simulation lab powered by Stratasys PolyJet™ technology and the Digital Anatomy® platform. The lab enables realistic, simulation-based training to become an integral part of routine dental and surgical education, rather than a limited or occasional training activity.

Using high-fidelity 3D printed anatomical models that replicate the biomechanical behavior of bone, gingiva, and surrounding oral anatomy, educators can provide residents with procedure-specific training across specialties.

The models can be produced on demand and tailored to specific anatomies, pathologies, and procedural scenarios, giving residents exposure to a broader range of clinical cases in a controlled, low-risk environment. For educators, this creates a more standardized, scalable, and measurable framework for delivering clinical training across departments.

“

If a procedure doesn't go as planned, I can simply use another model and try again. This allows me to work through each scenario until I feel I've truly mastered it.”

Dr. Alon Weissman





The Impact:

Ensuring Clinical Readiness Through Standardized Simulation

One of the greatest educational advantages of 3D-printed anatomical simulation is repeatability. Unlike traditional training methods, the models can be reproduced consistently and tailored to specific anatomies, pathologies, and procedures, allowing residents to practice the same technique multiple times, evaluate their progress, refine surgical skills, and build confidence before treating patients.

For educators, repeatability enables a more standardized approach to clinical instruction. High-fidelity models can be produced on demand for multiple specialties, allowing every resident to train under consistent conditions while creating a scalable educational environment that supports objective and measurable skill development.

"Having the opportunity to perform procedures multiple times allowed me to build confidence with each attempt," says Dr. Alon Weissman.

"If a procedure doesn't go as planned, I can simply use another model and try again. This allows me to work through each scenario until I feel I've truly mastered it," he explains.

Beyond procedural training, the integration of simulation-based education strengthens the institution's ability to provide advanced clinical preparation across oral surgery, periodontics, endodontics, and other specialties.

"Working with these models helps our students and residents approach patient care with greater confidence and preparation," says Professor Srouji.



Leading the Future of Dental Education

As simulation-based education becomes central to healthcare training, institutions are increasingly evaluated on their ability to provide clinically relevant, technology-enabled learning environments that prepare graduates for real-world practice.

At Galilee Medical Center, the integration of Stratasys Digital Anatomy technology supports a broader institutional vision centered on innovation, clinical excellence, and leadership in modern dental education.

By adopting high-fidelity anatomical simulation as part of routine clinical training, the institution is helping define a new standard for dental and maxillofacial education - one built around realism, procedural readiness, and scalable surgical training.

"Training on these models before working with patients provides tremendous value," says Professor Srouji. "It is transforming how we prepare clinicians for real-world practice."

As educational institutions continue to evolve, Galilee Medical Center is positioning itself at the forefront of next-generation dental pedagogy and simulation-based education.



Learn More

Discover how [Stratasys Digital Anatomy solutions](#) help institutions deliver advanced, scalable dental training through high-fidelity 3D printed anatomical simulation.



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