

A portrait of Massimo Simion, a middle-aged man with brown hair, wearing a dark blue button-down shirt. He is standing with his arms crossed, smiling slightly. The background is a blurred, abstract design with blue and orange tones, featuring a pattern of circular perforations on the right side.

CUSTOM MESH & GBR MASTER COURSE: NEW TRENDS IN REGENERATION

Massimo Simion

Custom Mesh & GBR Masterclass: new trends in regeneration

By Prof. Massimo Simion



SUMMARY



Topic:

Bone regeneration of severe vertical and horizontal defects and soft tissue management.



Objectives:

Vertical ridge augmentation using custom titanium meshes

Clinical indications and advantages of custom mesh use

Flap design, placement, and fixation of titanium grids

Evolution of regenerative techniques using resorbable and non-resorbable membranes

Clinical indications and limitations of various membrane types: collagen, reinforced e-PTFE, and custom titanium meshes

Surgical techniques for managing horizontal and vertical bone defects using autogenous grafts and/or biomaterials



WHY TO ENROL:

1- Learn how custom titanium meshes improve adaptation to complex defects and increase regenerative predictability.

2- Learn how to choose between resorbable membranes, non-resorbable membranes, and connective tissue grafts based on the defect.

3- Optimize regeneration in aesthetic and posterior areas with integrated strategies for hard and soft tissue management.

LEVELS

Difficulty Advanced

Theory ●●●●●

Practice ●●●●●

KEY INFO



English



On Demand



Bone Regeneration



6h



8 video lectures + 1 ReLIVE

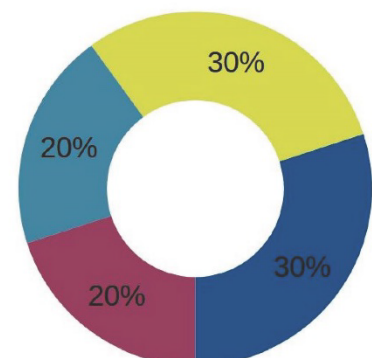


Clinical Yes



NO

SKILLS YOU WILL LEARN



■ Custom Mesh

■ GBR: Surgical Protocol

■ Material Choice

■ Soft Tissue Management



Channel Description:

Long-term success in prosthetic rehabilitation relies heavily on advanced management of both bone and soft tissue regeneration. This course will deepen your understanding of maintaining bone volume, correcting complex horizontal and vertical defects, managing peri-implantitis, and achieving predictable aesthetic and functional outcomes.

Prof. Massimo Simion presents a comprehensive, clinically oriented, and evidence-based overview of today's most advanced techniques in guided bone regeneration (GBR) and soft tissue management using connective tissue grafts.

Through in-depth analysis of clinical indications, biomaterial selection, and surgical timing, the course explores horizontal and vertical regeneration strategies using both resorbable and non-resorbable membranes—including reinforced e-PTFE—and cutting-edge custom-made titanium meshes.

Special focus is given to the integration of digital technologies, from CBCT evaluation to the pre-surgical design of regenerative devices, and the surgical management of both posterior and anterior sites, including highly aesthetic areas.

Join Prof. Simion for an advanced and structured approach to regenerative techniques, enriched with biological rationale, clinical documentation, and practical protocols for daily application.

Key topics include:

- Vertical ridge augmentation with custom titanium meshes
- Clinical indications and advantages of using custom mesh
- Flap design, placement, and fixation of titanium grids
- Evolution of regenerative techniques using resorbable and non-resorbable membranes
- Clinical indications and limitations of various membrane types: collagen, reinforced e-PTFE, and custom titanium meshes

- Surgical techniques for managing horizontal and vertical bone defects using autogenous grafts and/or biomaterials
- GBR approaches using only connective tissue: indications, clinical applications, and limitations

By the end of the course, you will be able to:

- Determine when and how to use resorbable membranes, non-resorbable membranes, and custom titanium meshes
- Understand the biological and clinical criteria behind membrane selection
- Apply surgical protocols for horizontal and vertical bone augmentation in cases of partial edentulism in the maxilla and mandible
- Evaluate the benefits of the new semi-permeable titanium meshes compared to traditional e-PTFE membranes
- Use digital workflows to plan GBR procedures
- Integrate soft tissue management into regenerative treatment planning

Who is this course for?

This course is intended for implantologists interested in mastering advanced protocols in guided bone regeneration and soft tissue management. It is especially valuable for professionals treating complex cases of partial edentulism, horizontal and vertical bone defects, and seeking to update their skills in the use of innovative regenerative materials, digital technologies, and predictable GBR techniques.

How does it work?

This **6 hour** course is divided into **8 video lessons** and **1 ReLIVE** Surgery. All content is available through your personal Osteocom area on any device and via the Osteocom mobile app, available on iOS and Android.



Video Lecture 1 - Classification of Mandibular Atrophies and Treatment Planning (58min)

Description:

This first lesson explores how to select regenerative techniques and materials based on the morphology of bone defects and the anatomical zone involved, with a focus on cases of partial edentulism.

Prof. Simion explains the clinical indications for using resorbable and non-resorbable membranes, the targeted use of connective tissue grafts, the evolution of vertical augmentation techniques, and the role of CBCT-designed custom titanium meshes.

Participants will gain essential knowledge and skills for managing complex horizontal and vertical bone defects.

Topics covered in this lesson:

- Material selection based on defect morphology
- Evolution of vertical augmentation techniques
- Clinical indications for GBR
- Innovative strategies for anterior maxillary regeneration

Video Lecture 2 - Clinical Case: Peri-implantitis on Central Incisor (14min)

Description:

This lesson focuses on the clinical management of a peri-implantitis case affecting a central incisor, complicated by a minimal periodontal attachment loss.

Special emphasis is placed on the correct therapeutic sequence in a highly aesthetic area, where precision in the management of both hard and soft tissues is essential to achieve stable and harmonious results.

Participants will follow the complete surgical protocol—from the extraction of the compromised implant to guided bone regeneration, implant therapy, and the management of peri-implant soft tissues using connective tissue grafts.

Key topics addressed in this lesson include:

- Treatment of peri-implantitis in the aesthetic zone
- Indications and techniques for site regeneration
- Surgical timing and criteria for implant placement

- Soft tissue management for optimal prosthetic integration

Video Lecture 3 - Management of Fenestrations and Dehiscences (1h 11min)

Description:

This lesson offers an in-depth exploration of the clinical approach to Guided Bone Regeneration (GBR) in partially edentulous patients, with a specific focus on the treatment of localized defects such as dehiscences and fenestrations.

Prof. Simion presents decision-making criteria for selecting regenerative materials based on the morphology and extent of the defect, supported by practical examples from various regions of the oral cavity.

Complex clinical cases requiring both vertical and horizontal bone augmentation are examined in detail.

Key topics covered in this lesson include:

- Management of small bone dehiscences using resorbable membranes
- Treatment strategies for fenestrations
- Tailored approaches for anterior and posterior regions in partially edentulous patients
- Techniques for complex bone augmentation

Video Lecture 4 - Complex Defects: Vertical Ridge Augmentation and Maxillary Sinus Lift (30min)

Description:

This lesson focuses on the surgical management of anatomically complex cases where the combination of vertical ridge resorption and an enlarged maxillary sinus result in less than 3 mm of residual bone.

In such scenarios, Prof. Simion illustrates a combined approach—vertical ridge augmentation along with sinus lift—as the only viable strategy to achieve sufficient bone height for implant rehabilitation.

The discussion emphasizes cases in partially edentulous patients, particularly in the posterior maxilla, where the defect morphology rules

out the use of short implants and requires targeted vertical augmentation using advanced regenerative protocols.

Key topics addressed in this lesson include:

- Management of cases with less than 3 mm of residual bone in the posterior maxilla
- Surgical planning when short implants are not a suitable option
- Regenerative strategies for severe vertical defects in posterior regions
- Advanced GBR techniques for cases of severe bone atrophy

Video Lecture 5 - Managing Bone Defects in the Anterior Mandibular Region (32min)

Description:

In this lesson, Prof. Simion explores the clinical indications for Guided Bone Regeneration (GBR) in the anterior mandibular area.

The lesson focuses on effective surgical strategies for treating mixed bone defects, particularly when the vertical component is less than 3 mm. It also examines complex clinical cases involving advanced resorption with vertical bone loss exceeding 3 mm, where the use of reinforced non-resorbable membranes is recommended, along with precise soft tissue management.

Key topics covered in this lesson include:

- Treatment of mixed defects in the anterior mandibular region
- Use of resorbable membranes for defects under 3 mm
- Indications for reinforced non-resorbable titanium membranes
- Integrated strategies for achieving soft tissue aesthetics and stability

Video Lecture 6 - Evolution of Techniques and Materials for Vertical Bone Augmentation (43min)

Description:

Description:

This lesson provides a comprehensive overview of the evolution of

regenerative techniques for vertical bone augmentation, with a specific focus on titanium meshes and modern collagen barriers.

Through the analysis of clinical cases in esthetic areas and a detailed explanation of the design process for custom-made meshes, Prof. Simion outlines the criteria for selecting the most appropriate regenerative device based on the defect type and anatomical location.

The lesson also delves into the essential properties a collagen membrane must possess to be truly effective—occlusiveness, rigidity, space maintenance, and tissue integration. A high-value session for professionals seeking to fully understand the clinical and biological rationale behind the use of advanced GBR materials.

Key topics covered in this lesson include:

- The evolution of titanium mesh technologies
- Criteria for selecting collagen membranes
- Clinical application of meshes in esthetic zones
- Digital design of custom-made titanium meshes

Video Lecture 7 - Management of Anterior Mandibular Bone Defects Greater Than 3 mm (15min)

Description:

This lesson focuses on the treatment of significant vertical bone defects—greater than 3 mm—in the lower anterior region, a challenging area due to limited bone availability and complex anatomical constraints.

Emphasis is placed on selecting the most appropriate regenerative materials and techniques to achieve stable, predictable vertical augmentation while preserving both aesthetics and function. The use of reinforced non-resorbable membranes and the simultaneous management of soft tissues are presented as essential strategies for the successful resolution of these severe defects.

Key topics covered in this lesson include:

- Specific indications for treating vertical defects over 3 mm in the lower anterior mandible

- Use of titanium-reinforced non-resorbable membranes
- Integrated soft tissue management
- Critical factors in regenerative planning

Video Lecture 8 - Management of Bilateral Edentulous Sites in the Maxilla (28min)

Description:

This lesson presents a clinical case involving bilateral posterior edentulism in the upper jaw, where a highly pneumatized maxillary sinus requires a careful assessment of the residual bone volume. In selected cases, targeted vertical ridge augmentation can be performed using advanced regenerative devices, enabling implant placement without sinus involvement.

Prof. Simion focuses on surgical indications, material selection, and the clinical rationale for managing these cases effectively and in a minimally invasive way, prioritizing long-term predictability and preservation of sinus anatomy.

Key topics covered in this lesson include:

- Treatment of bilateral edentulous areas in the posterior maxilla
- Planning vertical ridge augmentation without sinus elevation
- Clinical criteria to avoid sinus lift procedures

Video Lecture 9 - ReLIVE Surgery: Horizontal and Vertical Ridge Augmentation with a Next-Generation Custom Semi-Permeable Titanium Mesh (1h 15min)

Description:

This ReLIVE Surgery showcases an advanced regenerative procedure that combines horizontal and vertical ridge augmentation using a next-generation, custom-designed semi-permeable titanium mesh, tailored from CBCT imaging.

The video provides a comprehensive view of the full surgical protocol—from site preparation to soft tissue management, and the precise placement and stabilization of the custom mesh.

Key topics covered in this lesson include:

- Use of custom semi-permeable titanium meshes based on CBCT data
- Simultaneous horizontal and vertical ridge augmentation techniques
- Surgical protocol for site preparation and mesh positioning
- Strategies for soft tissue handling and stabilization



Scan the code
and enter the
course



Author Bio:

Prof. Massimo Simion is a medical doctor specialized in Dentistry and Prosthodontics, and a professor of Periodontology and Implantology at the University of Milan. He is a former President of the European Association for Osseointegration (EAO), founder of the Italian Society of Osseointegration, and served as President of the Italian Academy of Osseointegration (IAO) in 2023–2024. A widely published author, he is internationally renowned for his expertise in periodontology, osseointegration, and bone regeneration.

