

THEORETICAL-PRACTICAL COURSE:

Zygoma Clinical Residency – MALO CLINIC Protocol

(Dr. Armando Lopes)

16 hours

2 DAYS

ON SITE

Training Dates:

Start (27/10/2022) – Ending (28/10/2022)

Framework: Designed for smaller groups, this observation program will allow you to follow in detail the daily work and surgical schedule of MALO CLINIC Clinical team with a key focus on high skilled cases as well as on the combination of the All-on-4® surgical protocol with the use of zygoma implants; for severely atrophic maxillae, this procedure is complemented with extra-maxillary anchored implants – Hybrid and Double-Zygoma approaches – which treatment planning and placement will be covered in detail during this training session.

During this program not only will you get the chance to follow several different procedures at the operating room including live zygoma surgery, as you will also have the opportunity to extensively discuss the All-on-4® protocol Hybrid and Double-Zygoma approaches with our clinical team that will take you through all the relevant aspects, from patient selection to treatment planning, and anatomic and imaging considerations, all the way through to the fitting of the immediate and final prostheses.

These approaches will also both be covered at a hands-on session. The Zygoma Clinical Residency Program will allow you to gain the skills and know-how to successfully rehabilitate severely resorbed maxillae in just a few hours using the MALO CLINIC Protocol and is complemented by a mentorship program to support you on your first cases. We also encourage you to bring your own cases for discussion and treatment planning.

Participants |

Requirements: Professionals experienced in implant dentistry.

General objectives:

At the end, trainees should be able to:

1. Differentiate the several treatment options for full-arch rehabilitation in the maxilla
2. Recognize the different clinical and surgical steps of the procedure
3. Identify the main prosthetic options for the All-on-4 rehabilitation in the maxilla
4. Implement the main surgical steps in an All-on-4 rehabilitation in the maxilla, including the use of standard

implants alone, the use of hybrid combination of standard and zygomatic implants, or the use of zygomatic implants alone.

Specific objectives:

- At the end, trainees should be able to:
- 1.1 Recognize the difference between full-arch rehabilitation using more than 4 standard in axial position, using the different All-on-4 configurations;
 - 1.2 Identify the advantages and disadvantages of each rehabilitation option;
 - 2.1 Evaluate the pre-treatment phase (planning) considering the anatomical limitations;
 - 2.2 Identify the essential steps during surgery (Incision, flap elevation, bone reduction, implant-site preparation, implant insertion, abutment connection, suturing).
 - 3.1 Identify the essential steps of prosthetic options for the provisional prosthesis using a pre-made prosthesis (impression tacking, cylinder caption, prosthetic try-in, prosthetic connection, occlusion check).
 - 3.2 Identify the essential steps of prosthetic options for the provisional prosthesis using a new fabricated prosthesis (impression tacking, implant-position capture, prosthetic try-in, prosthetic connection, occlusion check).
 - 4.1 To evaluate the anatomical limitations involved in the All-on-4 rehabilitation in the maxilla;
 - 4.2 To perform a proper implant site preparation procedure for standard implants in the maxilla;
 - 4.3 To correctly insert the standard implants following the All-on-4 configuration in the maxilla;
 - 4.4 To correctly connect the specific abutments to the implants following the All-on-4 configuration in the maxilla (straight abutments on the anterior implants and tilted abutments on the posterior implants).
 - 5.1 To evaluate the anatomical limitations involved in the All-on-4 rehabilitation in the extremely atrophic maxilla;
 - 5.2 To perform a proper implant site preparation procedure for zygomatic implants;
 - 5.3 To correctly insert the zygomatic implants following the All-on-4 Hybrid configuration in the maxilla;
 - 5.4 To correctly insert the zygomatic implants following the All-on-4 Double Zygoma configuration in the maxilla;
 - 5.5 To correctly connect the specific abutments to the implants following the All-on-4 Hybrid configuration in the maxilla (straight abutments on the anterior standard implants and tilted abutments on the posterior standard or zygomatic implants);
 - 5.6 To correctly connect the specific abutments to the implants following the All-on-4 Double Zygoma configuration in the maxilla (tilted abutments on all zygomatic implants).

Modules Program Contents	Workload (h)	
	Theory	Practice
• MODULE 1 – THE ALL-ON-4 CONCEPT STANDARD IN THE ATROPHIC MAXILLA: PRE-TREATMENT, SURGICAL AND POST-TREATMENT CONSIDERATIONS	4	
• MODULE 2 – THE ALL-ON-4 CONCEPT STANDARD SURGICAL HANDS-ON		4
• MODULE 3 – THE ALL-ON-4 CONCEPT IN THE EXTREMELY ATROPHIC MAXILLA: PRE-TREATMENT, SURGICAL AND POST-TREATMENT CONSIDERATIONS	4	
• MODULE 4 – THE ALL-ON-4 CONCEPT HYBRID AND DOUBLE-ZYGOMA SURGICAL HANDS-ON		4
<i>Total</i>	8	8
	16 H	

Training Methodology: The course includes a face-to-face component with a total duration of 16 hours, organized into theoretical and practical sessions, in conjunction with a training component of direct learning in the context of surgery through live viewing through video projection of the surgeries that will take place in the operating room.

In the face-to-face component, the training methodology will be centered on the articulation of the expository, interrogative, demonstrative and active method, in order to enhance the appropriation of the course contents, based on the analysis of real cases. The trainees accompany the medical team for 2 days, absorbing the clinical practices better in the on-job context. The Access to the course includes a series of lectures online with the name MALO CLINIC: ALL-ON-4® | Complete course and Zygoma Course that must be viewed and studied by trainees before starting the course. These lectures can be found on the Education platform.

Attendance and Punctuality Rules:

Attendance in the face-to-face component of training must be 100%.

In the face-to-face component of the training, each training session has an associated tolerance of 15 minutes after the start defined for its beginning.

Evaluation methodology:

The assessment of trainees' learning is carried out throughout the course, and the final classification results from the trainee's performance in the modules 2, 4 and 5, whose weights in the final grade have different weights: module 2 - 10 points, module 4 - 10

Training Mode:

Other continuous training actions (not included in the National Qualifications Catalogue)

Form of Organization:

On Site- Presential

Spaces and Logistics Requirements:

On-site Training:

- Theoretical Component – Room with good lighting, ventilation, temperature and isolated from disturbing noises to the proper functioning of the training sessions, equipped with all the necessary didactic-pedagogical resources (computer, LCD, sound equipment, video system, whiteboard/flipchart and pens, Wi-Fi network), as well as all the technical equipment associated with the themes of the various modules that make up the course.
- Practical Component – Medical office space properly equipped with all the equipment and utensils necessary for clinical practice.

Didactic and Pedagogical Resources:

Theoretical room- Computer, LCD, sound equipment, video system, whiteboard/flipchart and pens, Wi-Fi network; Lectures online with the name MALO CLINIC: ALL-ON-4® | Complete course and Zygoma Course.

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Hands-On-1st day: Osseosets; Surgery Kits; Surgery Model with Dummy Implants; Multi-unit abutments; 30^º Multi-unit abutments;

Hands-On 2nd day: Osseosets; Surgery Kits; Dummy NobelZygoma™ 0º 40 mm;

Zygoma Training Kit; Round bur; Twist Drill 2.9mm; Twist Drill 3.5 mm; Twist Drill 4.0 mm; Twist Drill 4.4 mm; Diamond Drill (Edenta); TC Cutter (Edenta); Cover Screw Driver Branemark System™ Hexagon; Connection to Hand piece; Handpiece Zygoma 20:1; Implant Driver Wrench Adapter 21 mm; Implant Driver Brånemark System RP 26 mm; Zygoma Model; Clamps;

Learning support: Video Lectures, Reference bibliography, scientific articles:

- Maló P, Lopes I, De Araújo Nobre M. The All-on-4 Concept. In: Babbush C Hahn JA, Krauser JT, eds. Dental Implants: The Art and Science. Maryland Heights, USA: Saunders Elsevier, 2011: 435-447.
- Maló P, de Araújo Nobre M, Lopes A. An overview of the All-on-4™ implant philosophy. Faculty Dental Journal, January 2012; 3: 20-27. DOI 10.1308/204268512X13207759526256.
- Ferro AS, de Araújo Nobre MA, Simões R. Ten-year follow-up of full-arch rehabilitations supported by implants in immediate function with nasal and full-length palatine bicortical anchorage on the anterior maxilla. J Oral Sci. 2022;64(2):129-134. doi:10.2334/josnusd.21-0378
- de Araújo Nobre M, Lopes A, Antunes E. The 10 Year Outcomes of Implants Inserted with Dehiscence or Fenestrations in the Rehabilitation of Completely Edentulous Jaws with the All-on-4 Concept. J Clin Med. 2022;11(7). doi:10.3390/jcm11071939
- Lopes A, de Araújo Nobre M, Ferro A, Moura Guedes C, Almeida R, Nunes Zygomatic Implants Placed in Immediate Function through Extra-Maxilla Surgical Technique and 45 to 60 Degrees Angulated Abutments for Full-Arch Rehabilitation of Extremely Atrophic Maxillae: Short-Term Outcome a Retrospective Cohort. J Clin Med. 2021;10(16). doi:10.3390/jcm10163600
- de Araújo Nobre M, Moura Guedes C, Almeida R, Silva A, Sereno N. Hybrid Polyetheretherketone (PEEK)-Acrylic Resin Prostheses and the All-on-4

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- Maló P, de Araújo Nobre M, Lopes A, Ferro A, Nunes M. The All-on-4 concept for full-arch rehabilitation of the edentulous maxillae: A longitudinal study with 5-13 years of follow-up. *Clin Implant Dent Relat Res* 2019;21(4):538-549. doi:10.1111/cid.12771
- de Araújo Nobre M, Salvado F, Nogueira P, Rocha E, Ilg P, Maló P. A Peri-Implant Disease Risk Score for Patients with Dental Implants: Validation and the Influence of the Interval between Maintenance Appointments. *J Clin Med.* 2019;8(2):252. doi:10.3390/jcm8020252
- Maló P, de Araújo Nobre M, Lopes A, Ferro A, Botto J. The All-on-4 treatment concept for the rehabilitation of the completely edentulous mandible: A longitudinal study with 10 to 18 years of follow-up. *Clin Impl Dent Relat Res.* 2019;21(4):565-577. doi:10.1111/cid.12769
- Maló P, Lopes A, de Araújo Nobre M, Ferro A. Immediate function dental implants inserted with less than 30 N-cm of torque in full-arch maxillary rehabilitations using the All-on-4 concept: retrospective study. *Int J Oral Maxillofac Surg.* 2018;47(8). doi:10.1016/j.ijom.2018.04.008
- Maló PS, de Araújo Nobre MA, Ferro AS, Parreira GG. Five-year outcome a retrospective cohort study comparing smokers vs. Nonsmokers with full arch mandibular implant-supported rehabilitation using the All-on-4 concept. *J Oral Sci.* Published online 2018. doi:10.2334/josnusd.16-0890
- Maló P, de Araújo Nobre M, Moura Guedes C, et al. Short-term report of ongoing prospective cohort study evaluating the outcome of full-arch implant-supported fixed hybrid polyetheretherketone-acrylic resin prostheses and the All-on-Four concept. *Clin Implant Dent Relat Res.* 2018;20(5):692-702. doi:10.1111/cid.12662
- Hopp M, de Araújo Nobre M, Maló P. Comparison of marginal bone loss and implant success between axial and tilted implants in maxillary All-or-4 treatment concept rehabilitations after 5 years of follow-up. *Clin Impl Dent Relat Res.* 2017;19(5). doi:10.1111/cid.12526
- de Araújo Nobre M, Mano Azul A, Rocha E, Maló P, Salvado F. Attributable fractions, modifiable risk factors and risk stratification using a risk score for peri-implant pathology. *J Prosthodont Res.* 2017;61(1):43-53. doi:10.1016/j.jpor.2016.03.004
- de Araújo Nobre M, Maló P. Prevalence of periodontitis, dental caries, an peri-implant pathology and their relation with systemic status and smoking habits: Results of an open-cohort study with 22009 patients in a private rehabilitation center. *J Dent.* 2017;67. doi:10.1016/j.jdent.2017.07.01
- Agliardi EL, Romeo D, Panigatti S, de Araújo Nobre M, Maló P. Immediate full-arch rehabilitation of the severely atrophic maxilla supported by zygomatic implants: a prospective clinical study with minimum follow-up 6 years. *Int J Oral Maxillofac Surg.* 2017;46(12). doi:10.1016/j.ijom.2017.05.02
- Maló P, Nobre MA, Lopes A, Ferro A, Gravito I. Complete edentulous rehabilitation using an immediate function protocol and an implant design featuring a straight body, anodically oxidized surface, and narrow tip with engaging threads extending to the apex of the implant: A 5-year retrospective clinical study. *Int J Oral Maxillofac Implant.* 2016;31(1). doi:10.11607/jomi.4123
- Nunes M, Almeida RF, Felino AC, Malo P, Nobre MA. The influence of crown-to-implant ratio on short implant marginal bone loss. *Int J Oral Maxillofac Implant.* 2016;31(5). doi:10.11607/jomi.4336

- Maló P, de Araújo Nobre M, Lopes A, Rodrigues R. Preliminary report on the outcome of tilted implants with longer lengths (20–25mm) in low-density bone: One-year follow-up of a prospective cohort study. *Clin Implant Dent Relat Res.* 2015;17(S1):e134–142. doi:10.1111/cid.12144
- de Araújo Nobre M, Mano Azul A, Rocha E, Maló P. Risk factors of peri-implant pathology. *Eur J Oral Sci.* 2015;123(3):131–139. doi:10.1111/eos.12185
- Maló P, de Araújo Nobre MA, Lopes AV, Rodrigues R. Immediate loading short implants inserted on low bone quantity for the rehabilitation of the edentulous maxilla using an All-on-4 design. *J Oral Rehabil.* 2015;42(8). doi:10.1111/joor.12291
- Maló P, de Araújo Nobre M, Lopes A, Ferro A, Gravito I. All-on-4® Treatment Concept for the Rehabilitation of the Completely Edentulous Mandible: A 7-Year Clinical and 5-Year Radiographic Retrospective Case Series with Risk Assessment for Implant Failure and Marginal Bone Level. *Clin Implant Dent Relat Res.* 2015;17. doi:10.1111/cid.12282
- Maló P, De Araujo Nobre M, Lopes A, Rodrigues R. Double Full-Arch Versus Single Full-Arch, Four Implant-Supported Rehabilitations: A Retrospective 5-Year Cohort Study.; 2015. doi:10.1002/9781119115397.ch15
- Maló P, de Araújo Nobre M, Lopes A, Ferro A, Moss S. Extramaxillary surgical technique: Clinical outcome of 352 patients rehabilitated with 747 zygomatic implants with a follow-up between 6 months and 7 years. *Clin Implant Dent Relat Res.* 2015;17(S1). doi:10.1111/cid.12147
- De Araújo Nobre M, Maló P, Gonçalves I. Evaluation of clinical soft tissue parameters for extramaxillary zygomatic implants and conventional implants in all-on-4 hybrid rehabilitations: Short-term outcome and proposal of clinical recommendations for intervention in recall appointments. *Implant Dent.* 2015;24(3):267–274. doi:10.1097/ID.0000000000000253
- Maló P, de Sousa ST, De Araújo Nobre M, et al. Individual Lithium Disilicate Crowns in a Full-Arch, Implant-Supported Rehabilitation: A Clinical Report. *J Prosthodont.* 2014;23(6). doi:10.1111/jopr.12137
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- de Araújo Nobre MA, Maló PS, Oliveira SH. Associations of clinical characteristics and interval between maintenance visits with peri-implant pathology. *J Oral Sci.* 2014;56(2).
- De Araújo Nobre M, Maló P, Antune E. Influence of systemic conditions on the incidence of periimplant pathology: A case-control study. *Implant Dent.* 2014;23(3). doi:10.1097/ID.0000000000000071
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- Maló P, Nobre MA, Lopes A. Immediate loading of “All-on-4” maxillary prostheses using trans-sinus tilted implants without sinus bone grafting: retrospective study reporting the 3-year outcome. *Eur J Oral Implantol.* 2013;6(3):273–283.

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- Maló P, de Araújo Nobre M, Borges J, Almeida R. Retrievable Metal Ceramic Implant-Supported Fixed Prosthesis with Milled Titanium Frameworks and All-Ceramic Crowns: Retrospective Clinical Study with up to 10 Years of Follow-Up. *J Prosthodont.* 2012;21(4). doi:10.1111/j.1532-849X.2011.00824.x
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