

UNCLASSIFIED



Anaplastology and Dental Maxillofacial Prosthetics in Military Healthcare: Changing Lives One Appointment at a Time

Navy LCDR Samuel Richards, D.D.S., M.S., F.A.C.P.

Louis Gilbert, B.C.O.

15 September 2022

0910 – 1040 ET

Presenters

Louis Gilbert, B.C.O.
Clinical Anaplastologist
Hospital Dentistry Department
Defense Health Agency
Walter Reed National Military
Medical Center
Bethesda, Md.

Navy LCDR Samuel Richards,
D.D.S., M.S., F.A.C.P.
Maxillofacial Prosthodontist/
Instructor
Naval Postgraduate Dental School
Defense Health Agency
Walter Reed National Military
Medical Center
Bethesda, Md.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Louis Gilbert, B.C.O.



Louis Gilbert is a 20-year Navy Veteran who has been practicing in the military healthcare system for 22 years. He specializes in Ocular and Facial Prosthetics for wounded warriors, cancer patients, pediatric patients with congenital defects and trauma patients.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Navy LCDR Samuel Richards, D.D.S., M.S., F.A.C.P.



LCDR Richards is a Maxillofacial Prosthodontist, sub-specializing in the dental care of wounded warriors, cancer patients, pediatric patients with congenital defects and trauma patients through the use of intra- and extraoral prosthetics.

He is a diplomate of the American Board of Prosthodontists and currently serves on the staff of the Naval Postgraduate Dental School's Prosthodontics Residency Program.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Disclosures

- Presenters Mr. L. Gilbert and LCDR S. Richards do not have any relevant financial or non-financial relationships to disclose relating to the content of this activity.
- The views expressed in this presentation are those of the authors and do not necessarily reflect the official policy or position of the Department of Defense nor the U.S. Government.
- This continuing education activity is managed and accredited by the Defense Health Agency, J-7, Continuing Education Program Office (DHA, J-7, CEPO). DHA, J-7, CEPO and all accrediting organizations do not support or endorse any product or service mentioned in this activity.
- DHA, J-7, CEPO staff, as well as activity planners and reviewers have no relevant financial or non-financial interest to disclose.
- Commercial support was not received for this activity.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Learning Objectives

At the conclusion of this activity, participants will be able to:

1. Summarize the role of an Anaplastologist in the military health care system.
2. Review the role of a Maxillofacial Prosthodontist in the military health care system.
3. Analyze the limiting factors concerning Enucleation, Evisceration, and Extenteration as associated with treatment planning.
4. Identify the most common injuries associated with and necessitate treatment by an Anaplastologist.
5. Outline the role digital technologies and assets play in the treatment by Anaplastologist and Maxillofacial Prosthodontists.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



What is Anaplastology?

1. Anaplastology is a specialized healthcare field that provides patient specific restorative prosthesis for patients who have suffered trauma to or loss of anatomy due to injury, disease or congenital origin.
2. Customized prosthetic rehabilitation may be an alternative treatment to surgical reconstruction.
3. Anaplastology services are intended to restore affected anatomical features of the body including but not limited to face, hands, feet or breast

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Areas of Specialization

- Facial prosthetics
- Maxillofacial prosthetics (Intra & Extra oral)
- Somato prosthetics
- Ocular science
- Craniofacial implants
- Materials scientist

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Demographics 2006-2022

- Youngest 7 days Goldenhar Syndrome
- Korean War Veterans (Vets) 2
- WWII Vets 2
- Vietnam Vets 22
- Gulf War/Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (O)IF 417
- Non-Combat Related trauma 45

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Source of Injuries

- High energy explosives(Combat related)
- Trauma (Non-combat related)
- Retinal detachment
- Macular degeneration
- Retinoblastoma
- Congenital defects
- Ocular Tumors

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Supporting Professions

- Ear, nose, and throat (ENT) (Auricular Prosthesis)
- Plastic Surgery(Facial Prosthesis)
- Ophthalmology(Oculars and Oculofacial Prosthesis)
- Oral Maxillofacial Surgery(Craniofacial and Dental Implants)
- Maxillofacial Prosthodontist(Dental Implants)

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Historical Data

- Made of Venetian Glass
- Closely Guarded Techniques
- Post World War II (WWII), European sources for glass eyes were no longer available
- 1948 a technical team assigned Army Dental Corps created the acrylic artificial eye at the Naval Postgraduate Dental School



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Types of eye removal

- Enucleation – removal of the eyeball
- Leaving remaining orbital contents intact
- Extraocular muscles are detached and typically reattached to an orbital implant or fat graft
- Restored with Prosthetic eye

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Types of eye removal



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Types of eye removal

Evisceration – removal of inner eye contents, iris, cornea

- Leave sclera behind with the extraocular muscles still attached
- Typically, orbital implant places inside sclera to replace lost volume
- Restored with Scleral shell

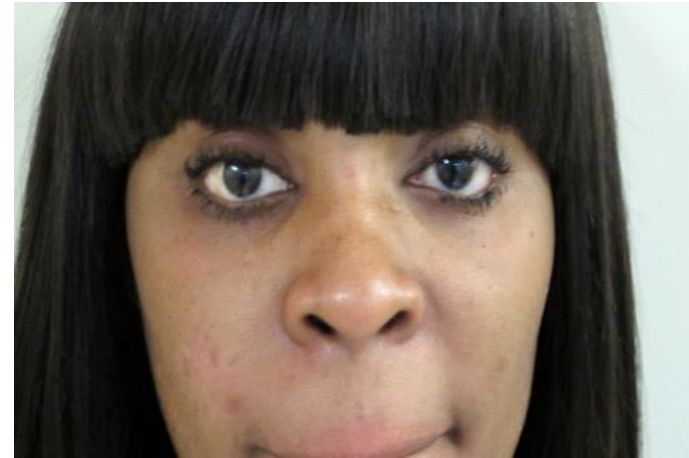
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Types of eye removal



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Orbital Implants

Orbital Implant Types



Silicone Sphere
solid sphere with
good bio-
compatibility



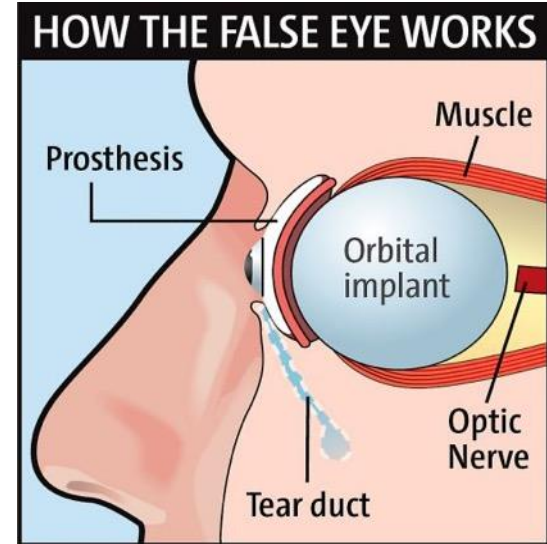
PMMA Sphere
solid sphere with
good bio-
compatibility



Porous Sphere
Bio-Eye™
Medpore™
tissue integration



Dermal Fat Graft
autologous tissue
excellent bio-
compatibility



UNCLASSIFIED

Medically Ready Force... Ready Medical Force



Types of eye removal

Exenteration – removal of contents of the orbit, including eyeball, fat, muscles, and adjacent structures of the eye

- May include eyelids
- Restored with maxillofacial prosthesis

UNCLASSIFIED

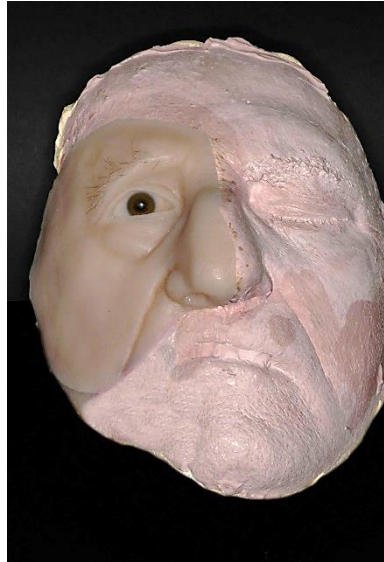


Medically Ready Force... Ready Medical Force



Exenteration

Least common



UNCLASSIFIED

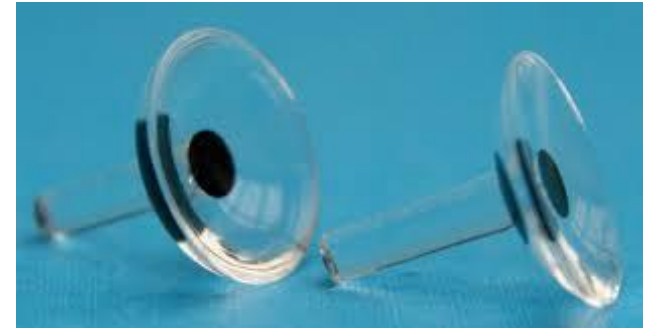


Medically Ready Force... Ready Medical Force



Ocular Prosthetics Appointment #1

- Iris/Pupil measurements
- High Quality Oil Paints
- Methyl Methacrylate
- Vinyl Disc/Button



UNCLASSIFIED

Medically Ready Force... Ready Medical Force



Ocular Prosthetics

- 91-year-old Male
- Macular Degeneration with enucleation
- 6 weeks post enucleation



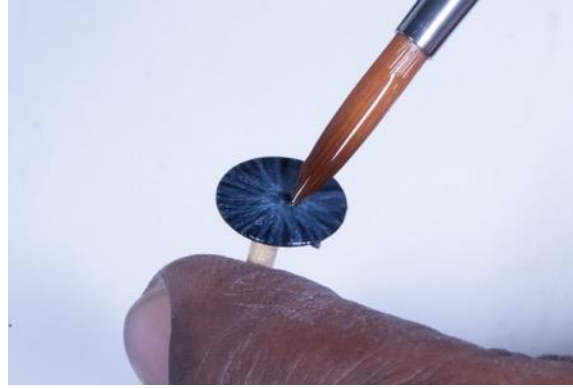
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Ocular Prosthetics Appointment #1



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Ocular Prosthetics Appointment #1



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Appointment #2; Wax mold try in



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Appointment #2; Wax try in and set gaze



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Appointment #3; Tinting and veining of sclera



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Appointment #3; Delivery



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis

2011 - Ductal adenocarcinoma of right lacrimal gland

2013 – Panuveitis

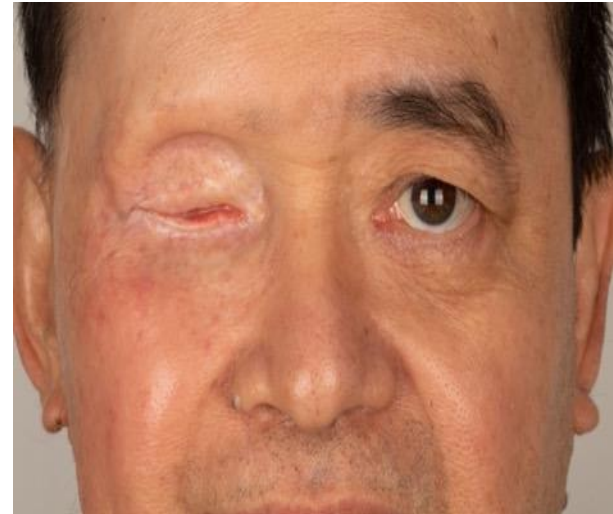
Multiple right post surgical / post tumor resection

2014 – recurrence, gamma knife treatment

Jul 2020 – Evisceration, with placement of Medpor implant

Feb 2021 – Dermis fat graft surgery

Jul 2021 – Prosthesis no longer fits in socket



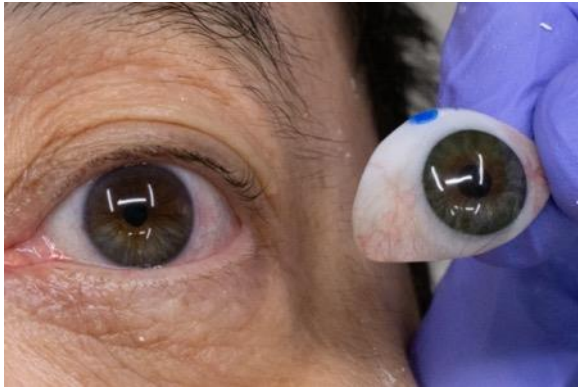
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Appointment #1



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis



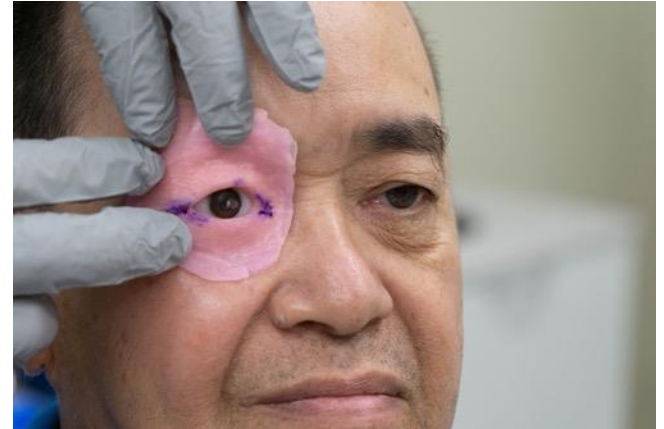
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis Appointment #2



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis Appointment #3



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis Appointment #4



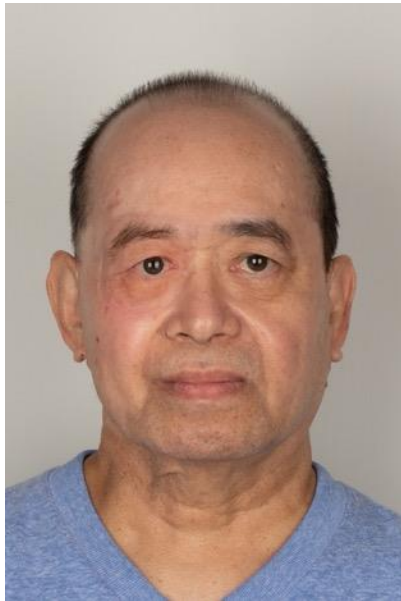
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Oculofacial Prosthesis Delivery



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Auricular Prosthesis

- 71 year old (y/o)
- Right external ear canal basal cell carcinoma of right temporal bone – s/p surgical resection of right lateral temporal bone, right superficial parotidectomy, partial auriculectomy
- May 2020 - Reconstruction with Alternative free flap and auricular implants
- Sept 2020 – Stage II of Southern Ex-Hex auricular craniofacial implants



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Auricular Prosthesis



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Auricular Prosthesis



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Auricular Prosthesis Delivery



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



What is Maxillofacial Prosthodontics?

1. Maxillofacial Prosthetics is the subspecialty of Prosthodontics/Dentistry that provides patient specific, restorative prosthesis for patients who have suffered trauma to or loss of anatomy due to injury, disease or congenital origin (*nearly synonymous with Anaplastology*)
2. Customized prosthetic rehabilitation often coincides with surgical rehabilitation.
3. Services are intended to restore both intra- and extraoral defects of the head and neck region.

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



What is Maxillofacial Prosthodontics?



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



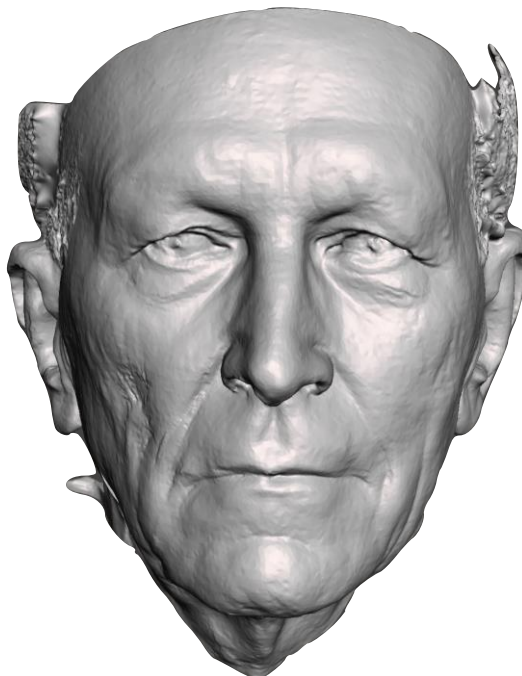
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



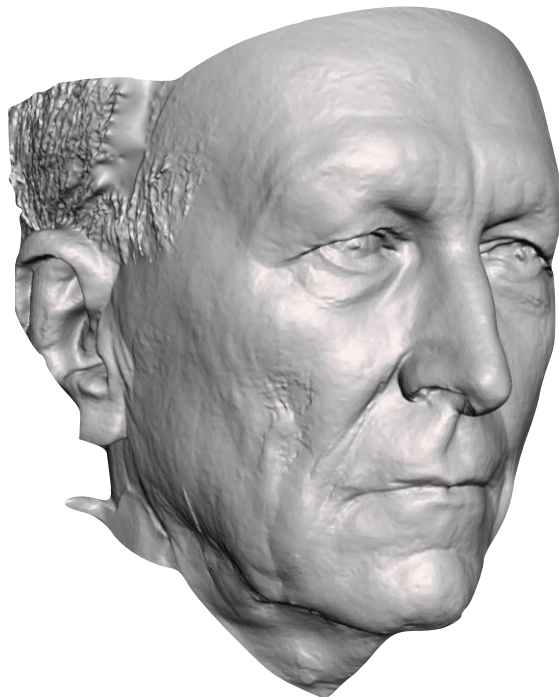
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



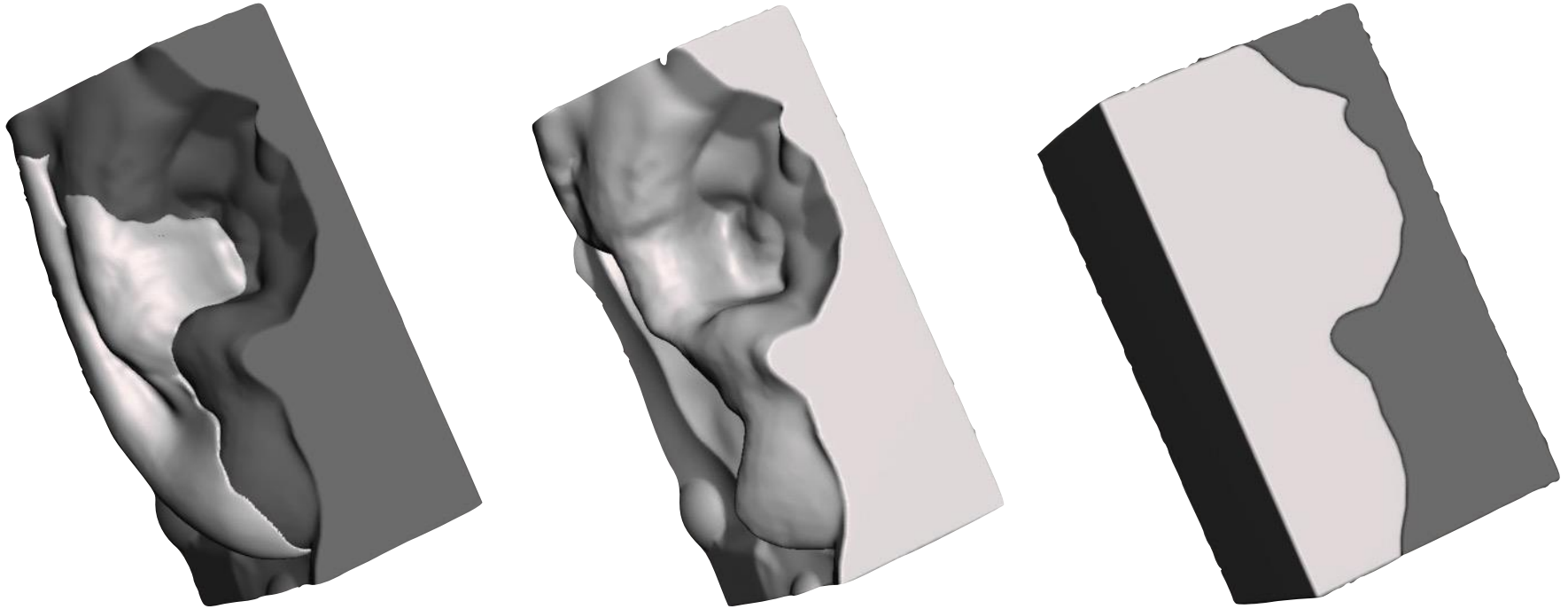
The Microtia Patient



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Microtia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Anotia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Anotia Patient



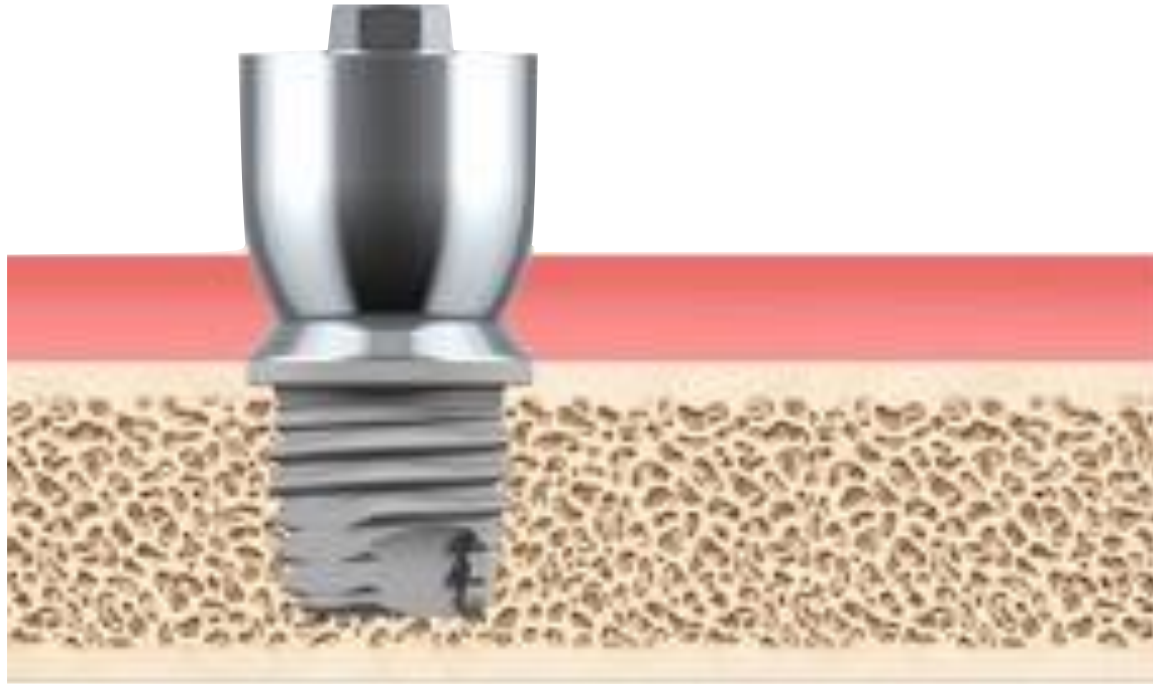
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Anotia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Anotia Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Anotia Patient



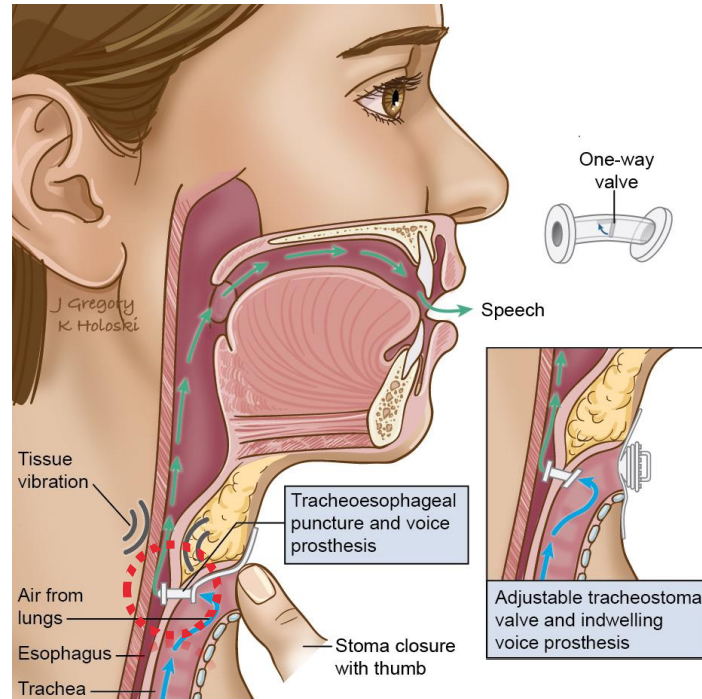
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



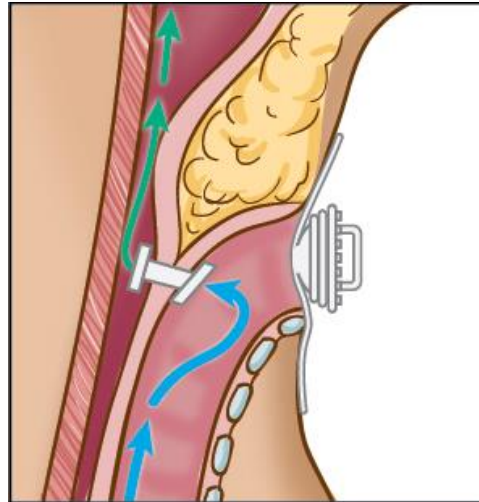
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



Adjustable tracheostoma
valve and indwelling
voice prosthesis



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



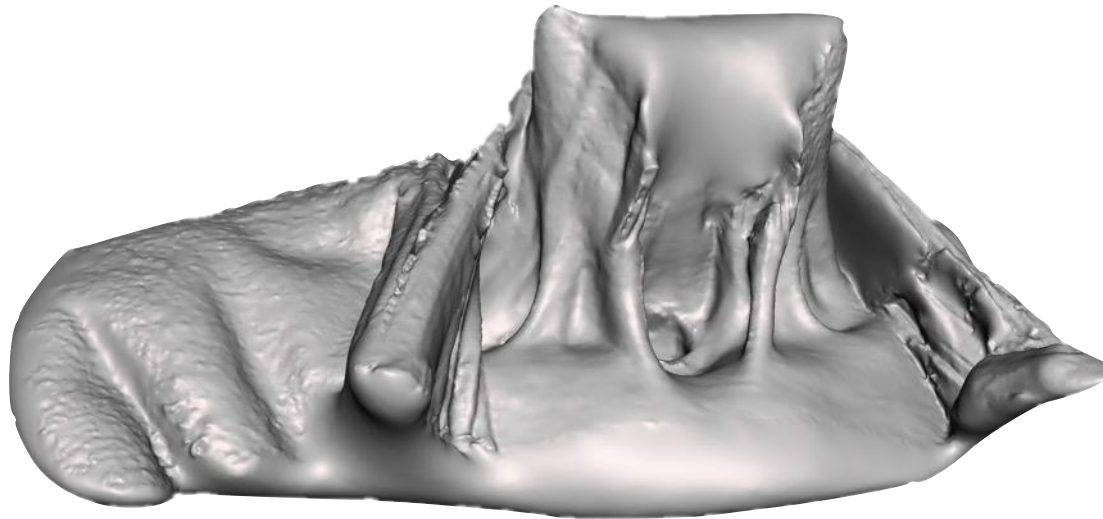
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



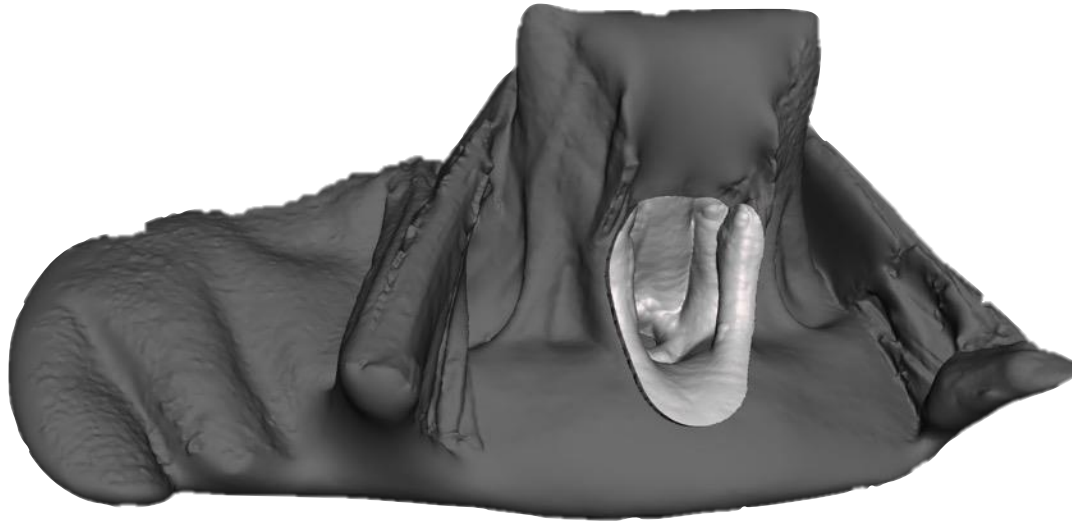
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



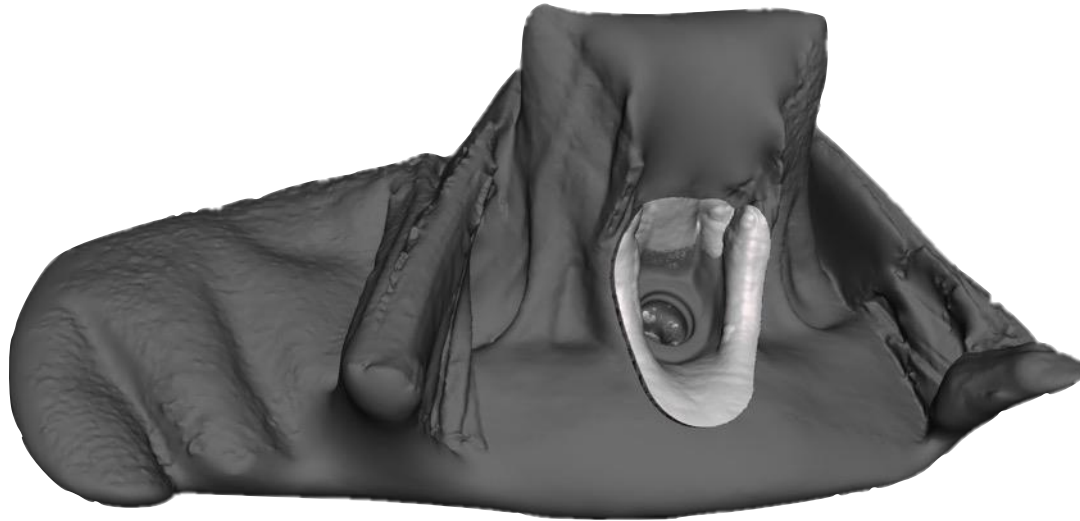
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



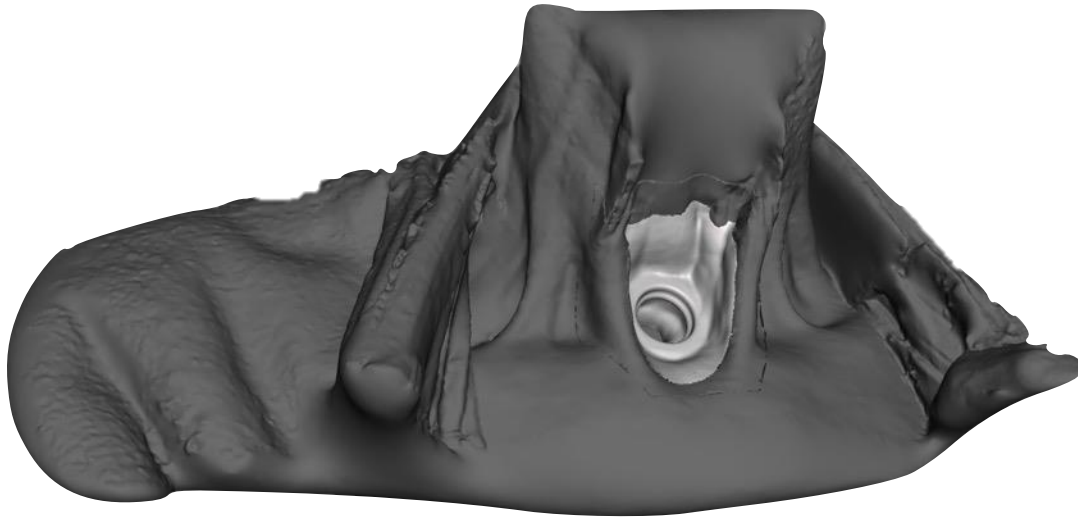
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



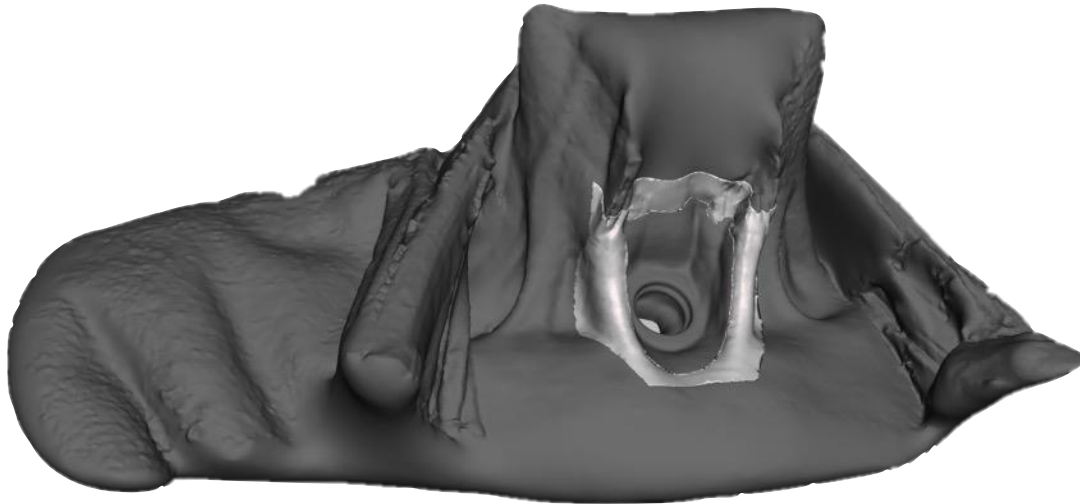
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



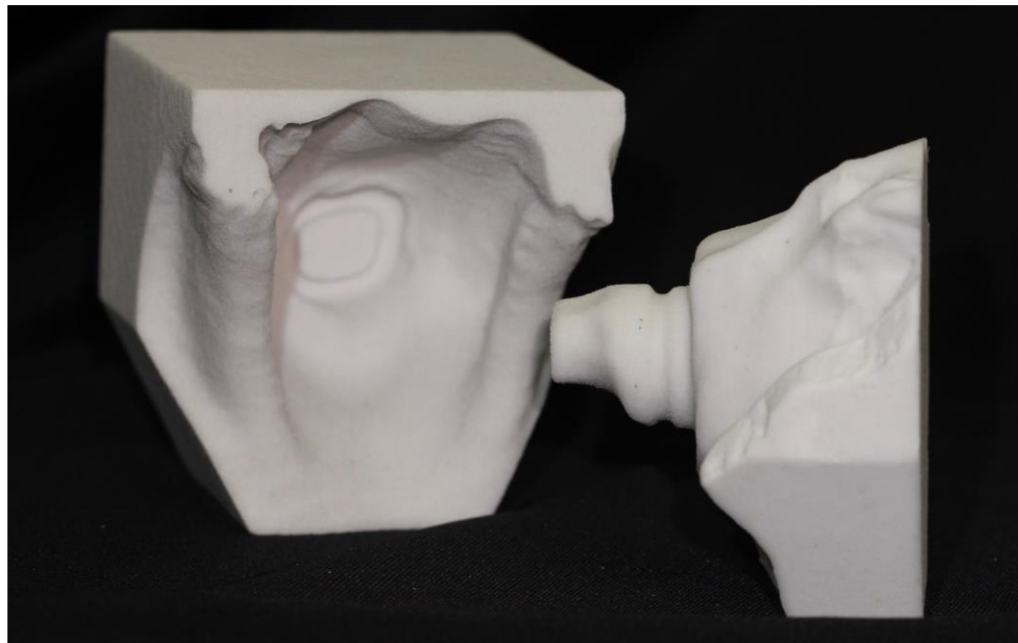
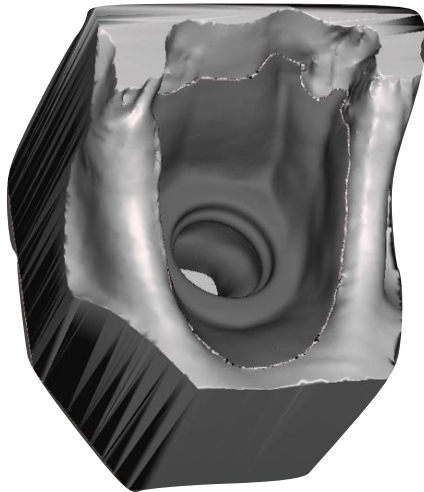
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



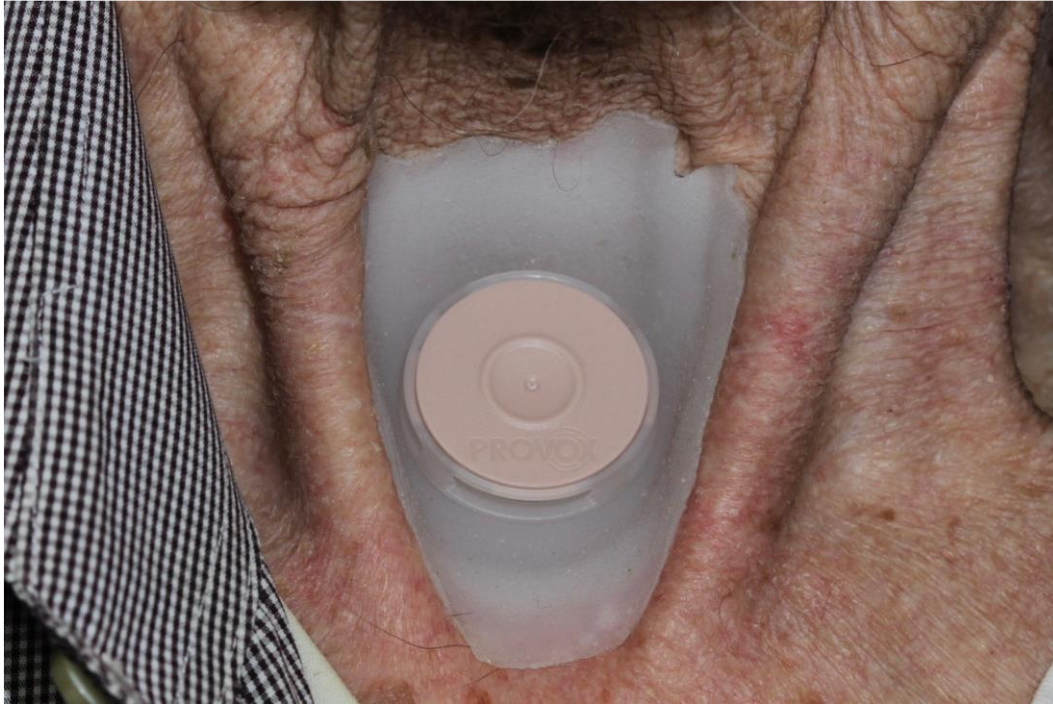
UNCLASSIFIED



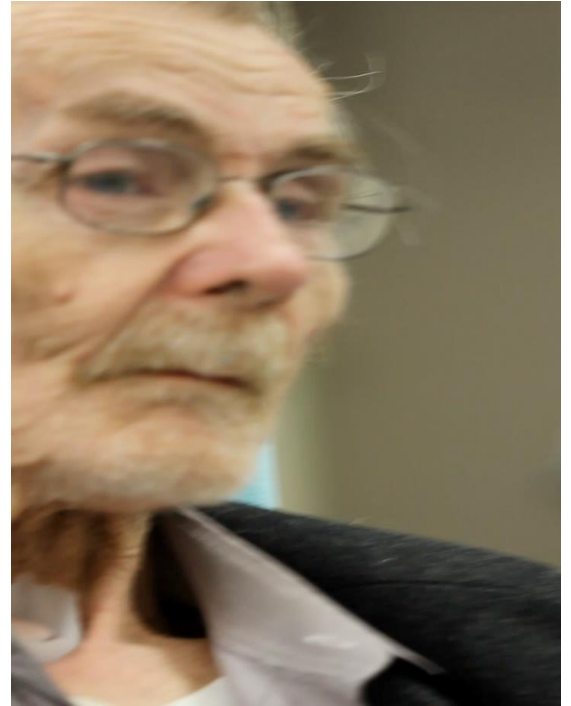
Medically Ready Force... Ready Medical Force



The Tracheostomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



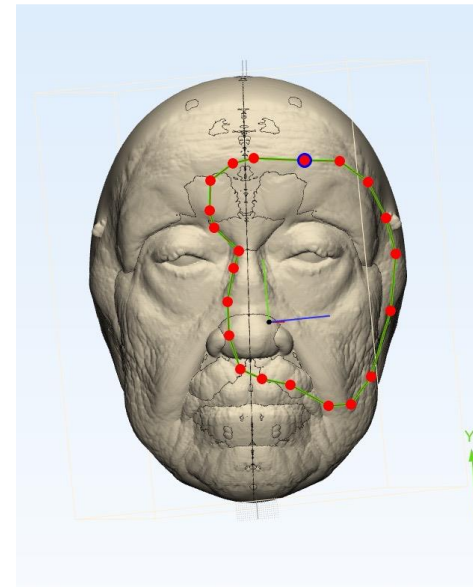
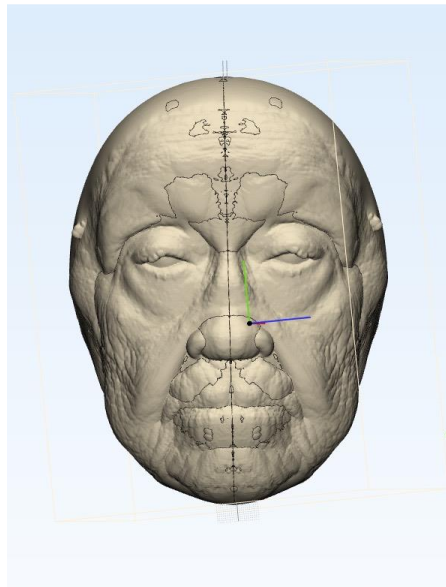
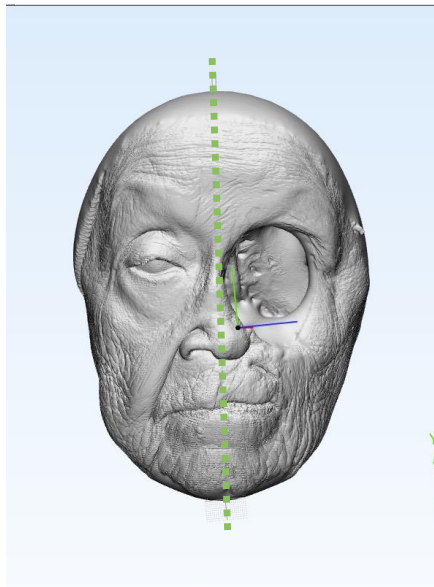
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



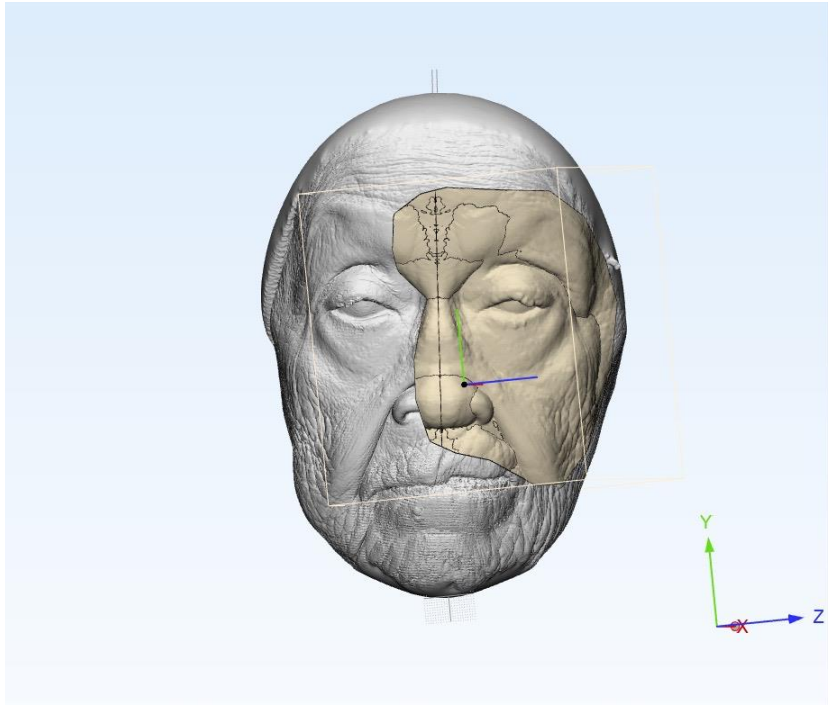
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Oculoplastic Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



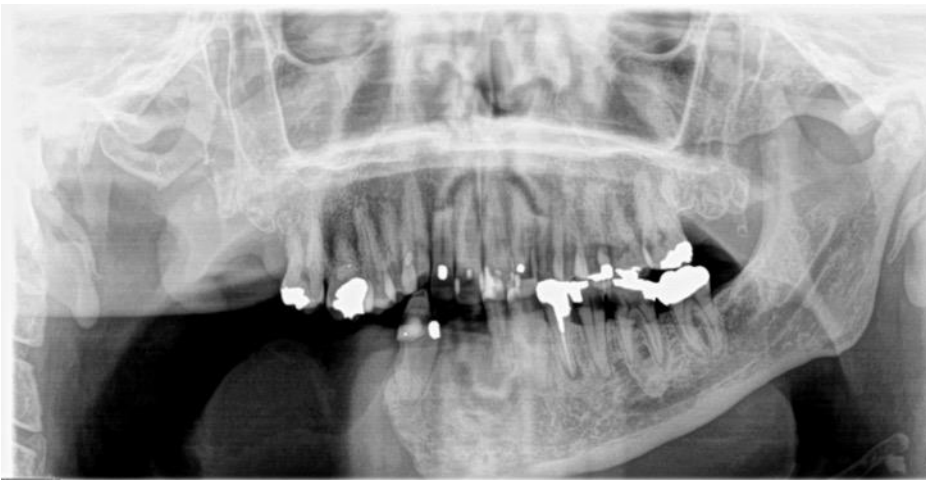
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED

Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



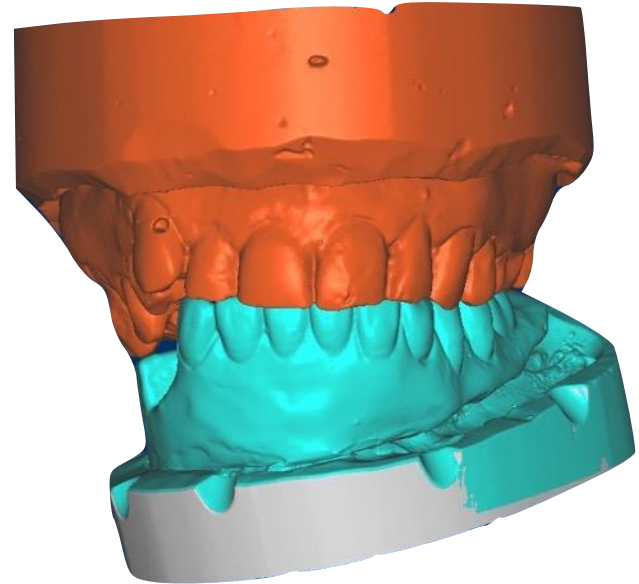
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



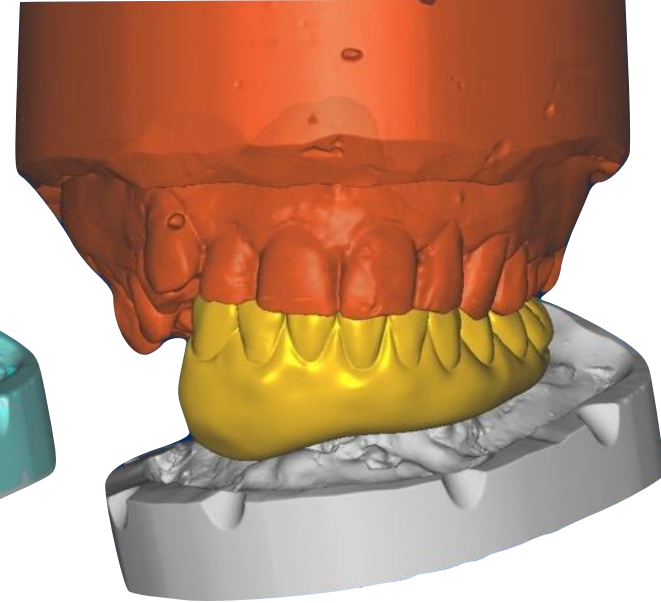
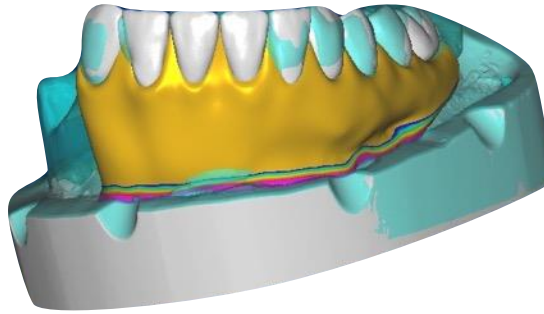
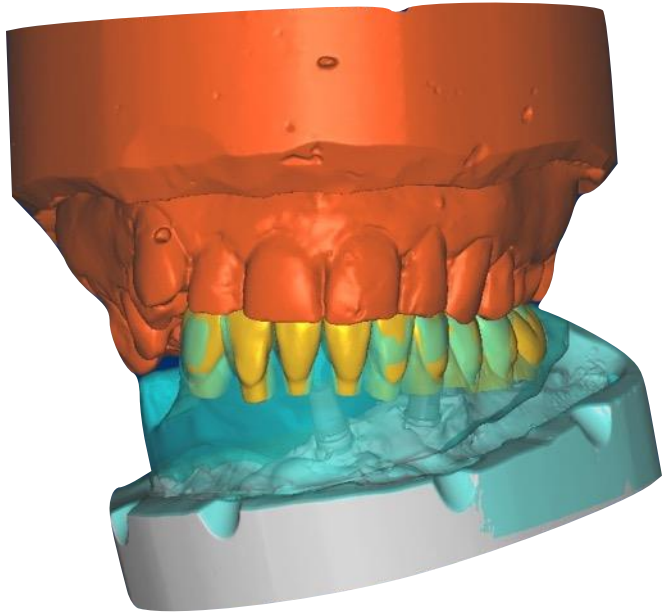
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



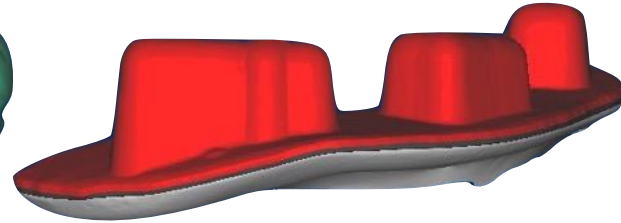
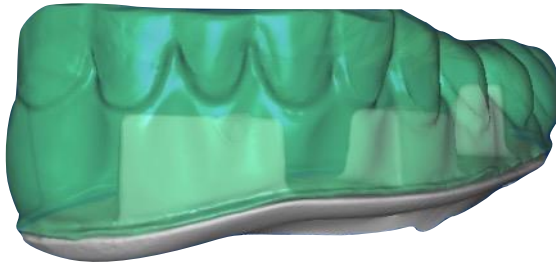
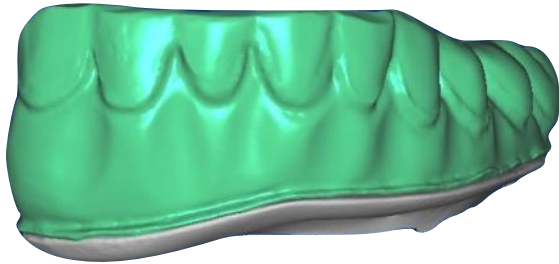
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



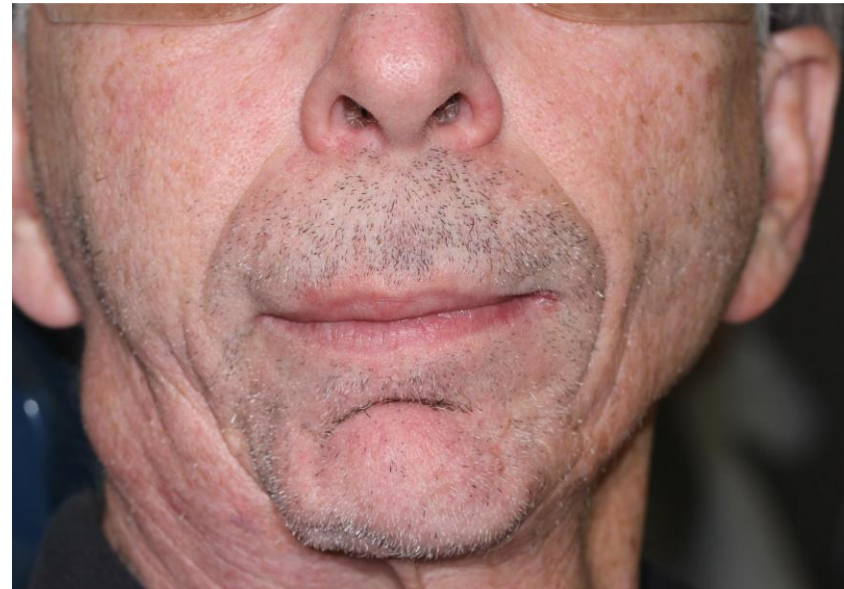
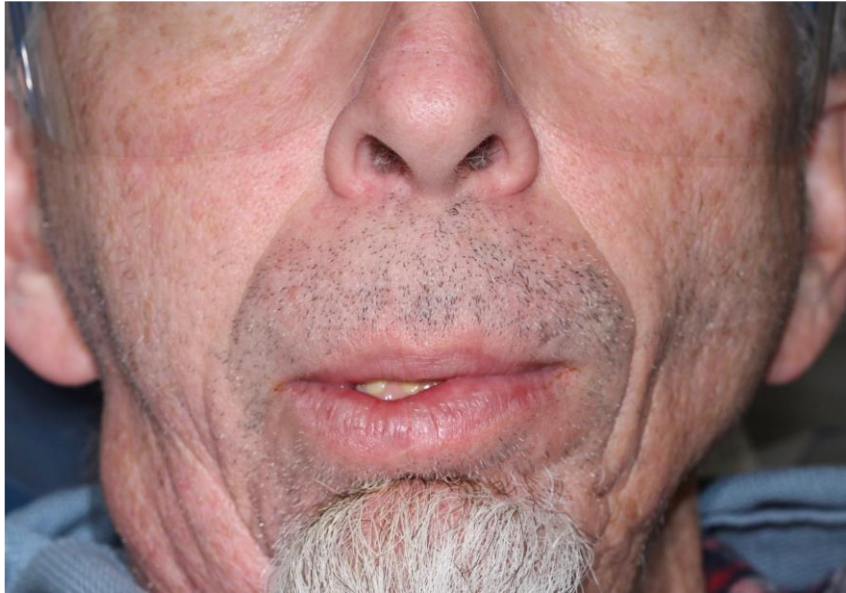
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



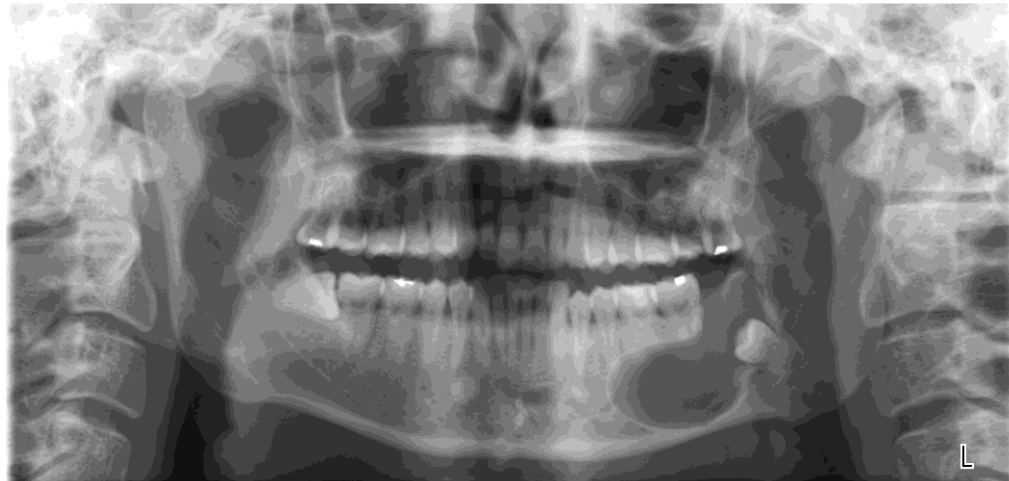
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



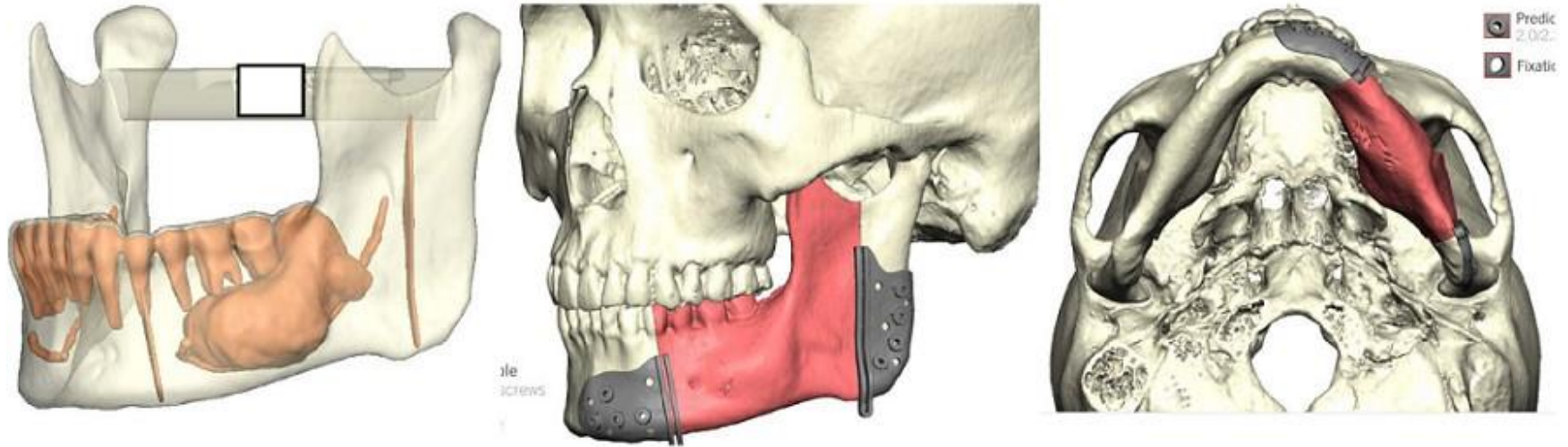
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient

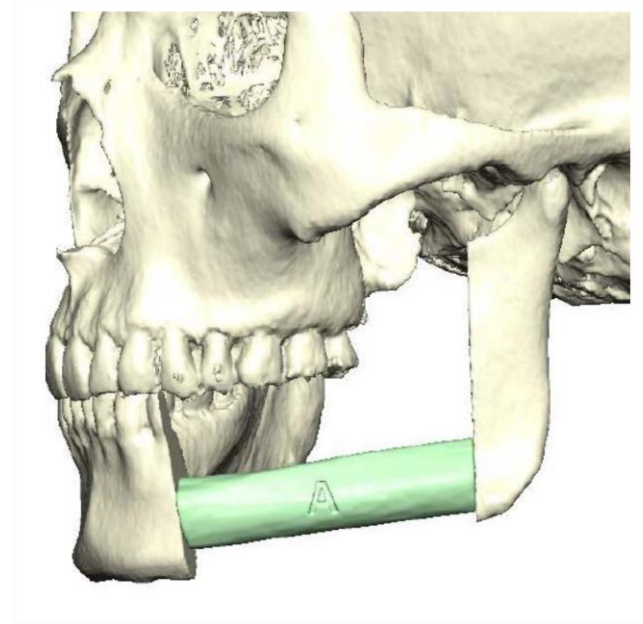
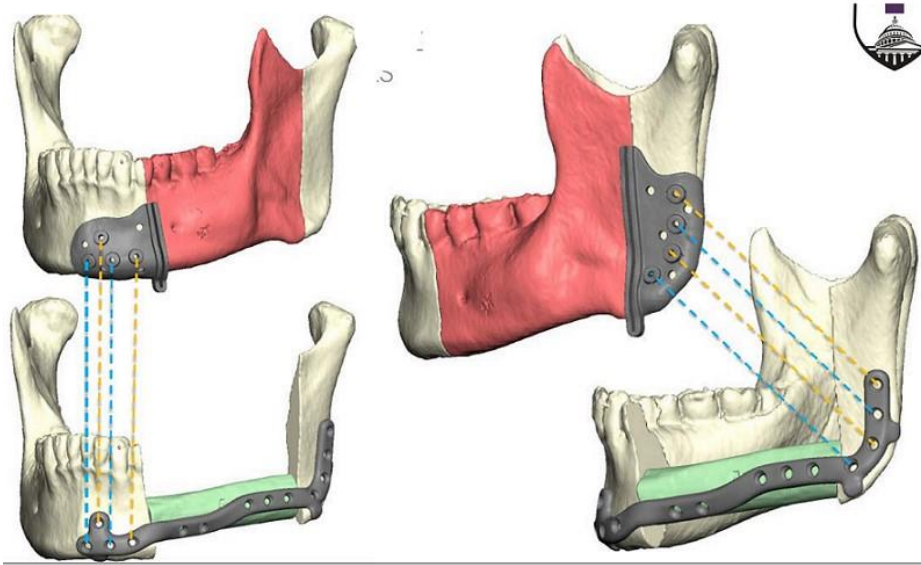


UNCLASSIFIED

Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



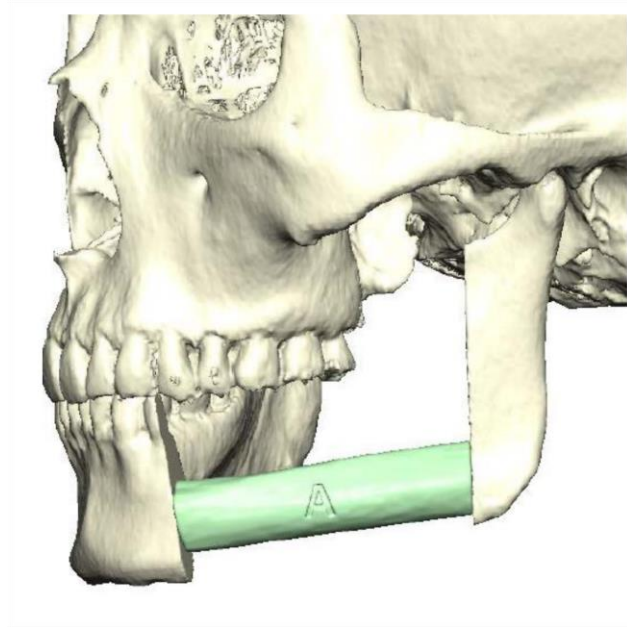
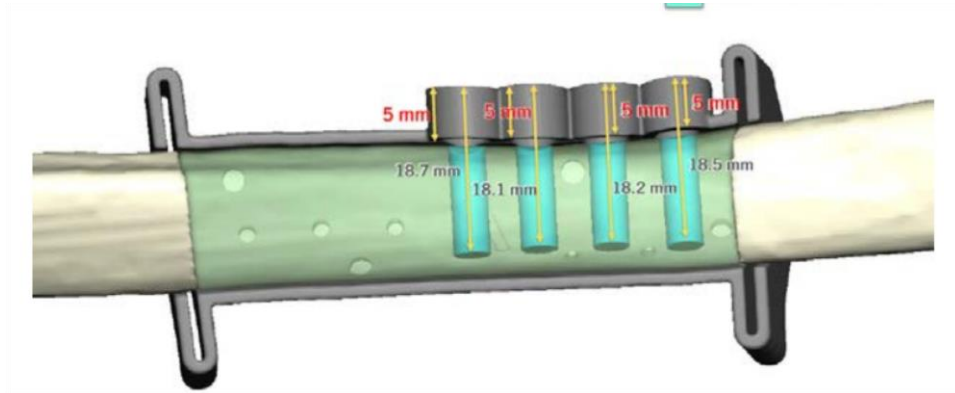
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



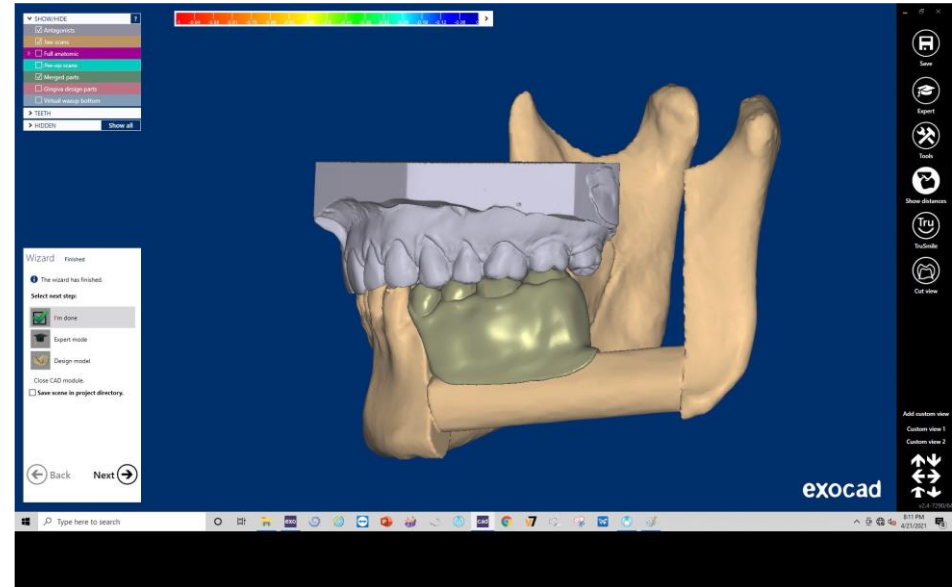
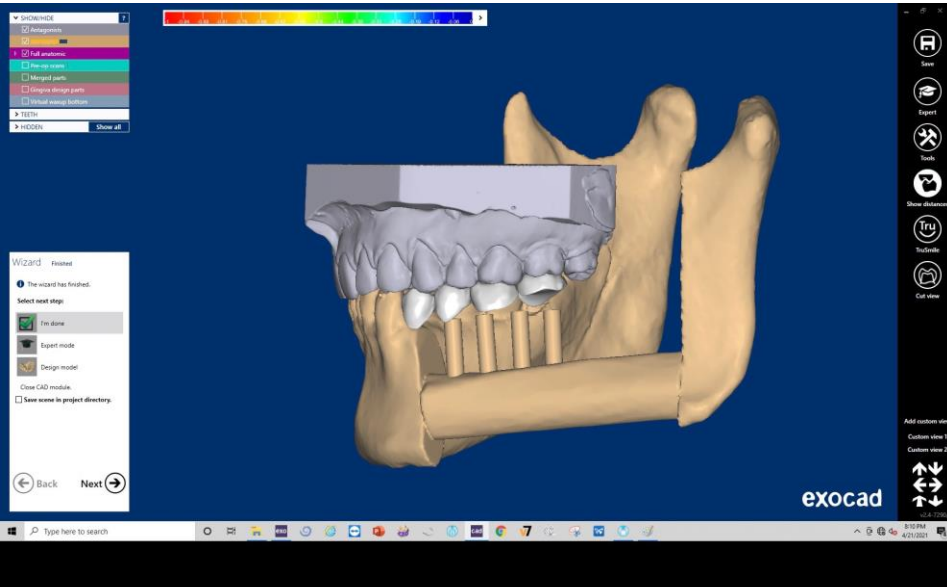
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



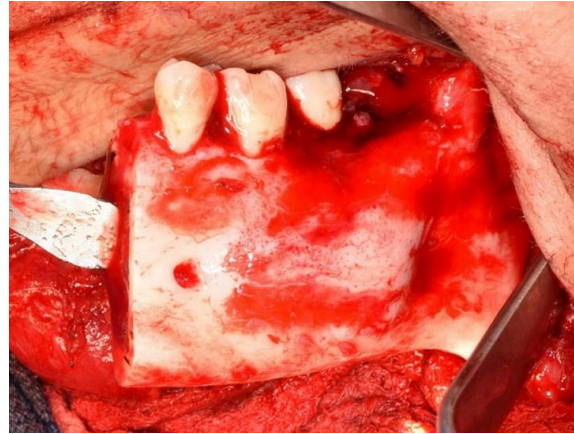
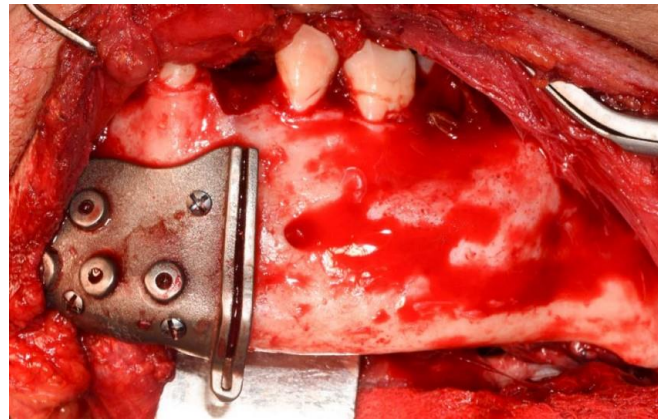
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient

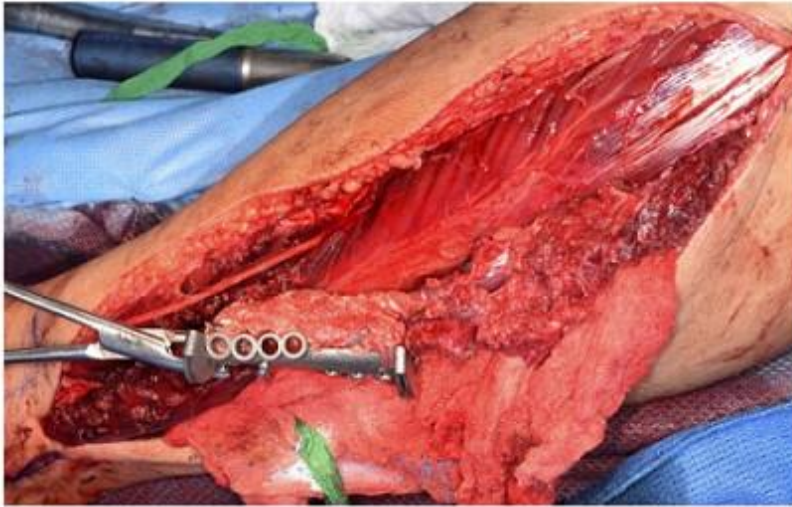


UNCLASSIFIED

Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



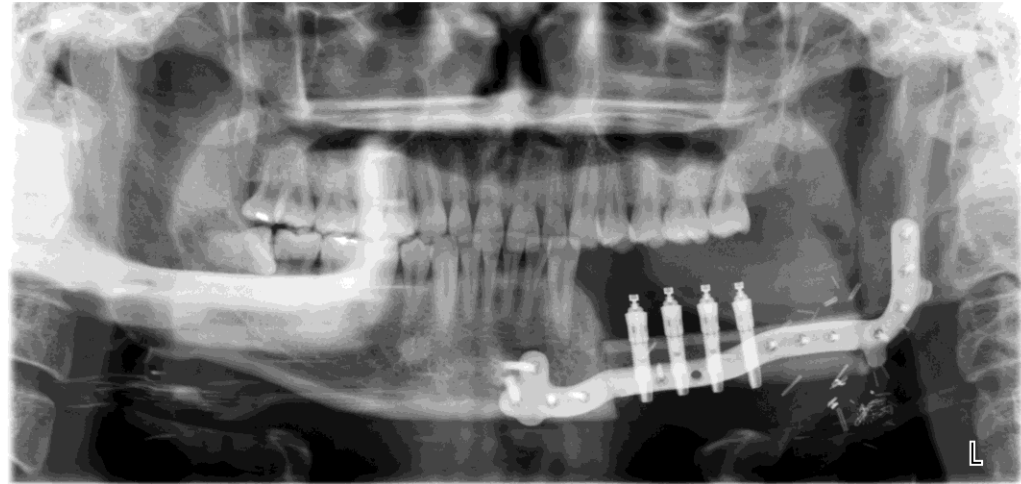
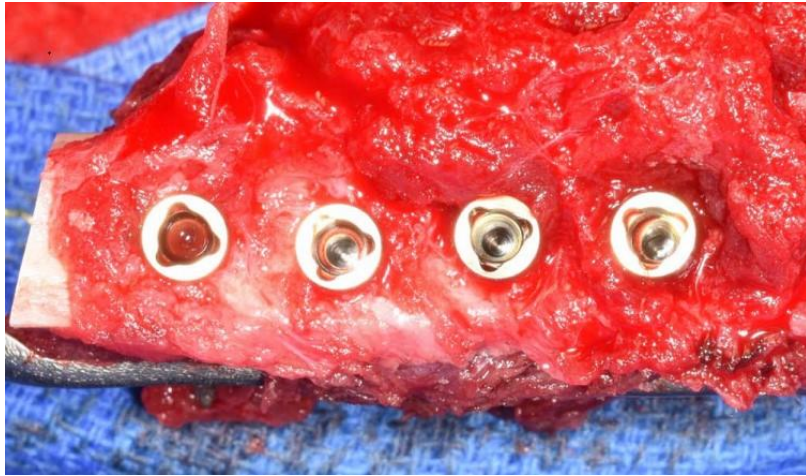
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



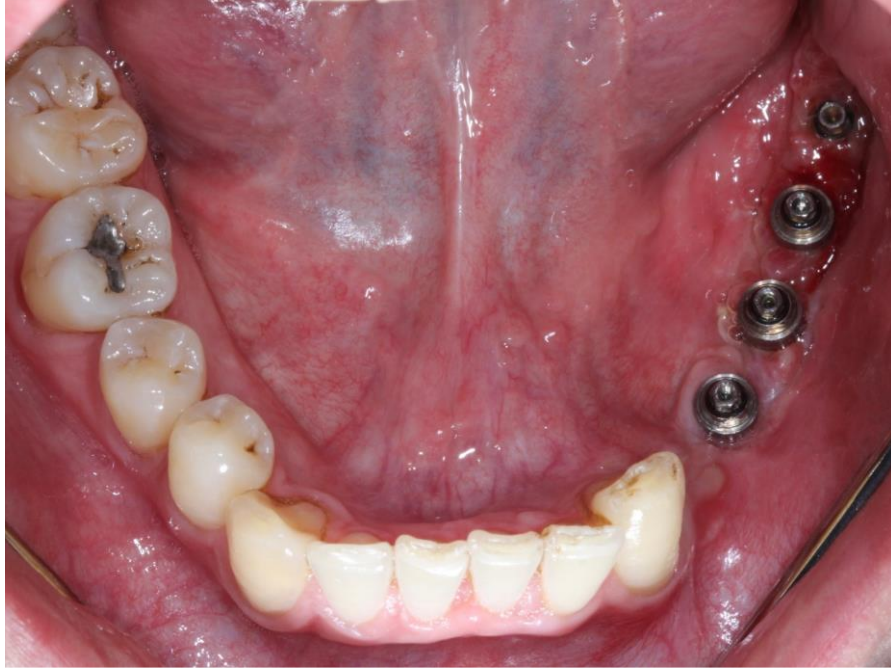
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The Mandibulectomy Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



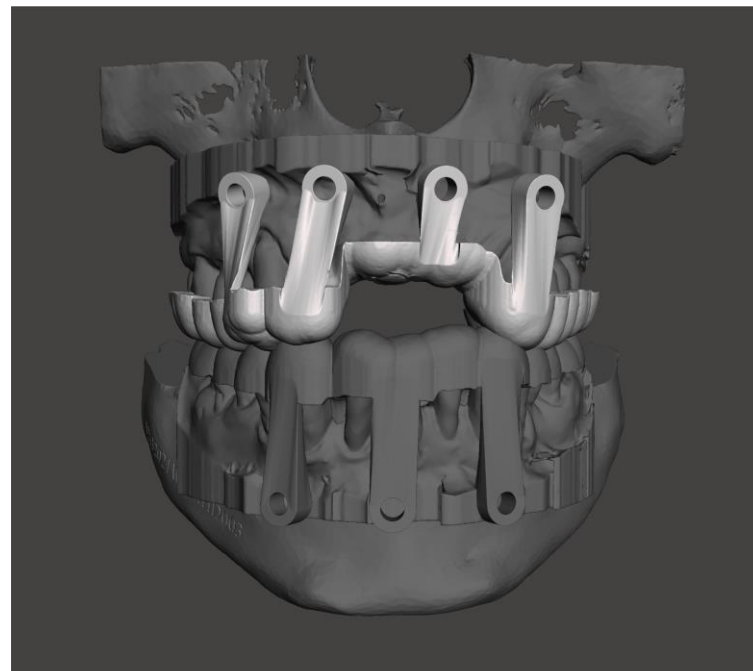
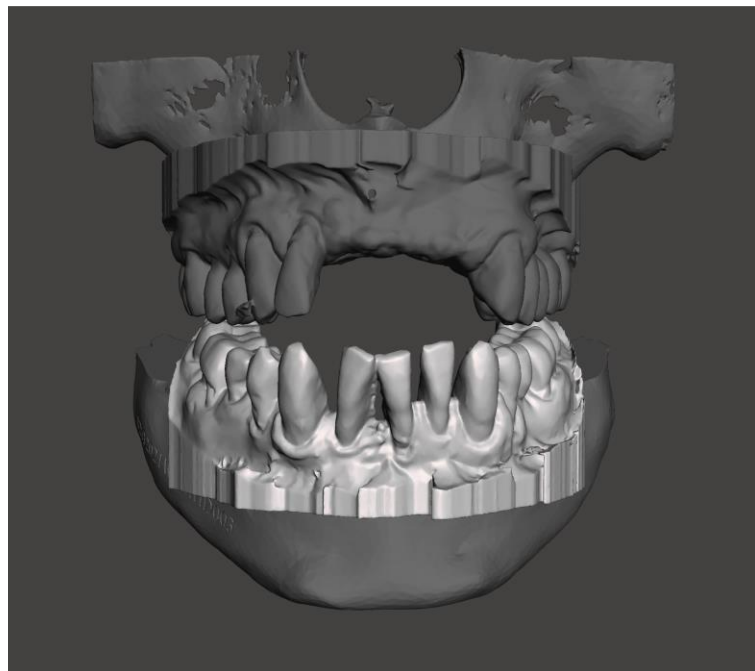
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



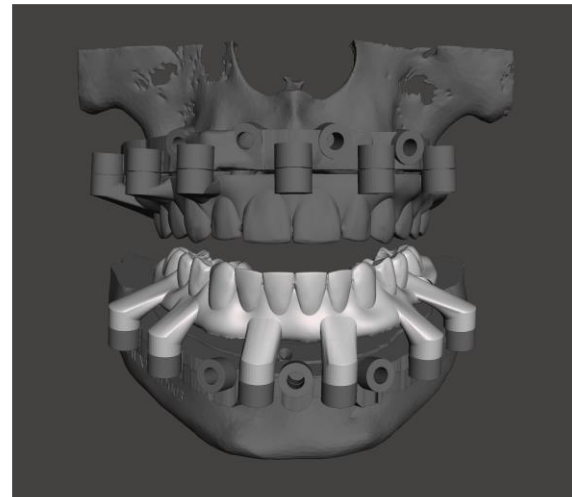
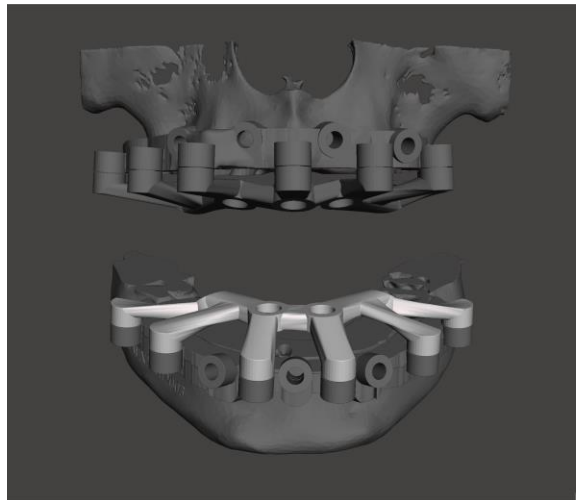
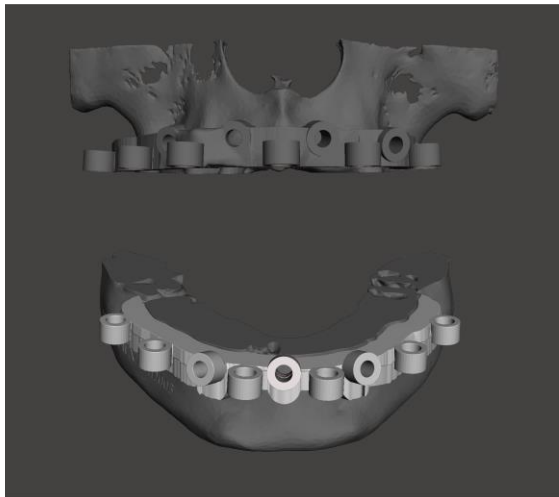
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



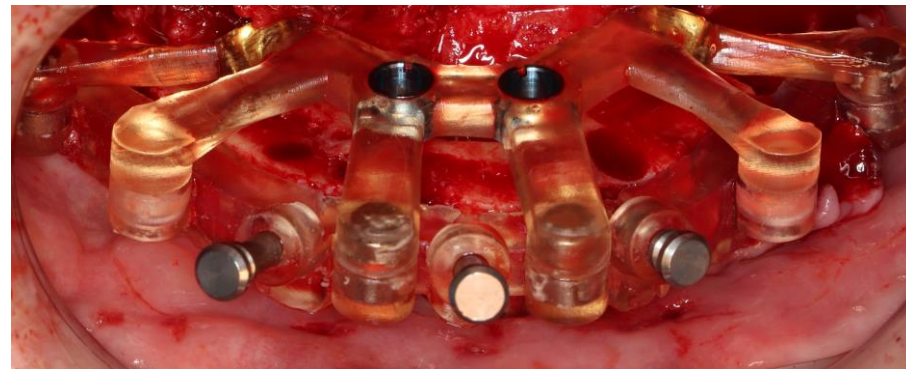
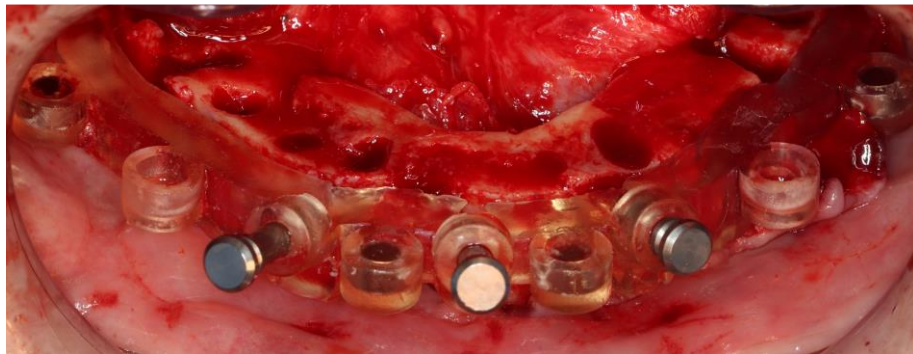
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



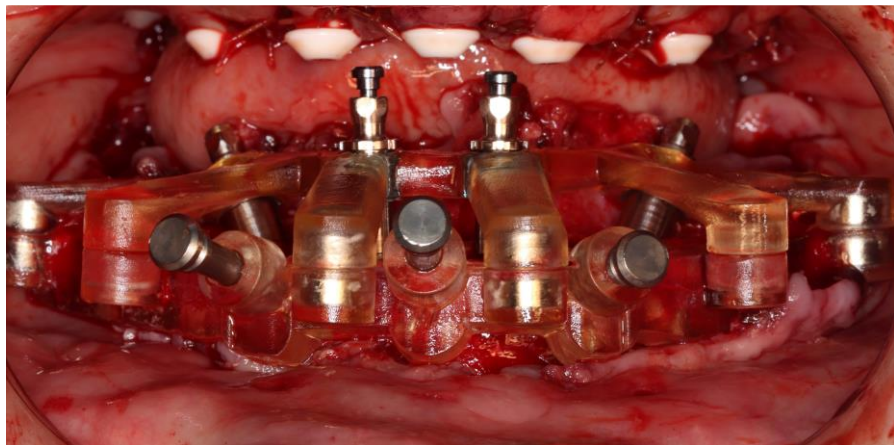
UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



The All-on-X Patient



UNCLASSIFIED



Medically Ready Force... Ready Medical Force



Key Takeaways

- The two most important aspects of initial treatment planning are to manage their expectations and to focus on building trust as their provider
- Expectations with parents of pediatric patients under the age of 10 and children with congenital defects are the most challenging yet rewarding
- Patience is a vital and necessary trait that Anaplastologist must possess while treating maxillofacial patients

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



References

- Hughes, M.O. (n.d.) “A Pictorial Anatomy of the Human Eye / Anophthalmic Socket: A Review for Ocularists. Journal of Ophthalmic Prosthetics Netters Anatomy.<https://safe.menlosecurity.com/doc/docview/viewer/docN6321F3C7FB4Db6fcbd9772e7f609c9e18201ebbf660deb3abc7be4acc eb0b25ad614d226d56c>
- International Anaplastology Association. (n.d.). www.anaplastology.org
- McKinstry, R. E. (1995). *Fundamentals of facial prosthetics*. ABI Professional Publications.
- PINE, K. E. I. T. H. R. (2016). *Clinical ocular prosthetics*. SPRINGER INTERNATIONAL PU.
- Taylor, T. D. (2000). *Clinical maxillofacial prosthetics*. Quintessence Publishing Co.
- Thomas, K. F. (2006). *The Art of Clinical Anaplastology: Techniques and Materials Guide for successful facial and Somato Prosthetic Rehabilitation*. samozal. S. Thomas.
- Timothy, N. H., Freilich, D. E., & Linberg, J. V. (2003). Perspective. *Ophthalmic Plastic & Reconstructive Surgery*, 19(6), 417–420.
<https://doi.org/10.1097/01.iop.0000096162.94415.98>

UNCLASSIFIED



Medically Ready Force... Ready Medical Force



How to Obtain CE/CME Credits

To receive CE/CME credit, you must register by 0800 ET on 16 September 2022 to qualify for the receipt of CE/CME credit or certificate of attendance. You must complete the program posttest and evaluation before collecting your certificate. The posttest and evaluation will be available through 15 October 2022 at 2359 ET. Please complete the following steps to obtain CE/CME credit:

1. Go to URL: <https://www.dhaj7-cepo.com/>
2. Search for your course using the Catalog, Calendar, or Find a course search tool.
3. Click on the REGISTER/TAKE COURSE tab.
 - a. If you have previously used the CEPO CMS, click login.
 - b. If you have not previously used the CEPO CMS click register to create a new account.
4. Follow the onscreen prompts to complete the post-activity assessments:
 - a. Read the Accreditation Statement
 - b. Complete the Evaluation
 - c. Take the Posttest
5. After completing the posttest at 80% or above, your certificate will be available for print or download.
6. You can return to the site at any time in the future to print your certificate and transcripts at: <https://www.dhaj7-cepo.com/>
7. If you require further support, please contact us at: dha.ncr.j7.mbx.cepo-cms-support@mail.mil



Questions?

UNCLASSIFIED

Medically Ready Force... Ready Medical Force



Thank you for your time and attention!

UNCLASSIFIED

Medically Ready Force... Ready Medical Force

