

Appendices

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Appendix A **Prosthetic Definitions**

21076 Immediate Surgical Obturator Prosthesis: A surgical obturator prosthesis is a specially molded device used to block a surgically created opening, such as from removal of the palate, the roof of the mouth. The resulting defect means there is open communication from the nasal and sinus cavities to the oral cavity (mouth). The provider applies a substance that conforms to the patient's intraoral structures to form an impression, or negative imprint, from which a mold will be built. An immediate surgical obturator is placed during surgery at the time of surgical resection of the palate. It maintains the surgical packing in proper position which holds the skin graft in place. It enables the patient to speak and swallow without fluid or air leakage into the nasal cavity. This means the patient will not require tube feedings. It is screwed or wired into place for 7 to 10 days. The unpacking visit occurs in an outpatient setting 7-10 days after surgery, while the patient is awake. At this visit the prosthesis is revised so as to adapt to the post resection surgical defect.

21077 Orbital Prosthesis: An orbital prosthesis is an artificial implant made to fill the empty socket following the removal of an eye. The provider applies a substance that conforms to the patient's orbital structure to form an impression, or negative imprint, from which a mold will be built. The final prosthesis restores the patient's cosmetic appearance. An orbital prosthesis is an artificial replacement for the eye, eyelids, and adjacent hard and soft tissues lost as a result of trauma or surgery. It serves to restore normal appearance and allow the patient to socially interact with others on a day to day basis. It seals the defect from the external environment and maintains the normal humidity and moisture of the adjacent cavities, i.e. the maxillary sinus, oral and nasal cavities.

21079 Interim Obturator Prosthesis: An interim obturator prosthesis is a temporary prosthetic implant used to close the cavity created in the mouth after surgical resection of a part or the whole of maxilla, or upper jawbone. It replaces the immediate obturator which was placed at the time of surgery (see 21076). The provider applies a substance that conforms to the patient's intraoral structures to form an impression, or negative imprint, from which a mold will be built. An interim obturator prosthesis is required post-surgery because the surgical defect changes in size and shape during the healing process. It is adapted weekly to accommodate the post-surgical tissue changes. It is replaced by a definitive obturator about 3 months after surgery. It enables the patient to speak and swallow without fluid or air leakage into the nasal cavity and avoids the need for tube feeding.

21080 Definitive Obturator Prosthesis: The provider fabricates a definitive obturator prosthesis by taking an impression, or negative imprint, of the patient's oral cavity. A definitive obturator prosthesis replaces an interim obturator prosthesis used to close a cavity created in the mouth after a partial or complete surgical resection of the maxilla, or upper jawbone about 3 months after surgery. The definitive obturator permanently restores the surgical defect within the oral and nasal cavities created by the surgical procedure of removal of the palate. This prosthesis restores bodily functions of speech, mastication, and swallowing to functional levels and can be fabricated once the tissues are completely healed.

21081 Mandibular Resection Prosthesis: The provider fabricates a mandibular resection prosthesis by taking an impression, or negative imprint, of the patient's oral cavity. A mandibular resection prosthesis aids in reforming the jaw during the healing process after a complex surgical resection of the mandible. A resection prosthesis is fabricated for a patient who has undergone resection of a portion of the mandible or maxilla and adjacent structures because of a tumor or trauma. The resulting surgical defect is surgically reconstructed with a free tissue transfer usually from the fibula. The resection prosthesis restores speech, swallowing and chewing and provides support for the lip and cheek. The prosthesis is usually supported by endosseous screws.

21082 Palatal Augmentation Prosthesis: The provider prepares a custom palatal augmentation prosthesis to aid in reshaping of the hard palate, or roof of the mouth. Use of the prosthesis improves tongue and palate contact during speech and swallowing in patients with impaired tongue mobility. The prosthesis is prepared by taking an impression, or negative imprint, and building a mold. A palatal augmentation appliance is a prosthesis that is custom fabricated for each patient in which the palatal floor is lowered to allow contact with the tongue for speech and swallowing. Since a portion of the tongue is gone due to resection of cancer, this prosthesis allows the patient to swallow properly and helps to prevent aspiration.

21083 Palatal Lift Prosthesis: The provider fabricates a palatal lift prosthesis by taking an impression, or negative imprint, of the patient's oral cavity. The palatal lift prosthesis, a removable device, aids in velopharyngeal closure by elevating an incompetent soft palate that is dysfunctional due to clefting, surgery, trauma, or paralysis. A palatal lift prosthesis elevates and assists in restoring soft palatal function which may be lost due to a congenital condition, trauma, surgery or unknown paralysis. It is used to achieve velopharyngeal competence or enhancing swallowing reflexes. The prosthesis will lift or elevate the anatomically intact or soft palate, thus affecting a measure of velopharyngeal closure

21084 Speech Aid Prosthesis: The provider fabricates a speech aid prosthesis by taking an impression, or negative imprint, of the patient's oral cavity. A speech aid prosthesis is a removable device and aids in restoring soft palate defects. A portion of the prosthesis extends into the throat to separate the oropharynx and nasopharynx during swallowing and speech. A definitive speech aid appliance assists in restoring soft palatal function which may be lost due to clefting, surgery, trauma, or unknown paralysis.

21085 Oral Surgical Splint: An oral surgical splint supports a patient's facial structures in orthognathic reconstruction, or surgical repositioning of the jaws, and in other oral surgeries, such as when the mandible, or lower jaw, has been removed due to trauma or ablative surgery.

21086 Auricular Prosthesis: The provider fabricates an auricular prosthesis by taking an impression, or negative imprint, of the patient's ear. An auricular prosthesis replaces an ear that is partially or totally missing due to surgery, trauma, or a congenital defect. An auricular prosthesis is a removable prosthesis which artificially restores the natural ear. Its purpose is to restore normal appearance and acts to gather sound waves similar to the human ear, thus aiding in directional hearing.

21087 Nasal Prosthesis: The provider fabricates a nasal prosthesis by taking an impression, or negative imprint, of the patient's nasal area. A nasal prosthesis replaces a patient's nose that is partially or totally missing due to surgery, trauma, or a congenital defect. A nasal prosthesis is fabricated to restore a defect created by the surgical removal of partial or total loss of the nasal area usually due to cancer. It provides normal appearance and serves to maintain normal moisture present in the nasal cavity.

21088 Facial Prosthesis: The provider fabricates a facial prosthesis by taking an impression, or negative imprint, of the patient's face. A facial prosthesis restores the normal look of the face after any part of the face has been deformed or lost following surgery or trauma.

21089 Unspecified Procedures: Used to report maxillofacial prosthetic procedures that do not have a specific code such as relines or repairs of the prostheses

Appendix B: CPT Code 21076 Surgical Obturator Prosthesis

The immediate surgical obturator is inserted in the operating room and the unpacking/reline or adaptation of the prosthesis to the post-surgical defect visit occurs as an outpatient visit. The prosthesis has to be adapted while the patient is awake to capture the dynamic movements of speaking, swallowing, and chewing.

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s so we added them. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

Although some maxillofacial prosthodontists did not include prosthetic teeth as part of the immediate surgical obturator, it is typical for maxillofacial prosthodontists to include teeth as part of the immediate surgical obturator. This justifies the \$76.72 cost of the denture teeth. PE items for CPT code 21076, such as the registration paste, the Triad tray material, boxing wax, and Trusoft are listed in the CMS inputs but without costs. We included those costs in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their private practices.

Lastly, sterilization supplies need to be factored into the PE values. Costs for ultrasonic solution, sterilization pouches, and stain and tartar remover are in the invoices, but not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21076: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

CPT Code 21076: Recommended Removal of Supplies

Code 21076	Deletions	Comment	Monetary Value
Immediate Surgical Obturator	SL208 alloy framework	An alloy framework is not used in an immediate surgical obturator.	0.00

Additions for CPT Code 21076: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use, per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21076: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 reline 2 to 3 reline per visit	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 2 per visit, total of 4 napkins	\$0.40

Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 2 per prosthesis	\$0.18
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 10 per prosthesis	\$0.20
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 10 gloves per prosthesis	\$1.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 2 per prosthesis	\$0.10
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 2 per prosthesis	\$0.49
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper models and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 2 visits	\$0.74

Additions for CPT Code 21076: Sterilizable, Reusable instruments

Equipment	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes

Recommended Clinical Staff Time for a Surgical Obturator Prosthesis CPT Code 21076

Typical Scenario: Dentate Patient, Patient is losing a portion of the hard/soft palate. During the OR the surgical plan changed during the surgical resection and must add prosthetic tooth to Surgical Obturator Prosthesis at unpacking visit.

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, MTA Time	Current Lab Tech. Time	Current Total Clinical Staff Time (min)
21076, Surgical Obturator Prosthesis	1	60	195				
	2 (OR time)	0	0				
	3	125	30				
TOTAL	3	185	225	410	135	150	285

Visit #1: Preliminary Impression: MFP = Maxillofacial Prosthodontist (doctor) **60 minutes Dental Assistant, 195 minutes Laboratory Technician**

Dental Assistant:

- Disinfecting equipment, 5 minutes
- Set up, 5 minutes
- Reviewing medical history, medications etc., 5 minutes
- Assist MFP in impression and measurements and occlusal analyses, 40 minutes
- Clean and dismiss patient, 5 minutes

The following work is done after the patient leaves:

Laboratory Technician:

1. Pour preliminary impression, separate and trim cast, duplicate cast, mount casts, 60 minutes
2. Review design with MFP, 15 minutes
3. Mount models, set up teeth, wire clasping, 30 minutes
4. Review set up with MFP and final occlusal analysis, 15 minutes
5. Invest, process in acrylic, remount, finish down and polish, 60 minutes
6. Review final prosthesis with MFP, 15 minutes

Visit #2: Insertion (wired in or screwed in) in OR : All MFP time. No clinical staff time

Visit #3: Unpacking

125 minutes Dental Assistant, 30 minutes Laboratory Technician

Dental Assistant:

- Disinfect equipment, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in removal of prosthesis, 15 minutes
- Assist MFP in pickup impression to add tooth/clasp to obturator, 15 minutes
- Assist MFP in first reline capturing defect, 15 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Assist MFP in capturing deficiencies, 15 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Assist MFP in home care instructions and showing patient insertion and removal of prosthesis, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Add tooth and clasp, 30 minutes

Appendix C: CPT Code 21077 Orbital Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect the current treatment protocols.

Some examples: extraoral prostheses are made of silicone or acrylic. All of the equipment (curing oven, color matching equipment, software design) and supplies associated with the silicone were not factored into the PE values. Our recommendations were reviewed by Julie Jordan Brown, who teaches ethics and the business of facial prosthetics at John Hopkins Medical Center and Patti Montgomery, senior anaplastologist at MDA Cancer Center and Past President of the International Anaplastology Association. Letters of support from Ms. Brown and Ms. Montgomery are also included in Appendix M.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

We have included all of the supplies associated with the silicone and have included the pricing of baseplate, boxing wax, final impression material, acrylic (for supra-structure), and silicone. An electrical box is included in the list which is used to flask the extraoral prosthesis. It is much more economical to use two electrical boxes at a price of \$4.76 rather than a conventional flask at a cost of over \$300. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, dental stone, Kleenex, and cotton tip applicators. The articulator and the dental impression tray need to be removed, since they are not used in the fabrication of an orbital prosthesis. The dental impression tray and articulator are not part of the orbital prosthesis and should be factored into the practice expense values of the intraoral prosthesis.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21077: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray,dental	2	0	0.97	0.00	5	\$128,010.91
Final 08	EP056	articulator	35	0	0.06	0.00	10	\$662.00

CPT Code 21077: Recommended Removal of Supplies

Code 21077	Deletions	Comment	Monetary Value
Orbital Prosthesis	Dental impression tray	A dental impression tray should be factored into the intraoral prostheses.	0.48 in office

Additions for CPT Code 21077: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			2 minutes per prosthesis
Spectromatch	Factor II	\$4,040.95			5 minutes per prosthesis
Oven	Factor II	\$795.00			2 hours per prosthesis (one hour to cure and one hour sitting in a hot oven)
Planmeca Proface imaging software	Henry Schein	\$24,610.00			2 hours in planning and printing guides
Scale	Factor II	\$29.95			5 minutes per prosthesis
Vacuum Bell Jar	Factor II	\$349.95			2 minutes per prosthesis

Vortex Mixer	Factor II	\$38.95			2 minutes per prosthesis
Pneumatic Dispenser	Factor II	\$449.00			2 minutes per prosthesis
Alcohol Torch	Factor II	\$8.95			10 minutes per prosthesis

Additions for CPT Code 21077: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$ 64.20
Triad Tray Material Custom Tray Material	Henry Schein	\$109.99	50 sheets per box = \$2.20 per sheet	\$2.20
3M tray adhesive	Henry Schein	\$36.99	17 mL, use .25 mL per prosthesis	\$0.54
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 20 per prosthesis \$1.76 per prosthesis	\$1.76
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 20 per prosthesis	\$1.80
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 25 per prosthesis	\$0.42
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 44 gloves per prosthesis	\$7.17
Masks	Henry Schein	\$14.75	40 per box, 10 masks used during visits	\$3.69
Green stone	Henry Schein	\$72.99	12 molds can be made from each box,	\$6.08
White plaster	Henry Schein	\$43.79	12 investing can be made from each box	\$3.65
Boxing Wax	Keystone	\$25.79	1 lb 454 grams, 75 strips in a box, use 6 per prosthesis	\$2.06
Rope Wax	Henry Schein	\$25.99	44 in box, \$25.99 divided by 44 = \$0.59, use 4 pieces per prosthesis	\$2.36
Baseplate wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis	\$2.04
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 10 per prosthesis	\$0.10
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$16.27 per model	\$16.27
Electrical box	Lowe's	\$2.38	Use two per prosthesis	\$4.76
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86

Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Silicone A2186	Factor II	\$129.95	50 grams = 1 prosthesis, 9 prostheses per jar	\$14.44
VST-50 Silicone Elastomer	Factor II	\$51.95	One pound or 453 grams per jar, 10 grams per prosthesis,	\$1.15
VST-50 HD Silicone Elastomer	Factor II	\$59.95	One pound or 453 grams per jar, 10 grams per prosthesis	\$1.33
A-515 Ease Release	Factor II	\$12.95	1 can, 25 sprays per can] \$12.95 divided by 25 = \$0.52	\$0.52
Sealing Kit	Factor II	\$72.95	25 seals per kit	\$2.91
Thixotropic Agent	Factor II	\$10.95	15 uses per jaw	\$0.73
Flocking Custom Kit	Factor II	\$41.36	25 uses per flocking	\$1.65
Functional Intrinsic Coloration	Factor II	\$575.00	50 uses per kit	\$11.50
Extrinsic Coloration	Factor II	\$198.86	50 uses per kit	\$3.98
Separating Tin Foil	Factor II	\$16.76	20 uses per can	\$0.84
G-490-0-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses \$14.00 divided by 10 = \$1.40	\$1.40
G-490-00-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
G-490-000-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
P7 Acid brushes 12 Dz	Factor II	\$18.95	\$18.95 divided by 144 brushes = 0.13 per brush, use 3 for each prosthesis	\$0.39
P14 Acid brushes 12 Dz	Factor II	\$25.95	\$25.95 divided by 144 brushes - = 0.18 per brush, use 2 brushes per prosthesis	\$0.36
Silicone Wheels	Factor II	\$35.95	25 uses per wheel	\$1.44
Sculpting Wax	Factor II	\$44.96	30 uses per box \$1.50 per sheet Use 3 per prosthesis	\$4.50
J-120 Ocular Disc Clear	Factor II	\$0.65	Per patient	\$0.65
J-27 Artificial Eye 5LN17	Factor II	\$250.00	One per patient	\$250.00
501710 eyelash Black	Factor II	\$5.00	Per patient	\$5.00
J-100 Ocular Veining Thread	Factor II	\$1.00	Per Patient	\$1.00
Ocular Prosthetic Pupil Ink	Factor II	\$10.75	15 uses per pencil	\$0.72
GP Oil Colors	Factor II	\$346.55	50 uses per bottle	\$6.91
Color Kit for Spectramatch	Factor II	\$695.00	50 uses per kit	\$13.90
Silicone Putty	Factor II	\$42.36	454grams per container, 25 grams per prosthesis, 18 uses per container,	\$2.35
Daro Hydrobond	Factor II	\$17.10	One is given to each patient	\$17.10
Medical Adhesive A	Factor II	\$17.20	20 uses per tube	\$0.86
Extrinsic Tri Fluid	Factor II	\$45.56	16 oz. per bottle, 1 oz per prosthesis	\$2.85
Secure II Extra Strength Adhesive	Factor II	\$24.50	One is given to each patient	\$24.50
ProBond	Factor II	\$ 8.50	1 oz., 0.10 oz is used per prosthesis	\$0.85
B-204 Pros Aide	Factor II	\$14.95	One is given to each patient	\$14.95
B-200 ES Daro Extra Strength	Factor II	\$17.75	One is given to each patient	\$17.75

B508 Solvent	Factor II	\$6.25	4 oz., 0.10 oz is used per prosthesis	\$0.16
B-100 Skin Prep Wipe On	Factor II	\$15.95	One is given to each patient	\$15.95
B608 Pro Bond Solvent	Factor II	\$23.50	4 oz., 0.10 oz is used per prosthesis	\$0.59
B-203-10 Edge Adhesive	Factor II	\$16.95	One is given to each patient	\$16.95
9014 Mixing Pads large	Factor II	\$31.95	\$31.95 divided by 50 sheets = \$0.64 per sheet, use 5 sheets per prosthesis	\$3.20
A-300-1 Thixotropic Agent	Factor II	\$22.95	1 oz., 0.10 oz is used per prosthesis	\$2.30
Craniofacial Implantsl.02.01 x 350 Titanmagnetics Insert X-Line D4.8/H3.5	Southern Implants	\$179.00	Use 3 per prosthesis	\$537.00
Craniofacial Implant M.00.01.x900 Titanmagnetics Model Analogue X-Line D4.8/H3.5	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant A.00.02x695 Titanmagnetics Impression Post X-Line D4.8/H6.95	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant &.00.01.x265K Titanmagnetics epitheses magnet X-Line D4.8/H2.65	Southern Implants	\$95.00	Use 3 per prosthesis	\$285.00

Additions for CPT Code 21077: Sterilizable, Reusable instruments

Equipment	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Magnetic Torque Wrench	Southern Implants	\$80.50	15 minutes

Recommended Clinical Staff Time for an Orbital Prosthesis CPT Code 21077

Typical Scenario: Fabricating craniofacial implant supported prosthesis

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Clinical Staff Time (min)	Current RN, LPN, MTA Time (min)	Current Laboratory Tech. Time (min)	Current Total Clinical Staff Time (min)
21077, Orbital prosthesis	1	0	150				
	2 (OR time)	0	0				
	3 (OR time)	0	0				
	4	95	120				
	5	200	90				
	6	80	90				
	7	110	240				
	8	80	30				
	9	50	0				
TOTAL	9	615	570	1,185	240	380	620

Visit #1: Virtual Surgical Planning: MFP (Maxillofacial Prosthodontist) plans case

150 minutes Laboratory Technician

Laboratory technician:

- Assists with surgical planning, 60 minutes
- Performs 3-D printing for wax pattern & conversion into wax pattern, 90 minutes

Visit #2: Consultation with Surgeon (placement of screws) MFP In OR; no clinical staff time

Visit #3: Consultation with Surgeon (abutment placement) MFP In OR; no clinical staff time

Visit #4: Final Impression

95 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression and orientation of auricular wax up, 60 minutes
- Helping MFP with photographs and globe evaluation 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technicians:

- Review impression with MFP, pour impression and waxing initial base pattern, characterization of globe 120 minutes

Visit #5: Sculpting

200 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in sculpting and setting of globe, 180 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Sculpt and texture wax patterns, 90 minutes

Visit #6: Sculpting

80 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in sculpting and setting of globe, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Sculpt and texture wax patterns, reviews wax pattern with MFP 90 minutes

Visit 7: Finalization of Sculpting, Color Characterization

110 minutes Dental Assistant, 240 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP to finalize sculpting, 30 minutes
- Assist MFP in color characterization, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Finalize sculpting, invest, boil out and process in silicone, 240 minutes

Visit 8: Painting

80 minutes Dental Assistant, 30 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with painting, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Seal prosthesis, 30 minutes

Visit 9: Delivery

50 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with finalizing and delivering prosthesis, 30 minutes
- Clean and dismiss patient, 10 minutes

Appendix D: CPT Code 21079 Interim Obturator Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

An interim obturator prosthesis is crucial during healing and needs to be relined weekly for proper healing. The interim obturator prosthesis is used for three months. In CMS listed PE values for CPT code 21079, the orthodontic wire, teeth, registration paste, the Triad tray material, boxing wax, baseplate wax, denture acrylic, and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

Recommend Removal for CPT Code 21079: Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Recommended Removal of CPT Code 21079: Supplies

Code 21079	Deletions	Comment	Monetary Value
Interim Obturator Prosthesis	SL208 alloy framework	An alloy framework is not used in an interim obturator.	0.00

Additions for CPT Code 21079: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21079: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 relines. Patient is seen weekly for 3 months (12 visits). 2 relines per visit	\$252.86
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 12 napkins	\$1.20

Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 12 per prosthesis	\$1.08
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 60 per prosthesis	\$1.20
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 12 per prosthesis	\$0.41
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 12 per prosthesis	\$2.81
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits. Use 3 boxes per prosthesis	\$17.43
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper models and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 12 visits, use 2 per visit	\$8.85

Additions for CPT Code 21079: Sterilizable, Reusable instruments

Equipment	Company	Cost	Time (3 months)
Acrylic Burs adjustment kit	Henry Schein	\$61.79	180 minutes
Buff Wheel	Henry Schein	\$54.79	180 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	60 minutes

Recommended Clinical Staff Time for an Interim Obturator Prosthesis CPT Code 21079

Typical Scenario: Dentate Patient, Patient seen weekly during healing for reline

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, MTA time (min)	Current Lab Tech. Time (min)	Current Total Clinical Staff Time (min)
21079, Interim Obturator Prosthesis	1	80	195				
	2	110	30				
	3	80	15				
	4	80	15				
	5	80	15				
	6	80	15				
	7	80	15				
	8	80	15				
TOTAL	8	670	315	985	270	260	530

Visit #1: Preliminary Impression MFP = Maxillofacial Prosthodontist

80 minutes Dental Assistant, 195 minutes Laboratory Technician

Dental Assistant:

- Disinfect room 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression, measurements and occlusal analyses, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Pour preliminary impression, separate and trim cast, duplicate cast, mount casts, 60 minutes
- Review prosthetic design with MFP, 15 minutes
- Mount models, set up teeth, wire clasping, 30 minutes
- Review set up with MFP, final occlusal analysis, 15 minutes
- Invest, process in acrylic, remount, finish down, and polish, 75 minutes

Visit #2: Delivery of Interim Obturator Prosthesis

110 minutes Dental Assistant, 30 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect, 15 minutes
- Placing in prosthesis and adjusting, 30 minutes

- Assist MFP in relining and capturing defect and deficiencies, 30 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Adjust and polish prosthesis after relines, 30 minutes
-

Visit #3: Reevaluation of Interim Obturator Prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect ,15 minutes
- Assist MFP in adjusting prosthesis, reline, and speech/swallowing evaluation, 45 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Adjust and polish prosthesis after relines, 15 minutes

Visit #4: Relining Interim Obturator prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning defect and evaluation of defect, 15 minutes
- Assist MFP in relining and capturing defect and deficiencies, 30 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Remove old tissue conditioning materials and polish prosthesis, 15 minutes

Visit #5: Relining Interim Obturator prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect, 15 minutes
- Assist MFP in relining and capturing defect and deficiencies, 30 minutes

- Assist MFP in speech and swallowing evaluation, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Remove old tissue conditioning materials and polish prosthesis, 15 minutes

Visit #6: Relining Interim Obturator prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect 15 minutes
- Assist MFP in relining and capturing defect 30 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Remove old tissue conditioning materials and polish prosthesis, 15 minutes

Visit #7: Relining Interim Obturator prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect, 15 minutes
- Assist MFP in relining and capturing defect, 30 minutes
- Assist MFP in speech and swallowing evaluation, 15 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Remove old tissue conditioning materials and polish prosthesis, 15 minutes

Visit #8: Relining Interim Obturator prosthesis

80 minutes Dental Assistant, 15 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning and evaluation of defect, 15 minutes
- Assist MFP in relining and capturing defect, 30 minutes

- Assist MFP in speech and swallowing evaluation, 15 minutes
- Cleaning patient and dismissing patient 10 minutes

Laboratory Technician:

- Remove old tissue conditioning materials and polish prosthesis, 15 minutes

Appendix E: CPT Code 21080 Definitive Obturator Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, the current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments

For a definitive obturator prosthesis, a metal alloy framework with dental implants is critical to adequately support the defect portion of the prosthesis. This prosthesis replaces all or a portion of the hard and soft palate. In CMS listed PE values for CPT code 21080, the registration paste, the photo polymerizing Triad tray material, baseplate wax, boxing wax, framework, denture acrylic, green stick compound, orthodontic wire, final impression material and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Costs for ultrasonic solution, sterilization pouches, sterilization process indicators, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21080: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Additions for CPT Code 21080: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			5 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21080: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 relines 3 relines per prosthesis	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 7 napkins per prosthesis	\$0.70
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 7 per prosthesis	\$0.63

Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 20 per prosthesis	\$0.40
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 7 per prosthesis	\$0.23
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 7 per prosthesis	\$1.64
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$258.68	Can get 16 injections per kit	\$16.17
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$16.17	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper modles and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 6 visits	\$2.21
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Framework	Bertram	\$184.90	Cost of 1 framework	\$184.90
Locator attachments	Preat	\$1,585.37	Use 6 implants per case and use all components per case	\$1,585.37

Additions for CPT Code 21080: Sterilizable, Reusable instruments

Instruments	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes
Screwdriver	Straumann	\$72.00	30 minutes

Recommended Clinical Staff Time for CPT Code 21080: Definitive Obturator Prosthesis

Typical Scenario: Edentulous patient with 6 implants and locators.

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN,LPN, or MTA time (min)	Current Lab. Tech. Time (min)	Current Total Clinical Staff Time (min)
21080, Definitive Obturator Prosthesis	1		60				
	2	65	60				
	3	110	165				
	4	125	120				
	5	110	90				
	6	125	120				
	7	95	0				
TOTAL	7	630	555	1,185	340	285	625

Visit #1: Virtual Surgical Planning

MFP (Maxillofacial Prosthodontist) designs case. Laboratory Technician is present for input during the 30 minute planning session

Laboratory Technician:

- Assist during virtual surgical planning, 30 minutes
- Post planning performs implant guide design and 3D printing of the surgical guide, 30 minutes

Visit #2: Preliminary Impression

65 minutes Dental Assistant, 60 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression and measuring tissue height for implants, 45 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review custom tray design with MFP, pour preliminary impression and fabricate custom tray, 60 minutes

Visit #3: Final Impression

110 minutes Dental Assistant, 165 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history and medications, 5 minutes
- Assist MFP in cleaning defect, 15 minutes
- Assist MFP in locator implant abutment placement, 15 minutes
- Assist MFP make the impression (border, molding, etc.), 60 minutes
- Clean defect and patient, dismiss patient, 10 minutes

Laboratory Technician:

- Check master cast, review suprastructure design, check record base with MFP, 15 minutes
- Pour final impression, duplicate models, six locator laboratory analogs, fabricate heat processed record base, suprastructure design and 3D-print, 150 minutes

Visit #4: Heat Processed Record Base Tryin

125 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in cleaning defect, 15 minutes
- Assist MFP in locator implant abutment placement, 15 minutes
- Assist MFP in assessing fit, speech, and swallowing evaluation, yogurt test, reline of areas not captured in original impression (altered cast), 75 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Assists MFP in checking final record base prior to addition of wax rim, pour record base with any changes, convert additions into heat cured methyl methacrylate, invest, process in acrylic, remount, finish down and polish, 120 minutes

Visit #5: Maxillomandibular Relationship Record

110 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP cleaning defect, 15 minutes
- Assist MFP in placement and removal of locator abutments to and from each dental implant, 15 minutes
- Assist MFP record the maxillomandibular relationship record, and in tooth selection, 60 minutes

- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Articulate models, set teeth for wax trial prosthesis, 90 minutes

Visit #6: Esthetic Try-in

125 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP clean defect, 15 minutes
- Assist MFP in placement and removal of locator abutments, 15 minutes
- Assist MFP accomplish esthetic try-in, 75 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Finalize contours and prosthetic tooth positions, waxing and festooning, invest, process in polymethylmethacrylate acrylic resin, re-articulate, refine occlusal contacts, finish and polish, 120 minutes

Visit #7: Delivery

95 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical records, medications, etc., 5 minutes
- Assist MFP clean defect, 15 minutes
- Assist MFP in placement of locator abutments, 15 minutes
- Assist MFP with adjustment and placement of prosthesis, 45 minutes
- Clean and dismiss patient, 10 minutes

Appendix F: CPT Code 21081 Mandibular Resection Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

The mandibular resection prosthesis experienced the biggest transformation in PE values out of all of the codes due to virtual surgical planning and 3D technology for surgical reconstruction with the fibula free flap. In the CMS listed PE values for CPT code 21081, the registration paste, the Triad tray material, baseplate wax, boxing wax, framework, denture acrylic, green stick compound, orthodontic wire, final impression material and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21081: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Additions for CPT Code 21081: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			180 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 60 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			5 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes
Milling Machine and Implant Software	Henry Schein	\$109,995.55	Imagine	\$78,546.00	240 minutes
Zirconium Speed Furnace			Imagine	\$47,023.00	1,020 minutes
Supplies for Milling Machine and Scan Bodies			Imagine	\$103,529.00	240 minutes

Additions for CPT Code 21081: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 relines 3 relines per prosthesis	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32

Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 6 napkins per prosthesis	\$0.60
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 6 per prosthesis	\$0.54
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 20 per prosthesis	\$0.40
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 6 per prosthesis	\$0.20
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 6 per prosthesis	\$1.40
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$258.68	Can get 16 injections per kit	\$16.17
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper modles and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 6 visits	\$2.21
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Ti Bases attachments	Preat	\$1,585.37	Use 6 implants per case and use all components per case	\$1,585.37

Implant Components	Straumann			\$1,258.95
Zirconium Framework	Aurora			\$1,370.00 for the prosthesis

Additions for CPT Code 21081: Sterilizable, Reusable instruments

Instruments	Company	Cost		Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79		60 minutes
Buff Wheel	Henry Schein	\$54.79		15 minutes
Artex Facebow	Jenson Dental	\$1,042.34		15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29		5 minutes
Screwdriver	Straumann	\$72.00		30 minutes

Recommended Clinical Staff Time for a Resection Prosthesis CPT Code 21081

Typical Scenario: Edentulous patient with mandibular fibula with 6 implants and fabrication of a fixed implant supported prosthesis (zirconia).

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician/Biomedical Engineer Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, or MTA time (min)	Current Lab. Tech. Time (min)	Current Total Clinical Staff Time (min)
21081, Mandibular Resection Prosthesis	1	0	45				
	2	110	90				
	3	120	90				
	4	120	90				
	5	120	180				
	6	120	190				
	7	80	0				
TOTAL	7	670	640	1,310	355	225	580

Visit #1: Virtual Surgical Planning. MFP = Maxillofacial Prosthodontist

45 minutes biomedical engineer

The MFP designs the prosthesis, but because the prosthetic requires a fibular transplant, a biomedical engineer is required to assist with the virtual planning instead of a laboratory technician, 45 minutes

Visit #2: Final Impression

110 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP placing impression posts, verifying passive fit radiologically, scan or make impression, put temporary prosthesis back onto fixtures, 90 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Pour final impression with soft tissue cast, duplicate models, make GC resin, 90 minutes

Visit #3: GC Resin Framework

120 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP remove temporary prosthesis, place GC resin framework, verify passive fit radiologically, re-section GC resin framework, re-lute GC resin framework, verify passive fit radiologically, put temporary prosthesis back onto fixtures, 100 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Assists MFP checking accuracy of final cast with GC resin framework, resetting analogue, fabricates a fixed endosseous screw retained record base with occlusal rim, 90 minutes

Visit #4: Jaw Relationship Record

120 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP remove the temporary prosthesis, placing record base and making adjustments, capturing centric relation, putting temporary prosthesis back onto fixtures, tooth selection shade and mold, 100 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Mount models, set up teeth for wax try, 90 minutes

Visit #5: Esthetic Try in

120 minutes Dental Assistant, 180 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP remove the temporary prosthesis, placing esthetic try in and making adjustments and putting temporary prosthesis back onto fixtures, 100 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

180 total minutes to do the following:

- Finish waxing and festooning

- Pick appropriate scan bodies and scan upper and lower models and bite into software,
- Open design software for virtual planning resection appliance
- Submit design for milling in acrylic
- Contouring and polishing of acrylic with custom characterization
- Cementation of titanium bases

Visit #6: Prototype Framework Try in

120 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP remove the temporary prosthesis, place framework, verify fit radiographically and clinically, make adjustments and putting temporary prosthesis back onto fixtures, 100 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

120 total minutes to do the following:

- Make appropriate changes and rescan if necessary,
- Open design software for virtual planning resection appliance,
- Submit design for milling in zirconium,
- Verification of fit and porcelain application, and
- Cementation of titanium bases 90 minutes

Visit #7: Delivery

80 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP remove the temporary prosthesis, place definitive prosthesis, 60 minutes
- Clean and dismiss patient, 10 minutes

Appendix G: CPT Code 21082 Palatal Augmentation Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect the current equipment and supplies used in the fabrication of a palatal augmentation prosthesis.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments

For a palatal augmentation prosthesis, a framework with dental implants is critical to adequately support the palatal portion of the prosthesis with the tongue. In the CMS listed PE values for CPT code 21082, the registration paste, the Triad tray material, baseplate wax, boxing wax, framework, denture acrylic, green stick compound, orthodontic wire, final impression material and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS price needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21082: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Additions for CPT Code 21082: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			5 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21082: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 reline 3 reline per prosthesis	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 6 napkins per prosthesis	\$0.60
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 6 per prosthesis	\$0.54

Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 20 per prosthesis	\$0.40
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 6 per prosthesis	\$0.20
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 6 per prosthesis	\$1.40
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$258.68	Can get 16 injections per kit	\$16.17
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper modles and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 6 visits	\$2.21
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Framework	Bertram	\$184.90	Cost of 1 framework	\$184.90
Locator attachments	Preat	\$1,585.37	Use 6 implants per case and use all components per case	\$1,585.37

Additions for CPT Code 21082: Sterilizable, Reusable instruments

Instruments	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes
Screwdriver	Straumann	\$72.00	30 minutes

Recommended Clinical Staff Time for a Palatal Augmentation Prosthesis CPT Code 21082

Typical Scenario: Edentulous patient with loss of 65% of patient tongue

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN,LPN , or MTA time (min)	Current Lab Tech. Time (min)	Current Total Clinical Staff Time (min)
21082, Palatal Augmentation Prosthesis	1		60				
	2	65	60				
	3	85	195				
	4	110	120				
	5	95	90				
	6	120	120				
	7	95	0				
TOTAL	7	570	585		385	245	630

Visit #1: Virtual Surgical Planning

MFP (Maxillofacial Prosthodontist) designs the case. Laboratory Technician is present for input during the 30 minute planning session

Laboratory Technician:

- Assist with virtual surgical planning, 30 minutes
- Post surgical planning, surgical guide implant design and 3D printing the surgical guide, 30 minutes.

Visit #2: Preliminary Impression

65 minutes Dental Assistant, 60 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression and measuring tissue height for implants, 45 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review custom tray design with MFP, pour preliminary impression and fabricate custom tray, 60 minutes

Visit #3: Final Impression

95 minutes Dental Assistant 165 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history and medications, 5 minutes
- Assist MFP in locator implant abutment placement, 15 minutes
- Assist MFP make the impression (border, molding, etc.), 60 minutes
- Clean defect and patient, dismiss patient, 10 minutes

Laboratory Technician:

- Check master cast, review suprastructure design, check record base with MFP, 15 minutes
- Pour final impression, duplicate models, six locator laboratory analogs, fabricate heat processed record base, suprastructure design and 3D-print, 150 minutes

Visit #4: Heat Processed Record Base Tryin

110 minutes Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in locator implant abutment placement, 15 minutes
- Assist MFP in assessing fit, speech, and swallowing evaluation, yogurt test, reline of areas not captured in original impression (altered cast), 75 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Assists MFP in checking final record base prior to addition of wax rim, pour record base with any changes, convert additions into heat cured methyl methacrylate, invest, process in acrylic, remount, finish down and polish, 120 minutes

Visit #5: Maxillomandibular Relationship Record

95 minutes Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in placement and removal of locator abutments to and from each dental implant, 15 minutes

- Assist MFP record the maxillomandibular relationship record, and in tooth selection, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Articulate models, set teeth for wax trial prosthesis, 90 minutes

Visit #6: Esthetic Try-in

125 minutes Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP clean defect, 15 minutes
- Assist MFP in placement and removal of locator abutments, 15 minutes
- Assist MFP accomplish esthetic try-in, 75 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Finalize contours and prosthetic tooth positions, waxing and festooning, invest, process in polymethylmethacrylate acrylic resin, re-articulate, refine occlusal contacts, finish and polish, 120 minutes

Visit #7: Delivery

95 minutes Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical records, medications, etc., 5 minutes
- Assist MFP clean defect, 15 minutes
- Assist MFP in placement of locator abutments, 15 minutes
- Assist MFP with adjustment and placement of prosthesis, 45 minutes
- Clean and dismiss patient, 10 minutes

Appendix H: CPT Code 21083 Palatal Lift Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

For a palatal lift prosthesis, a framework is critical to adequately support the lift portion of the prosthesis onto the soft palate. In the CMS listed PE values for CPT code 21083, the registration paste, the Triad tray material, baseplate wax, boxing wax, framework, denture acrylic, green stick compound, orthodontic wire, final impression material and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21083: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Additions for CPT Code 21083: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21083: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 reline 3 reline per prosthesis	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 5 napkins per prosthesis	\$0.50
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 5 per prosthesis	\$0.45

Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 20 per prosthesis	\$0.40
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 5 per prosthesis	\$0.17
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 5 per prosthesis	\$1.15
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$258.68	Can get 16 injections per kit	\$16.17
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper modles and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 6 visits	\$2.21
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Framework	Bertram	\$184.90	Cost of 1 framework	\$184.90

Additions for CPT Code 21083: Sterilizable, Reusable instruments

Instruments	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes

Recommended Clinical Staff Time for a Palatal Lift Prosthesis CPT Code 21083

Typical Scenario: Dentate Patient with Soft Palate Paralysis

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, or MTA Time (min)	Current Lab. Tech Time (min)	Current Total Clinical Staff Time (min)
21083, Palatal lift prosthesis	1	80	60				
	2	80	240				
	3	110	120				
	4	80	120				
	5	80	0				
TOTAL	5	430	540	970	445	220	665

Visit #1: Preliminary Impression MFP = Maxillofacial Prosthodontist

80 minutes Dental Assistant, 60 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in making impression, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review tray design with MFP, pour preliminary impression and fabricate custom tray, 60 minutes

Visit #2: Final Impression and Jaw Relationship Record

80 minutes Dental Assistant, 240 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP make the impression and jaw relationship record, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Reviews master cast with MFP, reviews framework design and checks record base, pours final impression, duplicate models, fabricates framework, 240 minutes

Visit #3: Framework Tryin and Palatal Molding, Jaw Relationship Record

110 minutes Dental Assistant, 150 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP putting in framework palatal molding for speech and swallowing, palatal molding and capturing centric relation, 90 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Check mounting and set up, 30 minutes
- Pours palatal molding and duplicates master cast, mount models, set up teeth for wax try in, 120 minutes

Visit #4: Esthetic Tryin and Palatal Molding with Speech and Swallowing Pathologist

80 minutes Dental Assistant, 150 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in esthetic tryin, 30 minutes
- Assist MFP with palatal molding along with speech pathologist (to optimize speech and swallowing), 30 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Check final wax up and final prosthesis, 30 minutes
- Repour altered cast, finish waxing and festooning, invest, process in acrylic, remount, finish and polish, 120 minutes

Visit #5: Delivery

80 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in delivery and adjustment of prosthesis, 60 minutes
- Clean and dismiss patient, 10 minutes

Appendix I: CPT Code 21084 Speech Aid Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

For a speech aid prosthesis, a framework is critical to adequately support the bulb portion of the prosthesis onto the soft palate. In the CMS listed PE values for CPT code 21084, the registration paste, the Triad tray material, baseplate wax, boxing wax, framework, denture acrylic, green stick compound, orthodontic wire, final impression material and Trusoft did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21084: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

Additions for CPT Code 21084: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21084: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 relines 3 relines per prosthesis	\$31.61
Denture Teeth	Ivoclar	\$76.32	Upper anterior and upper posterior teeth (can't purchase individually, have to purchase all 6 anterior teeth and all 8 posterior teeth)	\$76.32
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 6 napkins per prosthesis	\$0.60
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 6 per prosthesis	\$0.54

Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 20 per prosthesis	\$0.40
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 60 gloves per prosthesis	\$9.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 6 per prosthesis	\$0.20
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 6 per prosthesis	\$1.40
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$258.68	Can get 16 injections per kit	\$16.17
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper models and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 6 visits	\$2.21
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Framework	Bertram	\$184.90	Cost of 1 framework	\$184.90

Additions for CPT Code 21084: Sterilizable, Reusable instruments

Instruments	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes

Recommended Clinical Staff Time for a Speech Aid Prosthesis CPT Code 21084

Typical Scenario: Dentate Cleft Patient

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, or MTA Time (min)	Current Lab. Tech Time (min)	Current Total Clinical Staff Time (min)
21084, Speech Aid Prosthesis	1	80	60				
	2	110	240				
	3	110	90				
	4	80	90				
	5	80	90				
	6	80	0				
TOTAL	6	540	570	1,110	475	245	720

Visit #1: Preliminary Impression MFP = Maxillofacial Prosthodontist

80 minutes Dental Assistant, 60 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with impression, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Pour preliminary impression and fabricate custom tray, 60 minutes

Visit #2: Final Impression and Jaw Relationship

110 minutes Dental Assistant, 240 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in making the final impression, rest preps and jaw relationship record, 90 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review master cast and framework design, checks record base with MFP, pours final impression, duplicate models, fabricates metal framework, 240 minutes

Visit #3: Framework Tryin / Palatal Molding, Jaw Relationship

110 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP putting in framework, physiologic relief of framework, palatal molding multiple times for speech and swallowing evaluation, capturing centric relation, 90 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Reviews mounting and altered cast with MFP, polishes framework, pours palatal molding and duplicates master cast, mount models, 90 minutes

Visit #4: Evaluation with Speech and Swallowing Pathologist at Heat Processed Record Base Stage for Palatal Defect.

80 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes,
- Assist MFP in palatal molding with speech and swallowing pathologist, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Reviews altered cast and occlusal design with MFP, pours altered cast and sets teeth, 90 minutes

Visit #5: Esthetic Tryin

80 minutes Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in esthetic tryin and reevaluation of speech and additional molding of defect, 60 minutes
- Cleaning patient and dismissing patient 10 minutes

Laboratory Technician:

- Reviews final wax up and final prosthesis with MFP, finish waxing and festooning, invest, boil out, process in acrylic, remount, finish and polish, 90 minutes

Visit #6: Delivery

80 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in delivery of prosthesis and adjustment, occlusal analyses, polishing and evaluation of speech and swallowing, 60 minutes
- Clean and dismiss patient, 10 minutes

Appendix J: CPT Code 21085 Oral Surgical Splint

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

The oral surgical splint usually involves four visits. In the CMS listed PE values for CPT code 21085, the registration paste, the baseplate wax, boxing wax, green stick compound, denture acrylic, orthodontic wire, and the final impression material did not have listed prices. We included them in our list. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, saliva ejectors, Kleenex, and cotton tip applicators. Reline material (Trusoft) was added and the splint is intraoperatively placed. Although the articulator was included in the CMS data, the facebow was not included and is a necessary piece of equipment. The remaining supply data with the CMS prices needs to be updated.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21085: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91

CPT Code 21085: Recommended Removal of Supplies

Code 21085	Deletions	Comment	Monetary Value
Oral Surgical Splint	SL208 alloy framework	An alloy framework is not used in an oral surgical splint	0.00

Additions for CPT Code 21085: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes

Additions for CPT Code 21085: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Trusoft Reline Material	Henry Schein	\$105.36	8 oz =10 relines 1 relines per splint	\$10.54
Memosil Bite Registration Paste	Henry Schein	\$111.51	2 cartridges. One cartridge is \$55.76. Can get 6 per cartridge	\$9.30
Triad Tray Material Custom tray material	Henry Schein	\$109.99	30 sheets per box = \$3.67 per sheet	\$3.67
Boxing Wax	Keystone	\$25.79	1 lb. is \$25.79. So, for one boxing wax is \$1	\$1.00
Baseplate Wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis, 4x 51 cents = \$2.04 per prosthesis	\$2.04
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 1 per visit, total of 4 napkins	\$0.40
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 4 per prosthesis	\$0.36

Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 10 per prosthesis	\$0.20
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 10 gloves per prosthesis	\$1.60
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 4 per prosthesis	\$0.14
Saliva Ejectors	Henry Schein	\$23.44	\$23.44 per 100, use 2 per prosthesis	\$0.49
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$	\$16.27
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Ball Clasps	Henry Schein	\$43.99	\$100 in a pack, .44 x 3 clasp per prosthesis	\$1.32
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Tray Adhesive	Henry Schein	\$41.99	30 mL per bottle, Each tray uses .25 mL. Maxillary and mandibular cost is	\$0.35
Wax Rims	Coltene Whaledent	\$116.99 per 100	1 wax rim = \$1.12.	\$1.12
Disposable Mounting Plates	Jenson Dental	\$42.79	10 in bag, require 2 for case	\$3.08
Die Keen stone	Henry Schein	\$72.99	33 Lb in bag, one model weights .44 lbs. Require 2 upper models and 1 lower for case	\$1.95
Type III Mounting stone Castone White	Henry Schein	\$43.99	25 Lb Lb in bag, to mount one model requires 0.25 pd, require 2 mountings per prosthesis	\$0.88
Pressure Indicator Paste Paste	Henry Schein	\$70.79	35 uses per container.	\$2.02
Masks	Henry Schein	\$14.75	40 in a box, 2 visits	\$0.74
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$64.20
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56

Additions for CPT Code 21085: Sterilizable, Reusable instruments

Equipment	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Artex Facebow	Jenson Dental	\$1,042.34	15 minutes
Clasp Adjusting Pliers Size 200 Ea (three prong plier),	Henry Schein	\$87.29	5 minutes

Recommended Clinical Staff Time for a Surgical Splint Prosthesis CPT Code 21085

Typical Scenario: Gunning Splint for an Edentulous Patient

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, MTA Time	Current Lab Tech. Time	Current Total Clinical Staff Time
21085, Oral Surgical Splint	1	60	75				
	2	80	120				
	3(OR)	0	0				
	4	60	0				
TOTAL	3	200	295	495	215	75	290

Visit #1: Preliminary Impression

Dental Assistant, 60 minutes; Laboratory Technician, 75 minutes

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in doing impression, 40 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review model work and splint design with MFP, 15 minutes
- Pour preliminary impression, duplicates model, fabricates triad, records bases and occlusal rims, 60 minutes

Visit #2: Jaw Relationship

80 minutes Dental Assistant, 200 minutes Laboratory Technician (during and after visit)

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in jaw relationship record, 60 minutes
- Clean patient and defect, and dismiss patient, 10 minutes

Laboratory Technician:

- Reviews design with MFP and mounts models (post-visit), 30 minutes

- Waxes splint and adds arch bars, invest, process in acrylic, remount, finish down and polish (post-visit), 90 minutes

Visit #3: Delivery in OR All MFP time; no clinical staff time

Visit #4: Removal of Splint

60 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review history, medications, etc., 5 minutes
- Assist MFP removing splint and adapting prothesis for removable, 40 minutes
- Clean and dismiss patient, 10 minutes

Appendix K: CPT Code 21086 Auricular Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each supply – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

Extraoral prosthesis are made of silicone or acrylic. All of the equipment (curing oven, color matching equipment, software design) and supplies associated with the silicone were not factored into the PE values. The lists of supplies and equipment in the tables below was reviewed with Julie Jordan Brown, who teaches ethics and the business of facial prosthetics at John Hopkins Medical Center and with Patti Montgomery, senior anaplastologist at MDA Cancer Center and Past President of the International Anaplastology Association. Letters of support from Ms. Brown and Ms. Montgomery are also included in Appendix M. We have included all of the supplies associated with the silicone and have included the pricing of baseplate, boxing wax, final impression material, acrylic (for supra-structure), and silicone. An electrical box is included in the list which is used to flask the extraoral prosthesis. It is much more economical to use two electrical boxes at a price of \$4.76 rather than a conventional flask at a cost of over \$300. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, dental stone, Kleenex, and cotton tip applicators. The articulator and the dental impression tray need to be removed, since they are not used in the fabrication of an auricular prosthesis. The dental impression tray and articulator should be factored into the practice expense values of the intraoral prosthesis.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21086: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91
Final 08	EP056	articulator	35	0	0.06	0.00	10	\$662.00

CPT Code 21086: Recommended Removal of Supplies

Code 21086	Deletions	Comment	Monetary Value
Auricular Prosthesis	Dental impression tray	A dental impression tray should be factored into the intraoral prostheses.	0.48 in office

Additions for CPT Code 21086: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			2 minutes per prosthesis
Spectromatch	Factor II	\$4,040.95			5 minutes per prosthesis
Oven	Factor II	\$795.00			2 hours per prosthesis (one hour to cure and one hour sitting in a hot oven)
Planmeca Proface imaging software	Henry Schein	\$24,610.00			2 hours in planning and printing guides

Scale	Factor II	\$29.95			5 minutes per prosthesis
Vacuum Bell Jar	Factor II	\$349.95			2 minutes per prosthesis
Vortex Mixer	Factor II	\$38.95			2 minutes per prosthesis
Pneumatic Dispenser	Factor II	\$449.00			2 minutes per prosthesis
Alcohol Torch	Factor II	\$8.95			10 minutes per prosthesis

Additions for CPT Code 21086: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$ 64.20
Triad Tray Material Custom Tray Material	Henry Schein	\$109.99	50 sheets per box = \$2.20 per sheet	\$2.20
3M tray adhesive	Henry Schein	\$36.99	17 mL, use .25 mL per prosthesis	\$0.54
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 20 per prosthesis \$1.76 per prosthesis	\$1.76
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 8 per prosthesis	\$0.72
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 25 per prosthesis	\$0.42
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 44 gloves per prosthesis	\$7.17
Masks	Henry Schein	\$14.75	40 per box, 10 masks used during visits	\$3.69
Green stone	Henry Schein	\$72.99	12 molds can be made from each box,	\$6.08
White plaster	Henry Schein	\$43.79	12 investing can be made from each box	\$3.65
Boxing Wax	Keystone	\$25.79	1 lb 454 grams, 75 strips in a box, use 6 per prosthesis	\$2.06
Rope Wax	Henry Schein	\$25.99	44 in box, \$25.99 divided by 44 = \$0.59, use 4 pieces per prosthesis	\$2.36
Baseplate wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis	\$2.04
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 10 per prosthesis	\$0.10
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31
Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$16.27 per model	\$16.27
Electrical box	Lowe's	\$2.38	Use two per prosthesis	\$4.76

Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Silicone A2186	Factor II	\$129.95	50 grams = 1 prosthesis, 9 prosthesis per jar	\$14.44
VST-50 Silicone Elastomer	Factor II	\$51.95	One pound or 453 grams per jar, 10 grams per prosthesis,	\$1.15
VST-50 HD Silicone Elastomer	Factor II	\$59.95	One pound or 453 grams per jaw, 10 grams per prosthesis	\$1.33
A-515 Ease Release	Factor II	\$12.95	1 can, 25 sprays per can]\$12.95 divided by 25 = \$0.52	\$0.52
Sealing Kit	Factor II	\$72.95	25 seals per kit	\$2.91
Thixotropic Agent	Factor II	\$10.95	15 uses per jaw	\$0.73
Flocking Custom Kit	Factor II	\$41.36	25 uses per flocking	\$1.65
Functional Intrinsic Coloration	Factor II	\$575.00	50 uses per kit	\$11.50
Extrinsic Coloration	Factor II	\$198.86	50 uses per kit	\$3.98
Separating Tin Foil	Factor II	\$16.76	20 uses per can	\$0.84
G-490-0-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses \$14.00 divided by 10 = \$1.40	\$1.40
G-490-00-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
G-490-000-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
P7 Acid brushes 12 Dz	Factor II	\$18.95	\$18.95 divided by 144 brushes = 0.13 per brush, use 3 for each prosthesis	\$0.39
P14 Acid brushes 12 Dz	Factor II	\$25.95	\$25.95 divided by 144 brushes - = 0.18 per brush, use 2 brushes per prosthesis	\$0.36
Silicone Wheels	Factor II	\$35.95	25 uses per wheel	\$1.44
Sculpting Wax	Factor II	\$44.96	30 uses per box \$1.50 per sheet Use 3 per prosthesis	\$4.50
GP Oil Colors	Factor II	\$346.55	50 uses per bottle	\$6.91
Color Kit for Spectramatch	Factor II	\$695.00	50 uses per kit	\$13.90
Silicone Putty	Factor II	\$42.36	454grams per container, 25 grams per prosthesis, 18 uses per container,	\$2.35
Daro Hydrobond	Factor II	\$17.10	One is given to each patient	\$17.10
Medical Adhesive A	Factor II	\$17.20	20 uses per tube	\$0.86
Extrinsic Tri Fluid	Factor II	\$45.56	16 oz. per bottle, 1 oz per prosthesis	\$2.85
Secure II Extra Strength Adhesive	Factor II	\$24.50	One is given to each patient	\$24.50
ProBond	Factor II	\$ 8.50	1 oz., 0.10 oz is used per prosthesis	\$0.85
B-204 Pros Aide	Factor II	\$14.95	One is given to each patient	\$14.95

B-200 ES Daro Extra Strength	Factor II	\$17.75	One is given to each patient	\$17.75
B508 Solvent	Factor II	\$6.25	4 oz., 0.10 oz is used per prosthesis	\$0.16
B-100 Skin Prep Wipe On	Factor II	\$15.95	One is given to each patient	\$15.95
B608 Pro Bond Solvent	Factor II	\$23.50	4 oz., 0.10 oz is used per prosthesis	\$0.59
B-203-10 Edge Adhesive	Factor II	\$16.95	One is given to each patient	\$16.95
9014 Mixing Pads large	Factor II	\$31.95	\$31.95 divided by 50 sheets = \$0.64 per sheet, use 5 sheets per prosthesis	\$3.20
A-300-1 Thixotropic Agent	Factor II	\$22.95	1 oz., 0.10 oz is used per prosthesis	\$2.30
Craniofacial Implantsl.02.01 x 350 Titanmagnetics Insert X-Line D4.8/H3.5	Southern Implants	\$179.00	Use 3 per prosthesis	\$537.00
Craniofacial Implant M.00.01.x900 Titanmagnetics Model Analogue X-Line D4.8/H3.5	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant A.00.02x695 Titanmagnetics Impression Post X-Line D4.8/H6.95	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant &.00.01.x265K Titanmagnetics epitheses magnet X-Line D4.8/H2.65	Southern Implants	\$95.00	Use 3 per prosthesis	\$285.00

Additions for CPT Code 21086: Sterilizable, Reusable instruments

Equipment	Company	Cost	Time
Acrylic Burs adjustment kit	Henry Schein	\$61.79	60 minutes
Buff Wheel	Henry Schein	\$54.79	15 minutes
Magnetic Torque Wrench	Southern Implants	\$80.50	15 minutes

Recommended Clinical Staff Time for an Auricular Prosthesis CPT Code 21086

Typical Scenario: Fabricating craniofacial implant supported auricular prosthesis

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, MTA Time (min)	Current Laboratory Tech. Time (min)	Current Total Clinical Staff Time (min)
21086, Auricular prosthesis	1	0	150				
	2 (OR time)	0	0				
	3	0	0				
	4	80	120				
	5	80	90				
	6	80	240				
	7	50	30				
	8	50	0				
TOTAL	8	340	480	820	140	275	415

Visit #1: Virtual Surgical Planning Maxillofacial Prosthodontist 150 minutes Laboratory Technician

Laboratory Technician:

- Assists in surgical planning in the OR, 60 minutes
- Performs 3-D printing for wax pattern & conversion into wax pattern, 90 minutes

Visit #2: Consultation with Surgeon (placement of screws) MFP In OR; no clinical staff time

Visit #3: Consultation with Surgeon (abutment placement) MFP In OR; no clinical staff time

Visit #4: Final Impression

80 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression and orientation of auricular wax pattern, 60 minutes
- Clean and dismiss patient 10 minutes

Laboratory Technician:

- Review impression with MFP, pour impression, orientation of wax pattern on model, fabrication of suprastructure, 120 minutes

Visit #5: Sculpting

80 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in sculpting, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Sculpting and texturing wax pattern, 90 minutes

Visit 6: Finalization of Sculpting, Color Characterization

80 minutes Dental Assistant, 240 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP finalize sculpting, 30 minutes
- Perform color characterization, 30 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Finalize sculpting, invest, boil out and process in silicone, 240 minutes

Visit 7: Painting

50 minutes Dental Assistant, 30 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with painting
- Clean and dismiss patient, 10 minutes

Laboratory Technician

- Seal prosthesis, 30 minutes

Visit 8: Delivery

50 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with finalizing and delivering the prosthesis, 30 minutes
- Clean and dismiss patient, 10 minutes

Appendix L: CPT Code 21087 Nasal Prosthesis

In the tables below we are recommending deletions of some equipment and additions of others along with the cost of the equipment and the amount of time it is in use. Similarly, we have made recommendations to remove supplies and to add supplies. We have also supplied prices for each item – both the total price when supplies are purchased in quantity and the price for each patient use. We have also recommended clinical staff time – both in the aggregate and for each activity. All these recommendations reflect current treatment protocols.

With respect to equipment, current treatment protocols for a maxillofacial prosthodontic practice in the fabrication of both intraoral and extraoral prostheses include cone beam CT imaging, virtual planning software, and 3D printers. The equipment for these modalities did not exist in the early 1990s. In addition, we have included publicly available price quotes for laboratory benches and have updated the costs of laboratory benches, clinical setup, sterilization and instruments.

Extraoral prostheses are made of silicone or acrylic. All of the equipment (curing oven, color matching equipment, software design) and supplies associated with the silicone were not factored into the PE values. The lists in these tables were reviewed with Julie Jordan Brown, who teaches ethics and the business of facial prosthetics at John Hopkins Medical Center and with Patti Montgomery, senior anaplastologist at MDA Cancer Center and Past President of the International Anaplastology Association. Letters of support from Ms. Brown and Ms. Montgomery are also included in Appendix M. We have included all of the supplies associated with the silicone and have included the pricing of baseplate, boxing wax, final impression material, acrylic (for supra-structure), and silicone. An electrical box is included in the list which is used to flask the extraoral prosthesis. It is much more economical to use two electrical boxes at a price of \$4.76 rather than a conventional flask at a cost of over \$300. Procedural masks were also added in our list as this is required PPE. We updated the data for gloves, tray covers, head covers, dental stone, Kleenex, and cotton tip applicators. The articulator and the dental impression tray need to be removed, since they are not used in the fabrication of a nasal prosthesis. The dental impression tray and articulator should be factored into the practice expense values of the intraoral prosthesis.

As we described in the letter nominating these codes, it was extremely difficult to obtain the actual invoices from hospitals, cancer and medical centers because the invoices were considered proprietary.

In instances, where we were not able to obtain invoices, we have included quotes from vendors. Where we obtained more than one quote, we included both. The quotes are the retail price. The invoices that we were able to obtain were from practitioners who owned their practice.

Sterilization supplies also need to be factored into the PE values. Pricing for ultrasonic solution, sterilization bags, and stain and tartar remover are in the invoices, but, not in the table because we were not knowledgeable in factoring in those costs.

CPT Code 21087: Recommend Removal for Equipment

Source	Equip Code	Description	Min Equip in use in office	Min Equip in use out of office	Equip Cost in office	Equip Cost out of office	Equip Useful Life (Yrs)	Purchase Price
Final 08	ER071	x-ray, dental	2	0	0.97	0.00	5	\$128,010.91
Fiinal 08	EP056	articulator	35	0	0.06	0.00	10	\$662.00

CPT Code 21087: Recommended Removal of Supplies

Code 21087	Deletions	Comment	Monetary Value
Nasal Prosthesis	Dental impression tray	A dental impression tray should be factored into the intraoral prostheses.	0.48 in office

Additions for CPT Code 21087: Capital Equipment

Equipment	Company	Quote 1	Company	Quote 2	Time Equipment is in use per prosthesis
CMS Planmeca CBCT Imaging (takes the place of the x-ray unit) ¹	Henry Schein	\$163,767.66	Patterson Dental	\$150,762.00	15 minutes
3shape Trios Intraoral Scanner	Henry Schein	\$31,386.85	3D BioCad	\$31,250.00	15 minutes
Scanning Training and Education		Training for Trios was included in quote	3D BioCad	\$700.00	4 hours to become proficient on equipment
Form Labs 3D Printer	Henry Schein	\$6,901.86			120 minutes
Lab Scanner & 3	Henry Schein	\$41,431.73	3D BioCad	\$36,660.00	60 minutes
Sprintray Pro 2 Bundle 3D printer	Henry Schein	\$19,344.72			60 minutes
Clinical equipment, Laboratory benches, sterilization costs, and instruments	Henry Schein	\$327,276.32			Need to individualized per use
Romexis software for surgical guides	Henry Schein	\$6,189.95			30 minutes
Co-Diagnostics Implant planning software	Straumann	\$7,740.00			30 minutes to 60 minutes
Design Software	Source Graphics	\$27,120.00			30 minutes to 600 minutes
Ivobase	Henry Schein	\$8,599.00			120 minutes
Bunsen Burner	Henry Schein	\$10.24			120 minutes
Pentamix 3 Mixing Unit	Henry Schein	\$3,028.99			2 minutes per prosthesis
Spectromatch	Factor II	\$4,040.95			5 minutes per prosthesis
Oven	Factor II	\$795.00			2 hours per prosthesis (one hour to cure and one hour sitting in a hot oven)

Planmeca Proface imaging software	Henry Schein	\$24,610.00			2 hours in planning and printing guides
Scale	Factor II	\$29.95			5 minutes per prosthesis
Vacuum Bell Jar	Factor II	\$349.95			2 minutes per prosthesis
Vortex Mixer	Factor II	\$38.95			2 minutes per prosthesis
Pneumatic Dispenser	Factor II	\$449.00			2 minutes per prosthesis
Alcohol Torch	Factor II	\$8.95			10 minutes per prosthesis

Additions for CPT Code 21087: Supplies

Supply	Company	Cost	Calculation Per Prosthesis	Cost per Prosthesis
Final Impression Impregum	Henry Schein	\$1,925.86	30 impressions per cartridge	\$ 64.20
Triad Tray Material Custom Tray Material	Henry Schein	\$109.99	50 sheets per box = \$2.20 per sheet	\$2.20
3M tray adhesive	Henry Schein	\$36.99	17 mL, use .25 mL per prosthesis	\$0.54
Dry Gard Towels (patient napkins)	Henry Schein	\$43.99	\$43.99 divided by 500 napkins = 0.10. Use 20 per prosthesis \$1.76 per prosthesis	\$1.76
Head Rest Covers	Henry Schein	\$22.79	250 in box \$22.79 divided by 250 = \$0.09, use 8 per prosthesis	\$0.72
Cotton Tip Applicators	Henry Schein	\$16.99	1000 in box, \$16.99 divided by 1000 = \$0.02, use 25 per prosthesis	\$0.42
UltraSense PF Nitrile Glove	Henry Schein	\$16.29	100 in box, \$16.29 divided by 100 = \$0.16 per glove, use 44 gloves per prosthesis	\$7.17
Masks	Henry Schein	\$14.75	40 per box, 10 masks used during visits	\$3.69
Green stone	Henry Schein	\$72.99	12 molds can be made from each box,	\$6.08
White plaster	Henry Schein	\$43.79	12 investing can be made from each box	\$3.65
Boxing Wax	Keystone	\$25.79	1 lb 454 grams, 75 strips in a box, use 6 per prosthesis	\$2.06
Rope Wax	Henry Schein	\$25.99	44 in box, \$25.99 divided by 44 = \$0.59, use 4 pieces per prosthesis	\$2.36
Baseplate wax	Henry Schein/Modern Materials	\$128.99	250 sheets per box, 4 sheets per prosthesis	\$2.04
Tray Covers	Henry Schein	\$33.79	1000 in a box, use 10 per prosthesis	\$0.10
Kleenex	Henry Schein	\$5.81	A box is given to the patient to use during visits.	\$5.81
Ivobase Acrylic	Ivoclar	\$277.00	Can get 16 injections per kit	\$17.31

Duplicating Material	Henry Schein	\$134.99	15 models can be made from each set so the duplicate model is \$16.27 per model	\$16.27
Electrical box	Lowe's	\$2.38	Use two per prosthesis	\$4.76
Denture Acrylic Lucitone 199 (use this or Ivobase) Powder	Henry Schein	\$304.74	5 lbs price, so 1 lb = \$60.95, 1 lb = 454 grams, use 60 grams per prosthesis	\$8.06
Denture Acrylic Lucitone 199 (use this or Ivobase), Liquid	Henry Schein	\$61.49	430 ml, use 20 ml per prosthesis	\$2.86
Pumice	Henry Schein	\$22.99	Pumice is \$49.99 for 25 lb. so 1 pound is \$1.99 so one-half pound is \$0.99	\$0.99
Impression Compound	Henry Schein	\$27.79	15 sticks per box, Use 3 sticks per prosthesis	\$5.56
Silicone A2186	Factor II	\$129.95	50 grams = 1 prosthesis, 9 prosthesis per jar	\$14.44
VST-50 Silicone Elastomer	Factor II	\$51.95	One pound or 453 grams per jar, 10 grams per prosthesis,	\$1.15
VST-50 HD Silicone Elastomer	Factor II	\$59.95	One pound or 453 grams per jar, 10 grams per prosthesis	\$1.33
A-515 Ease Release	Factor II	\$12.95	1 can, 25 sprays per can] \$12.95 divided by 25 = \$0.52	\$0.52
Sealing Kit	Factor II	\$72.95	25 seals per kit	\$2.91
Thixotropic Agent	Factor II	\$10.95	15 uses per jaw	\$0.73
Flocking Custom Kit	Factor II	\$41.36	25 uses per flocking	\$1.65
Functional Intrinsic Coloration	Factor II	\$575.00	50 uses per kit	\$11.50
Extrinsic Coloration	Factor II	\$198.86	50 uses per kit	\$3.98
Separating Tin Foil	Factor II	\$16.76	20 uses per can	\$0.84
G-490-0-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses \$14.00 divided by 10 = \$1.40	\$1.40
G-490-00-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
G-490-000-6 Red Sable Brushes	Factor II	\$14.00	Pkg of 6, 10 uses	\$1.40
P7 Acid brushes 12 Dz	Factor II	\$18.95	\$18.95 divided by 144 brushes = 0.13 per brush, use 3 for each prosthesis	\$0.39
P14 Acid brushes 12 Dz	Factor II	\$25.95	\$25.95 divided by 144 brushes - = 0.18 per brush, use 2 brushes per prosthesis	\$0.36
Silicone Wheels	Factor II	\$35.95	25 uses per wheel	\$1.44
Sculpting Wax	Factor II	\$44.96	30 uses per box \$1.50 per sheet Use 3 per prosthesis	\$4.50
GP Oil Colors	Factor II	\$346.55	50 uses per bottle	\$6.91
Color Kit for Spectramatch	Factor II	\$695.00	50 uses per kit	\$13.90
Silicone Putty	Factor II	\$42.36	454 grams per container, 25 grams per prosthesis, 18 uses per container,	\$2.35
Daro Hydrobond	Factor II	\$17.10	One is given to each patient	\$17.10
Medical Adhesive A	Factor II	\$17.20	20 uses per tube	\$0.86
Extrinsic Tri Fluid	Factor II	\$45.56	16 oz. per bottle, 1 oz per prosthesis	\$2.85
Secure II Extra Strength Adhesive	Factor II	\$24.50	One is given to each patient	\$24.50

ProBond	Factor II	\$ 8.50	1 oz., 0.10 oz is used per prosthesis	\$0.85
B-204 Pros Aide	Factor II	\$14.95	One is given to each patient	\$14.95
B-200 ES Daro Extra Strength	Factor II	\$17.75	One is given to each patient	\$17.75
B508 Solvent	Factor II	\$6.25	4 oz., 0.10 oz is used per prosthesis	\$0.16
B-100 Skin Prep Wipe On	Factor II	\$15.95	One is given to each patient	\$15.95
B608 Pro Bond Solvent	Factor II	\$23.50	4 oz., 0.10 oz is used per prosthesis	\$0.59
B-203-10 Edge Adhesive	Factor II	\$16.95	One is given to each patient	\$16.95
9014 Mixing Pads large	Factor II	\$31.95	\$31.95 divided by 50 sheets = \$0.64 per sheet, use 5 sheets per prosthesis	\$3.20
A-300-1 Thixotropic Agent	Factor II	\$22.95	1 oz., 0.10 oz is used per prosthesis	\$2.30
Craniofacial Implantsl.02.01 x 350 Titanmagnetics Insert X-Line D4.8/H3.5	Southern Implants	\$179.00	Use 3 per prosthesis	\$537.00
Craniofacial Implant M.00.01.x900 Titanmagnetics Model Analogue X-Line D4.8/H3.5	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant A.00.02x695 Titanmagnetics Impression Post X-Line D4.8/H6.95	Southern Implants	\$49.00	Use 3 per prosthesis	\$147.00
Craniofacial Implant &.00.01.x265K Titanmagnetics epitheses magnet X-Line D4.8/H2.65	Southern Implants	\$95.00	Use 3 per prosthesis	\$285.00

Additions for CPT Code 21087: Sterilizable, Reusable instruments

Equipment	Company		Cost	Time
Acrylic Burs adjustment kit	Henry Schein		\$61.79	60 minutes
Buff Wheel	Henry Schein		\$54.79	15 minutes
Magnetic Torque Wrench	Southern Implants		\$80.50	15 minutes

Recommended Clinical Staff Time for a Nasal Prosthesis CPT Code 21087

Typical Scenario: Fabricating craniofacial implant supported prosthesis

CPT Code	Visit Number	Recommended Dental Assistant Time (min)	Recommended Laboratory Technician Time (min)	Recommended Total Clinical Staff Time (min)	Current RN, LPN, MTA Time (min)	Current Lab Tech. Time (min)	Current Total Clinical Staff Time (min)
21087, Nasal Prosthesis	1	0	150				
	2 (OR time)	0	0				
	3	0	0				
	4	80	120				
	5	80	90				
	6	80	240				
	7	50	30				
	8	50	0				
TOTAL	8	340	480	820	140	275	415

Visit #1: Virtual Surgical Planning

Laboratory Technician:

- Assists the MFP with the planning the case in the OR, 60 minutes
- Performs 3-D printing for wax pattern & conversion into wax pattern, 90 minutes

Visit #2: Consultation with Surgeon (placement of screws) MFP In OR; no clinical staff time

Visit #3: Consultation with Surgeon (abutment placement) MFP In OR; no clinical staff time

Visit #4: Final Impression

80 minutes Dental Assistant, 120 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in impression and orientation of auricular wax up, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Review impression with MFP, pour impression, orientation of wax pattern on model, fabrication of superstructure, 120 minutes

Visit #5: Sculpting

80 minutes Dental Assistant, 90 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP in sculpting, 60 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Sculpt and texture wax patterns, 90 minutes

Visit 6: Finalization of Sculpting, Color Characterization

80 minutes Dental Assistant, 240 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP to finalize sculpting, 30 minutes
- Color characterization, 30 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Finalize sculpting, invest, boil out and process in silicone, 240 minutes

Visit 7: Painting

50 minutes Dental Assistant, 30 minutes Laboratory Technician

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with painting, 30 minutes
- Clean and dismiss patient, 10 minutes

Laboratory Technician:

- Seal prosthesis, 30 minutes

Visit 8: Delivery

50 minutes Dental Assistant

Dental Assistant:

- Disinfect room, 5 minutes
- Review medical history, medications, etc., 5 minutes
- Assist MFP with finalizing and delivering prosthesis, 30 minutes
- Clean and dismiss patient, 10 minutes

Appendix M

August 2, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Via: Electronic Submission

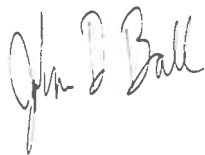
Dear CMS Administrator:

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old and have never been updated. With the advancement of 3D technology, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers typically affect the bodily functions of speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As President of the American College of Prosthodontists, maxillofacial prosthodontists play an integral role in the multi disciplinary team and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment.

I wholeheartedly support this review and I am available if you have any further questions.

Sincerely,



John D. Ball, DDS
President, American College of Prosthodontists

HEAD & NECK

CANCER ALLIANCE

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August 1, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Via: Electronic Submission
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Dear Ms. Brooks-LaSure:

On behalf of the Head and Neck Cancer Alliance, I am writing on behalf of the more than 60,000 head and neck cancer patients who are diagnosed each year in the United States. The Head and Neck Cancer Alliance (HNCA) is a non-profit patient advocacy organization that focuses on supporting head and neck cancer patients and their families. Our mission is "to advance prevention, detection, treatment and rehabilitation of oral, head and neck cancer through public awareness, research, advocacy and survivorship."

Specifically, I would like to encourage CMS to review CPT codes 21076-21089. Our concern is that these codes are over 30 years old before phones, 3D printed prosthetics and CT scan-based prosthetics and have never been updated. Many of our country's citizens face overwhelming challenges when they are faced with cancer defects requiring removal of vital organs of the face and mouth and head (or injured by explosive devices in our military, burns and other traumatic injuries). The resulting surgeries have a dramatic effect on society, patients, families, often taking them out of our workforce and preventing them from leaving their house due to the loss of an eye, ear, nose, jaw bone or teeth.

Thankfully, with the expertise of head and neck surgeons, oral and maxillofacial surgeons, and maxillofacial prosthetics (not to mention advances in technology affording us to provide patients with near exact prosthetic eyes, ears, noses, mouths), we can now return our citizens to their lives, workforce, family and friends much like what the healthcare system has done for women with breast cancer with the use of breast implants and reconstruction.

Head and Neck Cancer Alliance
PO BOX 21688 | Charleston, SC 29413

Phone: 866-792-HNCA | Email: info@headandneck.org



However, in order to provide people, particularly those in underserved areas or populations, the opportunity to enjoy their lives again after trauma or cancer, we must find a way to improve access to this expertise. With the advancement of 3D technology, 3D printing, soft tissue scanning, CT scan-based modeling, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician's work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Coping with this disease is complex, and patients face a lifetime of side effects after treatment, ranging from ongoing dental issues to mental health challenges. Patients need access to medically necessary procedures, such as maxillofacial prosthetics that restore speech, swallowing, and chewing and improve the quality of life of patients. Many patients go without or delay critical treatment that is necessary to their quality of life due to financial obstacles.

As Executive Director of the non-profit, Head and Neck Cancer Alliance, I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment. Not only is it less expensive than surgical transplants and flap reconstruction of the eye and ear and nose and mouth, but it is often better functionally and cosmetically. I wholeheartedly support this review and I am available if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Amanda N. Hollinger".

Amanda N. Hollinger, MPA
Executive Director
Head & Neck Cancer Alliance
www.headandneck.org

July 31, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services (CMS)
Department of Health and Human Services
Baltimore, MD 21244-8016
Via: Electronic Submission

Dear CMS Administrator:

The purpose of this correspondence is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a formal review of CPT codes 21076-21089. These codes are over thirty (30) years old and have never been updated. With the advancement of 3D technology, maxillofacial biomaterials, and functional outcomes, the current codes do not reflect today's oral rehabilitation practices. In addition, the physician work and practice expense values do not reflect the procedures that are currently performed. Therefore, I would like to declare these codes as misvalued and request that CMS and/or the RVS Update Committee (RUC), review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers can have negative functional outcomes in speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life and increased burden. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As Chair of the Department of Head and Neck Surgery at MD Anderson Cancer Center, I work closely with my maxillofacial prosthodontic colleagues who play an integral role in the interdisciplinary treatment of our patients. They are a mission critical subspecialty in the rehabilitation of head and neck cancer patients.

I wholeheartedly support this requested code review and am available if you have any further questions.

Sincerely,



Jeffrey N. Myers, MD, PhD
Chair, Department of Head and Neck Surgery

JNM:mc.07-31-24_CMS Support MaxFac



Memorial Sloan Kettering
Cancer Center

July 26, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Via: Electronic Submission

Dear CMS Administrator:

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old and have never been updated. With the advancement of 3D technology, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers typically affect the bodily functions of speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As Chief of the Department of Head & Neck Surgery, maxillofacial prosthodontists play an integral role in the multi disciplinary team and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment.

I wholeheartedly support this review and I am available if you have any further questions.

Sincerely yours,

Richard J. Wong, MD, FACS

Richard J. Wong, MD, FACS
Chief, Head and Neck Service
Jatin P. Shah Chair in Head and Neck Surgery and Oncology

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Eric J. Moore, M.D.
Chair
Otolaryngology-Head and Neck Surgery

August 1, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Dear CMS Administrator:

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old and have not been updated. With the advancement of 3D technology, maxillofacial materials, vascularized tissue transfer and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to cite these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers typically affect the bodily functions of speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As Chair of the Division of Head and Neck Surgical Oncology at Mayo Clinic, maxillofacial prosthodontists play an integral role in the multidisciplinary team, and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment.

I wholeheartedly support this review and I am available if you have any further questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eric J. Moore".

Eric J. Moore, MD
Professor and Chair of Otolaryngology – Head and Neck Surgery
Mayo Clinic College of Medicine and Science

EJM:jgm



Department of Otolaryngology – Head and Neck Surgery

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Patricia A. Loftus, M.D.

July 25, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244–8016

Via: Electronic Submission

Dear CMS Administrator:

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old and have never been updated. With the advancement of 3D technology, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers typically affect the bodily functions of speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As Chief the Division of Head and Neck Surgical Oncology at UCSF, maxillofacial prosthodontists play an integral role in the multidisciplinary team, and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment.

I wholeheartedly support this review and I am available if you have any further questions.

Sincerely,

Patrick Ha, MD FACS

Irwin Mark Jacobs and Joan Klein Jacobs Distinguished Professor
Chief, Division of Head and Neck Surgical Oncology
Medical Director, Mission Bay Adult Services
Department of Otolaryngology, Head and Neck Surgery
University of California San Francisco
Patrick.Ha@Ucsf.edu



Brett A. Miles, DDS MD FACS
Professor and Chair
VP, Regional Director Western Region

Department of Otolaryngology Head and Neck Surgery
Lenox Hill Hospital
Manhattan Eye Ear and Throat Hospital

August 30, 2024

The Honorable CMS Administrator Chiquita Brooks-LaSure
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Dear CMS Administrator:

Please accept my letter of support to the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old and have never been updated. With the advancement of 3D technology, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach. Resection of head and neck cancers typically affect the bodily functions of speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial prosthodontists play an essential role in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As President of the American College of Prosthodontists, maxillofacial prosthodontists play an integral role in the multi disciplinary team and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment.

I wholeheartedly support this review and I am available at bmiles4@northwell.edu if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Brett A. Miles", with a stylized flourish at the end.

Brett A. Miles, DDS MD FACS
Professor and Chair
VP, Regional Director Western Region



Otolaryngology Head and Neck Surgery
Oral and Maxillofacial Surgery

Division Head and Neck Oncology
Microvascular Reconstructive Surgery

Lenox Hill Hospital
Manhattan Eye Ear and Throat Hospital
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**METHODIST
HOSPITAL**

HEAD AND NECK SURGICAL ONCOLOGY
8303 Dodge Street
Suite 304
Methodist Estabrook Cancer Center
Omaha, NE 68114
Office Phone: (402) 354-5048
Fax: (402) 354-8530

RE: support for AAMP (American Academy of Maxillofacial Prosthetics) and the Maxillofacial Foundation's request to reexamine codes 21076-21089

The Honorable CMS Administrator Chiquita Brooks-LaSure Via: Electronic Submission
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Attention: CMS-1807-P
Mail Stop C4-26-05
7500 Security Boulevard
Baltimore, MD 21244-8016

Dear Mrs. Brooks-Lasure:

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. The codes as they stand, do not represent the impressive advances in the field including the use of CT scans to plan 3D printed prosthetics, advances in materials and expertise and the crucial role they play in rehabilitation from cancer, trauma and other diseases.

Maxillofacial prosthodontists work with patients after their surgery or trauma to devise a lightweight, removable prosthesis using state of the art technology. Their work is crucial as I will describe below. Unfortunately, to provide service to the men and women suffering from these defects, adequate payment is necessary. These labs are complex, the training is long and only available in limited places and the technology and materials unique and expensive. Access to these services is therefore limited, especially to underserved members of our population.

As a head and neck surgeon for more than the last 30 years, I have witnessed the powerful impact these skilled providers bring to the whole person care of patients with devastating injuries and defects due to service to our country, and from cancer and other diseases. Imagine losing a portion of your upper jaw. There is now a communication between the nose and mouth with no ability to eat or speak. Placement of a prosthesis renders someone instantly able to do both again. These prosthetics make someone whole again. To witness the transformation of a person speaking nearly unintelligibly and then inserting their prosthesis to communicate clearly and powerfully, is humbling and compelling. It is hard to overstate the critical importance of the role of these clinicians in creating these life affirming devices. Or consider the loss of an eye, ear or nose. These can be replaced but require sufficient skill and technical facility. Making the person more whole after these devastating injuries is crucial to humanistic care.



**METHODIST
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HEAD AND NECK SURGICAL ONCOLOGY
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Omaha, NE 68114
Office Phone: (402) 354-5048
Fax: (402) 354-8530

My career has been dedicated to preventing and treating depression in head and neck cancer patients. Social isolation is one of the major causes of mental health problems in our patients. People suffering from a loss of a part of their face or with an inability to eat or speak in public causes them to withdraw and become isolated. It is not hyperbole to say these prosthetics give them their life back.

To better reflect the 3D technology, 3D printing, soft tissue scanning, CT scan based modeling, maxillofacial materials, and functional outcomes, I advocate a reevaluation of the current codes. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I respectfully request that these codes are undervalued and request that CMS and/or the RUC, review them as soon as possible.

As a long practicing head and neck surgeon, President of the American Head and Neck Society and a witness to the miraculous and life giving effect these prosthetics have on people's lives, I vouch for the need for these skills. My fear is that fewer and fewer people will move into this field leaving a vital service unfilled. We must adequately compensate our peers in Maxillofacial Prosthodontics if we are to continue to provide humanistic care.

Thank you for your service to our country, health care system and patients and for considering this request.

Sincerely,

William Lydiatt, MD, EMBA
President American Head and Neck Society
Professor of Surgery, Creighton University
Methodist Head and Neck Surgical Oncology
Omaha, Ne 68114

HEAD & NECK SPECIALISTS

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Jeffrey Houlton, MD
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David Neskey, MD
Anand Sharma, MD

Betsy K. Davis, DMD
Michelle Ruse, DDS

The Honorable CMS Administrator Chiquita Brooks-LaSure Via: Electronic Submission Centers for
Medicare & Medicaid Services
Department of Health and Human Services
Baltimore, MD 21244-8016

Dear Mrs. Brooks-LaSure:

First, thank you for your expertise and service to our country, health care system and patients. I am hopeful your service has been rewarding and I can only imagine the multiple phone calls and emails and requests you must receive. This letter is meant to serve as an introduction to a problem that so many of our citizens face when they are injured by explosive devices in our military, burns and other traumatic injuries and cancer defects requiring removal of vital organs of the face and mouth and head. Many of our leaders do not realize that these problems have such a dramatic effect on society, patients, families and taken them out of our workforce and, often, prevent them from leaving their house due to the loss of an eye, ear, nose, jaw bone or teeth.

Thankfully, with the expertise of head and neck surgeons, oral and maxillofacial surgeons, and maxillofacial prosthodontics (not to mention advances in technology affording us to provide patients with near exact prosthetic eyes, ears, noses, mouths) we can now return our citizens to their lives, workforce, family and friends much like what the healthcare system has done for breast implants and reconstruction after breast cancer.

However, in order to provide our citizens particularly those in underserved areas or populations, the opportunity to enjoy their lives again after trauma or cancer, we must find a way to improve access to this expertise

The purpose of my writing is to support the American Academy of Maxillofacial Prosthetics and the Maxillofacial Foundation in requesting a review of CPT codes 21076-21089. These codes are over 30 years old before phones, 3D printed prosthetics and CT scan-based prosthetics and have never been updated.

With the advancement of 3D technology, 3D printing, soft tissue scanning, CT scan-based modeling, maxillofacial materials, and functional outcomes, the current codes do not reflect today's prosthetic practice. In addition, the physician work and practice expense values do not reflect the procedures that are performed today. Therefore, I would like to nominate these codes as misvalued and request that CMS and/or the RUC, review them as soon as possible.

Treatment of head and neck cancer requires a multidisciplinary approach involving oncologists, radiation specialists, head and neck surgeons, prosthodontists, dentists and speech therapists. Resection of head and neck cancers typically affect the bodily functions of seeing, talking, smiling, eating, hearing, breathing, speaking, swallowing, and chewing depending upon the location of the cancer and the tissue resected. Many patients experience a reduced quality of life. Maxillofacial

prosthodontists play an essential role in in preparing and applying custom-made maxillofacial prostheses that restore speech, swallowing, and chewing and improve the quality of life of patients. As Chair of the Board of the non-profit, Head and Neck Cancer Alliance, Inc, past-president of the American Head and Neck Society, and national director of Head and Neck Oncology in my current clinical role, maxillofacial prosthodontists play an integral role in the multi-disciplinary team and I consider maxillofacial prosthodontics an essential part of the standard of care of H&N cancer treatment. Not only is it less expensive than surgical transplants and flap reconstruction of the eye and ear and nose and mouth, but it is often better functionally and cosmetically. I wholeheartedly support this review and I am available if you have any further questions.

Sincerely,



Terry A. Day, MD, FACS

Director, Head and Neck Oncology | Sarah Cannon National Group
Head & Neck Specialists | Sarah Cannon
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January 15, 2025

CMS Administrator

I am a certified clinical anaplastologist and serve on the Board of Directors for the Board for Certification in Clinical Anaplastology. I am the founder and former owner of Medical Art Resources, Inc. and currently an Assistant Professor in the Clinical Anaplastology Masters' degree program at Johns Hopkins School of Medicine. I was recruited by Johns Hopkins to teach Business Practices and Ethics, because of my extensive understanding of the business and clinical aspects of providing facial prosthetics.

I am writing in support of the accuracy of the practice expense documents attached:

CPT Code 21086 Auricular Prosthesis

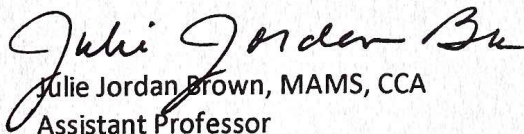
CPT Code 21087 Nasal Prosthesis

CPT Code 21077 Orbital Prosthesis

I have reviewed these meticulously prepared documents and attest that the content is accurate and complete. Further, costs of materials, supplies and equipment continually increase.

Reimbursement for facial prostheses should be increased to levels that support provision of this service so that patients have access to the services they desperately need after ablative cancer surgery, congenital malformations, and traumatic injuries.

Sincerely,



Julie Jordan Brown, MAMS, CCA

Assistant Professor

Department of Art as Applied to Medicine

Johns Hopkins University, School of Medicine



Making Cancer History®

Patricia Montgomery

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Section of Oral Oncology
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MEMORANDUM

TO: CMS Administrator
Centers for Medicare and Medicaid Services

FROM: Patricia Montgomery
Anaplastology, Section of Oral Oncology

DATE: January 23, 2025

SUBJECT: Support of Practice Expense Reimbursement Enhancement for Craniofacial Prostheses

I am pleased to provide my support of the American Academy of Maxillofacial Prosthetics (AAMP) in requesting Centers for Medicare and Medicaid Services (CMS) to enhance the reimbursement value of facial prosthetic services based on increased practice expenses. Facial prosthodontics allow patients with underdeveloped or missing facial anatomy (ear, nose, orbit/eye) to have restoration and function. It serves as an alternative treatment option when surgical reconstruction is unachievable or undesired by the patient. The cost of fabricating Cranio-Facial prostheses using CPT codes 21086 (Auricular prosthesis), 21087 (Nasal prosthesis), and 21077 (Orbital prosthesis) has substantially increased over the past 15 years specific to the development and introduction of improved materials and material costs, new forms of technology requiring specialized equipment, continued advancements in 3D/digital printing, and specialized technician salary. Facial disfigurement is extremely challenging as facial appearance is an important factor of self-perception, and facial deformity and loss of function not only affect the survival of patients but also cause personal psychological and serious public health problems. In review of the attached practice expense documents, it reveals the rising costs to fabricate the specialized and technique-sensitive prostheses. An increase in reimbursement of these specialized and critical prostheses is paramount (currently inadequate reimbursement rates compared to the complexity and time required for fabrication and fitting) and stems from the complex nature of these services and the need for adequate compensation for the specialized skills and materials involved.

Thank you for your consideration.

Appendix N: References

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