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A Division of Ardare Corporation

Medicare Reimbursement For MicroPulse[®] Transscleral Cyclophotocoagulation

Prepared for



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Medicare Reimbursement for MicroPulse® Transscleral Cyclophotocoagulation

by

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INTRODUCTION

This monograph addresses the reimbursement issues associated with MicroPulse® transscleral cyclophotocoagulation (TSCPC). MicroPulse TSCPC by [IRIDEX®](#) is differentiated from other ophthalmic laser therapies because it is a tissue-sparing solution for the treatment of glaucoma.

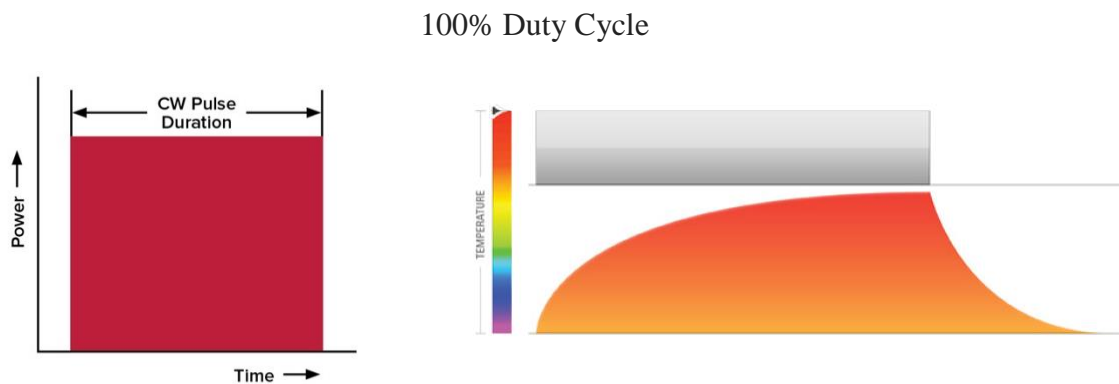
Much of the information in this document is taken from official publications of the Medicare program. The reader is encouraged to check with the local Medicare Administrative Contractor (MAC) for additional information and instructions. For other third-party payers, we have used the coding concepts contained in CPT (Current Procedural Terminology), published by the American Medical Association; diagnosis codes are from ICD-10-CM. Documentation of laser surgery, and the medical rationale for it, are key to reimbursement so we describe the required elements in detail.

Since economic analyses are a necessary part of any capital budgeting decision, we incorporated Medicare’s payment rates for TSCPC, as well as recent Medicare utilization rates.

THE DEVICE

In conventional photocoagulation, the tissue temperature (orange) rise for an intended intraoperative endpoint is controlled by adjusting the power and the exposure duration (grey bar height and width, respectively) of the continuous-wave (CW) laser emission. (Figure 1) With MicroPulse Technology, a continuous-wave (CW) diode laser beam (810 nm) is chopped into a train of short, repetitive, low energy pulses separated by a brief rest period which allows the tissue to return to baseline temperature between laser pulses. (Figure 2)

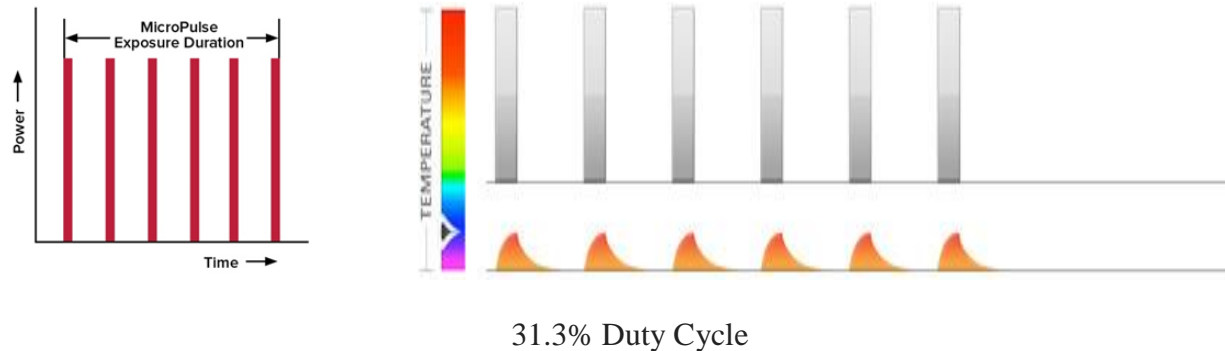
Figure 1 CW Laser Exposure¹



¹ IRIDEX. Tissue-Sparing MicroPulse Photocoagulation. PowerPoint presentation on website. [Link here.](#)

A short pulse width limits the time for the laser-induced heat to spread to adjacent tissues.

Figure 2 MicroPulse Duty Cycles²



This avoids cumulative thermal build-up and resulting tissue destruction characteristic of continuous wave transscleral cyclophotocoagulation (CW-TSCPC).³

INDICATIONS FOR USE

CW-TSCPC is indicated in refractory glaucoma cases with poor visual potential. This restricted use occurs because, “...a continuous dose frequently results in significant collateral tissue damage, contributing to serious complications, such as uveitis, vision loss, chronic hypotony, choroidal detachment, and more rarely, phthisis bulbi and sympathetic ophthalmia.”⁴ Alternately, MP-TSCPC, with its potentially safer approach to cyclodestruction, may “...be used in seeing eyes with good visual potential.”⁵ It may be used in patients:

- with a history of prior incision glaucoma surgery;
- with a variety of subtypes of glaucoma; (Table 1)
 - Open-angle glaucoma
 - Pseudoexfoliation glaucoma
 - Neovascular glaucoma
 - Normal tension glaucoma
 - Uveitic glaucoma
 - Other secondary glaucomas

² IRIDEX. Tissue-Sparing MicroPulse Photocoagulation. PowerPoint presentation on website. [Link here.](#)

³ Abdelrahman, AM, El Sayed, YM, Micropulse Versus Continuous Wave Transscleral Cyclophotocoagulation in Refractory Pediatric Glaucoma. J Glaucoma Vol 27 No 10 October 2018 [Link here.](#)

⁴ AAO. EyeWiki Micropulse Transscleral Cyclophotocoagulation. [Link here.](#)

⁵ Ibid

- as an adjunct or alternative to laser trabeculoplasty;
- that are poor candidates for incisional glaucoma surgery.

At the present time, *“Further research is needed to elucidate the role of MP-TSCPC as an early glaucoma treatment and in glaucoma suspects.”*

Table 1 Representative Covered Diagnoses

ICD-10	Description
H40.1-	Open-angle glaucoma
H40.2-	Primary open-angle glaucoma
H40.3-	Glaucoma secondary to eye trauma
H40.4-	Glaucoma secondary to eye inflammation
H40.5-	Glaucoma secondary to other eye disorders
H40.6-	Glaucoma secondary to drugs
Q15.0	Glaucoma associated with congenital anomalies, dystrophies, and systemic syndromes

NOTE: Listed codes are representative of covered diagnoses for 66710, but differences in payment policies exist for many payers. This list is neither exhaustive nor universally accepted. See your payer bulletins. The ICD-10 codes shown are not a precise crosswalk; the ending “dash” means a longer code is required.

A review of most of the scientific literature describes MicroPulse TSCPC as indicated for moderate to severe glaucomas. Within ICD-10, the severity of glaucoma is reported with a 7th character as described in Table 2.⁶

Table 2 Codifying Glaucoma Stage in ICD-10

7th Character	Stage of glaucoma
0	Stage unspecified
1	Mild stage
2	Moderate stage
3	Severe stage
4	Indeterminate stage

The terms mild, moderate, severe, and indeterminate are well defined.^{7,8}

⁶ Luthe, R. ICD-10 Comes To Glaucoma. Ophthalmology Management. Feb 1, 2014 [Link here.](#)

⁷ Ibid

⁸ Susanna Jr, R, Vessani, R. Staging Glaucoma Patient: Why and How? Open Ophthalmol J. 2009; 3:59-64. [Link here.](#)

- **Mild:** No visual field loss on white-on-white standard perimetry, but the optic nerve looks glaucomatous.
- **Moderate:** Optic neuropathy consistent with glaucoma, plus visual field loss in one hemifield only, “and not within 5° of fixation.
- **Severe:** A glaucomatous optic disk plus visual field loss in two hemifields. Alternately, if the visual field loss is limited to one hemifield, it involves the central 5°.
- **Indeterminate:** Either the doctor cannot determine the nature of the visual field loss, or the patient has not been tested yet, or the patient performed very poorly on the visual field test so the physician cannot rely on the test results to arrive at a diagnosis.

For advance refractory glaucoma, CW-TSCPC is relatively safe and effective in the short and medium term. Repeat treatment may be needed.⁹ MicroPulse TSCPC can also be repeated in eyes without successful outcome after the initial treatment, although there is little available evidence on retreatment outcomes.¹⁰

DOCUMENTATION

When the decision for laser is reached, the chart documentation should include the following.

- Discussion of indications for surgery
- Patient’s informed consent
- Laser operative report (Figure 3 is an example)
- Physician’s signature

The laser operative report is part of the patient’s permanent record.

⁹ Bloom, PA, Tsai, JC, Sharma, K, et al. Transscleral Diode Laser Cyclophotocoagulation in the Treatment of Advanced Refractory Glaucoma. *Ophthalmol* Vol 104 Issue 9 p 1508-1520 September 1, 1997 [Link here](#).

¹⁰ Sanchez FG, Peirano-Bonomi JC, Grippo TM. Micropulse Transscleral Cyclophotocoagulation: A Hypothesis for the Ideal Parameters. *Med Hypothesis Discov Innov Ophthalmol*. 2018;7(3):94-100 [Link here](#).

Figure 3 LASER PROCEDURE TREATMENT

Date: _____

Name: _____

Preoperative Diagnosis: _____

Postoperative Diagnosis: _____

Procedure: _____ OD OS

Preop vital signs: BP _____ Pulse _____ Temp _____ Resp _____ Time _____

Anesthesia: Topical Retrobulbar Medication _____ Amount _____ Site _____

Complications: _____

Indication(s): _____

Description of procedure:

Dilated: YES NO _____gtts Time: _____

Power, Energy: _____ milliwatts millijoules

Duty cycle: Low 5% Medium 10% High 15%

Spot Size: _____ microns

Duration: _____ seconds

Number: _____ count

Wavelength: _____ nm

Lens: _____

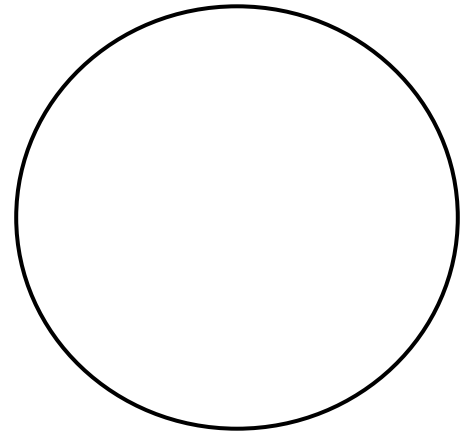
Laser:

Argon Green Blue Green Red

Nd:YAG

Diode

Nonthermal (689nm)



Postop vital signs: BP _____ Pulse _____ Temp _____ Resp _____ Time _____

Signature: _____

PRINTED NAME OF SURGEON

BILLING ISSUES

Procedure Code

Both CW-TSCPC and MicroPulse TSCPC are reported with the same CPT code, 66710 (*Ciliary body destruction; cyclophotocoagulation; transscleral approach*) because CPT is agnostic to the type of laser.

Modifiers

The following modifiers may be applicable on claims for MicroPulse TSCPC.

50	Indicates the procedure was performed on both eyes
51	Indicates multiple procedures were performed on the same day
57	Used with an evaluation and management (E/M) service that results in the initial decision to perform surgery on the same or next day
78	Indicates a subsequent procedure, related to the first, requiring a return to the operating room
79.....	Indicates an unrelated procedure during the postoperative period
RT	Right eye
LT	Left eye

Global Services

In 1992, Medicare instituted a global surgery policy as part of physician payment reform. Under this policy, a single fee to the physician covers all necessary services typically furnished by the surgeon before, during, and after the procedure. The policy describes services included in the national definition of "global surgery" and services excluded and paid separately. The policy divides procedures into major surgical procedures, minor surgical, and non-incisional procedures. In 2021, TSCPC is assigned a 90-day global period which denotes a major surgery.

Medicare-approved amount includes payment for the following services related to the surgery:

- Preoperative visits after deciding to operate, beginning with the day before surgery
- Intraoperative services and supplies
- Additional medical or surgical services during the postoperative period to treat a complication not requiring a return to the operating room
- Follow-up visits during the postoperative period related to recovery

Prohibited Code Combinations

The National Correct Coding Initiative (NCCI) contains numerous code combinations that have been bundled together as well as those codes that are considered mutually exclusive. The bundles simply mean that Medicare expects to receive a claim for the primary procedure but not for the other, incidental, procedures. These edits are updated on a quarterly basis. Table 1 identifies those code combinations that apply in ophthalmology.

Table3 NCCI Edits for TSCPC

Procedure	Bundled	Mutually Exclusive
66710	0213T 0216T 0596T 0597T 36000 36410 37202 62318 62319 64415 64416 64417 64450 64470 64475 66500 66505 66625 66630 66635 69990 90780	66250 66700 66770

Sample Claims

Example 1 NVG due to noninfectious uveitis unresponsive to medical therapy

A 61-year-old woman with neovascular glaucoma (NVG) was referred with left ocular pain and blurred vision for a duration of 5 days. History was noteworthy for diabetes mellitus and asthma. BCVA was 20/40 OD 20/60 OS. IOP was 13 and 37 mmHg. The right eye showed no inflammation in the anterior segment and posterior segment. The left eye showed ciliary hyperemia, infiltrating cells, hyphemia, rubeosis iridis, and cataract in the anterior segment. Gonioscopy examination detected nodules and rubeosis on the trabecular meshwork in the left eye. OCT of the optic nerves showed glaucomatous optic disks. Perimetry showed visual field loss in two hemifields indicative of severe glaucoma OU. After 4 weeks of medical therapy with corticosteroids and anti-glaucoma medications, IOP was 12 and 30 mmHg. MicroPulse TSCPC was recommended for the left eye and the patient consented. The claim for the surgery in the HOPD will read as follows.

17 REFERRING/ORDERING PROVIDER		17a.									
DK J Emdy MD		17b.	NPI	1234567890							
19 ADDITIONAL CLAIM INFORMATION											
21 DIAGNOSIS OR NATURE OF ILLNESS OR INJURY		ICD Ind.	0								
A.	H40.42x3	B.	H20.12	C. D.							
24. A. DATES OF SERVICE		B.	C.	D. PROCEDURES, SVCS	E.	F.	G.	H.	I.	J.	
From To		POS	EMG	CPT/HCPCS	MODIFIER	DX POINTER	\$ CHARGES	UNITS	EPSDT	ID QUAL.	RENDERING PROVIDER I.D.
mm	dd/yyyy			66710	LT	A B	xxx xx	1		NPI	1234567890

Example 2 Uncontrolled open-angle glaucoma

A 69-year-old man in poor health returned after a 5-year hiatus during which he was not followed for his open-angle glaucoma. During that time, he did not take medications for glaucoma. Today, IOPs were 35 and 37 mmHg. OCT of the optic nerves showed glaucomatous optic disks. Perimetry showed visual field loss in two hemifields indicative of severe glaucoma OU. He previously had SLT OU and was unreceptive to recommended incisional glaucoma surgery. MicroPulse TSCPC was recommended for the left eye and the patient consented. Surgery on the right eye will be considered later. The claim for the surgery in the ambulatory surgery center will read as follows.

17 REFERRING/ORDERING PROVIDER		17a.											
DK	J Emdy MD	17b.	NPI	1234567890									
19 ADDITIONAL CLAIM INFORMATION													
21 DIAGNOSIS OR NATURE OF ILLNESS OR INJURY		ICD Ind.	0										
A.	H40.1123	B.		D.									
24. A. DATES OF SERVICE		B.	C.	D. PROCEDURES, SVCS	E.	F.	G.	H.	I.	J.			
From To		POS	EMG	CPT/HCPCS	MODIFIER	DX POINTER	\$ CHARGES	UNITS	EPSDT	ID QUAL.	RENDERING PROVIDER I.D.		
mm	dd	yyyy											
			24		66710	LT		A B	xxx	xx	1	NPI	1234567890

UTILIZATION

In the United States, there are 17,432 ophthalmologists who provide at least a minimum of services to Medicare beneficiaries and file claims for reimbursement for which CMS collects data. Within this group, 258 ophthalmologists performed transscleral cyclophotocoagulation (66710) more than 10 times per year on Medicare beneficiaries in 2018, the most recent year for which the data is available. On average, they performed this procedure 25 times per year on this population of patients. They represent about half of the 11,000 TSCPC procedures performed in a year on all Part B Medicare beneficiaries. The remaining procedures are performed by ophthalmologists with a utilization rate of 10 times per year or less – a small number. We can estimate that a total of about 22,000 TSCPC procedures are performed in US on an annual basis when we consider all other patients besides Part B Medicare beneficiaries.

The utilization of 66710 for treating Medicare beneficiaries shows a 26% compound annual growth rate (CAGR) for the period 2014-2018 compared to a 2.5% CAGR for all ophthalmic surgery which indicates a rapid adoption of this procedure.

For the sake of comparison, there were 2,524 ophthalmologists who performed laser trabeculoplasty (65855) more than 10 times per year on Medicare beneficiaries during the same time period. On average, they performed this procedure 45 times per year on this population of

patients. They represent about 80% of the 141,000 laser trabeculoplasty procedures performed in 2018 on all Part B Medicare beneficiaries. The remaining procedures are performed by ophthalmologists with a utilization rate of 10 times per year or less. We can estimate that a total of about 282,000 laser trabeculoplasty procedures are performed in US on an annual basis when we consider all other patients besides Part B Medicare beneficiaries.

Using the universe of all ophthalmologists as a reference point, TSCPC is performed about 1 time per 1,000 eye exams (0.1%) on Part B Medicare beneficiaries. If your utilization rate exceeds this benchmark, as it probably will, you will likely garner attention from Medicare or other third-party payers. Exemplary documentation of the decision-making process and the surgical procedure is your best defense against reproach during postpayment review.

PAYMENT LEVELS

Physician Reimbursement

Medicare’s 2021 national payment rates for 66710 are shown in Table 4 for both participating and non-participating physicians.¹¹

Table 4 2021 Medicare National Physician Rates for 66170

Site of Service	PAR Allowable	Non-PAR Allowable	Limiting Charge for Non-PAR
Non-facility	\$459	\$428	492
Facility	\$394	\$374	\$430

These Medicare rates are subject to Geographical Practice Costs Indices (GPCI), which adjust the fee schedule locally. Other payers set their own rates, which may differ significantly from the Medicare published fee schedule.

¹¹ Participating physicians (PAR) agree to accept Medicare allowed amounts on all covered services as their maximum payment from all sources. This is known as “accepting assignment”. Non-participating physicians (Non-PAR) may accept assignment on a case-by-case basis, but are also limited in the amount they may charge the patient if they do not accept assignment. For additional discussion, see information published by CMS for patients. [Link here.](#)

Facility Reimbursement

MicroPulse TSCPC is eligible for a facility fee in an ambulatory surgery center (ASC) or hospital outpatient department (HOPD). (Table 5) The facility fee covers all supplies. The facility fee rates vary according to local wage indices. The rates are updated annually.

Table 5 **2021 National Medicare Facility Rates**

Code	ASC		HOPD	
	Group	Amount	APC	Amount
66710	2	\$854	5503	\$2,003

CONCLUSION

This discussion is meant to assist the reader to better understand the rules and regulations regarding reimbursement for transscleral cyclophotocoagulation and related issues. However, the responsibility for appropriate usage, adequate documentation and proper coding are always the physician's.

Practice Management Tips

- Use the treating physician's provider identification number (PIN).
- Retain a signed patient consent in the patient's medical record.
- Retain a detailed operative note in the patient's medical record.
- Notify the patient before surgery of financial responsibility if there is reason to believe Medicare does not cover the procedure; document acceptance on the Advance Beneficiary Notice Form. Other third-party payers, particularly Part C Medicare, use other financial waiver processes.
- CPT 66710 is a major surgery with a 90-day global period.
- Follow Medicare's NCCI edits. They change quarterly and describe bundles and mutually exclusive codes.
- Use RT/LT to denote which eye is treated when only one is done. TSCPC is rarely performed on both eyes on the same day.
- ICD-10 codes for glaucoma include laterality and severity (mild, moderate, severe). Use the most specific ICD-10 code possible.
- Medicare's site-of-service differential applies to 66710; physician payments are higher in-office than in a facility.