Medicare Rules for Transcutaneous Oximetry

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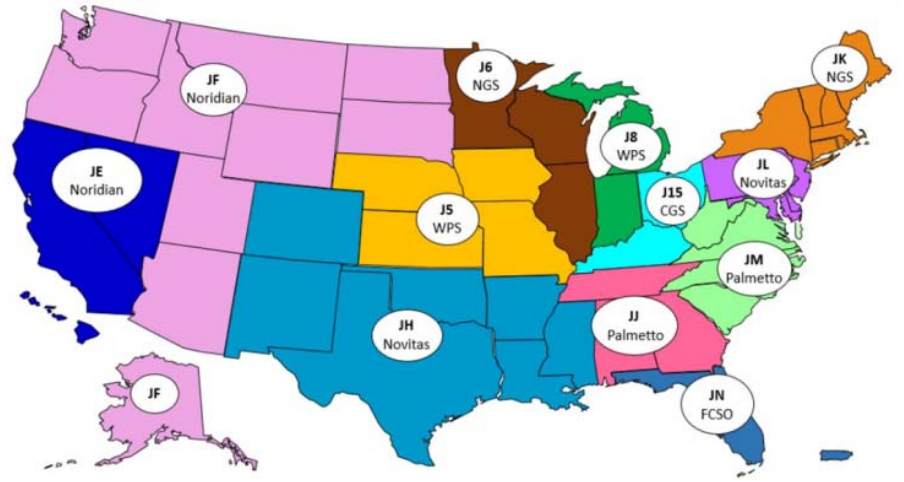
INTRODUCTION

In January of 2011, the Current Procedural Terminology (CPT) definition of transcutaneous oximetry (TCOM) changed. This altered the study we must perform and the way it is billed. Individuals who perform TCOM studies should be aware of these changes and ensure compliance with all applicable rules. This article will explain the CPT definition and discuss billing requirements of Medicare payers.



OBJECTIVES

On completion of this activity, the reader should be able to:

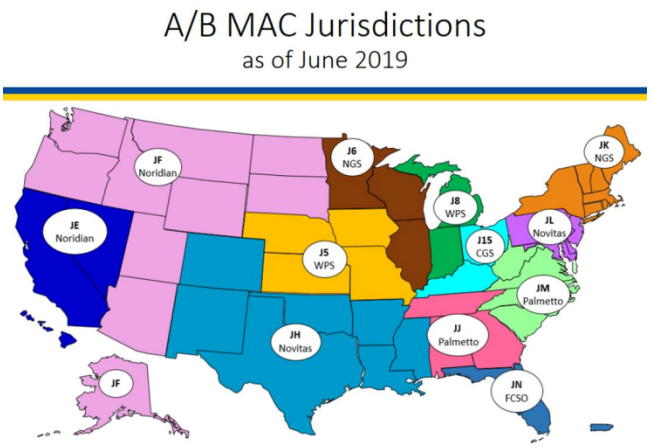
1. Explain the source of billing rules for TCOM.
2. Explain the CPT definition of TCOM.
3. Identify the appropriate CPT code for a TCOM study.
4. Discuss who is qualified to perform a TCOM study.
5. Locate your TCOM LCD.

ABBREVIATIONS USED IN THIS ARTICLE

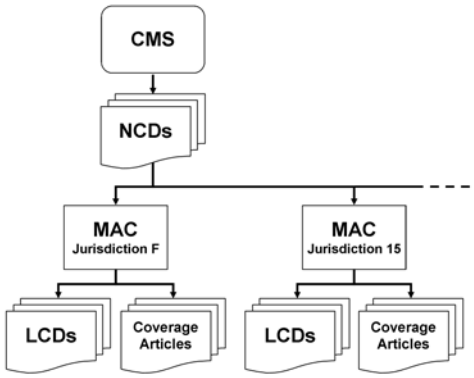
ABI: Ankle/Brachial Index
CMS: Centers for Medicare & Medicaid Services
CPT®: Current Procedural Terminology
LCD: Local Coverage Determination
MAC: Medicare Administrative Contractor
NCD: National Coverage Determination
RPI: Regional Perfusion Index
TCOM: Transcutaneous Oximetry

REIMBURSEMENT BASICS

When discussing billing issues, we talk about Medicare rules because the majority of patients receiving hyperbaric treatment in hospital based facilities are Medicare beneficiaries. The Medicare rules discussed in this article do not necessarily apply to other medical insurances. The government agency responsible for the Medicare program is Centers for Medicare & Medicaid Services (CMS). Since 2005, the Medicare program has been administered by several medical insurance companies; each called a Medicare Administrative Contractor (MAC). At the time of this writing there are 12 MAC jurisdictions, administered by 7 MACs (CGS Administrators, First Coast Service Options, National Government Services, Noridian Healthcare Solutions, Novitas Solutions, Palmetto GBA, Wisconsin Physician Services). It is important to identify your MAC and the coverage documents that are relevant to you.



CMS determines the services covered by the Medicare program. For many covered services, CMS has written a National Coverage Determination (NCD). NCDs are very basic, and do not provide specific guidance. Each MAC has the authority to write its own coverage documents for Medicare covered services. The MAC's coverage documents are either Local Coverage Determinations (LCD) or a Coverage Articles, which specify the conditions, limitations, and documentation requirements for payment of services.



Beginning in 2019, there was a global change in the content of LCDs. "...the Centers for Medicare & Medicaid Services (CMS) revised chapter 13 of the Medicare Program Integrity Manual (PIM). This chapter describes the local coverage determinations (LCD) process. One significant change is the relocation of codes (e.g., ICD-10-CM, CPT/HCPCS, Bill Type, and Revenue) from LCDs and into local coverage Articles. The MACs were instructed to begin relocating codes process began in January 2019 and is expected to continue through January 2020.
During this transition period, codes may be found in either an LCD or an Article. However, when a particular LCD has its codes removed, the Medicare Administrative Contractor (MAC) will create a Billing and Coding Article which will contain the codes. The LCD and the Billing and Coding Article are companion documents. (updated 10/07/2019)"
[https://www.cms.gov]

LCDs and coverage articles for TCOM are typically titled something like, "Noninvasive Vascular Studies" or "Noninvasive Peripheral Arterial Studies". TCOM will be one of several different studies addressed in the document. At the time of this writing, 6 of the 7 MACs have a TCOM coverage article published on the CMS website.

When a hospital or physician bills a MAC for a service, a CPT code is used to describe the service provided. CPT codes are generated by the American Medical Association, and updated annually. A new edition of the CPT book is published each year. New or altered CPT codes go into effect on January 1st of each year. So, each year there is a possibility that coverage documents may change because of added, deleted, or altered CPT codes. This is what happened in January 2011; there was a significant change to the CPT codes for TCOM. Fortunately, there have been no significant changes to the TCOM codes since the 2011 CPT book.

CPT CODES FOR TCOM

In the CPT book, there are currently two codes available to describe a TCOM: 93922 and 93923. The two codes are not specific to TCOM, but actually describe three different studies under the heading "Noninvasive Vascular Diagnostic Studies", subheading "Extremity Arterial Studies". The code 93922 describes a "limited" study, and 93923 describes a "complete" study. A simplified version of 93922 is:

> *93922: Limited bilateral noninvasive physiologic studies of upper or lower extremity arteries*

The actual definition of 93922 is longer and more complex; but don't fear because it will be broken down and explained in a moment. The following is the complete definition of 93922 from the 2020 CPT book:

> *93922: Limited bilateral noninvasive physiologic studies of upper or lower extremity arteries, (eg, for lower extremity: ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus bidirectional, Doppler waveform recording and analysis at 1-2 levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus volume plethysmography at 1-2 levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries with transcutaneous oxygen tension measurements at 1-2 levels)*

All the stuff in parentheses, "(eg, for lower extremity: ankle /brachial …)" exists to elaborate on the meaning of "noninvasive physiologic studies". This elaboration includes a repetitive definition of three different studies that qualify as 93922: (1) bidirectional Doppler waveform recording; (2) volume plethysmography; (3) transcutaneous oxygen tension measurements. At the front of each of these three is a requirement to perform an ankle/brachial index (ABI). The ABI is to be done at two different arteries (distal posterior tibial and anterior tibial/dorsalis pedis arteries). You have your choice of arteries for the second one (either anterior tibial or dorsalis pedis). When the study is performed on the upper extremities, the ABI at two arteries is replaced with, "Doppler-determined systolic pressures" because people don't have ankles on their upper extremities.

In the parenthetical stuff, you see the term "1-2 levels". What is a level? According to the CPT book, "Potential levels include high thigh, low thigh, calf, ankle, metatarsal and toes." The term "level" does not mean "electrode". It is common practice to place TCOM electrodes in pairs (e.g. two at the calf, one on each side of the leg). It does not matter that you placed two electrodes, because they were at the same level of the extremity (the calf). For the purpose of billing, count levels of the body (e.g. high thigh, low thigh, calf, ankle, metatarsal, toes) rather than electrodes (or "sites").

Now let's look at a simplified version of 93923:

> *93923: Complete bilateral noninvasive physiologic studies of upper or lower extremity arteries, 3 or more levels, or single level study with provocative functional maneuvers*

This is essentially the same definition as 93922, with two exceptions. First, "1-2 levels" is replaced with "3 or more levels". So, a study of less than 3 levels is a "limited" study and a study of 3 or more levels is a "complete" study. Second, the definition of 93923 is met one of two ways: a study at 3 or more levels; or a single level study with provocative maneuvers added.

The actual definition of 93923 is:

> *93923: Complete bilateral noninvasive physiologic studies of upper or lower extremity arteries, 3 or more levels (eg, for lower extremity: ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus bidirectional, Doppler waveform recording and analysis at 3 or more levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus volume plethysmography at 3 or more levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries with transcutaneous oxygen tension measurements at 3 or more levels), or single level study with provocative functional maneuvers (eg, measurements with postural provocative tests, or measurements with reactive hyperemia)*

The stuff in parentheses contains the same repetitive definition of the same three studies identified in the definition of 93922: (1) bidirectional Doppler waveform recording; (2) volume plethysmography; (3) transcutaneous oxygen tension measurements. It also contains the same requirement to perform an ankle/brachial index (ABI) at two arteries. The second set of parentheses, "(eg, measurements with postural provocative tests, or measurements with reactive hyperemia)" is an explanation of "provocative functional maneuvers". In a TCOM study, an extremity elevation is a postural provocative test. It makes sense that an oxygen challenge would be a provocative test; but it is not something one would normally do in a noninvasive vascular study (other than a TCOM study); and it is not specifically addressed in the CPT book. Therefore, it is uncertain if a particular MAC would consider an oxygen challenge to be a provocative functional maneuver.

In case you missed it, both the 93922 and 93923 studies are meant to be bilateral, meaning the ankle/brachial indices and TCOM measurements are on both extremities. It is fairly common to perform a TCOM on only

one extremity (e.g. the patient only has one extremity, the study is performed to assess the healing potential of a single wound). The 2020 CPT book gives specific guidance on this.

> *When only 1 arm or leg is available for study, report 93922 with modifier 52 for a unilateral study when recording 1-2 levels. Report 93922 when recording 3 or more levels or performing provocative functional maneuvers*

If only one limb is tested, you should consider it a limited study (93922), regardless of levels.

Choosing the Right CPT Code

We are about to use something called a "modifier". What is a modifier? Modifiers are two digit codes (numbers or letters), added to the end of a CPT code. Modifiers are used to further describe the CPT code. There are lots of modifiers. One example is modifier "52", which means the service described by the CPT code was shortened or reduced. When a hospital charges for a TCOM study, it basically has three choices: complete, limited, and limited with modifier 52 (reduced service). The following is a scoring system to help you decide what CPT code is appropriate:

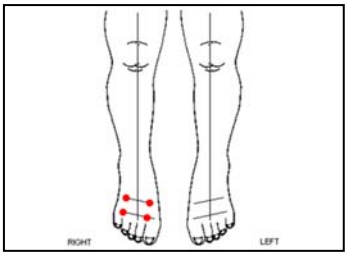
(Choose one item from each of three categories and add up all points that apply)

NUMBER OF LIMBS TESTED	LEVELS OF THE BODY TESTED	PROVOCATIVE MANEUVER
One limb = **0 points**	Less than 3 levels = **1 point**	None = **0 points**
Both limbs = **2 points**	3 or more levels = **2 points**	1 or more = **1 point**

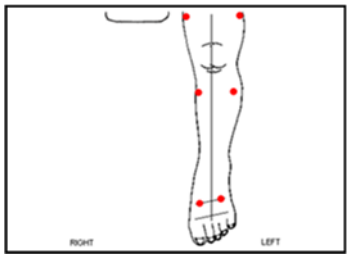
TOTAL POINTS	DESCRIPTION	HOSPITAL CPT CODE
1	Limited TCOM study, one limb	93922-52
2	Limited TCOM study	93922
3	Limited TCOM study	93922
4	Complete TCOM study	93923
5	Complete TCOM study	93923

Some hospitals add modifier "TC" to their CPT code for the TCOM, indicating they are charging only the "technical component" of performing the TCOM. Physician charges for TCOM are usually for the physician interpretation of a TCOM that was billed by the hospital (performed by a technician or nurse). The physician bills either limited or complete, based on what the hospital has billed. Modifier 52 is not used on the physician bill. The physician will add modifier "26", indicating "interpretation only".

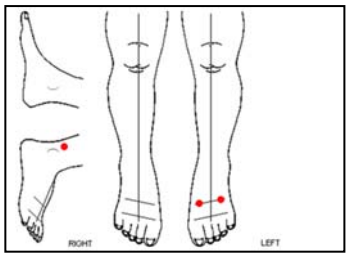
DESCRIPTION	PHYSICIAN CPT CODE
Limited TCOM study, interpretation only	93922-26
Complete TCOM study, interpretation only	93923-26



Case 1: The patient has an ulcer on the right 1st toe. ABI values are recorded at the distal posterior tibial and dorsalis pedis arteries of both legs. Four TCOM electrodes are placed on the right foot at two different levels (base of toes, metatarsal). Baseline air values are recorded. There is no oxygen breathing and no extremity elevation. Scoring: TCOM of one leg earns 0 point. Testing less than 3 levels earns 1 point. There are no other points earned. Total of 1 point justifies a CPT code 93922-52 (limited study, one limb) for the hospital. The physician would bill 93922-26 for interpreting this TCOM.



Case 2: The patient who previously had an above the knee amputation of the right leg is having the left leg evaluated. ABI values are recorded at the distal posterior tibial and dorsalis pedis arteries of the left leg. Six TCOM electrodes are placed at three different levels (metatarsal, calf, and low thigh) on the left leg. The baseline air values at all six electrodes are relatively normal, so the physician does not wish to see oxygen breathing or extremity elevation values. Scoring: TCOM of one leg earns 0 points. Testing 3 levels earns 2 points. No other points are earned. Total of 2 points justifies a CPT code 93922 (limited study) for the hospital. The physician would bill 93922-26 for interpreting this TCOM.



Case 3: The patient has an ulcer on the right ankle. ABI values are recorded at the distal posterior tibial and dorsalis pedis arteries of both legs. One TCOM electrode is placed proximal to the ulcer on the right ankle; two electrodes are placed at the metatarsal level (one medial/one lateral) of the left foot; and one electrode is placed on the chest (left second intercostal space) so a regional perfusion index (RPI) can be calculated. The baseline air values are abnormal, and the physician wishes to see oxygen breathing and extremity elevation values. Scoring: TCOM of both legs ears 2 points. The chest electrode is not counted as a level. Although chest leads are used by some hyperbaric facilities in their TCOM studies, the CPT definition does not address chest readings or RPI values as a component of a TCOM study. Testing less than 3 levels earns 1 point. Addition of extremity elevation earns another 1 point. If there had not been an extremity elevation, the addition of oxygen challenge may or may not count as a provocative maneuver, depending on the opinion of your MAC. Total of 4 points justifies a CPT code 93923 (complete study) for the hospital. The physician would bill 93923-26 for interpreting this TCOM.

All of the above information about choosing the CPT code for TCOM is derived from *Current Procedural Terminology (CPT®) 2020*.

QUALIFICATIONS TO PERFORM A TCOM

The wording may vary somewhat, but most MACs have taken the position that only certain people are qualified to perform and/or interpret TCOM studies. Having a TCOM competency in your personnel file will probably not be recognized by your MAC. Having a CHT or CHRN may or may not be recognized by your MAC. There is not one rule that applies to everyone. It depends on the coverage documents published by your MAC. Some MACs have no coverage document for TCOM. This means you have no specific guidance about who might be qualified. If your MAC does have a coverage document for TCOM, it is likely to set limitations on who may perform these studies. The following is a quote from the Wisconsin Physician Services LCD titled "Non-Invasive Vascular Studies (L35761)":

> ***Credentialing and Accreditation Standards***
> *The accuracy of non-invasive vascular diagnostic studies depends on the knowledge, skill, and experience of the technologist and interpreter. Consequently, the physician performing and/or interpreting the study must be capable of demonstrating documented training and experience. A vascular diagnostic study may be personally performed by a physician, a certified technologist, or in a certified vascular testing lab.*
> *Services will be considered medically reasonable and necessary only if performed by appropriately trained providers.*

1. *All non-invasive vascular diagnostic studies must be performed meeting at least one of the following:*
   a. *performed by a licensed qualified physician, **or***
   b. *performed by a technician who is certified in vascular technology, **or***
   c. *performed in facilities with laboratories accredited in vascular technology*
2. *A licensed qualified physician for these services is defined as:*
   a. *Having trained and acquired expertise within the framework of an accredited residency **or** fellowship program in the applicable specialty/subspecialty in ultrasound (US) **or** must reflect equivalent education, training, and expertise endorsed by an academic institution in ultrasound **or** by applicable specialty/subspecialty society in ultrasound, **or***
   b. *Has the Registered Vascular Technologist (RVT), Registered Physician Vascular Interpretation (RPVI), or American Society of Neuroimaging (ASN): Neuroimaging Subspecialty Certification; **and***
   c. *Is able to provide evidence of proficiency in the performance and interpretation of each type of diagnostic procedure performed.*
3. *Nonphysician personnel performing tests must demonstrate basic qualifications to perform tests and have training and proficiency as evidenced by licensure or certification by an appropriate State health or education department. In the absence of a State licensing board, non-physician personnel must be certified by an appropriate national credentialing body. Appropriate personnel certification includes the American Registry of Diagnostic Medical Sonographers (ARDMS) or Registered Vascular Technologist (RVT) credential; or Cardiovascular Credentialing International's Registered Vascular Specialist (RVS).*
4. *Laboratories accredited by the Intersocietal Accreditation Commission (IAC), American College of Radiology (ACR) Vascular Ultrasound Program, Joint Commission or DNV-GL must follow the accrediting body's standards.*
5. *Transcutaneous oxygen tension measurement should be performed by personnel possessing the following credentials obtained from the National Board of Diving and Hyperbaric Medicine Technology (NBDHMT): Certified Hyperbaric Technologist (CHT), or Certified Hyperbaric Registered Nurse (CHRN).*

Remember that coverage documents from different MACs are worded differently. The first two sentences in the above quote ("The accuracy of non-invasive vascular diagnostic studies…") are almost identical in the coverage documents of 5 of the 7 MACs. Four of these 5 MACs allow someone with a CHT or CHRN credential to perform TCOM studies. One MAC (Noridian Healthcare Solutions) does not mention CHT or CHRN in their TCOM coverage documents. Two MACs (Novitas Solutions and Palmetto GBA) do not have a coverage document specifically addressing TCOM. If your MAC is one of the 5 with a TCOM policy, you must poses one of the credentials they recognize. Proof of TCOM training or TCOM competency will not satisfy their training requirements. Also, the 4 MACs that recognize CHT/CHRN certification only recognize it for the purpose of performing TCOM, not Doppler or plethysmography.

The following is a very common and potentially costly misconception: "We have been billing this way for a while and it always gets paid; so we must be doing it right". The only thing required for a hospital to be paid is to transmit a string of numerical codes (e.g. place of service, ICD-10, CPT, modifiers) that the MAC's software finds compatible with one another. The documentation requirements you might find in TCOM coverage documents (e.g. medical necessity, ABI values, qualifications of the person performing the study) are not coded and transmitted with the bill. Bills are processed without the MAC knowing if you have complied with these documentation requirements. However, the MAC expects you to have this documentation in case they choose to ask for it. The MAC is entitled to hold a bill and ask for additional documentation, or to perform a post-payment audit of past bills to ensure you had all the documentation in place at the time the service was provided. At any time, your hospital may have to send documentation of your qualification to perform a TCOM (as well as all the other documentation required in the coverage documents). If a hospital or physician bills for a service that does not meet all the requirements of the corresponding coverage documents, the MAC can ask for the money to be returned plus penalties.

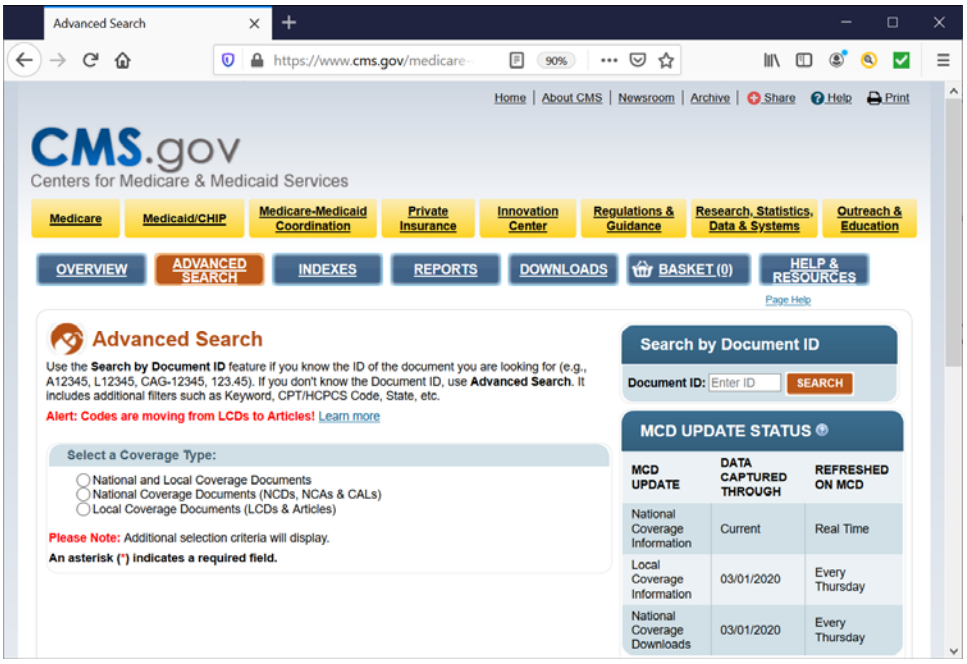
If your MAC does not have a coverage document for TCOM, or the document is unclear, your hospital billing department can contact the MAC and ask them to clarify the coverage policy.

FINDING YOUR LCD

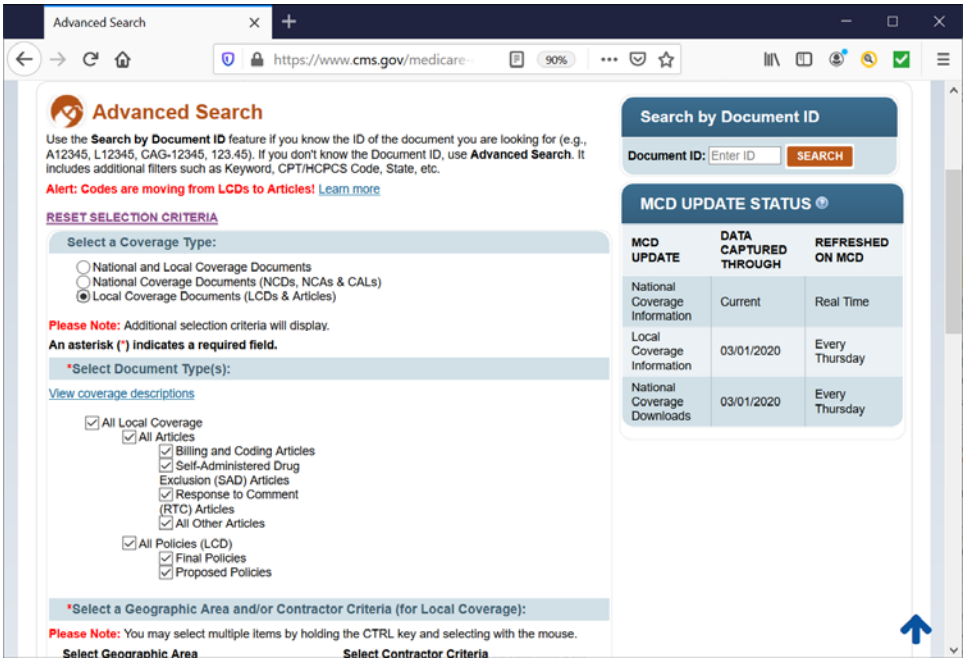
It is wise to identify your MAC and the coverage document(s) that apply; and to read the entire coverage document(s). The MAC may provide additional explanation in the coverage document or have links to related articles or attachments at the end of the document. The following series of screen shots illustrates how to locate a coverage document for TCOM:

- Go to the following website: https://www.cms.gov/medicare-coverage-database/search/advanced-search.aspx

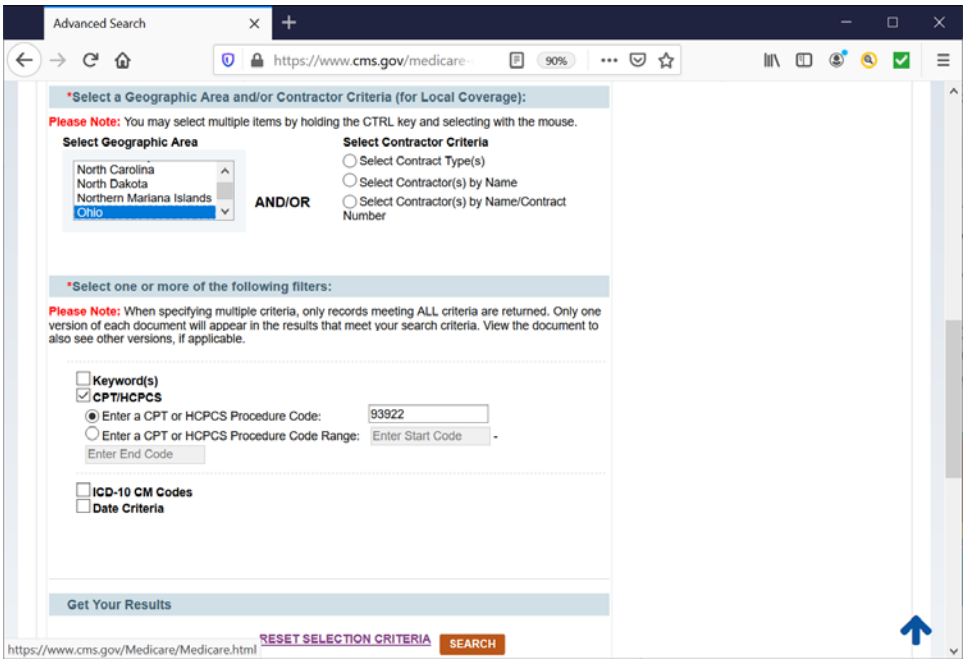
- Under “Select a Coverage Type:” select “Local Coverage Documents”.



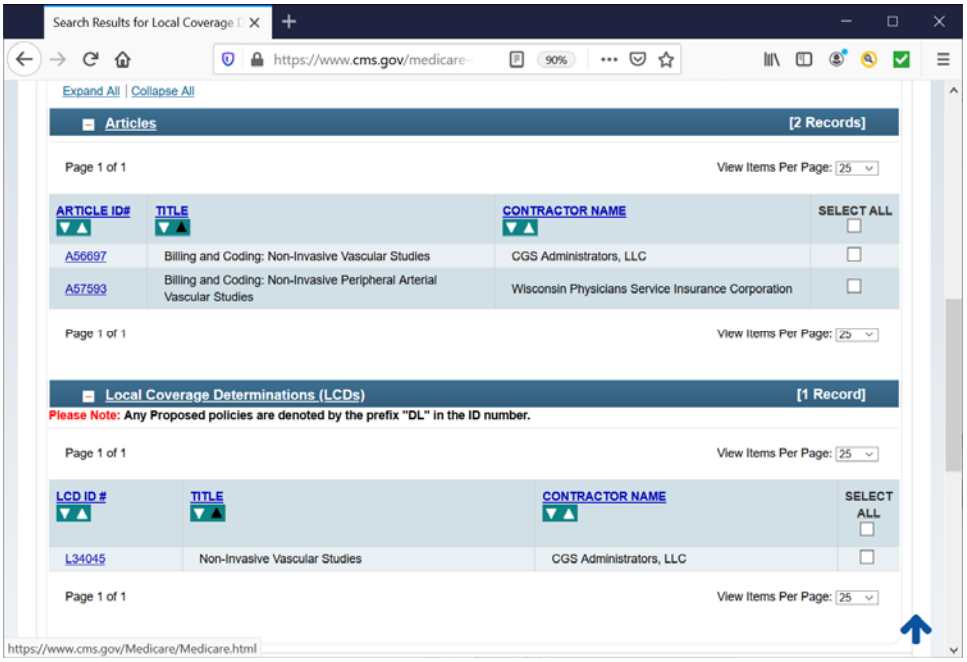
- Under “Select Document Type(s)” leave the default selections checked.
- Scroll the page down so you can see the section “Select a Geographic Area and/or …”.



- Under “Select Geographic Area”, choose your State. For this example, “Ohio” was chosen.
- Under “Select one or more of the following filters:”, select “CPT/HCPCS” and enter “93922”.
- Click on “SEARCH” at the bottom of the page.

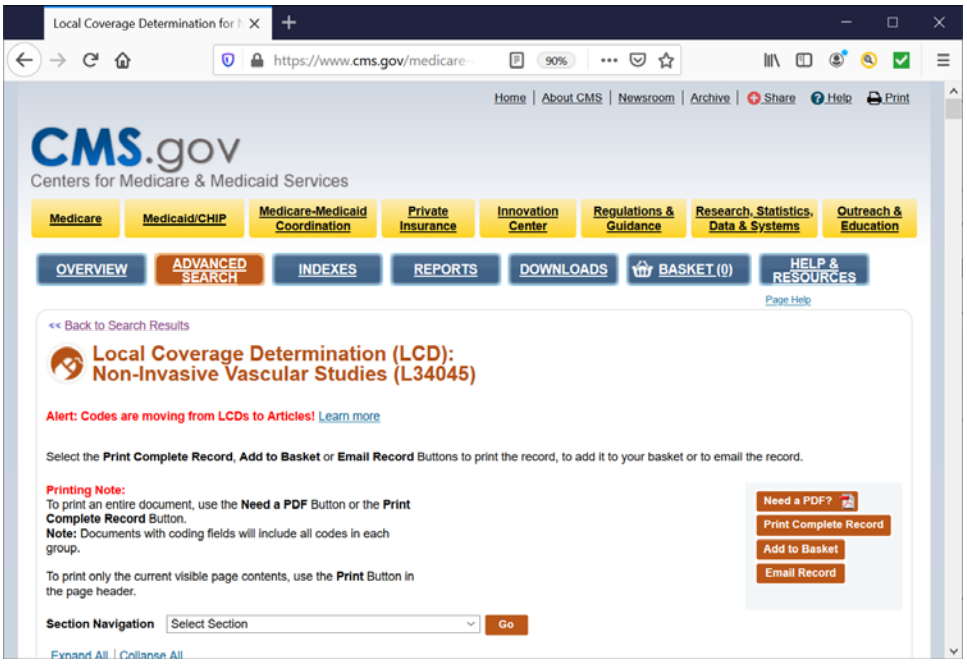


- A page of “Search Results” will appear.
- Scroll the page down to view any coverage articles or LCDs that are available.
- This search found two articles – one from CGS Administrators (A56697) and one from Wisconsin Physician Services (A57593). It also found one LCD from CGS Administrators (L34045).
- Click on either the ARTICLE ID # (e.g., A56697) or LCD ID # (e.g., L34045) to view the document.



Because the CPT code 93922 was used as a search parameter, only documents containing “93922” will appear in the search results. Because CMS is moving all coding information out of LCDs and into Coverage Articles, some LCDs on TCOM do not contain the CPT codes. If your search results include only a Coverage Article, there is still a simple way to find the corresponding LCD. In the Coverage Article, close to the bottom of the Article, there will be a section titled “Associated Documents”, in this section there will be a link to the TCOM LCD.

- If you see a page titled "LICENSE FOR USE OF PHYSICIANS' CURRENT PROCEDURAL TERMINOLOGY, FOURTH EDITION ("CPT")", scroll the page to the bottom and click on "ACCEPT".
- The document you chose will open. For this example, L34045 was chosen.



KEY POINTS IN THIS ARTICLE

- Specific details of Medicare coverage for TCOM are found in a coverage document (Article or LCD), titled something like "Non-Invasive Vascular Studies". Coverage documents are written by MACs; and they differ from one another. Know your MAC and find the right coverage document(s).
- The CPT codes used to describe a TCOM are 93922 and 93923. The two codes differ by the number of levels in the TCOM study. Levels are not the same as electrodes or sites. Examples of levels are: high thigh, low thigh, calf, ankle, metatarsal, toes.
- When selecting the appropriate CPT code for a TCOM, the relevant information is: one limb vs. bilateral; less than 3 levels vs. 3 or more levels; addition of a provocative functional maneuver. Oxygen challenge may or may not be considered a provocative functional maneuver by your MAC.
- Documentation of ABI values at two arteries is required in addition to the TCOM values.
- A CHT/CHRN may or may not be considered qualified by your MAC to perform a TCOM. Four of the seven MACs recognize the CHT/CHRN credential. Documentation of your qualification is likely a requirement of your MAC.

REFERENCES

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4. Centers for Medicare & Medicaid Services, A/B MAC Jurisdictions Map. Available at: https://www.cms.gov/Medicare/Medicare-Contracting/Medicare-Administrative-Contractors/Downloads/AB-Jurisdiction-Map-Jun-2019.pdf. Accessed March 10, 2020.

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