

## Plethysmography (NCD 20.14)

<b>Policy Number</b>	20.14	<b>Approved By</b>	UnitedHealthcare Medicare Reimbursement Policy Committee	<b>Current Approval Date</b>	09/11/2013
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### IMPORTANT NOTE ABOUT THIS REIMBURSEMENT POLICY

This policy is applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates.

You are responsible for submission of accurate claims. This reimbursement policy is intended to ensure that you are reimbursed based on the code or codes that correctly describe the health care services provided. UnitedHealthcare reimbursement policies use Current Procedural Terminology (CPT®\*), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT or other sources are for definitional purposes only and do not imply any right to reimbursement.

This reimbursement policy applies to all health care services billed on CMS 1500 forms and, when specified, to those billed on UB04 forms (CMS 1450). Coding methodology, industry-standard reimbursement logic, regulatory requirements, benefits design and other factors are considered in developing reimbursement policy. This information is intended to serve only as a general resource regarding UnitedHealthcare’s reimbursement policy for the services described and is not intended to address every aspect of a reimbursement situation. Accordingly, UnitedHealthcare may use reasonable discretion in interpreting and applying this policy to health care services provided in a particular case. Further, the policy does not address all issues related to reimbursement for health care services provided to UnitedHealthcare enrollees. Other factors affecting reimbursement may supplement, modify or, in some cases, supersede this policy. These factors may include, but are not limited to: legislative mandates, the physician or other provider contracts, and/or the enrollee’s benefit coverage documents. Finally, this policy may not be implemented exactly the same way on the different electronic claims processing systems used by UnitedHealthcare due to programming or other constraints; however, UnitedHealthcare strives to minimize these variations.

UnitedHealthcare may modify this reimbursement policy at any time by publishing a new version of the policy on this Website. However, the information presented in this policy is accurate and current as of the date of publication.

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### Table of Contents

<b>Application</b> .....	<b>1</b>
<b>Summary</b> .....	<b>2</b>
Overview .....	2
Reimbursement Guidelines .....	2
<b>CPT/HCPCS Codes:</b> .....	<b>3</b>
<b>References Included (but not limited to):</b> .....	<b>4</b>
CMS NCD .....	4
CMS LCD(s) .....	4
CMS Claims Processing Manual .....	4
UnitedHealthcare Medicare Advantage Coverage Summaries .....	4
<b>History</b> .....	<b>4</b>

### Application

This reimbursement policy applies to services reported using the Health Insurance Claim Form CMS-1500 or its electronic equivalent or its successor form, and services reported using facility claim form CMS-1450 or its electronic equivalent or its successor form. This policy applies to all products, all network and non-network physicians, and other health care professionals.

The HCPCS/CPT code(s) may be subject to Correct Coding Initiative (CCI) edits. This policy does not take precedence over CCI edits. Please refer to the CCI for correct coding guidelines and specific applicable code combinations prior to billing UnitedHealthcare. It is not enough to link the procedure code to a correct, payable ICD-9-CM diagnosis code. The diagnosis must be present for the procedure to be paid. Compliance with the

## Plethysmography (NCD 20.14)

provisions in this policy is subject to monitoring by pre-payment review and/or post-payment data analysis and subsequent medical review. The effective date of changes/additions/deletions to this policy is the committee meeting date unless otherwise indicated. CPT codes and descriptions are copyright 2010 American Medical Association (or such other date of publication of CPT). All rights reserved. CPT is a registered trademark of the American Medical Association. Applicable FARS/DFARS restrictions apply to Government use. Fee schedules, relative value units, conversion factors, and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein. Current Dental Terminology (CDT), including procedure codes, nomenclature, descriptors, and other data contained therein, is copyright by the American Dental Association, 2002, 2004. All rights reserved. CDT is a registered trademark of the American Dental Association. Applicable FARS/DFARS apply.

### Summary

#### Overview

Plethysmography involves the measurement and recording (by one of several methods) of changes in the size of a body part as modified by the circulation of blood in that part. Plethysmography is of value as a noninvasive technique for diagnostic, preoperative and postoperative evaluation of peripheral artery disease in the internal medicine or vascular surgery practice. It is also a useful tool for the preoperative podiatric evaluation of the diabetic patient or one who has intermittent claudication or other signs or symptoms indicative of peripheral vascular disease which have a bearing on the patient's candidacy for foot surgery.

The oldest form of plethysmography is the venous occlusive pneumoplethysmography. This method is cumbersome, time consuming, and requires considerable training to give useful, reproducible results. Nonetheless, in the setting of the hospital vascular laboratory, this technique is considered a reasonable and necessary procedure for the diagnostic evaluation of suspected peripheral arterial disease. It is unsuitable for routine use in the physician's office.

Recently, however, a number of other plethysmographic methods have been developed which make use of phenomena such as changes in electric impedance or changes in segmental blood pressure at constant volume to assess regional perfusion. Several of these methods have reached a level of development which makes them clinically valuable.

#### Reimbursement Guidelines

Medicare coverage is extended to those procedures listed in Category I below when used for the accepted medical indications mentioned above. The procedures in Category II are still considered experimental and are not covered at this time. Denial of claims because a noncovered procedure was used or because there was no medical indication for plethysmographic evaluation of any type should be based on §1862(a) (1) of the Act.

#### Category I - Covered

1. Segmental Plethysmography - Included under this procedure are services performed with a regional plethysmograph, differential plethysmograph, recording oscillometer, and a pulse volume recorder.
2. Electrical Impedance Plethysmography
3. Ultrasonic Measurement of Blood Flow (Doppler) - While not strictly a plethysmographic method, this is also a useful tool in the evaluation of suspected peripheral vascular disease or preoperative screening of podiatric patients with suspected peripheral vascular compromise. (See §50-7 for the applicable coverage policy on this procedure.)
4. Oculoplethysmography - See NCD on Noninvasive Tests of Carotid Function, §20.17.
5. Strain Gauge Plethysmography - This test is based on recording the non-pulsatile aspects of inflowing blood at various points on an extremity by a mercury-in-silastic strain gauge sensor. The instrument consists of a chart recorder, an automatic cuff inflation and deflation system, and a recording manometer.

#### Category II - Experimental

The following methods have not yet reached a level of development such as to allow their routine use in the evaluation of suspected peripheral vascular disease.

1. Inductance Plethysmography - This method is considered experimental and does not provide reproducible results.
2. Capacitance Plethysmography - This method is considered experimental and does not provide reproducible

## Plethysmography (NCD 20.14)

results.

3. Mechanical Oscillometry - This is a non-standardized method which offers poor sensitivity and is not considered superior to the simple measurement of peripheral blood pressure.
4. Photoelectric Plethysmography - This method is considered useful only in determining whether or not a pulse is present and does not provide reproducible measurements of blood flow.

Differential plethysmography, on the other hand, is a system which uses an impedance technique to compare pulse pressures at various points along a limb, with a reference pressure at the mid-brachial or wrist level. It is not clear whether this technique, as usually performed in the physician's office, meets the definition of plethysmography because quantitative measurements of blood flow are usually not made. It has been concluded, in any event, that the differential plethysmography system is a blood pulse recorder of undetermined value, which has the potential for significant overutilization. Therefore, reimbursement for studies done by techniques other than venous occlusive pneumoplethysmography should be denied, at least until additional data on these devices, including controlled clinical studies, become available.

### CPT/HCPCS Codes:

#### Primarily related to this NCD

Code	Description
93720	Plethysmography, total body; with interpretation and report (Deleted 12/31/2011)
93721	Plethysmography, total body; tracing only, without interpretation and report (Deleted 12/31/2011)
93722	Plethysmography, total body; interpretation and report only (Deleted 12/31/2011)
94726	Plethysmography for determination of lung volumes and, when performed, airway resistance (Effective 01/01/2012)
94729	Diffusing capacity (eg, carbon monoxide, membrane) (List separately in addition to code for primary procedure) (Effective 01/01/2012)
94750	Pulmonary compliance study (eg, plethysmography, volume and pressure measurements) (Effective 01/01/2012)

#### Related to this NCD and other NCDs (20.17 Noninvasive Tests of Carotid Function, 220.5 Ultrasound Diagnostic Procedures)

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 measurement at 1-2 levels)
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 segmental blood pressure measurements with 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 segmental volume plethysmography at 3 or more levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus segmental transcutaneous oxygen tension measurements at 3 or more level(s), or single level study with provocative functional maneuvers (eg, measurements with postural provocative tests, or measurements with reactive hyperemia)

#### Related to this NCD and NCD 20.17 Noninvasive Tests of Carotid Function

93875	Noninvasive physiologic studies of extracranial arteries, complete bilateral study (eg, periorbital flow direction with arterial compression, ocular pneumoplethysmography, Doppler ultrasound spectral analysis) (Deleted 12/31/2011, no new code documented)
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## Plethysmography (NCD 20.14)

**Related to this NCD and NCD 160.26 Cavernous Nerves by Electrical Stimulation with Penile Plethysmography.**

54240	Penile plethysmography
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**References Included (but not limited to):**

**CMS NCD**

NCD 20.14 Plethysmography

**CMS LCD(s)**

Numerous LCDs

**CMS Claims Processing Manual**

Chapter 32; § 130.1 Billing and Payment Requirements

**UnitedHealthcare Medicare Advantage Coverage Summaries**

Cardiovascular Diagnostic Procedures

**History**

Date	Revisions
09/11/2013	Administrative updates
03/28/2012	Previous CPT codes 93720, 93721, 93722 deleted as of 01/01/2012 and replaced with CPT codes 94726 and 94750 effective 01/01/2012