Clinical Policy Bulletin: Holter Monitors

Number: 0019

Policy

*Please see amendment for Pennsylvania Medicaid at the end of this CPB.

Aetna considers Holter monitoring medically necessary for diagnostic evaluation of adult members with any of the following symptoms or conditions:

1. Assessment of efficacy of medications for arrhythmia treatment; or
2. Autonomic cardiac neuropathy associated with diabetes mellitus; or
3. Idiopathic hypertrophic or dilated cardiomyopathy; or
4. Evaluation of possible or documented long QT syndrome; or
5. Assessment of the function of pacemakers or implantable cardioverter defibrillators; or
6. Individuals with pain suggestive of variant (Prinzmetal's) angina; or
7. Post myocardial infarction with left ventricular dysfunction; or
8. Evaluation of symptoms related to cardiac arrhythmias (e.g., palpitations, syncope or near syncpe, unexplained dizziness) or
9. Asymptomatic congenital complete atrioventricular (AV) block in pediatric patients.

Aetna considers Holter monitoring experimental and investigational for all other indications because its effectiveness for indications other than the ones listed above has not been established.

Holter monitoring is generally considered medically necessary no more frequently than twice in a six month time period. Holter monitoring lasting more than 48 hours is generally considered not medically necessary. The literature indicates that if more frequent monitoring is needed to evaluate arrhythmias, use of cardiac event recorders should be considered. See CPB 0073 - Cardiac Event Monitors.

Note: Digitalization and/or color display of results are considered incidental features of Holter monitoring.

Note: Routine performance of Holter monitoring has no proven benefit for individuals who are undergoing sleep studies for suspected obstructive sleep apnea.

Note: For Aetna's policy on home-based real-time cardiac surveillance systems (e.g., CardioNet Mobile Outpatient Cardiac Telemetry Service, Cardiac Telecom Telemetry @ Home Service), see CPB 0073 - Cardiac Event Monitors.

Background

A Holter monitor is a self-contained ambulatory and recording device used to capture continuous
electrocardiographic measurements over a period of 24 to 48 hours. Holter monitors must be
distinguished from ambulatory event monitors, which capture episodic electrocardiographic data over
large periods of time, up to 1 month.

Electrodes are placed on the patient's chest and attached to a small recording monitor that the patient
carries in a pocket or in a small pouch. The monitor is battery operated. A continuous
electrocardiogram is recorded on a cassette tape, usually for a 24-hour period, while the patient keeps a
diary of activities. The recording is then analyzed, a report of the heart's activity is tabulated, and
irregular heart activity is correlated with the patient's activity at the time.

Advanced Holter monitors have been developed that use digital electrocardiographic recordings,
extended memory greater than 24 hours, pacemaker pulse detection and analysis, software for
analysis of digital electrocardiographic recordings that are downloaded and stored on a computer, and
capability of transmission of results over the internet (e.g., Raytel Medical Corporation, 2004;

Hegazy and Lotfy (2007) noted that Holter monitoring (HM) has been established as one of the most
effective noninvasive clinical tools in the diagnosis, assessment and risk stratification of cardiac
patients. However, studies in the pediatric age group are limited. These investigators at determined
the value of HM in the diagnosis and management of children. Holter records of 1,319 pediatric
patients (54.1 % males and 45.9 % females) were reviewed. Their average age was 6.7 +/- 4.1 years
(5 days to 16 years). Indications for which Holter monitoring was done were analyzed as well as all the
abnormalities diagnosed and factors that may increase Holter yield. Statistical Package of social
science (SPSS) version 9.0 was used for analysis of data. The most common indications were
palpitations (19.8 %), syncope (17.8 %), cardiomyopathy (12.6 %), chest pain (10 %), evaluation of
anti-arrhythmic therapy (6.8 %), post-operative assessment (2.6 %) and complete atrio-ventricular (AV)
block (2.4 %). A total of 141 Holter recordings were found abnormal with a total diagnostic yield of
10.7 %. The highest contribution to diagnosis was in post-operative assessment (32.4 %) and in
cardiomyopathy (19.9 %) where the most common abnormalities were frequent supra-
ventricular/ventricular premature beats, supra-ventricular tachycardia (SVT), ventricular tachycardia
(VT) and AV block. Diagnostic yield was low in patients with palpitations (5.7 %) and syncope (0.4
%). An abnormal electrocardiography (ECG) was significantly associated with a higher diagnostic yield
(p = 0.0001). None of the children with chest pain had abnormal Holter recordings. the authors
concluded that HM has an extremely valuable role in the assessment of high-risk patients (post-
operative and cardiomyopathy). However in children with palpitations, syncope and chest pain HM has
a low-yield. In this group of patients an abnormal ECG is more likely to be associated with abnormal
Holter recordings.

Weissler-Snir and colleagues (2016) stated that non-sustained ventricular tachycardia (NSVT), defined
as greater than or equal to 3 consecutive ventricular beats at greater than or equal to 120 beats/min
lasting less than 30 seconds, is an independent predictor of sudden cardiac death (SCD) in
hypertrophic cardiomyopathy (HC). Current guidelines recommend 24- to 48-hour Holter monitoring as
part of SCD risk stratification. These investigators evaluated the difference in diagnostic yield of 14-
day Holter monitoring compared to 24 to 48 hours for the detection of NSVT and assessed the
prevalence and characteristics of NSVT in patients with HC with prolonged monitoring. They
retrospectively analyzed the 14-day Holter monitors of 77 patients with HC from May 2014 to March
2016. Number of episodes and maximal length and rate on each day were recorded; NSVT was
detected in 75.3 % of patients during 14-day Holter monitoring. The median number of runs was 2
(range of 0 to 26 runs). The median number of beats of the longest run was 10.5 (range of 3 to 68
beats) with a mean maximum rate of 159.5 ± 20.8.4 beats/min (range of 102 to 203 beats/min). First
episodes of NSVT were detected throughout the 14 days, with only 22.5 % and 44.8 % of the episodes
captured within the first 24 and 48 hours of monitoring, respectively. The authors concluded that
prolonged Holter monitoring revealed greater than or equal to 1 episode of NSVT in 75 % of patients
with HC of which less than 50 % were detected within the first 48 hours. Hence, they noted that
prolonged Holter monitoring may be superior for SCD risk stratification in HC. However, the high
prevalence of NSVT in this population may limit its utility in evaluating the risk for SCD of the individual patient.

CPT Codes / HCPCS Codes / ICD-10 Codes

Information in the [brackets] below has been added for clarification purposes. Codes requiring a 7th character are represented by "+":

CPT codes covered if selection criteria are met:

93224 External electrocardiographic monitoring up to 48 hours by continuous rhythm recording and storage; includes recording, scanning analysis with report, physician review and interpretation

93225 recording (includes connection, recording, and disconnection)

93226 scanning analysis with report

93227 physician review and interpretation

CPT codes not covered for indications listed in the CPB:

0295T - 0298T External electrocardiographic recordings

ICD-10 codes covered if selection criteria are met:

E10.40 - E10.49 Diabetes mellitus with neurological complications
E10.610
E11.40 - E11.49
E11.610
F45.8 Other somatoform disorders
G45.0 - G45.1 Transient cerebral ischemic attacks and related syndromes
G45.8 - G45.9
G99.0 Autonomic neuropathy in diseases classified elsewhere
I20.0 - I20.1 Ischemic heart diseases
I21.01 - I22.9
I24.0 - I24.9
I25.2
I42.0 - I42.2 Cardiomyopathy
I42.5
I42.8 - I42.9
I44.0 - I44.7 Atrioventricular and left bundle-branch block
I45.0 - I45.9 Other conduction disorders
I46.2 - I46.9 Cardiac arrest
I47.0 - I47.9 Paroxysmal tachycardia
I48.0 - I48.92 Atrial fibrillation and flutter
I49.2 - I49.9 Other cardiac arrhythmias
Cerebral vasospasm and vasoconstriction

Congenital heart block [asymptomatic congenital complete atrioventricular (AV) block in pediatric patients]

Bradycardia, unspecified

Palpitations

Dizziness and giddiness

Syncope and collapse

Presence of cardiac pacemaker

Presence of automatic (implantable) cardiac defibrillator

ICD-10 codes not covered for indications listed in the CPB:

Sleep disorders not due to a substance or known physiological condition [if undergoing sleep studies for suspected obstructive sleep apnea]

Sleep disorders [if undergoing sleep studies for suspected obstructive sleep apnea]

Dyspnea and other abnormalities of breathing [if undergoing sleep studies for suspected obstructive sleep apnea]

The above policy is based on the following references:


January 11, 2005.
11, 2005.
16. Scalvini S, Zanelli E, Martinelli G, et al. Cardiac event recording yields more diagnoses than 24-
ECG Monitoring (Holter Monitor and Patient-Activated Event Recorder). Victoria, BC: British
Columbia Ministry of Health; revised 2004. Available at:
monitoring following percutaneous coronary intervention and their association with clinical
arrhythmias in patients with chronic heart failure secondary to non-ischemic versus ischemic
atrial fibrillation on Holter monitor in patients with stroke or transient ischemic attack. Stroke.
24. Kuhne M, Schaer B, Sticherling C, Osswald S. Holter monitoring in syncope: Diagnostic yield in
emergency department patients with possible cardiac arrhythmias. West J Emerg Med.
27. Weissler-Snir A, Chan RH, Adler A, et al. Usefulness of 14-day Holter for detection of
nonsustained ventricular tachycardia in patients with hypertrophic cardiomyopathy. Am J
Amendment to
Aetna Clinical Policy Bulletin Number: 0019 Holter Monitors

There are no amendments for Medicaid.

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