

DIY Holter – Yes You Can!



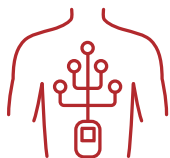
Overview

Why you should consider taking control of your patient Holter monitoring.

This edition focuses on the following topics:

- The history of Holter
- Evolution into extended Holter
- Approaches to consider
- Advantages of doing it yourself (DIY)
- Having the right tools to perform your own Holter and analysis
- Solutions for today's challenging environment

History of Holter Monitoring



An Ambulatory (Holter) ECG monitor is a small, wearable device that records the heart's rhythm. It's used to detect or determine the risk of irregular heartbeats (arrhythmias). Holter may be done if a traditional electrocardiogram (ECG or EKG) doesn't provide enough details about the heart's condition. Holter has undergone continuous technological evolution since its invention and development in the 1950s era.

With commercial introduction in 1963, there has been an evolution of Holter recorders from 1 to 12 channel recorders with increasingly smaller storage media. In addition, evolving Holter analysis systems employ increased technology which advances a myriad of data displays. This evolution of smaller physical instruments with increasing technological capacity has characterized the development of electronics over the past 50 years.⁽¹⁾ Smaller waterproof technology has also increased patient comfort which results in improved compliance for longer recordings.

Evolution into extended Holter.

Cardiac arrhythmias are remarkably common and can go undiagnosed because they are often transient and asymptomatic. ECG or Holter monitoring is a valuable tool for the patients with suspected or intermittent arrhythmias. If the irregular heartbeats are infrequent, an extended Holter may be required to be able to capture events in these patients. Traditional Holter historically is worn for 1-2 days. However, many conditions do require longer Holter recordings to be able to catch underlying arrhythmias.⁽²⁾ There is an incremental yield beyond the traditional 48-hour Holter for all arrhythmia types.⁽³⁾ This can be especially true in the case of intermittent arrhythmias.



Approaches for Holter monitoring.

When looking to use Holter to diagnose a patient with a suspected arrhythmia there are two main options. Perform your own Holter analysis or outsource it to a third-party service company.⁽⁴⁾ This paper will highlight that with the right Holter solution, taking control and performing your own analysis has advantages for both the clinician and the patient.

Advantages of doing it yourself.

There are distinct advantages to performing your own Holters analysis using a well-rounded in-house solution that allows you to accommodate any type of patient presentation and desired workflow.

Turnaround Times

One most significant advantage in doing your own Holters is report turnaround time. In addition, devices with easy data transfer provide several advantages. This translates to patient placement to proper care pathways without delay. A survey published in JAMA Network Open found patients want their medical tests results immediately, even if it is bad news.⁽⁵⁾ This means patient anxiety can be reduced, and their satisfaction will be higher as there would be no need to tell patients they must wait days or weeks for results.⁽⁶⁾

Full Access and Data Disclosure

Performing your own analysis means you keep and control the data. Devices should have easy data transfers, quick downloads, and options for rapid analysis. The entire recording is available upon device return which means no need to wait for requested data to be returned to complete the analysis. An additional request for data can add days to the results and diagnosis which may cause delays to proper care pathways.

Reimbursement

An additional advantage to a do-it-yourself option is the Holter reimbursement remains within the practice. If you are looking to maximize reimbursement, it is recommended to purchase the Holter technology and perform your own analyses.⁽⁴⁾

In 2021, CMS recognized the associated time and work to monitor, detect and analyze cardiac results over longer period, which have been recognized to increase detection. New Extended Holter CPT Codes for monitoring lengths of 3-7 days and 8+ days were added to Medicare coverage beginning January 1, 2021.

Extended Holter recordings (up to 14 days) are needed to improve the diagnostic yield of suspected or intermittent arrhythmias.

When outsourcing Holter monitoring, the bulk of the reimbursement remains with the service company. Only the review reimbursement would be billed by the provider. However, doing it yourself means the hook-up; technical and interpretation fees all remain with the provider.

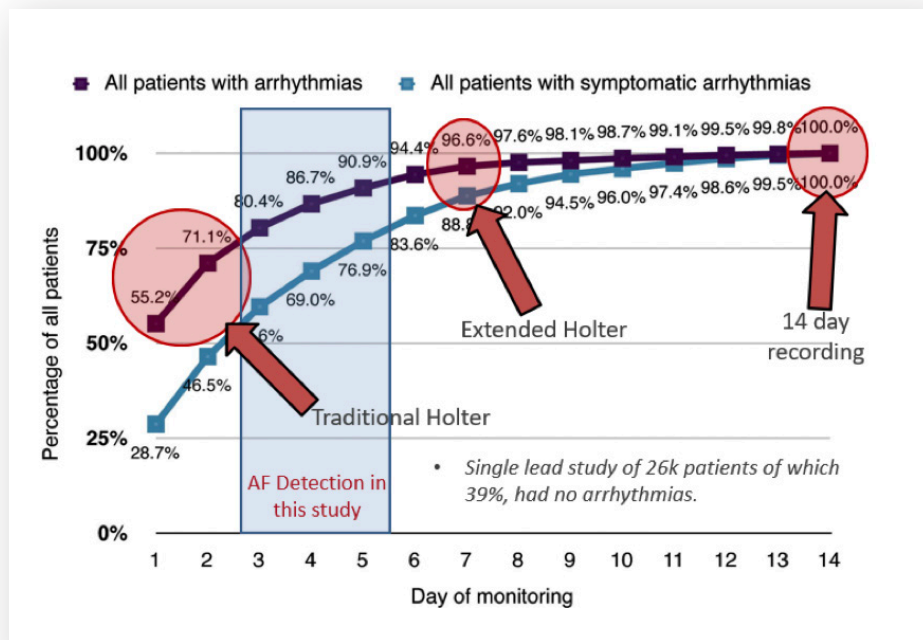
Extended Holter Up to 48 Hours	Extended Holter 3 to 7 Days	Extended Holter 8 to 14 Days
Global Code: 93224	Global Code: 93241	Global Code: 93245
Recording Code: 93225	Hookup Code: 93242	Hookup Code: 93246
Analysis Code: 93226	Analysis Code: 93243	Analysis Code: 93247
Review Code: 93227	Review Code: 93244	Review Code: 93248

Previous Codes
for all Holters

New Extended Wear Holter Codes

CPT codes obtained April 2023 from CMS List of CPT/HCPCS Codes.

CPT (7) is a registered trademark of the American Medical Association. All CPT(7) information provided in this publication is for illustration purposes only and should be independently verified prior to billing application.

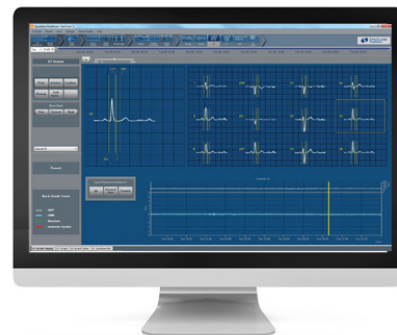


The length of recording and its importance in diagnostic yield in extended 14-day Holter recordings.

Source: Turakhia, M, et. Al. ' Diagnostic Utility of a Novel Leadless Arrhythmia Monitoring Device, AM J Cardiol, 2013.

The right tools to perform Holter.

When considering in practice Holter analysis, here are some key things to consider when looking for the right solution.



Holter Monitors

Look for versatile Holter devices that can monitor traditional, extended and even 12-lead Holter recordings with one device. There will be patients better suited for a 12-lead Holter to detect some types of arrhythmias, in particular those arrhythmias of ventricular origin. If you cover multiple patient presentations with one device, this means your existing fleet is nimble enough for any type of Holter need.

Holter Patches

For longer and extended Holter needs, patches can provide a more comfortable patient experience. While single channel patches are suitable for R-to-R intervals (Atrial Fibrillation), they have a limited value for complex arrhythmias. Look for three-channel patches which provides multi-vector ECG monitoring. Three channel Holters can catch more complex arrhythmias but are still suitable for R-to-R intervals. Again, finding devices that meet multiple types of patient presentations means you can do more Holter with less devices.

Event Screening Software

Because extended Holter recordings can contain millions of beats, it is imperative to include the ability to rapidly screen for arrhythmic events. Event screening software will be critical to keep analysis times manageable. It can evaluate longer recordings for major events such as A-fib, A-fib burden, beat type burden levels and symptom correlation. Event screening software can be used to triage recordings, providing very fast results for a large proportion of recordings. Extended Holter results in millions of beats requiring review. Without event screening analysis, analysis of extended Holter recordings could be time prohibitive and require more resource time. If the desire is to quickly determine which patients need further follow up or not, event screening is a rapid way to identify arrhythmic events. Thus, with the right tools, it is possible to manage even extended Holters efficiently.

Arrhythmia Analysis Software

For those complex, noisy, or unstable recordings, ensure Holter recordings can be passed from event screening into a more in-depth analysis tool for a high acuity analysis. This is where you utilize advanced features if desired, such as QTc, HRV, and pacing analysis. Having the ability to pass recordings from your event screening software directly into the advanced analysis can remove the need for a second recording.

Data Management System

A secure data management system that maintains secure access while providing seamless connectivity. One that allows users to view recordings and reports from anywhere and integrates with the existing EHR. If you are considering consolidating scanning for multiple practices/locations in one place, this is a key piece.

Spacelabs provides accurate solutions designed for today's challenging environment.

Spacelabs is committed to helping medical professionals diagnose and treat cardiovascular disease. When it is time to implement Holter within your practice, Spacelabs offers a complete range of non-invasive diagnostic cardiology solutions that make capture, analysis and reporting cost-effective. Our web-based cardiology data management system facilitates analysis and reporting while also improving collaboration and efficiency.

Versatile Holters.

Eclipse Pro Extended Holter

Eclipse Pro extended Holter monitors mean one device for multiple diagnostic needs. Record up to 14 days of 3-channel recording using 3 or 4 electrode lead sets. It can also record up to 3 days of 12-lead with pacing detection. Shower proof, lightweight with a companion app for tracking symptoms means higher patient comfort and compliance.



Eclipse Pro Mini Patch

Eclipse Pro Mini patch Holter is our reusable recorder featuring high-quality, flexible recording options, providing more diagnostic data with 3-channel, 30-day recordings. Our three-channel patches mean multi-vector ECG monitoring which can catch more complex arrhythmias but is still suitable for R-to-R intervals. With the battery build right into the electrode, it's easier for patient to quickly connect and wear the Eclipse Mini for weeks at a time (even in the shower).



Smart phone app.

The companion smartphone app makes it easy for your patients to select and record events. Bluetooth connectivity allows the recorder to embed the event text right into the recording, avoiding the need to read and manually enter patient event data from a paper diary, saving time and helping to avoid transcription errors. These events can be added to your reports as desired.



Event screening software.

Spacelabs Lifescreen Pro Event Screening System

The Spacelabs Lifescreen Pro Event Screening System is key to a high diagnostic yield for patients with suspected or intermittent arrhythmias, providing fast, assisted analysis when and where it's needed so patients can continue on the care pathway as soon as possible. Lifescreen Pro saves analysis time and can provide a result soon after the recorder is returned. Use it to triage recordings, providing very fast results for a large proportion of recordings.

Analyzing 3 million beats or more requires extraordinary support. Lifescreen Pro provides smart automation and allows you to control and interact with the data. Analysis includes overall burdens, atrial fibrillation, and abnormal beat distributions. The analysis dashboard and full disclosure keeps you in control.



Advanced arrhythmia analysis software.

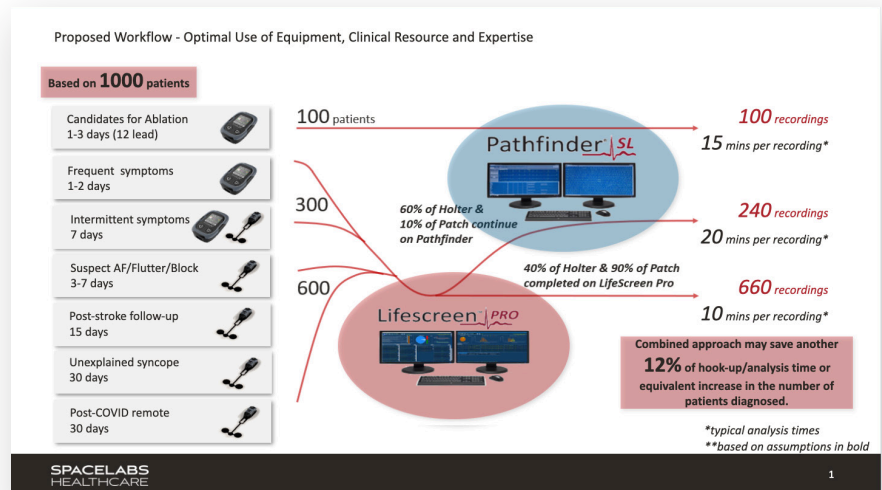
Spacelabs Pathfinder SL

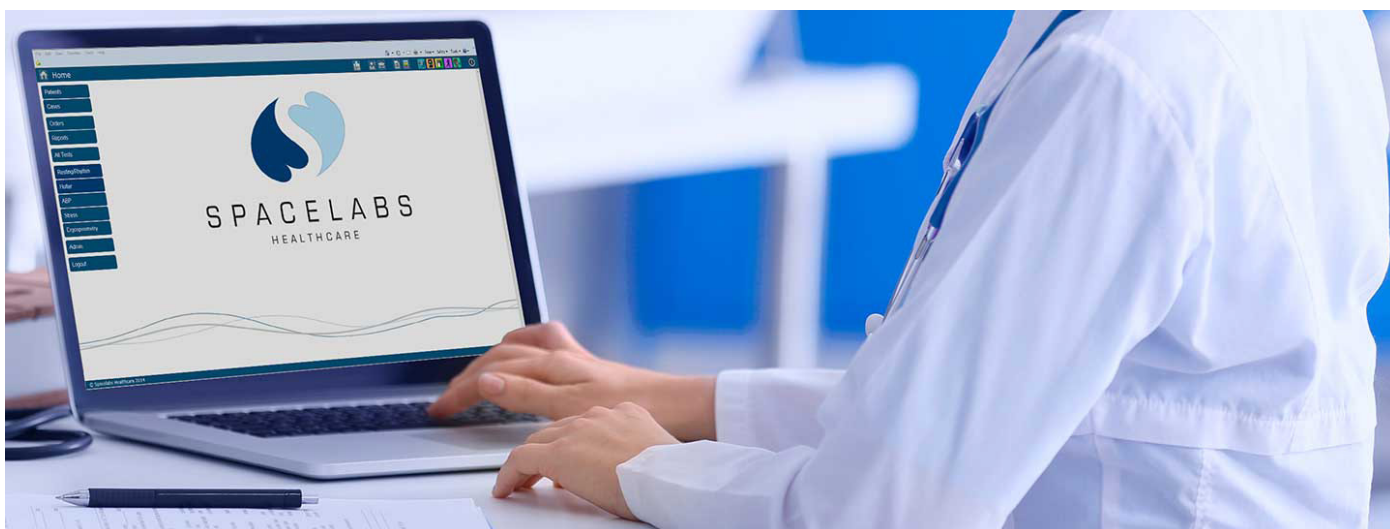
For 12-lead recordings or those requiring a more in-depth analysis, Spacelabs Pathfinder SL's powerful algorithm is designed to quickly analyze hundreds of thousands of beats in even complex, noisy, or unstable recordings. The analysis provides the clinician with comprehensive insight into ECG events and morphologies as well as providing beat counts, beat labeling, ST segment, Heart Rate Variability, and QT analysis.



Intelligently working together.

Lifescreen Pro can pass segments of Holter recordings to Pathfinder SL for more in-depth analysis, which may speed up detailed diagnosis and avoid the need for a second recording.





Work where you want.

Spacelabs Sentinel Cardiology Information System

Save time and effort by preparing the recording and downloading, analyzing, and reporting from whichever physical location you prefer. The Spacelabs Sentinel Cardiology Information System can be accessed from any web client, so you can use desktop, tablet, or mobile workstations to work from other rooms in the hospital, community clinics, family practice, or scanning centers. With single sign-on and role-based access, it supports data protection requirements and regulations with data encryption, a secure connection, and an audit trail. Our solutions, combined with Sentinel provide a secure and scalable solution for all your Holter needs regardless of facility location.



Strong Holter pedigree.



Spacelabs diagnostic cardiology can trace its origins to the very beginning of Holter in Del Mar Reynolds, the inventors of Holter technology over half a century ago. Since then, Spacelabs' dedicated engineers have continued to innovate and provide you with powerful and accurate Holter analyzers and recorders to collect, analyze, screen for events, and interpret all the ECG information you need to support your diagnostic cardiology screening needs. Our analyzers represent over 50 years of expertise in designing advanced algorithms and tools that allow you to quickly analyze large amounts of ECG data and achieve fast and meaningful results. Combined with our powerful and scalable Sentinel cardiology information management platform, clinicians the world over count on us for reliable and accurate analysis results to assist with their diagnostic cardiology and hypertension management outcomes.



Trusted and proven Arrhythmia Diagnostics.

As healthcare organizations increasingly seek technology that facilitates evidence-based, data-driven decisions, healthcare executives are turning to Spacelabs Arrhythmia Diagnostics to support efforts to improve the delivery of patient care, increase caregiver and patient satisfaction as well as reduce costs.

If you are interested in seeing an example Holter reimbursement worksheet or learning more about Spacelabs Arrhythmia Diagnostics, please visit our website at <https://spacelabshealthcare.com/care-areas/cardiology/clinic/> or contact us at 1-800-522-7025.

References

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- (6) Holter Monitor | American Heart Association
- (7) CPT® (Current Procedural Terminology) | CPT® Codes | AMA (ama-assn.org)

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