

New diagnostic workflows combining Extended Holter and Patch recording



Key takeaways

Different presenting conditions broadly suggest the use of either Extended Holter or Patch recording followed by either full diagnostic analysis or rapid event screening.

A significant number of Patch recordings will show a need for full diagnostic analysis. Many extended Holter recordings are simple enough to benefit from rapid analysis.

A combined analysis approach can be taken.

Patch recordings up to 3 channels may be event-screened by Lifescreen Pro and periods of interest transferred for more detailed diagnostic analysis in Pathfinder SL.

And extended Holter recordings can be rapidly triaged with the event screening software.

The key to finding the ideal balance of these new recorder and analyzer types is to identify the needs of the patient population and the priorities of the clinical practice.

This can also support a mix of internal service and external scanning services, scaled according to demand and resources. It offers rapid turnaround and local control of data across multiple care settings.

Diagnostic workflows can be developed by a combination of extended Holter and patch device recording with event screening and diagnostic analysis

Cardiology departments face demand to diagnose high numbers of patients with a wide range of presenting conditions. COVID-19 has increased the need for rapid hook-up in acute and primary settings and by the patients themselves, stimulating initiatives to increase availability of testing in community-based diagnostic centers. Cost and patient treatment optimization are an ever increasing expectation.

The choice of extended Holter and Patch recorders, followed by choice of event screening and full diagnostic analysis tools, offers a new approach to arrhythmia diagnostics.

In addition, the ability to share raw test data, preliminary and final test reports between Primary, Community Hub, Acute settings and Scanning Services helps you design workflows that make the best use of resources.

Spacelabs' recent introduction of Eclipse Pro and Eclipse Mini recorders and Lifescreen Pro event screening enables this analysis approach when combined with our Pathfinder SL analyser. This also builds on existing installations with Lifecard CF and Evo recorders.

Transforming your service

Maximizing the benefits of Patch and Extended Holter analysis

It is usually clear whether to select a Patch or Extended Holter recorder from the patient's presenting condition. And many recordings are suited to rapid event screening or full diagnostic analysis.

But the key to high diagnostic yield and effective use of resource is in the 'mid-Triage' of recordings. We have made a working assumption that 40% of Extended Holter recordings are simple enough not to need full diagnostic analysis. And that around 10% of Patch recordings may need more than simple event screening.

This brings the possibility to save overall time and reduce the need to make a second recording.

How the analyzers work together

Event screening is geared to simple integration and rapid results on recordings from 24 hours to 30 days. Lifescreen Pro provides easily understood summary screens and reports. These identify major arrhythmia events, AFib and AFib burden, beat type burden levels and patient symptom correlation.

When a patch recording is identified as needing full diagnostic analysis including morphologies, Lifescreen Pro can export a segment of interest for analysis using Pathfinder SL's advanced analysis tools. This can sometimes avoid a second recording.

Extended Holter recordings may be triaged using Lifescreen Pro to identify and complete simple recordings or pass them to Pathfinder SL for more in-depth analysis.



Spacelabs Sentinel - Access and Sharing

Spacelabs Sentinel initializes the recorders, captures the recordings and makes the data available for analysis using either or both of the two analyzers. After analysis and final review, the report can be shared with referring physicians and exported to the patient record in any EMR system.

The web-based Sentinel Cardiology Information Management System can be deployed across any care setting or service - primary, community hub, acute, and scanning services. This helps to achieve new workflows, with recorders and analyzers located, connected and used appropriately to local needs.

Spacelabs works closely with clinical, administrative and technical staff to advise and support on the system design and implementation.



*Lifescreen Pro Summary
Event Screen*



*Eclipse Pro Extended
Holter Recorder*



*Eclipse Mini Patch
Recorder*



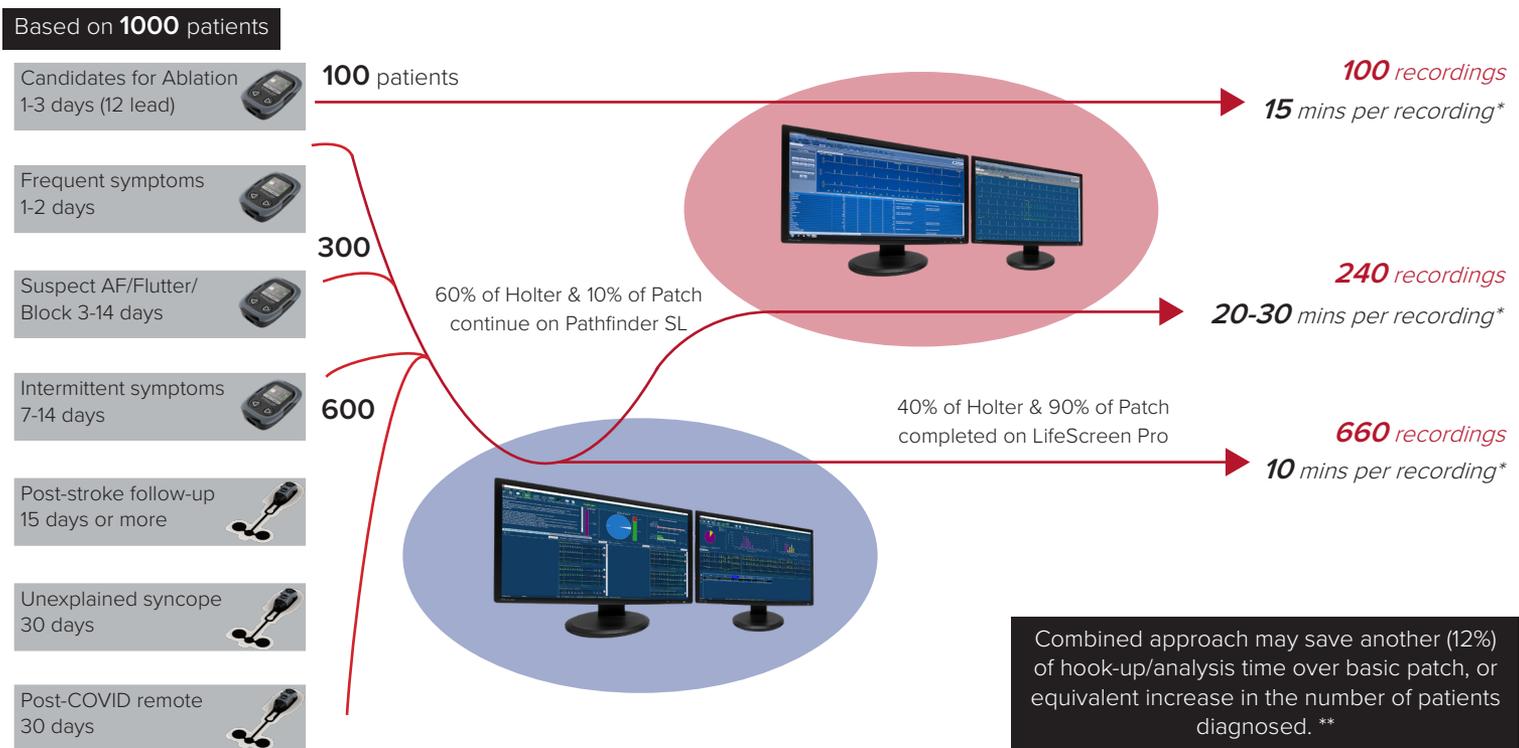
*Pathfinder SL Holter Analysis
Workstation*

Proposed workflow - combined use of equipment, clinical resource and expertise

Generic Model

The following illustration is for 1000 patients presenting with a range of conditions, who may account for between 3 and 12 months' workload depending on the scale of the service.

It assumes the use of Eclipse Pro and Eclipse Mini recorders according to presentation as shown on the left. It also assumes that 40% of Eclipse Pro extended Holter recordings show no arrhythmia and are low-artefact, and that 10% of Patch recordings will be identified as needing full diagnostic analysis.



**typical analysis times*

*** based on the assumptions in bold*

Based on these assumptions, overall analysis time and the number of patients diagnosed may improve by putting most Holter and all patch recordings through Lifescreen Pro, and transferring to Pathfinder SL where further diagnostics are needed. Follow up recordings are avoided and analyzers are immediately accessible within the unit.

This illustration aims to show likely use of the Spacelabs Arrhythmia Diagnostics Recorder and Analysis portfolio. These devices represent our first availability of 3-channel patch recording and transfer between analyzers. The benefits will vary according to local factors especially the preferred length of studies. Spacelabs is currently setting up reference studies looking at diagnostic yield and use of the two analysis tools.



At Spacelabs, everything starts with a mission

The greatest advances in healthcare have taken place because somebody, somewhere was on a mission. Ours began decades ago in the early days of the space program when our founders joined with high-performing teams of NASA scientists and engineers to develop the first cardiac monitoring systems for astronauts. Then as now, there are no limits to what people can achieve when working together.

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