

A prospective randomized comparison of **loop recorders** versus Holter monitors in patients with syncope or presyncope☆

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Abstract

Background

The initial management of syncope or presyncope typically involves short-term cardiac monitoring using a Holter monitor. A **loop** recorder is used to extend the period of monitoring to increase the probability of obtaining a symptom-rhythm correlation. **Loop recorders** and Holter monitors are both used commonly, but their utility has not been compared prospectively.

Methods

Patients with syncope or presyncope referred for a Holter monitor or a **loop** recorder were assigned randomly to receive either a 48-hour Holter monitor or a **loop** recorder for 1 month as an initial diagnostic strategy. If the initial strategy was unsuccessful, patients were offered crossover to the alternate strategy.


Results

One hundred patients (mean [± SD] age, 56 ± 20 years; 44 women) with syncope (n = 21), presyncope (n = 29), or both (n = 50) were enrolled. Of the 49 patients assigned randomly to an external **loop** recorder first, 31 (63%) had an arrhythmia identified or excluded, versus 12 (24%) of 51 patients assigned to a Holter monitor initially ($P < 0.0001$). Arrhythmia was identified as a cause of syncope in 1 patient with a **loop** recorder, compared with no patients with a Holter monitor ($P = 0.31$). Of the 29 patients with negative results with Holter monitoring who went on to receive a **loop** recorder, 13 (45%) had arrhythmia excluded, compared with none of the 4 patients who crossed over to receive a Holter monitor. The overall probability of obtaining a symptom-rhythm correlation was 56% (44/78) for **loop recorders** versus 22% (12/55) for Holter monitors ($P < 0.0001$). Despite patient education and test transmissions, 13 (23%) of 57 patients who had recurrence of their symptoms failed to activate their **loop** recorder properly.

Conclusion

Loop recorders have a much higher diagnostic yield for patients with syncope or presyncope as compared with Holter monitors. The utility of **loop recorders** is limited by some patients' inability to operate them correctly.

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