

# The LifeSigns® Systems RhythmCheck® Recorder – Case Study

## Clinical Utilization of Single Lead ECG Rhythm Monitoring for the Post-MI Patient

Amelia was 73 years old and had experienced an acute anterior myocardial infarction (MI) one week ago. She had a history of a subendocardial MI three years ago and also had been receiving medical management for a prolapsed mitral valve the last 15 years. Amelia had been taking digoxin and warfarin related to the insufficient valve and episodes of atrial fibrillation. After this MI, physicians had difficulty stabilizing Amelia's atrial rhythm. She was discharged home on a medication regimen of digoxin, warfarin, and beta blockade.

Physical assessment during the first home visit exhibited a regular pulse rate of 52 bpm, blood pressure of 102/64 mmHg, respirations-18, temperature-98.6 F, and weight 132 lbs. Amelia's skin was cool, dry and pale. All pulses were weak to normal. She had slight ankle swelling. Lung sounds were clear. Heart tones were S1 & S2 with a loud systolic murmur. No bruit or jugular venous distention. Amelia had no complaints other than she was "very tired". "Even brushing my teeth, makes me tired", she said.

The nurse had known, from the hospital discharge planner's report, that Amelia had a history of atrial fibrillation, but at the time of hospital discharge Amelia was in a sinus rhythm. On the first home care visit Amelia was still in a sinus rhythm with occasional pre-atrial contractions.

Amelia remained in normal sinus rhythm during the first week, however during the second week home Amelia began experiencing flu-like symptoms; nausea, vomiting and increased lethargy. Amelia's husband was also ill with similar symptoms. When the nurse made her visit, she thought that Amelia had the same illness as Amelia's husband. The nurse however assessed the ECG rhythm with the Rhythm Check ECG monitor. Digoxin toxicity can mimic flu-like symptoms. The ECG monitor displayed a sinus dysrhythmia with pre-atrial contractions. Amelia's heart rhythm had not returned to atrial fibrillation. The nurse notified the physician with the clinical findings, also noting that it was very difficult for Amelia to go out since the husband was also ill. Amelia's doctor ordered a liquid diet for that day, progressing gradually to a bland diet. Although she had been unable to keep down her medications the last two days, she was instructed to resume medications the following day. If she was unable to keep food down tomorrow, she was to go to the emergency room.

The home care nurse returned the following afternoon. Amelia stated that she felt better and had eaten jello and dry toast for breakfast. She stated that the nausea was subsiding. Her assessment remained essentially the same. The nurse stated that she would return in two days. The next day however, Amelia called the nurse, stating that she was nauseated again, lightheaded and dizzy. She had taken her pills that morning but felt worse. The nurse visited Amelia to find that Amelia had indeed resumed atrial fibrillation. The physician was notified. Lab studies were ordered. The results indicated that Amelia was dehydrated, with a low sodium level, moderately high potassium, and a low digoxin level.

Amelia was instructed to increase fluids, and take an additional digoxin, per her physician's orders. The nurse monitored Amelia closely over the course of the next few days. Two days later Amelia had returned to normal sinus rhythm and was feeling much better.

Amelia and her husband were so grateful to the nurse and physician for allowing her to remain home they sent thank-you notes. They also sent a thank-you to the local newspaper extolling the work of the healthcare team and the benefits of living in an age when technology such as the Rhythm Check ECG monitor can be carried in a nurse's bag.



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