Patient safety and outcomes, nurse productivity and lower hospital costs are driving efforts in hospitals to implement LifeSync® Wireless ECG System with LeadWear.

An interview with Mary Hodgerney, Nurse Manager, UMass Memorial Medical Center

Could you describe for us the LifeSync System and its design specifically to increase hospital productivity and patient safety and how your facility implemented the LifeSync System?

We went with the LifeSync System for two reasons; one, because it was a wireless option for our patients and we run an ambulatory unit so that patients are frequently up and walking around. And two, this system allowed them to be much more mobile without being tethered to a bed and to a cable and a monitor. Another reason we liked it was because it's one-patient use and the LeadWear® is thrown away after each patient so that each patient coming in gets their own set of LeadWear®.

The LifeSync worked with our patient monitoring system, and it actually has adapters so that it works with pretty much any system as far as I can see. We have it on several different systems here in our hospital. They put a transceiver on the current monitor and then that connects to the monitor itself. The patient also wears a transceiver and it communicates between the transceiver and the monitor.

Your patient's, pre-op, are allowed to get up and walk around before the procedure?

Yes. We have a lot of patients that come in as same-day caths. Basically they come in from their homes, and we'll get them ready for the procedure. But you know procedure times aren't predictable. And in the mean time we do allow them to get up and go to the bathroom and kind of ambulate and sit in the chair and things like that. Post procedure, we also need to get them up ambulating before they can go home. So there's quite a bit of mobility in our patient population.

How has this affected patient satisfaction?

Mary Hodgerney is the Nurse Manager of the Cardiac Cath Lab, Electrophysiology Lab, and Cardiac Short Stay Units, at UMass Memorial Medical Center. She holds a Masters Degree from University of Massachusetts School of Nursing and is a Certified Acute Care Nurse Practitioner. Mary was formal lecturer for over 20 years for the Frontiers in Critical Care Nursing Symposium.

Our patients love the system. Actually several of them commented when we first implemented it, that they had been in recently, and when they came back they said how much more they liked this system because they did not feel as tethered and as hemmed down in the bed. They felt like they had a lot more freedom, it was more comfortable. When they turned over they were not twisting up in wires or lying on wires. So it really was a huge patient satisfier.

What about during the actual cath procedure?

One of the reasons we went with this product was because it could be used with our system and also with the system in the cardiac cath lab and in the EP lab. Both areas were a little bit leery about trying the LeadWear® because our typical procedure was to change the leads when the patient got into the cath lab room and put them on the back of the shoulders so that it wouldn't interfere with the fluoroscopy. And the doctors were a little bit leery about trying it because they really expected it was going to impact their views.

And much to everyone's surprise, due to LeadWear's radiolucency, the fluoroscopy was clear as a bell. We don't have to move the leads. We don't have to take them off. And we just switch the cable from the cath lab monitoring to the short stay monitoring and then back again when they return post-op.

Did you notice any difference in the quality of ECG signal with the LifeSync® System?

We noticed a huge difference after implementing the LifeSync® System. In fact, there was much, much less artifact. Our EP lab, who had a system that was different from the cath lab and from short stay, asked if they could use it as well and trialed it on theirs. They typically have a lot of noise with their monitors. So we switched them over to the LifeSync® System, too. They use the LifeSync® 12-lead. And they absolutely loved it. They got a much clearer picture, there was much less noise in artifact, and they've never gone back.

Because the tracing is easier to look at, it's easier to interpret. And when the patient is walking around, you can still see them on the monitor because it has a very decent range that it will pick up the patient trace as well

How you noticed any difference in your staff's productivity as patient move through the cath and EP labs?

Well, there's a lot less time connecting, disconnecting, reconnecting and

moving leads when changing patients over from one monitoring system to another. Basically we put LeadWear® on when they are admitting to the short stay area. The patient wears it through their procedure until they are discharged. Since the rest of the hospital now has areas of using LifeSync® System, when a patient is admitted to one of our cardiac units they continue wearing the LeadWear®. It's really helped with our transport because you don't need a special monitor, you can sync to the transport monitor. Patients can just transfer as they are.

Has the LifeSync® System increased productivity in your procedures?

Yes. We've saved a lot of time. Before we'd have to not only move the patient but take them off one set of leads and move the leads from the chest to the back. Afterwards, the leads had to come off again and be moved. With LeadWear® you can just put it on once and leave it there. So it's really expedited the process.

Have you notice any difference in leads-off or in-ops alarms with the LifeSync® System?

We rarely have a leads off alarm with this system. We don't spend time connecting and reconnecting leads because with the LeadWear® they just don't fall off. We used to spend time checking false alarms because the leads would fall off. And all of that's very irritating to the patient's skin, too, plus you know it hurts when you pull off those sticky electrodes. I don't think we've had any leads fall off. My recollection is that we have not had one of those alarms since we've implemented the LifeSync® System and LeadWear® . I'm assuming we must have some, but you never hear alarms – it's one of the quieter places. You know when you're in the ICUs you always hear the monitors going off for one thing or another. With the LifeSync® System and LeadWear® it's much, much quieter now.

With the Joint Commission's increasing emphasis on patient safety, how does the LifeSync® System support your efforts to improve patient safety?

Patient falls are a big focus right now for the Joint Commission patient safety. Our patients are ambulatory, so between the fact that some of them have had medications that could affect their balance and awareness and that we get them up and walking around for recover; it's kind of double whammy for them.

Before the LifeSync® System we would have somebody walking beside the patient holding the monitor and their ECG leads or other cords would be dragging on the floor. It presented a real potential for tripping, not just for the patient but for the staff member as well. We have had doors close on the dangling ECG wires in the bathroom, which can trip up the patient because it puts a pull on their ECG leads.

Now, with the LifeSync® System, we find that the patients just really kind of walk around and the staff is just there to support the patient. But neither one of them has to worry about tripping over wires or getting tangled up in things or getting stuck in doors.
We feel it's safer for our patients because they don't have to worry about their leads – they can just look straight ahead and not worry about where the wires are or where the cords are. And it's easier for staff as well.

How has the LifeSync® System affected your staff satisfaction?

My staff loves this product. They've always been very complimentary about the product. It was such a huge change for them. Most of them had come from ICUs where the patients are wired to the max. So to have a patient get up and just have a little box on their arm, (some of them wear the telemetry box in their front pocket) and they're off and running

Reusable ECG wires have been the standard in the hospital care for over 60 years. Studies have shown that the ECG lead wires can be a leading vector for hospital-acquired infections. How has the LeadWear® Disposable ECG lead wire, as a part of your comprehensive infection control bundle protocol, contributed to reduction in your HAI rates?

I can tell you that patients like the idea that they're the only ones that have had this LeadWear® Disposable on. When I've looked at other equipment that we have and the cleaning protocols, the wires are very difficult to adequately clean. This way there's no chance for anything to be transmitted. Our infection control nurses really likes LeadWear® as well, too, because they are familiar with the organisms that linger on wires, as well as the timeframes that they can stay on wires, which can be days and sometimes weeks.

With the improvements of productivity, patient safety and the possible reduction in infection rates that you've seen with this new technology, has the LifeSync® System paid for itself in your facility?

Not everything can be quantified from a monetary perspective. I think in terms of what we've prevented, even one patient fall would pay for an awful lot of LeadWear®. One infection, same thing. The costs associated with hospital acquired infections are huge. So from the perspective of promoting a better patient experience, we get a lot of repeat patients that are happy to come back here. In that sense it's paid for itself because people like coming to our facility and they like the technology that we have here.

How do you budget for the LifeSync System, including the LeadWear®, on an ongoing basis?

We put it in as part of our cost of supplies and it's just budgeted on an annual basis as part of our kind of the cost of doing business.

Any other comments you would like to add?

I had heard about LifeSync® System very early in its development. We were very pleased to be one of the first hospitals to use it on the East Coast. We've had very good experiences with the company and with the product. And as a result of our experiences, the CCU is now using it, the cardiac step-down unit is using it, and our cardiovascular floors are using it as well. And they have had kind of the same experiences with the decrease in alarms and greater patient safety that we had. It's streamlined the whole process because now LeadWear® is more cost effective when patients can keep it on throughout their hospitalization.