

# ASV is like having your best RRT stand at the bedside 24/7

## Interview with Denise Wheatley, RRT and Ron Sanderson, MEd, DrPH, RRT, Castle Medical Center

*The Castle Medical Center uses closed-loop ventilation on 95% of their ventilated patients, for the most part right from the start of ventilation. Denise Wheatley and Ron Sanderson, a self-described "ventilator nerd," talk about their experiences with the GALILEO ventilator and ASV.*

**Q:** Denise and Ron, did the GALILEO meet your expectations? Tell us about some of your experiences?

**Denise:** It exceeded my expectations. We had two esophageal rupture patients in ICU, severe ARDS patients, plus a very tricky surgical patient, and they survived, I think, because of the GALILEO and ASV. We have had some very sick patients whose lungs were able to heal despite being ventilated. The surgeon didn't think they would survive. We've also had patients with poor cardiac function and COPD patients who were able to wean on ASV after failing traditional weaning attempts. We were able to get them off by turning down %MInVol little by little, like 5% every two days. In the year we faced some really critical patients whose oxygenation was a big problem and for whom conventional things we'd done in the past didn't work. These were turning points for us.

The ability to make minute, safe changes to someone being ventilated really made a difference in outcome. I could take someone whose lungs were really collapsed, and I would keep trying and start to recruit lung until I could get the volume to a more normal level. I don't think we could have done this without a flow sensor at the airway.

**Ron:** I was pretty confident with HAMILTON MEDICAL's engineering. Swiss engineering is hard to beat.

The patient is more comfortable because of the expiratory valve and the amount of inspiratory control. The other thing is that the GALILEO accurately measures resistance and compliance. There is breath-to-breath monitoring of flow at the airway. It was really scary to transition to a proximal flow sensor at the airway, but that's where you want to do your measurement. The benefits far outweigh any problem. But the big deal was ASV.

**Q:** How was your experience training on the GALILEO?



Denise Wheatley (left) and Ron Sanderson (right).

The Castle Medical Center is a 160-bed hospital in Kailua, Hawaii USA. The intensive care unit currently has eight beds. There are two respiratory therapists and hospitalists (physicians whose practice emphasizes providing care for hospitalized patients) at all times. The ICU has six GALILEO Gold and one RAPHAEL Color ventilators.

**Ron:** The GALILEO is easy and straightforward. It is low-maintenance and easy to fix. Training our people initially gave us an opportunity to bring the staff's skills up. Since we now had expiratory resistance and compliance available, we asked people to chart it and look at it and think about why the patient is on the ventilator and, how, if there was increased resistance, we could bring it back down. The machine brought us forward. It gave us the chance to in-service our staff.

**"I've been impressed by HAMILTON MEDICAL over the years, because they listen to the user and make small changes that make it easier for us"**

# User Report

Q: How do you like the user interface?

*Denise:* The trends window is a little confusing, because you must turn something off to turn something on. I've been impressed by HAMILTON MEDICAL over the years, because they listen to the user and make small changes that make it easier for us, like setting the Air Trapping alarm default to off and providing one single page of monitoring information.

Q: How do you judge the quality and reliability?

*Ron:* It's the best ventilator on earth and certainly reliable.

Q: Were there concerns initially about using closed-loop ventilation?

*Denise:* Understanding what the ventilator was telling us was the biggest issue. The doctors were initially baffled about how to prescribe it. They're used to writing rate, tidal volume, etc. There's still a ways to go understanding what the ventilator tells them. How do you get the ICU team to understand? I tell them it takes the patient from fully supported to spontaneous with every possibility in-between. I couch it in terms of different modes that it takes you through. Then they ask, why do we need you?

*Ron:* Of course. The physicians were skeptical and the staff was skeptical. After we saw it work, the RRTs were really enthused, and their enthusiasm spilled over to everyone else. The nurses ended up loving it.

## "And the patient declares himself extubatable long before the doctor orders weaning"

Q: Tell us about the benefits you derive from closed-loop ventilation?

*Denise:* The patient can take a breath as soon as their muscles are able and do as much work as they are able. The patient can switch between controlled and spontaneous breaths.

And the patient declares himself extubatable long before the doctor orders weaning. We don't have to wait for that morning order to do a spontaneous trial.

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*Ron:* ASV is like having your best RRT stand at the bedside 24/7. You don't have to audit the GALILEO, because it follows the protocol every time. Calling physicians after hours and debating physicians about orders have been reduced significantly.

The concern is: What's my job now? Your job is to do patient assessment and to do the interventions that don't have anything to do with the ventilator most of the time. If you've got more time to focus on patient care, it reduces needless interaction between the physician and RRT.

Anecdotally the RRTs are happier and doing a better job, patients are more comfortable, nurses are happier, and physicians are happier.

One big difference is that we have one-third the mortality in ASV patients. We can't explain that.

Q: Have you seen a reduction in the patient's time on the ventilator since introducing closed-loop ventilation?

*Denise:* We believe that we have. We've got about 1400 patients in our database. Those on ASV seem to have shorter ventilation times, although it's hard to prove.

Q: How do patients respond to closed-loop ventilation?

*Denise:* They appear to be more comfortable and need less sedation.

*Ron:* They seem to be more comfortable than with conventional modes.

Q: For what types of patient is closed-loop ventilation particularly suitable?

*Ron:* I think it's phenomenal for post-op, ER, and ARDS patients. We treat almost everybody with it except patients who are really tachypneic.

## "Try it; you'll like it. ASV is the future of mechanical ventilation."

Q: How do you recommend new users gain confidence in using ASV?

*Ron:* Try it; you'll like it. ASV is the future of mechanical ventilation.