

# MARY WASHINGTON HOSPITAL ADVANCES OLE THERAPY TO HELP TREAT COPD EXACERBATIONS WITH THE **VOLARA** SYSTEM

Chronic obstructive pulmonary disease (COPD) is a progressive lung disease that affects 12.5 million Americans.<sup>1</sup> It accounts for millions of emergency department visits and creates a significant healthcare burden, including hospitalizations and economic costs.<sup>2</sup> Mary Washington Hospital in Fredericksburg, Virginia, is in the heart of tobacco country, and sees a significant number of COPD patients, some of whom were returning to the hospital. They decided to do something about it.



## HIGHLIGHTS



### FACILITY

Mary Washington Hospital  
Fredericksburg, VA

### PROFILE

- 471-bed acute care facility
- Level 2 trauma center
- Level 3 NICU
- Cardiovascular Surgery
- Certified Primary Stroke Center

### PARTNER

Carrie Ludwig  
Director of Respiratory Therapy,  
Sleep and Wake Disorders Center  
and Neurodiagnostics

### REPORTED IMPACT

- Reduced COPD readmissions
- Improved patient tolerance
- Expansion of COPD program to freestanding emergency departments
- Device adoption throughout the Mary Washington Healthcare system
- Improved time efficiency by allowing Respiratory Therapists to focus on the patient

## OVERVIEW

Mary Washington Hospital had been using the **MetaNeb** System for many years. As these devices were nearing end of service, they looked to replace them. Their Baxter representative introduced them to the **Volara** System and brought it in to educate the staff on how it could help them deliver Oscillation & Lung Expansion (OLE) therapy for respiratory patients throughout the hospital.

to help reduce that patient population here at Mary Washington Hospital.” Carrie and her team put together a 60-day evaluation, adjusting the study protocol to work for their facility. One of the challenges in the emergency department was that different providers had their own “recipe” for treating different disease processes. The team set out to streamline those approaches based on literature and evidence, creating a protocol for patients coming to the emergency department exhibiting COPD-like symptoms.

The results were impressive. “We saw 83 patients and we looked back at 50 patients. There was an overall reduction of COPD admissions by 28 percent,” she says. “We also had a significant group that went to an observation unit instead of admission. Thirty-one percent of admitted patients were discharged within — or less — than their expected length of stay.”

According to Carrie, the success of the

At the same time, one of the hospital’s big initiatives for 2023 was reduction in 30-day readmissions in COPD and pneumonia. “The timing of the **Volara** System being brought in by our Baxter representative was perfect,” says Carrie Ludwig, Director of Respiratory Therapy at the hospital. “We were above the acceptable benchmark for seeing COPD patients come back to the hospital. There was a big drive to address it.”

## SETTING UP AN EVALUATION

In addition to bringing in the **Volara** System, their Baxter representative introduced Carrie to a University of Oklahoma study which used the **Volara** System to treat patients coming into the emergency department with COPD exacerbation. “They showed a very significant reduction in those admissions,” Carrie says.<sup>3</sup> “I started thinking how we could leverage it

evaluation allowed them to make their case for the **Volara** System. “We not only replaced the ten **MetaNeb** System units that we had,” she noted, “but we actually purchased 25 **Volara** System units based on the results of the evaluation that we were able to take to our executives.”

## PUTTING THE SYSTEM TO USE

Once the **Volara** Systems were in place, the respiratory team quickly discovered how they would be able to help provide the care their patients needed. “It’s very user-friendly, very easy to set up, basically plug-and-play,” Carrie says.<sup>4</sup> “We’re not having to manipulate dials back and forth like we did on the **MetaNeb** System.” The **Volara** System is being used throughout the hospital, in the emergency department, the adult ICUs, and all of the general care floors. “It allows for better deposition of medications so the treatment gets deeper into the lungs. We use it for secretion clearance as well as lung inflation or recruiting alveoli to treat atelectasis.”

Another feature that stood out was the **Volara** System’s electromechanical drive as opposed to the **MetaNeb** System’s pneumatic system.<sup>4</sup> “Given the complexity of everything going on with a patient, one of the issues with the **MetaNeb** System was we had to plug it into an oxygen outlet, which is a hot commodity in patient rooms, especially if you have several devices requiring an oxygen source,” she says. “We had many instances with a patient on high-flow nasal cannula that would have to be disconnected, then the caregiver would need to plug in the **MetaNeb** System, deliver the treatment, then unplug the **MetaNeb** System and remember to plug the high-flow back in,

moving things around an IV pole. There was a lot of room for confusion and error. With the **Volara** System, it’s not an issue.”

## Performance under pressure

The ability to precisely deliver the pressure needed by each patient is helping the team optimize therapy. “The **Volara** System allows us to set driving pressure based on patient need and comfort level, making sure we’re delivering enough pressure to recruit the alveoli without too much pressure,” says Carrie. “Being able to deliver higher pressure means you’re going to reach those smaller airways and that’s going to help secretion clearance. As long as the patient can tolerate it, the higher pressure is definitely more beneficial. For more complex patients, we’re able to manually set those pressures. But for the average COPD patients, the presets are really effective.”

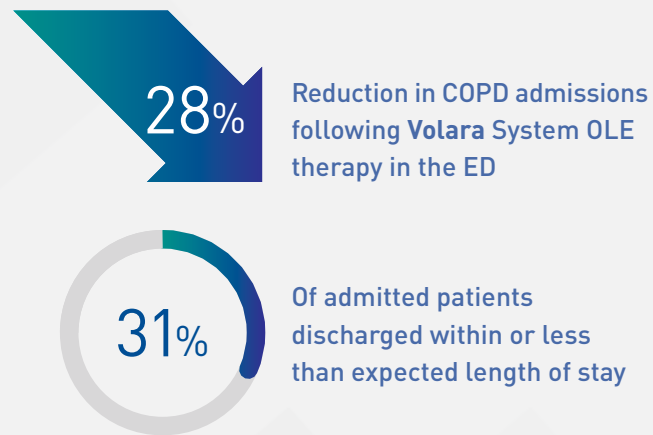
## Seeing is believing

Given that her team includes traveling respiratory therapists, Carrie saw how quickly they adopted the **Volara** System. “Anything new is going to be met with some hesitation. But once they got to use it and see it in action, the ease of use was just tremendous,” she says. They weren’t having to work so hard to give the therapy. They were able to monitor their patient versus focusing on setting up the device and having to move things around.”

We started to see immediate improvement in patients, seeing them go home from the emergency department, or seeing them go to the observation unit and go home the next day.

— CARRIE LUDWIG

DIRECTOR OF RESPIRATORY THERAPY





Patients were saying,  
“Where is that machine I had  
in the emergency department?  
I want this at home. It was a  
life saver.”

— CARRIE LUDWIG  
DIRECTOR OF RESPIRATORY THERAPY

## INVEST IN SUCCESS

For Carrie and Mary Washington Hospital, their adoption of the **Volara** System as an important component of their OLE therapy delivery has definitely been worth the investment. “There are savings to be had within the healthcare system,” she says. “I would encourage any manager or director to leverage the data out there. Make sure you’re connecting it to your organizational goals. Tie it to showing improved outcomes from other facilities and say, ‘This is what the **Volara** System could do here.’ For us, it was all about COPD readmission. I was able to tie this project into that initiative and get it through.”

For more information, contact your Baxter Sales Representative, call us at 1-800-426-4224 or email us at [cfs\\_customer\\_service@baxter.com](mailto:cfs_customer_service@baxter.com).

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### References

1. American Lung Association, COPD Trends Brief. <https://www.lung.org/research/trends-in-lung-disease/copd-trends-brief>
2. American Lung Association, COPD Trends Brief: Burden. <https://www.lung.org/research/trends-in-lung-disease/copd-trends-brief/copd-burden>
3. Chasteen B, Becker BC, Wanjala M. Oscillation Lung Expansion Therapy (OLE) with The MetaNeb System Is Associated with Decreased Hospitalizations for Acute Reactive Airway Disease Exacerbations Compared to Standard Small Volume Nebulizers. *Am Journal of Resp and Crit Care Med.* 2021;203:A2265. [https://doi.org/10.1164/ajrccm-conference.2021.203.1\\_MeetingAbstracts.A2265](https://doi.org/10.1164/ajrccm-conference.2021.203.1_MeetingAbstracts.A2265)
4. Volara System. Instructions for Use. Baxter International Inc. Accessed November 7, 2023

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