



Preventing Ventilator Associated Pneumonia at Ross Memorial Hospital

Background

- On April 30, 2009, eligible hospitals in Ontario, including the Ross Memorial Hospital began posting their Ventilator Associated Pneumonia (VAP) percentages on their websites.
- For public reporting purposes, ventilator associated pneumonia (VAP) is defined as a pneumonia occurring in patients in an intensive care unit (ICU), requiring mechanical ventilation through a tracheostomy or endotracheal tube for more than 48 hours.
- Only hospitals with an ICU that ventilate patients for more than 48 hours are publicly reporting their VAP cases. This is because by definition, VAP does not occur in patients who have been ventilated for shorter periods of time.
- Public reporting of our hospital's VAP cases allows us to establish a baseline from which we can then track our rates over time. If we feel our rates have risen above our baseline, we can look internally at our hospital's processes, identify areas for improvement, and implement strategies to reduce the incidence of these infections in our organization.

What is Ventilator Associated Pneumonia (VAP)?

Ventilator associated pneumonia (VAP) is defined as a pneumonia (lung infection) occurring in patients in an intensive care unit requiring external mechanical breathing support (a ventilator), intermittently or continuously, through a breathing tube for more than 48 hours. VAP can develop in patients for many reasons. Because they are relying on an external machine to breath, their normal coughing, yawning, and deep breath reflexes are suppressed. Furthermore, they may have a depressed immune system, making them more vulnerable to infection. ICU teams have many ways to try to assist patients with these normal breathing reflexes, but despite this, patients are still at risk for developing pneumonia.

How serious is VAP for hospital patients?

VAP is a serious lung infection that is associated with a higher mortality rate. VAP can occur in patients who need to be on a ventilator for at least 48 hours or more. The majority of patients in a hospital who require a ventilator are cared for in the ICU. Because patients in an ICU are already quite ill, they have increased risk factors for infection. If a patient develops VAP, they will have to stay longer in the ICU, and will be ventilated for longer periods of time. Overall, they will spend more time in the hospital.

How is VAP treated?

Since VAP is caused by a bacterial infection in the lungs, it is treated using antibiotics. Sometimes it can be difficult to ascertain if a patient has developed a VAP, as they are already critically ill, and may have a pre-existing infection. Professional care teams in ICUs do their best to use leading practices to prevent a VAP from occurring.

Do patients contract VAP because of improper sterilization of hospital rooms or equipment?

When a patient requires mechanical ventilation, sterile equipment, and sterile techniques are used to insert the breathing tube. When ICU staff take care of a ventilated patient, they try to keep the area around the breathing tube as clean as possible. Patients who are on a ventilator are very sick to begin with, and are more prone to infection.

Can you only get VAP in an ICU?

VAP can occur in anyone who has been on a ventilator for more than 48 hours. Some people who have certain health problems are chronically ventilated (i.e., all the time). They may occur in settings other than a hospital, and these people/patients can develop VAP too.

We are only collecting VAP rates in our ICU, since patients are more likely to be ventilated in this location.

What is being publicly reported with the VAP indicator?

Only VAPs that develop after 48 hours in a hospital intensive care unit (ICU) are being publicly reported. A ventilator is an external mechanical breathing device, that is connected to the patient via a breathing tube, and can function intermittently or continuously to assist a person to breathe. Beginning April 30th 2009, the Ross Memorial is posting our quarterly VAP rate and number of VAP cases.

Why are hospitals publicly reporting the VAP indicator?

Hospitals are publically reporting their VAP rates and number of cases as part of the ministry's mandate to promote hospital transparency in all health care-associated infections, including VAP.

Will you be reporting on deaths caused by VAP?

This is a sensitive, complicated issue as patients in the ICU are already seriously ill to begin with. Our priority right now is to begin reporting, obtain a baseline for our hospital, analyze the numbers, and continue implementing leading practices from there.

What is the method of calculation for the VAP indicator?

The VAP rate is the number of ICU patients (18 years and older) with new VAP per 1,000 central line days.

$$\text{VAP infection rate} = \frac{\text{Total number of VAP cases after 48 hours of mechanical ventilation}}{\text{Total number of ventilator days for ICU patients 18 years and older}} \times 1,000$$

Where will the public be able to access this information?

Beginning April 30, 2009, the public can access Ross Memorial's VAP rates from our website, www.rmh.org, or on the Ministry of Health and Long-Term Care's site, www.ontario.ca/patientsafety.

Can a hospital's VAP rates be used as a guide to choosing hospitals?

No. A hospital's number of VAP cases should not be used as a guide to choosing a hospital at which to seek care. Rates can differ from quarter to quarter and from site to site for many reasons, including the fact that:

- Some hospitals treat patients that are more seriously ill than others.
- Very ill patients, especially ones that are chronically ventilated are the most prone to acquiring VAP.
- Variations in the mix of patients (such as age, medical conditions) in an ICU can change from quarter to quarter, causing fluctuations in rates.

Patients should know that their hospital is safe, that the care received is top-notch, and that every effort is made to ensure patients receive the highest quality of care possible.

These rates are indicators and represent only a snapshot of an isolated area of a hospital's performance. Like other indicators, it is important to look at VAP rates in a broader context.

Our Commitment

Public reporting of our patient safety scores is important because it will allow us to work with a standardized approach across the province. Our commitment to our patients is one of safety and continuous improvement. We monitor our results closely, identifying areas for improvement and implementing strategies to ensure our patients are safe.

Who can I contact to learn more?

Ross Memorial's Infection Prevention & Control team can be reached at 705-324-6111

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