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## Is Your Facility Prepared for a Ventilator Surge Capacity Due to H1N1?

On June 11, 2009, the World Health Organization (WHO) signaled that a global pandemic of novel influenza A (H1N1) was underway by raising the worldwide pandemic alert level to Phase 6. This action was a reflection of the spread of the new H1N1 virus, not the severity of illness caused by the virus.

<http://www.cdc.gov/h1n1flu/background.htm>

**Update: Novel Influenza A (H1N1) Virus Infection** --- Mexico, March--May, 2009  
Several patients have experienced an aggressive clinical course with severe pneumonia requiring ventilator support and progression to ARDS.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5821a2.htm>

## Is Your Facility Adequately Protecting Healthcare Providers from H1N1?

### **Emergency Preparedness and Response – Past Clinician Reminders**

Update Sent June 24, 2009 – The CDC is recommending that hospitals perform aerosol-generating procedures (e.g., bronchoscopy, elective intubation, suctioning, administering nebulized medications) in an airborne infection isolation room with negative pressure air handling (6 to 12 air exchanges per hour).

<http://emergency.cdc.gov/coca/reminders/2009/2009jun24.asp>

### **H1N1: Protecting Healthcare Workers (NIOSH Science Blog)**

As of July 31, 2009, there were 162,380 documented cases of human infection with H1N1 throughout the world, including the United States. As of August 6, 2009, there were 6,506 hospitalized cases and 436 deaths in the U.S. From the time of its emergence earlier this year, H1N1 has prompted a concerted response from health agencies here and abroad. Healthcare workers and emergency responders will face increased risk of exposure to H1N1, given their role in caring for sick patients.

<http://www.cdc.gov/niosh/blog/>

## The VAR® as an Alternative Short Term Ventilator Can Free Up Your ICU Ventilators

### Summary

The H1N1 ventilated patient displays severely reduced lung compliance, high pulmonary resistance and high oxygen requirements. Most front line / full featured ventilators struggle to meet these requirements – pressure control, oscillation and nitric oxide have been required to manage these patients. H1N1 patients severely challenge most hospitals' ability to free up sufficient high end, full featured ventilators, as they must continue to deal with their “normal” day-to-day ventilator demands. The use of the VAR, as an alternative for short term ventilator support for “normal” lung ventilated patients, would free up additional ventilator resources.

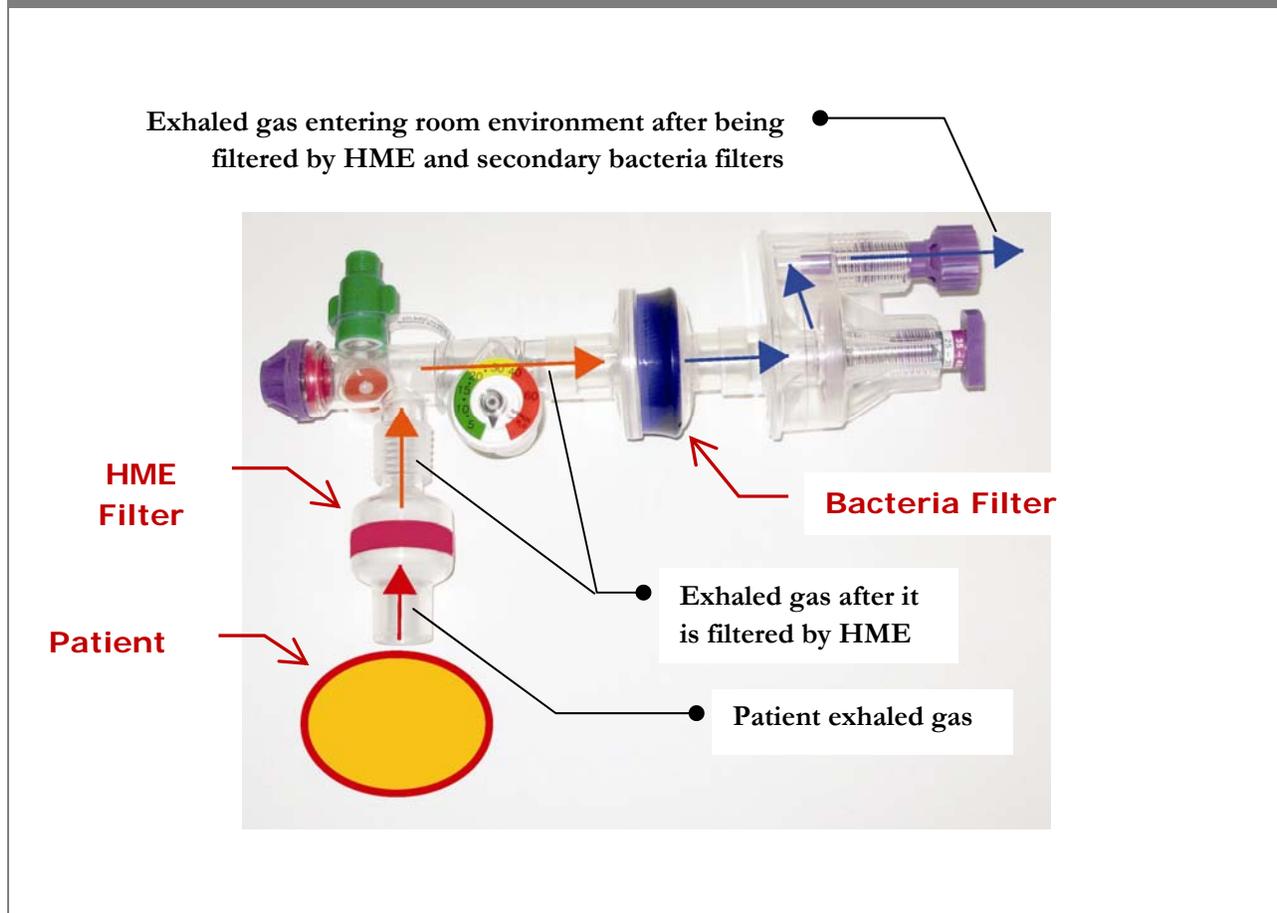
### Benefits

- **Cost effective for ventilator stockpile**  
VAR is the only single patient disposable automatic resuscitator that is affordable for hospital and healthcare authorities to stockpile. Your facility can stockpile hundreds of VARs for the price of an average transport ventilator.
- **Completely eliminate patient cross contamination**  
Because VAR is disposable, this will completely eliminate any risk of patient cross contamination.
- **Ability to capture nearly 100% of patient exhalation**  
By incorporating an HME filter along with a secondary bacteria filter with the VAR (see figure 1 below), patient exhalation gas is double filtered before it exits into the room and captures virtually 100% of the exhaled gas.
- **Continuous monitoring of VAR for non-cycling event**  
VAR-Monitor provides audible and visible alarms for most VORTRAN Automatic Resuscitators (VAR®), operates on a 9 VDC battery and is easy to set up.



**VAR-Plus  
(PCM - 5011)  
with  
VAR-Monitor  
(VM - 3500)**

Figure 1 – VAR® Incorporating Two Filters



## Conclusion

In the event of a ventilator surge capacity, the stockpiling of full feature ventilators is not economically feasible for any local or regional facility. In the event of a pandemic of national or global proportion, it is unrealistic to expect quick or timely response from the state or federal governments. The VAR with monitor, when incorporated with the proper filters, offers a viable solution to your ventilator shortage. It would free up your full featured ventilators from your ICU to manage your most difficult H1N1 patients.