

Patient Safety Advisory

Veterans Health Administration Warning System Published by VA Central Office

March 5, 2002

Item: **Confusion between Oxygen and Compressed Air Wall Outlet**

General Information: Most patient-care rooms in VHA facilities are supplied with 100% oxygen (green) and medical air (yellow) outlets and flowmeters are identical in design and only differentiated by color and sometimes labeling. The outlets are usually located within inches of each other. The flowmeters usually have adapters connected to allow clear plastic tubing to be readily connected. These so-called "Christmas Tree" adapters should match the color of the outlets, but green oxygen adapters are sometimes erroneously attached to the yellow air flow meter. Unlike oxygen, compressed air is rarely used in urgent situations. The compressed air flow meter is often not removed from the wall, because it is used for frequent nebulized medication treatments on patients with pulmonary disease.



Specific Incidents: Close calls have occurred when low oxygen saturation on pulse oximeters revealed that patients who inadvertently had their oxygen tubing hooked up to air regulators with green adapters instead of oxygen. Staff were quickly able to move the oxygen tubing to the oxygen regulator. Respiratory technicians in hospitals outside the VA have also reported this confusion. Some facilities removed all air flowmeters when they are not used during nebulizer treatment; but others considering this have met resistance due to lack of convenience. There has been limited success with ensuring proper use of yellow versus green adapters; and some facilities have run out of yellow adapters.

- Suggestions:**
1. Purchase [clear adapters](#) and avoid green-yellow confusion.
 2. When appropriate purchase compressed air tubing that does not require "Christmas Tree" adapters, so adapters are not needed for air.
 3. Consider removing air flowmeters when not in use; this may require addressing informal norms through training, incentives.
 4. More prominently label air and oxygen outlets.
 5. Respiratory Therapy, Nursing, and Pharmacy must work together for the smoothest implementation of any redesign or training.

Resources: National Center for Patient Safety "Compressed Gas Cylinder Hazard Supplement" for further information. www.ncps.med.va.gov

Contact: For additional information, please contact National Center for Patient Safety (NCPS)
Phone: (734) 930 5890. Fax: (734) 930 5877. E-mail: John.Gosbee@med.va.gov