

May 1, 2006

REDUCING THE FIRE HAZARD OF SMOKING WHEN OXYGEN TREATMENT IS EXPECTED

1. PURPOSE: This Veterans Health Administration (VHA) Directive establishes the minimum requirements for reducing the fire hazard of smoking when oxygen treatment is expected, and reinforces the VHA policy of smoking cessation and control.

2. BACKGROUND

a. VHA has experienced many fire incidents and close calls involving oxygen and smoking and the hazard is well documented in literature. During Fiscal Year (FY) 2004, there were thirty-seven adverse events (fires involving oxygen and smoking) reported to the database at the National Center for Patient Safety, including an inpatient death related to smoking while oxygen was in use. These events occurred almost equally at the patients' homes and in Department of Veterans Affairs (VA) facilities. Fires in hospitals have occurred in sleeping rooms, smoking shelters, and elsewhere on the grounds. Some of these incidents have resulted in a severe fire exposure to the other patients and responding staff.

b. Smoking cessation and control is a priority in VHA. Guidance has been previously provided on outlining the VHA commitment to smoking cessation as a public health priority, designating a smoking and tobacco use cessation lead clinician, smoking shelters and locations, enforcing smoke-free policies, and designating smoke-free coordinators.

c. VA follows national fire safety consensus standards such as the National Fire Protection Association (NFPA) National Fire Codes and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Environment of Care (EC) requirements. Non-smoking standards and the management of fire safety risk are contained in the most recent JCAHO accreditation manual under the EC standards. Smoking limitations are also contained in the NFPA Life Safety Code for health care occupancies under section 19.7.4.

d. JCAHO issued a Sentinel Event Alert on Fires in Home Care Setting regarding oxygen hazards; this Alert (Issue #17) was dated March 20, 2001. Although this Alert focused on the home care environment, the same issues could be applicable to other patient care environments. The root causes that were identified as a result of several incidents were: the lack of communication, inadequate environmental precautions, insufficient risk assessments, and incomplete education and orientation regarding fire safety. The risk reduction strategies identified were people-focused actions, process redesign, and environment and/or equipment redesign.

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e. Definitions

(1) **High-Risk Patients.** High-risk patients are patients who exhibit unsafe clinical or behavioral traits involving oxygen and smoking, such as:

- (a) Attempting to hide their smoking materials or activities from staff;
- (b) Having a history of non-compliance with smoking rules; or
- (c) Smoking in a patient sleeping room or other areas designated as non-smoking areas.

(2) **Quick Response (QR) Sprinklers.** QR sprinklers are fire sprinklers that respond to heat faster than standard fire sprinklers due to the construction of the sprinkler components. The speed of operation is measured as the response time index (RTI). In order for a fire sprinkler to be considered as quick response, it must be designated as such by a nationally-recognized testing laboratory.

3. POLICY: It is VHA policy that, whenever oxygen treatment is being delivered, access to smoking materials must be restricted; patients who smoke must be offered nicotine replacement therapy or other alternatives; and all smoking must be prohibited in the vicinity of oxygen delivery equipment.

4. ACTION

a. **Facility Director.** Each facility Director is responsible for ensuring that:

(1) A local facility policy is issued, no later than June 1, 2006, implementing the requirements of this Directive along with other VA, JCAHO, and NFPA smoking and oxygen requirements with specific accountability and responsibilities identified for staff.

(2) In all patient care settings on the facility grounds, the following actions are implemented:

- (a) Smoking is prohibited in patient sleeping rooms.
- (b) Oxygen cylinders and other oxygen delivery equipment are not permitted within smoking shelters.
- (c) Patients who smoke must be offered nicotine replacement therapy (e.g., patch, gum, lozenges) to treat nicotine withdrawal, or other smoking cessation intervention alternatives must be provided. **NOTE:** *Guidance on nicotine replacement therapy (NRT) is available from the VHA Office of Public Health Strategic Health Care Group (13B) through their “Medications for Management of Tobacco Dependence” (see Att. A).*

(3) A fire-risk assessment is conducted for all new oxygen therapy inpatients who smoke, and a reassessment is conducted when renewing an oxygen prescription or at any time there is a

significant change in the patient's oxygen therapy set-up (e.g., transfer to a different ward or unit).

(4) For those inpatients who are determined to be high-risk patients, the following actions are implemented:

(a) A multi-disciplinary committee reviews each case involving a high-risk patient who is prescribed oxygen in order to determine appropriate restricted environmental or clinical requirements.

(b) The high-risk patient is assigned a sleeping room that is:

1. Provided with QR fire sprinklers;
2. Provided with standard response fire sprinklers and smoke detection (e.g., system or battery powered); or
3. Located as close to the nursing station as practical to increase the level of monitoring and supervision.

(c) Patients, family members, and visitors of these high-risk patients must be instructed by staff that smoking materials may not be brought into the facility. Family members and visitors are to be requested to acknowledge that they understand this requirement by signing a locally-developed fire and oxygen hazard awareness form.

(d) The high-risk patient is provided with fire-resistive sleep wear (e.g., Nomex), if available.

(5) In all home care settings where oxygen is used, the following actions are implemented:

(a) A fire-risk assessment is conducted of all new oxygen therapy home care patients who smoke, and a reassessment is conducted when renewing an oxygen prescription, or at any time there is a change in the patient's oxygen therapy (e.g., equipment).

(b) Any contract for oxygen delivery services for home care patients must incorporate requirements that contractors provide educational and/or warning information for patients and their families and/or caregivers on the hazards of smoking while oxygen is in use. The educational materials must be provided upon initial delivery and every 6 months thereafter. Checklists used by vendors for medical gas follow-up services must, at minimum, cover the items in Attachment B.

(c) The home environment of any home health care patient must have appropriately working smoke alarms. The presence of the smoke alarms must be verified and the patient must be instructed by the oxygen vendor to test all smoke alarms monthly. In any home where smoke

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alarms are not present, the contractor must notify the appropriate clinical staff (e.g., home oxygen coordinator) for further review and potential action.

(d) Education and orientation must be provided to each patient, and to other residents of the home who smoke in the dwelling regarding the hazards of smoking while oxygen is being administered. In addition to the educational material, each facility must provide a checklist or other cognitive aid to promote safe home oxygen use by the veteran. This activity must be completed and documented by the prescribing medical center and included as part of the prosthetics review prior to, or concurrent with, the onset of the home oxygen therapy. **NOTE:** *An optional action that may be done in addition to the items mentioned in this paragraph, can be to create a form that is signed by the patient or by the patient's surrogate, acknowledging the patient's understanding of the hazards of smoking when oxygen is used.*

(6) For home care patients determined to be high-risk, the following actions are implemented:

(a) The Home Oxygen Coordinator, or Respiratory Practitioner, must alert the home oxygen vendor that the patient is at high-risk for smoking while oxygen is in use.

(b) At the discretion of the Home Oxygen Coordinator, Respiratory Practitioner, or equivalent, the patient may be called or visited within the first 30 days of treatment and every 6 months thereafter to assess compliance with education on the hazards of smoking while on oxygen.

(7) Incidents, where patients are reported as non-compliant with the guidelines set forth in the education and orientation material and/or whose behavior poses a risk of self harm or harm to others, are documented and reported to the Home Oxygen Coordinator, Respiratory Practitioner, or equivalent. The Home Oxygen Coordinator, Respiratory Practitioner, or equivalent must report non-compliant behavior to the patient's provider, or appropriate designee, who must counsel the patient and/or patient's surrogate of the potential risks associated with such activity and potential consequences of continued activity.

(8) When there is potential or identified conflict between the patient's right to smoke and/or the patient's continued smoking while using oxygen and the risk of harm to self or others, the provider(s) or others are to utilize a multidisciplinary review process, or request an Ethics Consultation, to address and resolve the situation.

(9) All patients who fail to comply with oxygen therapy and smoking safety guidelines are referred to a multidisciplinary clinical committee or the facility Ethics Consultation Service for review to determine appropriateness of continued oxygen therapy, and how such therapy will be provided in ongoing care.

b. **Chief of Staff (COS).** The facility's COS, or designee, is responsible for:

(1) Tracking reported incidents involving patients receiving oxygen therapy who have a close call or confirmed adverse event related to smoking. These incident reports may come from various individuals or services, including, but not limited to: the home oxygen vendor; Patient Safety Program, Quality and Performance Program, or clinical staff; family; and/or direct caregivers.

(2) Reporting each incident to the Patient Safety Committee, the Quality and Performance Improvement Committee, and the prescribing clinician (if not initially reported to them at the time of the incident).

c. **Prescribing Clinician for Oxygen Therapy.** The prescribing clinician for oxygen therapy is responsible for discussing with the patient and/or the patient's surrogate, responsibility for complying with the terms agreed upon for safe administration of oxygen therapy when therapy is initiated. The prescribing clinician, or clinician notified of close call or adverse events must:

(1) Document, in the inpatient's medical record, all reported close calls and adverse events related to smoking while oxygen is in use.

(2) Report all close calls and adverse events related to the patient's smoking while oxygen is in use to the facility COS, or designee.

d. **Home Oxygen Coordinator, or Designee.** The Home Oxygen Coordinator, or designee, is responsible for:

(1) Documenting, in the patient's medical record, all reported close calls and adverse events related to smoking while home oxygen therapy is in use.

(2) Reporting to the facility, or Home Respiratory Care Team, all close calls and adverse events related to the patient's smoking while oxygen is in use.

5. REFERENCES

a. Veteran Health Administration (VHA) Patient Safety Alert dated January 6, 2005, Fire Response and Planning at:

<http://vaww.ncps.med.va.gov/Guidelines/alerts/FireResponseAlert.pdf>

b. Joint Commission on Accreditation of Healthcare Organizations, Environment of Care Standards, EC.1.30

c. VHA National Ethics Teleconference Call, October 23, 2001, Home Oxygen for Patients Who Smoke: Prescription versus Proscription at:

<http://vaww1.va.gov/vhaethics/download/Transcripts/EthicsHotlineCall10.23.01.doc>

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6. FOLLOW-UP RESPONSIBILITIES: The Assistant Deputy Under Secretary for Health for Operations and Management (10N) is responsible for the contents of this Directive. Questions can be referred to the Director, Safety and Technical Service (10NB) at (202) 273-5844, Public Health Strategic Healthcare Group (13B) at 202-273-8929, or to the National Center for Patient Safety (10X) at (734) 930-5890.

7. RESCISSIONS: None. This VHA Directive expires May 31, 2011.

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ATTACHMENT A

MEDICATIONS FOR MANAGEMENT OF TOBACCO DEPENDENCE

Nicotine replacement therapies have been demonstrated to improve the chances of long-term smoking-cessation; they include: patch, gum, lozenge, spray and inhaler. Nicotine replacement therapy can be used to alleviate nicotine withdrawal symptoms for smokers who have to be temporarily abstinent from smoking (e.g., patients on oxygen treatment, patients in a smoke-free facility). **NOTE:** *Nicotine patch and nicotine gum are on the Department of Veterans Affairs (VA) National Formulary.* Guidelines for the prescription and dosing of nicotine replacement medications are shown as follows:

1. Symptoms of Nicotine Withdrawal Syndrome

a. Abrupt cessation of nicotine use, or reduction in the amount of nicotine used, followed within 24 hours by four or more of the following symptoms:

- (1) Craving;
- (2) Dysphoric or depressed mood;
- (3) Insomnia;
- (4) Irritability, frustration, or anger;
- (5) Anxiety;
- (6) Difficulty in concentrating;
- (7) Restlessness;
- (8) Decreased heart rate; and
- (9) Increased appetite or weight gain.

b. If the symptoms were present while the patient was smoking ad lib, they are not likely to be entirely attributable to nicotine withdrawal. This may be a difficult determination in an acutely-hospitalized population.

2. For Relief of Nicotine Withdrawal. Nicotine gum (2 milligrams (mg.) or 4 mg.). One piece, as needed (prn) craving, every 30 to 60 minutes. If using more than 6 pieces per day, consider a nicotine patch of 14 mg; if using more than 12 pieces per day, consider a nicotine patch of 21 mg.

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3. For Cessation

- a. **Nicotine Patch.** 21 mg for 4 weeks; 14 mg for 2 weeks; 7 mg for 2 weeks.
- b. **Nicotine Gum.** 4 mg gum, if smoking twenty-five or more cigarettes per day; 2 mg gum, if smoking less than twenty-five cigarettes per day. Use up to twenty pieces per day for 8-12 weeks.

4. Potential Adverse Reactions and Suggested Management

- a. For mild sleep disturbance, discontinue patch at night.
- b. For mild skin irritation, use 1 percent hydrocortisone cream.
- c. For mild gastrointestinal complaints, sweating or dizziness, lower the dose, or if severe, discontinue patch or gum and consult a physician.
- d. For aching jaw, hiccups (gum), chew more slowly, increase gum strength, and decrease frequency.
- e. For severe adverse reactions, remove patch or discontinue gum; and consult a physician.

5. Contraindications to Nicotine Replacement Therapy

- a. Hospitalization for cardiovascular event (Myocardial Infraction (MI), angioplasty, Coronary Arterial Bypass Graft (CABG), syncope, arrhythmia) within 2 weeks.
- b. History of severe skin allergy or severe dermatitis (patch).
- c. Dental appliances (relative contraindication for gum).
- d. Pregnancy.
- e. Inability to comply with instructions.

NOTE: Additional information regarding best practices to help patients stop smoking can be found in the VA-Department of Defense (DOD) Clinical Practice Guideline (see subpar. 6a), or in the Agency Healthcare Research and Quality (AHRQ) Clinical Practice Guideline: Treating Tobacco Use and Dependence (see subpar. 6b).

6. References

- a. VA-DOD clinical practice guideline for the management of tobacco use.
http://www.guideline.gov/summary/summary.aspx?view_id=1&doc_id=6107

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b. Fiore MC, Bailey WC, Cohen SJ, Dorfman SF, Goldstein MG, Gritz ER et al. Treating Tobacco Use and Dependence. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service, 2000.

ATTACHMENT B

HOME OXYGEN USE FOLLOW-UP SAFETY ITEMS

1. "No Smoking, Oxygen in Use" signs are provided and/or posted.
2. Smoke alarm is present and alarm sounds when tested.
3. Veteran has been instructed to remove the canula, shut-off the oxygen supply, and wait for oxygen to dissipate prior to smoking.
4. Verification that the veteran has been instructed to test all smoke alarms monthly.
5. Veteran and family or cohabitants are given educational materials regarding the hazards of smoking and using an open flame near oxygen.