Department of Veterans Affairs
Office of Inspector General

Healthcare Inspection

Alleged Inadequate Airway Management
Jack C. Montgomery VA Medical Center
Muskogee, Oklahoma

Report No. 12-02618-252 **August 15, 2012**

VA Office of Inspector General
Washington, DC 20420

To Report Suspected Wrongdoing in VA Programs and Operations:
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(Hotline Information: http://www.va.gov/oig/hotline/default.asp)

Executive Summary

The VA Office of Inspector General Office of Healthcare Inspections conducted an inspection to assess the merit of allegations made by a complainant concerning out-of-operating room airway management at the Jack C. Montgomery VA Medical Center (the facility), in Muskogee, Oklahoma.

We did not substantiate the allegation that providers were not competent in airway management. The facility's medical officer of the day (MOD) is responsible for airway management during non-administrative hours. All MODs had documented competence in airway management.

We did not substantiate the allegation that registered nurses (RNs) intubated outside their scopes of practice. Veterans Health Administration policy and local policy permit RNs with appropriate training and demonstrated competence to intubate patients in emergent and urgent situations outside of the operating room.

We did not determine that intubation by an RN contributed to a patient's death. An RN intubated a patient at the request and under the supervision of the MOD, and the MOD checked placement of the endotracheal (ET) tube. Although autopsy revealed misplacement of the ET tube, we concluded that clinicians exercised appropriate diligence when they attempted intubation as part of resuscitative efforts and were unable to explain the autopsy finding.

We did not substantiate the allegation that subsequent to the patient's death, the facility created a policy permitting RNs to intubate. The facility has had an emergency airway management policy in place since November 2005. The local policy, which is consistent with Veterans Health Administration policy, does not preclude RNs from performing ET intubation and airway management in a non-operating room setting. We made no recommendations.

DEPARTMENT OF VETERANS AFFAIRS
Office of Inspector General
Washington, DC 20420

TO: Director, South Central VA Health Care Network (10N16)

SUBJECT: Healthcare Inspection – Alleged Inadequate Airway Management, Jack C. Montgomery VA Medical Center, Muskogee, Oklahoma

Purpose

The VA Office of Inspector General (OIG) Office of Healthcare Inspections conducted an inspection to assess the merit of allegations made by a complainant concerning inadequate airway management that might have contributed to a patient death at the Jack C. Montgomery VA Medical Center (the facility), in Muskogee, Oklahoma.

Background

The facility, located in Muskogee, OK, serves veterans in the eastern region of the state and is part of Veterans Integrated Service Network (VISN) 16. The facility has 111 total operating beds and provides primary and secondary levels of inpatient care for medicine, surgery, rehabilitation, and mental health. It also provides primary and specialized outpatient services.

Allegations

A complainant contacted the OIG Hotline on April 6, 2012. The complainant alleged that the facility's physicians were not competent to perform intubations.[1] The complainant also alleged that registered nurses (RNs) intubated outside their scopes of practice, and an RN intubation might have contributed to a patient's death. The complainant further alleged that subsequent to the patient's death, the facility created a policy permitting RNs to intubate patients.

[1]Intubation is a medical procedure in which a tube is placed into the trachea through the mouth or the nose.

Scope and Methodology

We conducted a telephone interview with the complainant on May 4, 2012, and onsite interviews with facility leadership and staff May 15–16. We reviewed relevant facility policies and procedures, the Oklahoma Nursing Practice Act, Veterans Health Administration (VHA) and local policies, scopes of practice, credentialing and privileging profiles and committee minutes, and quality management documents. We also reviewed 4 months worth of staffing schedules, and the patient's electronic health record (EHR) and autopsy report.

We conducted the inspection in accordance with *Quality Standards for Inspection and Evaluation* published by the Council of the Inspectors General on Integrity and Efficiency.

Case Summary

The patient was an obese male in his 60s who presented to the facility's emergency department in May 2010 complaining of worsening shortness of breath. He presented with a low-grade fever and an oxygen saturation[2] of 85 percent on room air. Per the patient's report, an outside facility had treated him for pneumonia 3 days prior; however, he reported feeling worse. He denied any significant past medical history, and no information was available in his EHR because he received his care at non-VA facilities. While in the emergency department, the patient was started on antibiotics and placed on supplemental oxygen via nasal cannula, which increased his oxygen saturation to 98 percent. He was admitted to the telemetry unit for treatment of pneumonia. The plan of care included antibiotics, bronchodilators[3], and oxygen therapy.

On admission to the telemetry unit, a RN noted that the patient had labored breathing. On the morning of the first hospital day, a respiratory therapist (RT) administered a breathing treatment, noted the patient's decrease in oxygen saturation, and increased his supplemental oxygen. Shortly after administering the breathing treatment, the RT noted another decrease in the patient's oxygen saturation and placed him on a high flow nasal cannula.[4] Throughout the day, the RT administered breathing treatments as scheduled and increased supplemental oxygen as necessary, per the physician's order. The patient's oxygen saturation continued to decrease, and the patient was placed on a Venturi mask.[5]

On the second hospital day, an RN noted that the patient had crackles (abnormal breath sounds caused by fluid in the lungs) in his upper chest. The patient's oxygen saturation continued to

[2] Oxygen saturation is the amount of oxygen bound to hemoglobin in the blood, expressed as a percentage of the maximal binding capacity. The normal range is 95-100 percent.
[3] A bronchodilator is a medication that dilates the bronchi and bronchioles, decreasing resistance in the respiratory airway and increasing airflow to the lungs.
[4] High flow nasal cannula delivers supplemental oxygen via the nose at a higher rate than a traditional nasal cannula.
[5] A Venturi mask is a respiratory therapy face mask which allows for precise administration of a specified amount of oxygen at a high flow rate.

decrease and he was placed on a non-rebreather mask.[6] In the evening, the RT attempted to administer another breathing treatment; however, the patient refused. The night RN noted coarse breath sounds and an oxygen saturation of 88 percent on the non-rebreather mask. The patient's oxygen saturation continued to decrease further, and the RN notified the medical officer of the day (MOD). The MOD ordered an arterial blood gas[7] and intravenous furosemide.[8] The night RN noted the patient's oxygen saturation was 90 percent.

In the early morning hours of the third hospital day, the patient had an unwitnessed fall and was found face down in the bathroom. A nurse noted that he was "cyanotic" and had "agonal respiration, with palpable pulse." A code[9] was called, and the MOD responded and attempted endotracheal (ET) intubation unsuccessfully. The patient was then transferred to the intensive care unit accompanied by the MOD, the nursing supervisor on duty (NOD), and the RT. The NOD performed ET intubation and correct placement was confirmed by the MOD, who checked for the presence of exhaled carbon dioxide.[10] Efforts at resuscitation were unsuccessful, and at 3:50 a.m., the patient was pronounced dead.

Following the patient's death, the facility conducted peer reviews of the care provided by the MOD and NOD. Additionally, an Administrative Board of Investigation was convened, and the events surrounding the patient's death were investigated. The facility also completed a root cause analysis.

Inspection Results

Issue 1: Physician Intubation Competency

We did not substantiate the allegation that the facility's physicians were not competent in intubation.

The facility assigned the MOD responsibility for out-of-operating room (OR) airway management during non-administrative hours. The MOD is a physician who is physically present in an inpatient facility during periods when the regular medical staff is not on duty. These periods generally include evenings, nights, weekends, and holidays. We reviewed the MOD on-call schedules for the period January 1, 2012, through April 30, 2012, and the credentialing and privileging profiles of those corresponding physicians. All 10 physicians had current intubation privileges with demonstrated competence in airway management.

[6] A non-rebreather mask is used to maximize the delivery of oxygen. It contains a one-way valve that prevents exhaled air from entering into the tubing or bag containing the oxygen to be inhaled.
[7] An arterial blood gas test is an invasive test used to measure the levels of oxygen and carbon dioxide in arterial blood.
[8] Furosemide is a diuretic used in the treatment of edema associated with congestive heart failure or hepatic or renal disease and as an adjunct in the treatment of acute pulmonary edema.
[9] A code is a cardiopulmonary arrest or other emergency requiring resuscitation and a coordinated response by medical personnel.
[10] The presence of carbon dioxide can assist in determining proper ET tube placement.

Approval of intubation privileges required training via an online module and at least three successful intubations under the supervision of an anesthesia provider. Providers are required to reapply for intubation privileges every 2 years.

Issue 2: Nursing Intubation Scope of Practice

We did not substantiate the allegation that the facility's RNs intubate outside of their scopes of practice.

The Oklahoma Board of Nursing[11] does not prohibit RNs from intubating, as alleged by the complainant. VHA policy[12] and local policy permit RNs with appropriate training and demonstrated competence to intubate in emergent and urgent situations outside of the OR.

The facility had one RN with intubation privileges who was employed as one of the NODs and, as such, served as a member of the code team. The RN had demonstrated competence and a scope of practice that included emergency airway management.

Additionally, VHA policy[13] and local policy permit clinicians who are not licensed independent practitioners, and who may be in extraordinary circumstances, to exercise their judgment in determining the appropriate response to an urgent or emergent situation, with the overarching goal being the care and safety of the patient.

Issue 3: Patient Unexpected Death

We did not determine that intubation by an RN contributed to a patient's death.

We confirmed that the MOD attempted without success to intubate the patient and requested that the NOD attempt intubation. The MOD noted that the NOD "effectively and accurately intubated the patient on the first attempt," documenting that correct placement was confirmed by the presence of carbon dioxide and by auscultation of the patient's lungs.

Placement of ET tubes in emergency situations is challenging, and misplacement is not uncommon.[14] VHA policy[15] as well as industry standards recognize the use of devices in conjunction with auscultation to confirm ET tube placement.[16] The EHR and reports of contact document the use of both a colorimetric carbon dioxide detector[17] and auscultation of the lungs to confirm the placement of the ET tube. Although the autopsy revealed misplacement of the

[11] Oklahoma Nursing Practice Act, November 1, 2011.
[12] VHA Directive 2005-031, *Out-of-Operating Room Airway Management*, August 8, 2005.
[13] VHA Directive 2005-031.
[14] Jemmett ME, et al. Unrecognized misplacement of endotracheal tubes in a mixed urban to rural emergency medical services setting. Acad Emerg Med. 2003;10:961-5.
[15] VHA Directive 2005-031.
[16] Devices used in confirming placement of endotracheal tubes include esophageal devices and colorimetric devices that measure exhaled carbon dioxide.
[17] Colorimetric carbon dioxide detectors are a semiquantitative, noninvasive method to evaluate end-tidal carbon dioxide and demonstrate breath-to-breath color change after successful intubation.

ET tube, we concluded that clinicians exercised appropriate diligence when they attempted intubation as part of resuscitative efforts and were unable to explain the autopsy finding.

Issue 4: Facility Intubation Policy

We did not substantiate the allegation that subsequent to the patient's death the facility created a policy permitting RNs to intubate.

The facility has had an emergency airway management policy in place since November 2005. The policy has been updated and revised to incorporate requirements for training and demonstration of competence. In August 2010, RNs were specifically included among those clinicians permitted to perform emergency airway management after demonstration of competence. The local policy, which is consistent with VHA policy,[18] does not preclude RNs from performing ET intubation and airway management in a non-OR setting.

Conclusions

We did not substantiate the allegation that providers were not competent in airway management. MODs had training and demonstrated competence in airway management.

We did not substantiate the allegation that RNs intubated outside their scopes of practice. VHA policy and local policy permit RNs with appropriate training and demonstrated competence to intubate patients in emergent and urgent situations outside of the OR. Although autopsy revealed misplacement of the ET tube, we concluded that clinicians exercised appropriate diligence when they attempted intubation as part of resuscitative efforts and were unable to explain the autopsy finding.

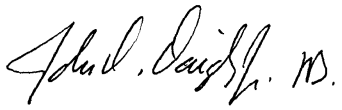
We did not determine that intubation by an RN contributed to a patient's death. An RN intubated a patient at the request and under the supervision of the MOD, and the MOD checked placement of the ET tube.

We did not substantiate the allegation that the facility created a policy permitting RNs to intubate after the patient's death. The facility has had an emergency airway management policy in place since November 2005. The local policy did not preclude RNs from performing ET intubation and airway management in a non-OR setting. We made no recommendations.

[18] VHA Directive 2005-031.

Comments

The VISN and Medical Center Directors agreed with our findings. No further action is required.



JOHN D. DAIGH, JR., M.D.
Assistant Inspector General for
Healthcare Inspections

Appendix A

VISN Director Comments

Department of Veterans Affairs **Memorandum**

Date: July 25, 2012

From: Director, South Central VA Health Care Network (10N16)

Subject: **Healthcare Inspection — Alleged Inadequate Airway Management, Jack C. Montgomery VA Medical Center, Muskogee, OK**

To: Director, San Diego Office of Healthcare Inspections (54SD)

Thru: Director, Management Review Service (10B5)

1. The South Central VA Health Care Network has reviewed and concurs with the OIG findings and conclusions regarding the allegations outlined in the draft copy of the OIG Hotline Report addressing inadequate airway management at the Jack C. Montgomery VA Medical Center, Muskogee, Oklahoma.

2. If you have any questions or need additional information, please contact Reba Moore, VISN 16 Accreditation Specialist, at 601-206-7022.

(*original signed by*:)
Rica Lewis-Payton, MHA, FACHE
Network Director, South Central VA Health Care Network (10N16)

Appendix B

Facility Director Comments

Department of Veterans Affairs **Memorandum**

Date: July 20, 2012

From: Director, Jack C. Montgomery VA Medical Center (623/00)

Subject: **Healthcare Inspection — Alleged Inadequate Airway Management, Jack C. Montgomery VA Medical Center, Muskogee, OK**

To: Director, South Central VA Health Care Network (10N16)

1. I have reviewed the draft copy of the OIG Hotline Report regarding the above subject and concur with the OIG findings.

2. If you have questions, please contact me at 918-577-3644.

(original signed by:)
James R. Floyd, FACHE

Appendix C

OIG Contact and Staff Acknowledgments

OIG Contact	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
Acknowledgments	Glen L. Pickens, MHSM, BSN, RN, Project Leader Josephine B. Andrion, MHA, BSN, RN, Team Leader Jerome Herbers, MD Katrina Young, MSHL, BSN, RN

Appendix D

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