



STATE OF IOWA

IOWA DENTAL BOARD

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

PHIL MCCOLLUM
INTERIM DIRECTOR

ANESTHESIA CREDENTIALS COMMITTEE

AGENDA

March 27, 2014, 12:00 P.M.

Location*: Iowa Dental Board, 400 SW 8th St., Suite D, Des Moines, Iowa

Members: *Kaaren Vargas, D.D.S. Chair; Richard Burton, D.D.S.; Steven Clark, D.D.S.; John Frank, D.D.S.; Douglas Horton, D.D.S.; Gary Roth, D.D.S.; Kurt Westlund, D.D.S.*

I. CALL MEETING TO ORDER – ROLL CALL

II. COMMITTEE MINUTES

- a. January 23, 2014 – Teleconference*
- b. February 20, 2014 - Teleconference*

III. GENERAL ANESTHESIA PERMIT APPLICATIONS

- a. Adam C. Stanley, D.D.S.*
- b. Other applications, if received*

IV. MODERATE SEDATION PERMIT APPLICATIONS

- a. Cody W. Winterholler, D.D.S.*
- b. Jordan P. Dudzinski, D.D.S.*
- c. Other applications, if received*

V. OTHER BUSINESS

- a. Proposed rule amendments – Ch. 29, “Sedation and Nitrous Oxide Inhalation Analgesia”*
- b. Peer Evaluations for Moderate Sedation Permit Holders*

VI. OPPORTUNITY FOR PUBLIC COMMENT

VII. ADJOURN

*Committee members may participate by telephone or in person.

If you require the assistance of auxiliary aids or services to participate in or attend the meeting because of a disability, please call the Board office at 515/281-5157.

Please Note: At the discretion of the committee chair, agenda items may be taken out of order to accommodate scheduling requests of committee members, presenters or attendees or to facilitate meeting efficiency.



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TERRY E. BRANSTAD, GOVERNOR
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INTERIM DIRECTOR

ANESTHESIA CREDENTIALS COMMITTEE

MINUTES

January 23, 2014
Conference Room
400 S.W. 8th St., Suite D
Des Moines, Iowa

Committee Members	January 23, 2014
Kaaren Vargas, D.D.S.	Absent
Richard Burton, D.D.S.	Present
Steven Clark, D.D.S.	Present
John Frank, D.D.S.	Present
Douglas Horton, D.D.S.	Absent
Gary Roth, D.D.S.	Present
Kurt Westlund, D.D.S.	Present

Staff Member

Christel Branness, Phil McCollum

Other Attendees

Stephen Thies, D.D.S.

I. CALL MEETING TO ORDER – JANUARY 23, 2014

Ms. Branness called the meeting of the Anesthesia Credentials Committee to order at 12:05 p.m. on Thursday, January 23, 2014. This meeting was held by conference call to review committee minutes, applications for sedation permits, and other items for committee consideration. It was impractical for the committee to meet in person with such a short agenda. A quorum was established with five members present.

Roll Call:

<u>Member</u>	<u>Vargas</u>	<u>Burton</u>	<u>Clark</u>	<u>Frank</u>	<u>Horton</u>	<u>Roth</u>	<u>Westlund</u>
Present	x	x	x	x		x	
Absent					x		x

II. COMMITTEE MINUTES

- *October 24, 2013 – Teleconference*

- ❖ MOVED by VARGAS, SECONDED by BURTON, to APPROVE the minutes as submitted. Motion APPROVED unanimously.

➤ Dr. Westlund joined the call at 12:07 p.m.

III. GENERAL ANESTHESIA PERMIT APPLICATIONS

Ms. Braness reported that no general anesthesia applications were received to date.

IV. MODERATE SEDATION PERMIT APPLICATIONS

- *Bradley Hagarty, D.D.S.*

Ms. Braness provided an overview of the application.

The committee members had some questions about the ACLS certification, which Dr. Hagarty completed. It is unclear if the ACLS certification included a “hands-on”, clinical component.

Dr. Vargas stated that she had the same concerns and asked staff to follow up with Dr. Hagarty about his certification.

Mr. McCollum asked for further clarification about the committee’s concerns about the certification. Dr. Frank expressed concerns about the airway management portions of the training. Dr. Frank feels that this portion of the certification needs to be done in person, and not via online training.

Mr. McCollum stated that staff could touch base with Dr. Hagarty and get clarification on this matter. If it is determined that Dr. Hagarty’s ACLS certification was an online only course, staff will ask him to complete a “hands-on” clinical portion of ACLS training.

- ❖ MOVED by ROTH, SECONDED by VARGAS, to APPROVE the application following confirmation that Dr. Hagarty completed a hands-on, clinical portion of the ACLS certification. Motion APPROVED unanimously.

V. MODERATE SEDATION COURSES FOR REVIEW

- *Conscious Sedation Consulting*

Ms. Braness provided an overview of the request from a licensee interested in attending this course.

Dr. Westlund indicated that he did not know much about this course and could not comment. Mr. McCollum recommended tabling the discussion for now until everyone had a chance to more fully review the course information. Mr. McCollum indicated that Ms. Braness can follow up and gather more information if necessary.

The committee chose to table this discussion until a later date.

Dr. Westlund indicated that he had difficulty opening the document. Ms. Braness reported that the file size had been too large initially, and the file size was reduced. This may have caused the issues with opening the document. Ms. Braness stated that she would put a copy of the course information in the mail to Dr. Westlund.

Dr. Roth thought the course appeared to be fairly comprehensive, but that the committee needed to clarify whether the sedation training is occurring on live patients. It appears that this course would meet most of the committee's concerns.

Dr. Westlund asked if there was any operating room experience with intubation on live patients. Dr. Roth stated that the course only makes reference to "clinic" so it is unclear based on the information, which the committee has currently.

- ❖ MOVED by ROTH, SECONDED by VARGAS, to table the discussion for further review of the course materials. Motion APPROVED unanimously.

VI. PEER EVALUATIONS

Ms. Braness provided an overview of this agenda item. There had been some questions recently concerning the peer evaluations as it related to moderate sedation permit holders. Dr. Westlund reported that the Iowa Association of Oral and Maxillofacial Surgeons (IAOMS) had recently been focusing on the peer evaluations for the general anesthesia permit holders. Ms. Braness asked for direction from the committee as to how staff should proceed with the moderate sedation permit holders.

Mr. McCollum reported that the committee recommended implementing the same standard of peer evaluations for moderate sedation permits; however, he could not recall if the rules included this as a requirement. Dr. Roth recalled that the rules allowed the committee or the Board to do this; however, he does not believe that this was required by rule. Ms. Braness looked up the rules and it is not specifically required by rule; however, it would be allowed at the discretion of the Board.

Dr. Westlund recommended that a spreadsheet be created, including all of the relevant dates and information for the sedation permit. Ms. Braness reported that she has a spreadsheet with most of this information already; however, she can update this spreadsheet to include the peer evaluation dates. Ms. Braness indicated that we can forward this at the next committee meeting for further review as requested.

Dr. Roth stated that, in his experience, most moderate sedation permit holders, who have been peer reviewed, were based on complaints or disciplinary action. Dr. Roth recommended that several committee members offer to conduct these to make it easier to complete these in a timely manner.

Ms. Braness stated that she will update the spreadsheet and forward this for further discussion at the next meeting.

Dr. Frank indicated that he understands that the Board is not bound by the American Association of Oral and Maxillofacial Surgeons (AAOMS) or the American Dental Association (ADA). Dr. Frank asked if the committee might want to refer to recommendations from these organizations to establish a standard in Iowa.

Mr. McCollum reported that the facilities are to be inspected once every five years. Mr. McCollum asked if the committee would want to tie the peer evaluations to the facility inspections to keep better track of these dates.

Dr. Westlund and Dr. Vargas indicated that they liked the idea of bringing this information back to the committee for further review and discussion.

VII. OTHER BUSINESS

- *Proposed rule amendments – Ch. 29, “Sedation and Nitrous Oxide Inhalation Analgesia”*

Ms. Braness provided an overview of the request from the Board. Ms. Braness reported that at the last quarterly meeting of the Board, the Board recommended drafting rules requiring moderate sedation permit holders to use capnography, and that PALS certification be accepted in lieu of ACLS for those moderate sedation permit holders who sedate children. Although, staff has not yet drafted rules, this was being brought back to the committee for further discussion.

Dr. Westlund stated that these recommendations are in line with the recommended guidelines from the AAOMS. Dr. Vargas stated that the pediatric literature indicates that it’s recommended, but not currently required. Practitioners who are only using nitrous oxide would not be required to use capnography. Capnography would be recommended when more than one method of sedation is introduced. For example, capnography would be recommended when combining nitrous oxide with an oral medication.

Dr. Thies asked about the definition of pediatric patients. Ms. Braness reported that patients ages 12 and under are defined as pediatric patients in Iowa Administrative Code 650—Chapter 29. Ms. Braness also clarified that in order to sedate pediatric patients, moderate sedation permit holders must receive training through an ADA-accredited residency program, or have been granted a rule waiver from the Board for other training deemed to be equivalent, and have been issued an added qualification to sedate pediatric patients by the Board.

Dr. Frank inquired as to whether general anesthesia permit holders who provide sedation to pediatric patients would be required to obtain PALS certification as well. Ms. Braness believed that this was the intent; however, she asked Dr. Vargas to clarify the recommendation, which she made at the last Board meeting. Since complications can arise rather quickly with pediatric patients, Dr. Vargas would recommend that it be required of everyone who sedates pediatric patients. Dr. Vargas stated that she is open to input from the rest of the committee members.

Dr. Burton reported that most general anesthesia permit holders probably have current PALS certifications. Dr. Burton stated that the University of Iowa College of Dentistry requires all

graduates and faculty members to hold PALS certification. Dr. Burton also reported that most hospitals settings require PALS certification. Dr. Burton reported that the coverage within the PALS training has changed over the years. Dr. Burton does not feel like this is an unreasonable request.

Dr. Westlund indicated that the 2012 AAOMS literature recommends PALS certification for those who sedate pediatric patients; though, it is not required.

Dr. Vargas stated that it may be good to require this across the board since ACLS is required in order to sedate non-pediatric patients. Dr. Roth wonders if ACLS certification is required since that was the only way of addressing airway management concerns. The ideal situation would be for courses to be developed, which specifically address the potential needs within moderate sedation. A lot of the ACLS training does not fully apply to dental treatment. Dr. Roth would hope that other training could be developed to replace ACLS, courses that would be more appropriate for treatment in dental offices and addressing the needs for airway management training.

The committee members noted that there is a difference between the emphasis in training between ACLS and PALS. ACLS focuses more on cardiac issues; whereas PALS focuses more on airway management. Dr. Vargas stated that the primary concern when sedating pediatric patients is airway management.

Dr. Roth asked about capnography for moderate sedation permit holders, like himself, who have not used capnography. Dr. Vargas and Dr. Westlund indicated that there was some cost to the capnography machines. Dr. Roth asked if it would be required to use this equipment while sedating, or if it would need to be on hand for situations where it seemed appropriate to use it. Dr. Westlund stated that the intent of the rule would be that practitioners would use the capnography machines while sedating. Dr. Vargas agreed.

Dr. Roth indicated that he uses pulse oximetry and other methods to monitor the patient. Dr. Roth stated that he does not, typically, sedate his patients very deeply. Dr. Vargas stated that there can be a very fast transition between moderate sedation and deep sedation. By using the capnography equipment, a practitioner could more quickly determine this and respond appropriately.

Mr. McCollum asked for input on the two issues. First, Mr. McCollum asked the committee about the capnography requirement, and secondly, about whether the proposed recommendation related to PALS certification would affect general anesthesia permit holders. Dr. Westlund stated that most oral surgeons are probably certified in PALS already.

Dr. Vargas thought that this may have limited impact on most practitioners. Mr. McCollum asked for clarification on this issue since staff will need to draft rules for the next meeting. The committee may want to clarify if PALS certification should be required of all practitioners who sedate pediatric patients, or if it should just be limited to moderate sedation permit holders who sedate pediatric patients. Dr. Vargas would recommend that PALS certification for required for everyone who sedates children.

Dr. Clark stated that Dr. Vargas may be asking that pediatric dentists be allowed to completed PALS certification in lieu of ACLS. Mr. McCollum and Ms. Braness indicated that this would be a very simple change. Mr. McCollum responded by stating that this provision would only cover one part of the committee's concern.

Dr. Thies inquired about practices that have a broad patient base. Dr. Thies asked if PALS would be required when sedating a minor. The example, which Dr. Thies referenced was regarding a 16 year old. Ms. Braness and Dr. Vargas responded by stating that PALS would not be required in those instances. Ms. Braness reiterated that in order to sedate pediatric patients, moderate sedation permit holders would be required to obtain a special qualification from the Board. In order to obtain this qualification, one must complete residency training. This would only effect a small number of practitioners.

Dr. Roth asked Dr. Clark about training in capnography at the dental school. It was stated that the dental school is not currently teaching capnography. Based on that, Dr. Roth questioned requiring this without further recommendations from the ADA, or other national organizations, which are not specialty organizations. Dr. Burton indicated that, to date, that has been the school's position. Dr. Roth recommended requiring this for moderate sedation permit holders, who sedate pediatric patients since they are at higher risk of complications. Dr. Roth stated that since the risk is lower for ASA 1-2 patients who are not defined as pediatric patients.

Mr. McCollum asked if the committee wanted to make a motion about this. Dr. Westlund and Dr. Vargas stated that it may be better to research this further before making a final recommendation.

- ❖ MOVED by VARGAS, SECONDED by WESTLUND, to research this further before making final recommendation. Motion APPROVED unanimously.
- ❖ MOVED by ROTH, SECONDED by VARGAS, to propose drafting rules to allow PALS in lieu of ACLS. Motion APPROVED unanimously.

VIII. OPPORTUNITY FOR PUBLIC COMMENT

No public comments were received.

IX. ADJOURN

- ❖ MOVED by VARGAS, SECONDED by VARGAS, to adjourn. Motion APPROVED unanimously.

The Anesthesia Credentials Committee adjourned its meeting at 12:48 p.m.

NEXT MEETING OF THE COMMITTEE

The next meeting of the Anesthesia Credentials Committee is scheduled for March 27, 2014. The meeting will be held at the Board offices and by teleconference.

These minutes are respectfully submitted by Christel Braness, Program Planner 2, Iowa Dental Board.



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ANESTHESIA CREDENTIALS COMMITTEE

MINUTES

February 20, 2014
Conference Room
400 S.W. 8th St., Suite D
Des Moines, Iowa

Committee Members

Kaaren Vargas, D.D.S.
Richard Burton, D.D.S.
Steven Clark, D.D.S.
John Frank, D.D.S.
Douglas Horton, D.D.S.
Gary Roth, D.D.S.
Kurt Westlund, D.D.S.

February 20, 2014

Absent
Absent
Present
Present
Present
Absent
Present

Staff Member

Christel Braness

I. CALL MEETING TO ORDER – FEBRUARY 20, 2014

Ms. Braness called the meeting of the Anesthesia Credentials Committee to order at 12:17 p.m. on Thursday, February 20, 2014. This meeting was held by conference call to review committee minutes, applications for general anesthesia and moderate sedation permits, and other items for committee consideration. It was impossible for the committee to schedule a meeting on such short notice and impractical for the committee to meet with such a short agenda. A quorum was established with four members present.

Roll Call:

<u>Member</u>	<u>Vargas</u>	<u>Burton</u>	<u>Clark</u>	<u>Frank</u>	<u>Horton</u>	<u>Roth</u>	<u>Westlund</u>
Present			x	x	x		x
Absent	x	x				x	

II. MODERATE SEDATION COURSE FOR REVIEW

- *Conscious Sedation Consulting*

Ms. Braness reported that this request for course review was brought forward from the last meeting when some of the committee members requested additional time to review the course information.

Dr. Frank reported that he spoke with Randy Pigg, B.S.N. about the course. Mr. Pigg is a nursing instructor. The course attempts to meet the ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students. The sedation protocols were inclusive of starting sedation to finishing the procedure. There is no instruction for management of airways on live patients. Routinely, the training is provided using manikins.

Dr. Westlund stated that this is one of the ongoing issues with some of the proposed moderate sedation courses. He questions the use of live patients in teaching sedation, but not providing instruction in airway management on live patients. The key concern with sedating patients is the potential for complications, when managing the airway is the crucial component of managing the emergency.

Dr. Frank, being new to the committee, asked what the committee has, typically, required for airway management training in the past. Dr. Westlund remarked that the preference has always been for training in airway management to be completed on live patients. While simulated training provides some experience, it is not always a fully-accurate representation of some of the issues with managing an airway on a live patient. The ADA has always been vague in its requirements for airway management training; however, Iowa has, historically, required training on live patients. In the past, this view has been described as being obstructionist since obtaining this training can sometimes be difficult to obtain. Therefore, this has been an ongoing discussion for the committee. Dr. Horton agreed with Dr. Westlund's summary.

Dr. Westlund stated that having experience in managing an airway on a live patient can be critical in providing good care to a patient when complications arise.

Dr. Frank referenced a number of recent cases where complications arose from the use of sedation. Therefore, the concern related to maintaining a patient's airway is very relevant when determining training is adequate to prepare practitioners for these kinds of situations may arise.

Dr. Westlund inquired about courses, which have been approved in the past. If the committee has previously approved courses without live airway management training, there is not be a sufficient basis on which to deny approval for this course now. Ms. Braness replied by stating that the only course of which she was specifically aware of where airway management training was not included in the course, there was a stipulation that the this training needed to be obtained elsewhere.

Dr. Clark asked about the course through the University of Southern California. As he recalled, this course did not include airway management training on live patients. Dr. Clark and Dr. Westlund referenced the ADA guidelines for clarification. While the committee wants to ensure adequate training, the committee does not want to be obstructionist.

Dr. Frank read the ADA guidelines aloud for the committee. As was mentioned previously, the guidelines are not specific about the type of training that should be obtained in the area of airway management.

Dr. Frank asked if the committee should revisit this issue at a future meeting to discuss this further. Dr. Westlund indicated that this would require feedback from the state for clarification about where those lines can be drawn when requiring sufficient training without being deemed obstructionist. Ms. Braness reported that the Iowa Dental Board has a new assistant attorney general. Ms. Braness indicated that staff could ask Ms. Scott to weigh in on this matter at a future meeting.

- ❖ MOVED by WESTLUND, SECONDED by FRANK, to approve the course as submitted. Motion APPROVED unanimously.
- ❖ MOVED by WESTLUND, SECONDED by FRANK, to revisit this topic with the assistant attorney general to get additional input. Motion APPROVED unanimously.

III. OPPORTUNITY FOR PUBLIC COMMENT

Dr. Westlund asked Ms. Braness if the peer evaluations, which he had forwarded had been received by the Board office. Ms. Braness confirmed that they had been received.

IV. ADJOURN

The Anesthesia Credentials Committee adjourned its meeting at 12:39 p.m.

NEXT MEETING OF THE COMMITTEE

The next meeting of the Anesthesia Credentials Committee is scheduled for March 27, 2014. The meeting will be held at the Board offices and by teleconference.

These minutes are respectfully submitted by Christel Braness, Program Planner 2, Iowa Dental Board.



IOWA DENTAL BOARD
 400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
 Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

Oral Surgery Assoc.

APPLICATION FOR DEEP SEDATION/GENERAL ANESTHESIA PERMIT

SECTION 1 - APPLICANT INFORMATION

Instructions - Please read the accompanying instructions prior to completing this form. Answer each question. If not applicable, mark "N/A."

Full Legal Name: (Last, First, Middle, Suffix)

Stanley, Adam C

Other Names Used: (e.g. Maiden)

Home E-mail:

adam_stanley@rocketmail.com

Work E-mail:

SAME

Home Address:

885 Paradise Dr

City:

Cordova

State:

TN

Zip:

38018

Home Phone:

(801) 673-6042

License Number: *applied for*

Issue Date:

Expiration Date:

Type of Practice:

Oral Maxillofacial Surgery

SECTION 2 - LOCATION(S) IN IOWA WHERE SEDATION SERVICES WILL BE PROVIDED

Principal Office Address:

201 Ridge St #308

City:

Council Bluffs

Zip:

51503

Phone:

712-328-8892

Office Hours/Days:

M-F 7-4

Other Office Address:

1501 E. 10th St

City:

Atlantic

Zip:

50022

Phone:

712-243-6390

Office Hours/Days:

T, TH 8-3

Other Office Address:

718 Simon

City:

Carroll

Zip:

57401

Phone:

712-792-6086

Office Hours/Days:

M-WF 8-3

Other Office Address:

City:

Zip:

Phone:

Office Hours/Days:

Other Office Address:

City:

Zip:

Phone:

Office Hours/Days:

SECTION 3 - BASIS FOR APPLICATION

Check each box to indicate the type of training you have completed & attach proof.

Check all that apply.

DATE(S):

Advanced education program accredited by ADA that provides training in deep sedation and general anesthesia

7/2010 - 6/2014

Formal training in airway management

7/2010 - 4/2014

Minimum of one year of advanced training in anesthesiology in a training program approved by the board

7/2010 - 6/2014

SECTION 4 - ADVANCED CARDIAC LIFE SUPPORT (ACLS) CERTIFICATION

Name of Course:

St. Jude Hospital

Location:

St. Jude Training Center

Date of Course:

2/4/12

Date Certification Expires:

2/2014

Office Use	Lic. #	Sent to ACC:	Peer Eval:	Fee <i>\$500 # 2509</i>
	Permit #	Approved by ACC:	State Ver.:	ACLS
	Issue Date:	Temp #	Inspection:	Res. Ver Form
	Brd Approved:	T. Issue Date:	Inspection Fee:	Res. Cert

Name of Applicant Adam Stanley

SECTION 5 – DENTAL EDUCATION, TRAINING & EXPERIENCE

Name of Dental School: <u>Creighton University</u>	From (Mo/Yr): <u>7/2006</u>	To (Mo/Yr): <u>5/2010</u>
City, State: <u>Omaha, NE</u>	Degree Received: <u>DDS</u>	

POST-GRADUATE TRAINING. Attach a copy of your certificate of completion for each postgraduate program you have completed.

Name of Training Program: <u>Univ. of Tennessee Health Science Ctr</u>	Address: <u>875 Union Ave</u>	City: <u>Memphis</u>	State: <u>TN</u>
Phone: <u>(901) 448-6233</u>	Specialty: <u>Oral & Maxillofacial Surgery</u>	From (Mo/Yr): <u>7/200</u>	To (Mo/Yr): <u>6/2014</u>
Type of Training: <input type="checkbox"/> Intern <input checked="" type="checkbox"/> Resident <input type="checkbox"/> Fellow <input type="checkbox"/> Other (Be Specific):			
Name of Training Program:	Address:	City:	State:
Phone:	Specialty:	From (Mo/Yr):	To (Mo/Yr):
Type of Training: <input type="checkbox"/> Intern <input type="checkbox"/> Resident <input type="checkbox"/> Fellow <input type="checkbox"/> Other (Be Specific):			

CHRONOLOGY OF ACTIVITIES

Provide a chronological listing of all dental and non-dental activities from the date of your graduation from dental school to the present date, with no more than a three (3) month gap in time. Include months, years, location (city & state), and type of practice. Attach additional sheets of paper, if necessary, labeled with your name and signed by you.

Activity & Location	From (Mo/Yr):	To (Mo/Yr):
<u>Oral Surgery Residency, Memphis, TN.</u>	<u>7/2010</u>	<u>6/2014</u>

SECTION 6 – DEEP SEDATION/GENERAL ANESTHESIA EXPERIENCE

YES NO A. Do you have a license, permit, or registration to perform sedation in any other state?
If yes, specify state(s) and permit number(s): _____

YES NO B. Do you consider yourself engaged in the use of deep sedation/general anesthesia in your professional practice?

YES NO C. Have you ever had any patient mortality or other incident that resulted in the temporary or permanent physical or mental injury requiring hospitalization of the patient during, or as a result of, your use of antianxiety premedication, nitrous oxide inhalation analgesia, moderate sedation or deep sedation/general anesthesia?

YES NO D. Do you plan to use deep sedation/general anesthesia in pediatric patients?

YES NO E. Do you plan to use deep sedation/general anesthesia in medically compromised patients?

YES NO F. Do you plan to engage in enteral moderate sedation?

YES NO G. Do you plan to engage in parenteral moderate sedation?

What major drugs and anesthetic techniques do you utilize or plan to utilize for sedation purposes? Provide details (IV, inhalation, etc.) and attach a separate sheet if necessary.

IV - Versed, Fentanyl, Propofol, Ketamine

Inhalation - Nitrous oxide, Sevoflurane

Oral - Versed, Halcion, Ativan

Name of Applicant Adam Stanley Facility Address 201. Ridge St.

SECTION 7 - AUXILIARY PERSONNEL

A dentist administering sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Ashley Baurisaw	QDA-11154	3/12	3/14
Deb Ditchler	QDA-06302	3/12	3/14
Amy Grove	QDA-09038	2/13	2/15
Monika Herman	QDA-02086	3/12	3/14
Samantha Brand	QDA-10971	2/12	2/14
Pat Macberry	QDA-06298	3/12	3/14
Heather Newman	QDA-11836	3/12	3/14

SECTION 8 - FACILITIES & EQUIPMENT

Continued on additional page

Each facility in which you perform sedation must be properly equipped. Copy this page and complete for each facility. You may apply for an exemption of any of these provisions. The Board may grant the exemption if it determines there is a reasonable basis for the exemption.

YES	NO	Is your dental office properly maintained and equipped with the following:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least three individuals to move freely about the patient?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. An operating table or chair that permits the patient to be positioned so the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for the management of cardiopulmonary resuscitation?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. A lighting system that is adequate to permit evaluation of the patient's skin and mucosal color and a backup lighting system that is battery powered and of sufficient intensity to permit completion of any operation underway at the time of general power failure?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Suction equipment that permits aspiration of the oral and pharyngeal cavities and a backup suction device?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. An oxygen delivery system with adequate full face masks and appropriate connectors that is capable of delivering oxygen to the patient under positive pressure, together with an adequate backup system?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. A recovery area that has available oxygen, adequate lighting, suction, and electrical outlets? (The recovery area can be the operating room.)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Is the patient able to be observed by a member of the staff at all times during the recovery period?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Anesthesia or analgesia systems coded to prevent accidental administration of the wrong gas and equipped with a fail safe mechanism?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. EKG monitor?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Laryngoscope and blades?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Endotracheal tubes?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Magill forceps?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Oral airways?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Stethoscope?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. A blood pressure monitoring device?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. A pulse oximeter?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. Emergency drugs that are not expired?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. A defibrillator (an automated defibrillator is recommended)?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?
		20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

Jaclyn Letkus

123762

1113

1115

Luise Fieretful

075598

7113

7115

Erin Cantwell

67739

6112

6114

Alex Refry

00A 03205

2112

2114

Jacquelyn Kersness CAT License

BLS cont.

BLS exp.

Carroll, IA.

Name of Applicant Adam Stanley

Facility Address 718. Simon Ave.

SECTION 7 - AUXILIARY PERSONNEL

A dentist administering sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
<u>Vicki Lengeling</u>	<u>QDA-04139</u>	<u>9/12</u>	<u>9/14</u>
<u>Renee Scheider</u>	<u>QDA-05805</u>	<u>9/12</u>	<u>9/14</u>
<u>Emily Skules</u>	<u>QDA-10811</u>	<u>5/13</u>	<u>5/15</u>
<u>Cully Wagner</u>	<u>109500</u>	<u>9/12</u>	<u>9/14</u>
Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:

SECTION 8 - FACILITIES & EQUIPMENT

Each facility in which you perform sedation must be properly equipped. Copy this page and complete for each facility. You may apply for an exemption of any of these provisions. The Board may grant the exemption if it determines there is a reasonable basis for the exemption.

YES NO Is your dental office properly maintained and equipped with the following:

- 1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least three individuals to move freely about the patient?
- 2. An operating table or chair that permits the patient to be positioned so the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for the management of cardiopulmonary resuscitation?
- 3. A lighting system that is adequate to permit evaluation of the patient's skin and mucosal color and a backup lighting system that is battery powered and of sufficient intensity to permit completion of any operation underway at the time of general power failure?
- 4. Suction equipment that permits aspiration of the oral and pharyngeal cavities and a backup suction device?
- 5. An oxygen delivery system with adequate full face masks and appropriate connectors that is capable of delivering oxygen to the patient under positive pressure, together with an adequate backup system?
- 6. A recovery area that has available oxygen, adequate lighting, suction, and electrical outlets? (The recovery area can be the operating room.)
- 7. Is the patient able to be observed by a member of the staff at all times during the recovery period?
- 8. Anesthesia or analgesia systems coded to prevent accidental administration of the wrong gas and equipped with a fail safe mechanism?
- 9. EKG monitor?
- 10. Laryngoscope and blades?
- 11. Endotracheal tubes?
- 12. Magill forceps?
- 13. Oral airways?
- 14. Stethoscope?
- 15. A blood pressure monitoring device?
- 16. A pulse oximeter?
- 17. Emergency drugs that are not expired?
- 18. A defibrillator (an automated defibrillator is recommended)?
- 19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?

20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

Name of Applicant Adam Starkey Facility Address 1901 E 10th, Atlantic IA 502

SECTION 7 - AUXILIARY PERSONNEL

A dentist administering sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Rhea Freund	QDA-02191	5/13	5/15
Vicki Lengeling	QDA-04139	9/12	9/14
Emily Shuler	QDA-10811	5/13	5/15
Amy Potter	QDA-08824	5/13	5/15
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
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SECTION 8 - FACILITIES & EQUIPMENT

Each facility in which you perform sedation must be properly equipped. Copy this page and complete for each facility. You may apply for an exemption of any of these provisions. The Board may grant the exemption if it determines there is a reasonable basis for the exemption.

YES NO Is your dental office properly maintained and equipped with the following:

- 1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least three individuals to move freely about the patient?
- 2. An operating table or chair that permits the patient to be positioned so the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for the management of cardiopulmonary resuscitation?
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- 4. Suction equipment that permits aspiration of the oral and pharyngeal cavities and a backup suction device?
- 5. An oxygen delivery system with adequate full face masks and appropriate connectors that is capable of delivering oxygen to the patient under positive pressure, together with an adequate backup system?
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- 9. EKG monitor?
- 10. Laryngoscope and blades?
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- 13. Oral airways?
- 14. Stethoscope?
- 15. A blood pressure monitoring device?
- 16. A pulse oximeter?
- 17. Emergency drugs that are not expired?
- 18. A defibrillator (an automated defibrillator is recommended)?
- 19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?

20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

SECTION 9 – If you answer Yes to any of the questions below, attach a full explanation. Read the instructions for important definitions.

	YES	NO
1. Do you currently have a medical condition that in any way impairs or limits your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Are you currently engaged in the illegal or improper use of drugs or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Do you currently use alcohol, drugs, or other chemical substances that would in any way impair or limit your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. If YES to any of the above, are you receiving ongoing treatment or participation in a monitoring program that reduces or eliminates the limitations or impairments caused by either your medical condition or use of alcohol, drugs, or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Have you ever been requested to repeat a portion of any professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Have you ever received a warning, reprimand, or been placed on probation during a professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Have you ever voluntarily surrendered a license or permit issued to you by any professional licensing agency?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7a. If yes, was a license disciplinary action pending against you, or were you under investigation by a licensing agency at that time the voluntary surrender of license was tendered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Aside from ordinary initial requirements of proctorship, have your clinical activities ever been limited, suspended, revoked, not renewed, voluntarily relinquished, or subject to other disciplinary or probationary conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Has any jurisdiction of the United States or other nation ever limited, restricted, warned, censured, placed on probation, suspended, or revoked a license or permit you held?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Have you ever been notified of any charges filed against you by a licensing or disciplinary agency of any jurisdiction of the U.S. or other nation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have you ever been denied a Drug Enforcement Administration (DEA) or state controlled substance registration certificate or has your controlled substance registration ever been placed on probation, suspended, voluntarily surrendered or revoked?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SECTION 10 – AFFIDAVIT OF APPLICANT

STATE: Tennessee COUNTY: Shelby

I, the below named applicant, hereby declare under penalty of perjury that I am the person described and identified in this application and that my answers and all statements made by me on this application and accompanying attachments are true and correct. Should I furnish any false information, or have substantial omission, I hereby agree that such act shall constitute cause for denial, suspension, or revocation of my license or permit to provide deep sedation/general anesthesia. I also declare that if I did not personally complete the foregoing application that I have fully read and confirmed each question and accompanying answer, and take full responsibility for all answers contained in this application.

I understand that I have no legal authority to administer deep sedation/general anesthesia until a permit has been granted. I understand that my facility is subject to an on-site evaluation prior to the issuance of a permit and by submitting an application for a deep sedation/general anesthesia permit, I hereby consent to such an evaluation. In addition, I understand that I may be subject to a professional evaluation as part of the application process. The professional evaluation shall be conducted by the Anesthesia Credentials Committee and include, at a minimum, evaluation of my knowledge of case management and airway management.

I certify that I am trained and capable of administering Advanced Cardiac Life Support and that I employ sufficient auxiliary personnel to assist in monitoring a patient under deep sedation/general anesthesia. Such personnel are trained in and capable of monitoring vital signs, assisting in emergency procedures, and administering basic life support. I understand that a dentist performing a procedure for which deep sedation/general anesthesia is being employed shall not administer the general anesthetic and monitor the patient without the presence and assistance of at least two qualified auxiliary personnel.

I am aware that pursuant to Iowa Administrative Code 650—29.9(153) I must report any adverse occurrences related to the use of sedation.

I hereby authorize the release of any and all information and records the Board shall deem pertinent to the evaluation of this application, and shall supply to the Board such records and information as requested for evaluation of my qualifications for a permit to administer sedation in the state of Iowa.

I understand that based on evaluation of credentials, facilities, equipment, personnel, and procedures, the Board may place restrictions on the permit.

I further state that I have read the rules related to the use of sedation, as described in 650 Iowa Administrative Code Chapter 29. I hereby agree to abide by the laws and rules pertaining to the practice of dentistry and deep sedation/general anesthesia in the state of Iowa.

	MUST BE SIGNED IN PRESENCE OF NOTARY ▶		SIGNATURE OF APPLICANT <i>[Signature]</i>
			SUBSCRIBED AND SWORN BEFORE ME, THIS <u>9</u> DAY OF <u>January</u> , YEAR <u>2014</u>
			NOTARY PUBLIC SIGNATURE <i>[Signature]</i>
			NOTARY PUBLIC NAME (TYPED OR PRINTED) <u>Dianne Logan-Peterson</u>
			MY COMMISSION EXPIRES: <u>12/10/2016</u>



IOWA DENTAL BOARD
400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

PLEASE TYPE OR PRINT LEGIBLY IN INK.

VERIFICATION OF POSTGRADUATE RESIDENCY PROGRAM

SECTION 1 - APPLICANT INFORMATION

Instructions - Complete Section 1 and mail this form to the Postgraduate Program Director for verification of your postgraduate training.

NAME (First, Middle, Last, Suffix, Former/Maiden):

Adam C Stanley

MAILING ADDRESS:

885 Paradise Dr

CITY:

Cordova

STATE:

TN

ZIP CODE:

38018

PHONE:

(801) 673-6042

To obtain a permit to administer deep sedation/general anesthesia in Iowa, the Iowa Dental Board requires that the applicant submit evidence of having completed an approved postgraduate training program or other formal training program approved by the Board. The applicant's signature below authorizes the release of any information, favorable or otherwise, directly to the Iowa Dental Board at the address above.

APPLICANT'S SIGNATURE:

Adam C Stanley

DATE:

12/30/13

SECTION 2 - TO BE COMPLETED BY POSTGRADUATE PROGRAM DIRECTOR

NAME OF POSTGRADUATE PROGRAM DIRECTOR:

James Christian, DDS

THIS POSTGRADUATE PROGRAM IS APPROVED OR ACCREDITED TO TEACH POSTGRADUATE DENTAL OR MEDICAL EDUCATION BY ONE OF THE FOLLOWING:

- American Dental Association;
 Accreditation Council for Graduate Medical Education of the American Medical Association (AMA); or
 Education Committee of the American Osteopathic Association (AOA).

NAME AND LOCATION OF POSTGRADUATE PROGRAM:

University of Tennessee Health Science Ctr - Oral & Maxillofacial Surgery Residency

PHONE:

(901) 448-6233

DATES APPLICANT PARTICIPATED IN PROGRAM ▶

FROM (MO/YR):

7/2010

TO (MO/YR):

6/2014

DATE PROGRAM COMPLETED:

6/2014

- YES NO 1. DID THE APPLICANT SATISFACTORILY COMPLETE THE ABOVE POSTGRADUATE TRAINING PROGRAM? If no, please explain. (as of 6/2014)
- YES NO 2. DID THE APPLICANT EVER RECEIVE A WARNING OR REPRIMAND, OR BEEN PLACED ON PROBATION DURING THE TRAINING PROGRAM? If yes, please explain.
- YES NO 3. WAS THE APPLICANT EVER REQUESTED TO REPEAT A PORTION OF THE TRAINING PROGRAM? If yes, please explain.
- YES NO 4. DOES THE PROGRAM PROVIDE FORMAL TRAINING IN AIRWAY MANAGEMENT? If no, please explain.
- YES NO 5. DOES THE PROGRAM PROVIDE A MINIMUM OF ONE YEAR OF ADVANCED TRAINING IN ANESTHESIOLOGY AND RELATED ACADEMIC SUBJECTS BEYOND THE UNDERGRADUATE DENTAL LEVEL? If no, please explain.

I further certify that the above named applicant has demonstrated competency in airway management and deep sedation/general anesthesia.

PROGRAM DIRECTOR SIGNATURE:

James Christian

DATE:

1/3/14

ADVANCED CARDIOVASCULAR LIFE SUPPORT

ACLS Provider



Adam Stanley

This card certifies that the above individual has successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association Advanced Cardiovascular Life Support (ACLS) Program.

02/04/2012 Issue Date
02/2014 Recommended Renewal Date

HEALTHCARE PROVIDER

Healthcare Provider



Adam Stanley

This card certifies that the above individual has successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association BLS for Healthcare Providers (CPR and AED) Program.

02/04/2012 Issue Date
02/2014 Recommended Renewal Date

PEDIATRIC ADVANCED LIFE SUPPORT



American Academy of Pediatrics



PALS Provider
Adam Stanley

This card certifies that the above individual has successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association Pediatric Advanced Life Support (PALS) Program.

02/04/2012 Issue Date
02/2014 Recommended Renewal Date

ADVANCED CARDIOVASCULAR LIFE SUPPORT

Training Center Name St. Jude Hospital TC ID # 20086
TC Info City, State Memphis, TN 38105 TC Phone 901-595-4765
Course Location Training Center
Instructor Name Crystal O'guin Inst. ID # 02070260120
Holder's Signature

© 2011 American Heart Association Tampering with this card will alter its appearance. 90-1806

HEALTHCARE PROVIDER

Training Center Name St. Jude Hospital TC ID # 20086
TC Info City, State Memphis, TN 38105 TC Phone 901-595-4765
Course Location Training Center
Instructor Name Crystal O'guin Inst. ID # 02070260120
Holder's Signature

© 2011 American Heart Association Tampering with this card will alter its appearance. 90-1801

PEDIATRIC ADVANCED LIFE SUPPORT

Training Center Name St. Jude Hospital TC ID # 20086
TC Info City, State Memphis, TN 38105 TC Phone 901-595-4765
Course Location Training Center
Instructor Name Crystal O'guin Inst. ID # 02070260120
Holder's Signature

© 2011 American Heart Association Tampering with this card will alter its appearance. 90-1818

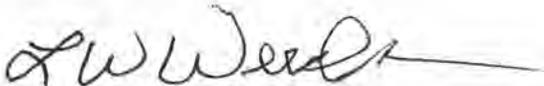
Department of Oral and Maxillofacial Surgery

875 Union Avenue
Memphis, TN 38163
Phone: (901) 448-6233
Fax: (901) 448-5480

January 2, 2014

To Whom It May Concern:

This letter is to certify that Dr. Adam C. Stanley, D.D.S., is currently in the Oral & Maxillofacial Surgery Residency Program at the University of Tennessee Health Science Center. The duration of this residency is from July 1, 2010 through June 30, 2014. Successful completion of this program will lead to a certificate for practice in the specialty of Oral & Maxillofacial Surgery. If I may provide any further information, please contact our program at (901) 448-6233.



Larry Weeda, D.D.S.

Chair, UT Oral & Maxillofacial Surgery



IOWA DENTAL BOARD
 400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
 Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

RECEIVED

FEB 18 2014

IOWA DENTAL BOARD

APPLICATION FOR MODERATE SEDATION PERMIT

SECTION 1 – APPLICANT INFORMATION

Instructions – Please read the accompanying instructions prior to completing this form. Answer each question. If not applicable, mark "N/A."

Full Legal Name: (Last, First, Middle, Suffix)

Winterholler, Cody. Warner

Other Names Used: (e.g. Maiden)

Home E-mail:

codywinterholler@gmail.com

Work E-mail:

cody.winterholler@unmc.edu

Home Address:

7210 Willow Ave

City:

Lincoln

State:

NE

Zip:

68507

Home Phone:

406-672-0224

License Number:

Issue Date:

Expiration Date:

Type of Practice:

General Dentistry

SECTION 2 – LOCATION(S) IN IOWA WHERE MODERATE SEDATION SERVICES ARE PROVIDED

Principal Office Address:

2100 Indian Hills Dr.

City:

Sioux City

Zip:

51104

Phone:

712-587-9319

Office Hours/Days:

M-S / 8-5 p.m.

Other Office Address:

City:

Zip:

Phone:

Office Hours/Days:

SECTION 3 – BASIS FOR APPLICATION

Check each box to indicate the type of training you have completed.

Check if completed.

DATE(S):

Moderate Sedation Training Program that meets ADA Guidelines for Teaching Pain Control and Sedation to Dentists of at least 60 hours and 20 patient experiences

Completed

7/1/13 - present

ADA-accredited Residency Program that includes moderate sedation training

Completed

7/1/13 - present

You must have training in moderate sedation AND one of the following:

Formal training in airway management; OR

Completed

7/1/13 - present

Moderate sedation experience at graduate level, approved by the Board

Completed

7/1/13 - present

SECTION 4 – ADVANCED CARDIAC LIFE SUPPORT (ACLS) CERTIFICATION

Name of Course:

Advanced Cardiac Life Support

Location:

Saint Elizabeth Regional Medical Center

Date of Course:

7/16/2013

Date Certification Expires:

07/2015

Office Use	Lic. #	Sent to ACC:	Inspection	Fee \$500 + 293 to 2/19/14.
	Permit #	Approved by ACC:	Inspection Fee Pd:	ACLS
	Issue Date:	Temp #	ASA 3/4?	Form A/B
	Brd Approved:	T. Issue Date:	Pediatric?	Peer Eval

Name of Applicant CODY W WINTERHOLLER

SECTION 5 – MODERATE SEDATION TRAINING INFORMATION

Type of Program:
 Postgraduate Residency Program Continuing Education Program Other Board-approved program, specify:

Name of Training Program: <u>Oral Surgery Fellowship</u>	Address: <u>40th & Holdrege</u>	City: <u>Lincoln</u>	State: <u>NE</u>
---	---	-------------------------	---------------------

Type of Experience:
Oral Surgery / Moderate Sedation

Length of Training: <u>1 year (July 1st, 2013 - June 30, 2014)</u>	Date(s) Completed: <u>June 30, 2014</u>
--	--

Number of Patient Contact Hours: <u>175 hours</u>	Total Number of Supervised Sedation Cases: <u>135</u>
--	--

- YES NO 1. Did you satisfactorily complete the above training program?
- YES NO 2. Does the program include at least sixty (60) hours of didactic training in pain and anxiety?
- YES NO 3. Does the program include management of at least 20 clinical patients?
As part of the curriculum, are the following concepts and procedures taught:
- YES NO 4. Physical evaluation;
- YES NO 5. IV sedation;
- YES NO 6. Airway management;
- YES NO 7. Monitoring; and
- YES NO 8. Basic life support and emergency management.
- YES NO 9. Does the program include clinical experience in managing compromised airways?
- YES NO 10. Does the program provide training or experience in managing moderate sedation in pediatric patients?
- YES NO 11. Does the program provide training or experience in managing moderate sedation in ASA category 3 or 4 patients?

Please attach the appropriate form to verify your moderate sedation training. Applicants who received their training in a postgraduate residency program must have their postgraduate program director complete Form A. In addition, attach a copy of your certificate of completion of the postgraduate program. Applicants who received their training in a formal moderate sedation continuing education program must have the program director complete Form B.

SECTION 6 – MODERATE SEDATION EXPERIENCE

- YES NO A. Do you have a license, permit, or registration to perform moderate sedation in any other state?
If yes, specify state(s) and permit number(s): _____
- YES NO B. Do you consider yourself engaged in the use of moderate sedation in your professional practice?
- YES NO C. Have you ever had any patient mortality or other incident that resulted in the temporary or permanent physical or mental injury requiring hospitalization of the patient during, or as a result of, your use of antianxiety premedication, nitrous oxide inhalation analgesia, moderate sedation or deep sedation/general anesthesia?
- YES NO D. Do you plan to use moderate sedation in pediatric patients?
- YES NO E. Do you plan to use moderate sedation in medically compromised (ASA category 3 or 4) patients?
- YES NO F. Do you plan to engage in enteral moderate sedation?
- YES NO G. Do you plan to engage in parenteral moderate sedation?

What major drugs and anesthetic techniques do you utilize or plan to utilize in your use of moderate sedation? Provide details (IV, inhalation, etc.) and attach a separate sheet if necessary.
SEE ATTACHMENT

Name of Applicant CODY W WINTERHOLLERFacility Address 2100 Indian Hills Drive**SECTION 7 – AUXILIARY PERSONNEL**

A dentist administering moderate sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Alicia M. Begnoche	11368	7/10/13	8/31/15
Amanda L. Wink	09498	7/9/13	8/13/15
Amanda C. Prunty	10439	7/19/13	8/31/15
Ashley M. Divis	11430	7/17/13	8/31/15
Jennifer R. Ray	11355	7/10/13	8/31/15
Kara E. Glass	07722	7/9/13	8/31/15
Kristen Salas	11843	9/17/13	8/31/14
Amanda M. McCauley	11095	7/10/13	8/31/15

SECTION 8 – FACILITIES & EQUIPMENT

Each facility in which you perform moderate sedation must be properly equipped. Copy this page and complete for each facility. You may apply for a waiver of any of these provisions. The Board may grant the waiver if it determines there is a reasonable basis for the waiver.

YES NO Is your dental office properly maintained and equipped with the following:

1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least two individuals to move freely about the patient?
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7. Is the patient able to be observed by a member of the staff at all times during the recovery period?
8. Anesthesia or analgesia systems coded to prevent accidental administration of the wrong gas and equipped with a fail safe mechanism?
9. EKG monitor?
10. Laryngoscope and blades?
11. Endotracheal tubes?
12. Magill forceps?
13. Oral airways?
14. Stethoscope?
15. A blood pressure monitoring device?
16. A pulse oximeter?
17. Emergency drugs that are not expired?
18. A defibrillator (an automated defibrillator is recommended)?
19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?
- 4 20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

Name of Applicant CODY W WINTERHOLLER

Facility Address 2100 Indian Hills Drive

SECTION 7 – AUXILIARY PERSONNEL

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Name:	License/Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Rachelle R. Dien	10435	7/11/13	8/31/15
Teresa L. Hirsch	07770	7/11/13	8/31/15
Jackie L. Marrinan	02758	7/31/13	8/31/15
Janna R. Carnell-Reicks	03684	7/25/13	8/31/15
Judy C. Bonertz	02900	7/19/13	8/31/15
Gina N. Dattolico	02918	7/29/13	8/31/15
Trista A. Delperdang	02827	7/30/13	8/31/15
Jane M. Lilly	07629	9/12/12	8/31/14

SECTION 8 – FACILITIES & EQUIPMENT

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- 15. A blood pressure monitoring device?
- 16. A pulse oximeter?
- 17. Emergency drugs that are not expired?
- 18. A defibrillator (an automated defibrillator is recommended)?
- 19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?
- 20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

Name of Applicant CODY W WINTERHOLLER

Facility Address 2100 Indian Hills Drive

SECTION 7 – AUXILIARY PERSONNEL

A dentist administering moderate sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Kevin R. Lilly	07577	9/1/12	8/31/14
Gregory D. Tuttle	08962	8/21/12	8/31/14
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:
Name:	License/ Registration #:	BLS Certification Date:	Date BLS Certification Expires:

SECTION 8 – FACILITIES & EQUIPMENT

Each facility in which you perform moderate sedation must be properly equipped. Copy this page and complete for each facility. You may apply for a waiver of any of these provisions. The Board may grant the waiver if it determines there is a reasonable basis for the waiver.

YES NO Is your dental office properly maintained and equipped with the following:

1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least two individuals to move freely about the patient?

2. An operating table or chair that permits the patient to be positioned so the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for the management of cardiopulmonary resuscitation?

3. A lighting system that is adequate to permit evaluation of the patient's skin and mucosal color and a backup lighting system that is battery powered and of sufficient intensity to permit completion of any operation underway at the time of general power failure?

4. Suction equipment that permits aspiration of the oral and pharyngeal cavities and a backup suction device?

5. An oxygen delivery system with adequate full face masks and appropriate connectors that is capable of delivering oxygen to the patient under positive pressure, together with an adequate backup system?

6. A recovery area that has available oxygen, adequate lighting, suction, and electrical outlets? (The recovery area can be the operating room.)

7. Is the patient able to be observed by a member of the staff at all times during the recovery period?

8. Anesthesia or analgesia systems coded to prevent accidental administration of the wrong gas and equipped with a fail safe mechanism?

9. EKG monitor?

10. Laryngoscope and blades?

11. Endotracheal tubes?

12. Magill forceps?

13. Oral airways?

14. Stethoscope?

15. A blood pressure monitoring device?

16. A pulse oximeter?

17. Emergency drugs that are not expired?

18. A defibrillator (an automated defibrillator is recommended)?

19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)?

20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility.

SECTION 9 – If you answer Yes to any of the questions below, attach a full explanation. Read the instructions for important definitions.

	YES	NO
1. Do you currently have a medical condition that in any way impairs or limits your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Are you currently engaged in the illegal or improper use of drugs or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Do you currently use alcohol, drugs, or other chemical substances that would in any way impair or limit your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. If YES to any of the above, are you receiving ongoing treatment or participation in a monitoring program that reduces or eliminates the limitations or impairments caused by either your medical condition or use of alcohol, drugs, or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Have you ever been requested to repeat a portion of any professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Have you ever received a warning, reprimand, or been placed on probation during a professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Have you ever voluntarily surrendered a license or permit issued to you by any professional licensing agency?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7a. If yes, was a license disciplinary action pending against you, or were you under investigation by a licensing agency at that time the voluntary surrender of license was tendered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Aside from ordinary initial requirements of proctorship, have your clinical activities ever been limited, suspended, revoked, not renewed, voluntarily relinquished, or subject to other disciplinary or probationary conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Has any jurisdiction of the United States or other nation ever limited, restricted, warned, censured, placed on probation, suspended, or revoked a license or permit you held?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Have you ever been notified of any charges filed against you by a licensing or disciplinary agency of any jurisdiction of the U.S. or other nation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have you ever been denied a Drug Enforcement Administration (DEA) or state controlled substance registration certificate or has your controlled substance registration ever been placed on probation, suspended, voluntarily surrendered or revoked?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SECTION 10 – AFFIDAVIT OF APPLICANT

STATE: NE COUNTY: Lancaster

I, the below named applicant, hereby declare under penalty of perjury that I am the person described and identified in this application and that my answers and all statements made by me on this application and accompanying attachments are true and correct. Should I furnish any false information, or have substantial omission, I hereby agree that such act shall constitute cause for denial, suspension, or revocation of my license or permit to provide moderate sedation. I also declare that if I did not personally complete the foregoing application that I have fully read and confirmed each question and accompanying answer, and take full responsibility for all answers contained in this application.

I understand that I have no legal authority to administer moderate sedation until a permit has been granted. I understand that my facility is subject to an on-site evaluation prior to the issuance of a permit and by submitting an application for a moderate sedation permit, I hereby consent to such an evaluation. In addition, I understand that I may be subject to a professional evaluation as part of the application process. The professional evaluation shall be conducted by the Anesthesia Credentials Committee and include, at a minimum, evaluation of my knowledge of case management and airway management.

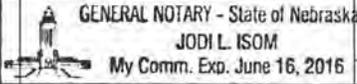
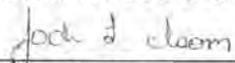
I certify that I am trained and capable of administering Advanced Cardiac Life Support and that I employ sufficient auxiliary personnel to assist in monitoring a patient under moderate sedation. Such personnel are trained in and capable of monitoring vital signs, assisting in emergency procedures, and administering basic life support. I understand that a dentist performing a procedure for which moderate sedation is being employed shall not administer the pharmacologic agents and monitor the patient without the presence and assistance of at least one qualified auxiliary personnel.

I am aware that pursuant to Iowa Administrative Code 650—29.9(153) I must report any adverse occurrences related to the use of sedation. I also understand that if moderate sedation results in a general anesthetic state, the rules for deep sedation/general anesthesia apply.

I hereby authorize the release of any and all information and records the Board shall deem pertinent to the evaluation of this application, and shall supply to the Board such records and information as requested for evaluation of my qualifications for a permit to administer moderate sedation in the state of Iowa.

I understand that based on evaluation of credentials, facilities, equipment, personnel, and procedures, the Board may place restrictions on the permit.

I further state that I have read the rules related to the use of sedation and nitrous oxide inhalation analgesia, as described in 650 Iowa Administrative Code Chapter 29. I hereby agree to abide by the laws and rules pertaining to the practice of dentistry and moderate sedation in the state of Iowa.

MUST BE SIGNED IN PRESENCE OF NOTARY ►	SIGNATURE OF APPLICANT 	
NOTARY SEAL	SUBSCRIBED AND SWORN BEFORE ME, THIS <u>10th</u> DAY OF <u>February</u> , YEAR <u>2014</u>	
	NOTARY PUBLIC SIGNATURE 	
	NOTARY PUBLIC NAME (TYPED OR PRINTED) <u>Jodi L. Isom</u>	MY COMMISSION EXPIRES: <u>June 16, 2016</u>



IOWA DENTAL BOARD
 400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
 Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

PLEASE TYPE OR PRINT LEGIBLY IN INK.

**FORM A: VERIFICATION OF MODERATE SEDATION TRAINING
 IN A POSTGRADUATE RESIDENCY PROGRAM**

SECTION 1 – APPLICANT INFORMATION

Instructions – Use this form if you obtained your training in moderate sedation from an approved postgraduate residency program. Complete Section 1 and mail this form to the Postgraduate Program Director for verification of your having successfully completed this training.

NAME (First, Middle, Last, Suffix, Former/Maiden):
 CODY WARNER WINTERHOLLER

MAILING ADDRESS:
 7210 WILLOW AVE

CITY: LINCOLN	STATE: NE	ZIP CODE: 68507	PHONE: (406) 672-0224
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To obtain a permit to administer moderate sedation in Iowa, the Iowa Dental Board requires that the applicant submit evidence of having completed an approved postgraduate training program or other formal training program approved by the Board. The applicant's signature below authorizes the release of any information, favorable or otherwise, directly to the Iowa Dental Board at the address above.

APPLICANT'S SIGNATURE: 	DATE: 2/13/2014
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SECTION 2 – TO BE COMPLETED BY POSTGRADUATE PROGRAM DIRECTOR

NAME OF POSTGRADUATE PROGRAM DIRECTOR:
 Dr Joseph Bruce Ravitz

THIS POSTGRADUATE PROGRAM IS APPROVED OR ACCREDITED TO TEACH POSTGRADUATE DENTAL OR MEDICAL EDUCATION BY ONE OF THE FOLLOWING:

- American Dental Association;
- Accreditation Council for Graduate Medical Education of the American Medical Association (AMA); or
- Education Committee of the American Osteopathic Association (AOA).

NAME AND LOCATION OF POSTGRADUATE PROGRAM: UNMC College Dentistry Lincoln NE 68583-0740	PHONE: 402 472 1314
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DATES APPLICANT PARTICIPATED IN PROGRAM ▶	FROM (MO/YR): July 2013	TO (MO/YR): June 2014	DATE PROGRAM COMPLETED: June 2014
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- YES NO 1. DID THE APPLICANT SATISFACTORILY COMPLETE THE ABOVE POSTGRADUATE TRAINING PROGRAM? June 2014
 - YES NO 2. DOES THE PROGRAM INCLUDE AT LEAST SIXTY (60) HOURS OF DIDACTIC TRAINING IN PAIN AND ANXIETY? See letter
 - YES NO 3. DOES THE PROGRAM COVER THE AMERICAN DENTAL ASSOCIATION GUIDELINES FOR TEACHING PAIN CONTROL AND SEDATION TO DENTISTS AND DENTAL STUDENTS?
 - YES NO 4. DOES THE PROGRAM INCLUDE CLINICAL EXPERIENCE IN MANAGING COMPROMISED AIRWAYS?
 - YES NO 5. DOES THE PROGRAM INCLUDE MANAGEMENT OF AT LEAST 20 PATIENTS?
- (If no to above, please provide a detailed explanation.)
- YES NO 6. DID THE APPLICANT EVER RECEIVE A WARNING OR REPRIMAND, OR WAS THE APPLICANT PLACED ON PROBATION DURING THE TRAINING PROGRAM? If yes, please explain.
 - YES NO 7. WAS THE APPLICANT EVER REQUESTED TO REPEAT A PORTION OF THE TRAINING PROGRAM? If yes, please explain.
 - YES NO 8. DOES THE PROGRAM INCLUDE ADDITIONAL CLINICAL EXPERIENCE IN PROVIDING MODERATE SEDATION FOR PEDIATRIC (AGE 12 OR YOUNGER) PATIENTS? If yes, please provide details.
 - YES NO 9. DOES THE PROGRAM INCLUDE ADDITIONAL CLINICAL EXPERIENCE IN PROVIDING MODERATE SEDATION FOR MEDICALLY COMPROMISED (ASA CLASS 3 OR 4) PATIENTS? If yes, please provide details.

I further certify that the above named applicant has demonstrated competency in airway management and moderate sedation.

PROGRAM DIRECTOR SIGNATURE: 	DATE: 2/13/14
--	-------------------------

February 12, 2014

Iowa Dental Board
400 SW 8th Street, Suite D
Des Moines, IA 50309-4687

To Whom It May Concern:

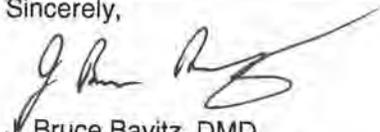
This is to certify that Cody W. Winterholler matriculated in the Creighton University School of Dentistry on August 10, 2009, and graduated on May 18, 2013. After graduation, he was accepted as the Oral Surgery Fellow at the University Of Nebraska Medical Center College Of Dentistry. This one-year program began July, 2013 and ends June, 2014.

Dr. Winterholler has successfully completed the following courses which relate to his competence to administer moderate sedation in his conduct of the general practice of dentistry. These courses occurred while at Creighton, the University of Nebraska and through other organizations.

1. A 4 hour ADA CERP CE course in "Recognition and Management of Complications during Minimal and Moderate sedation".
2. A 16 hour course in dental management of medically complex patients (1 credit hour – 16 weeks).
3. A 36 hour course in pain and anxiety control, including local anesthesia (3 credit hours – 12 weeks).
4. A 16 hour course in physical diagnosis and medical emergencies (1 credit hour – 16 weeks).
5. A 4 hour course in IV, Phlebotomy & Parenteral Administration of Drugs (2 credit hours – 2 weeks).
6. 64 course hours in general and oral pharmacology.
7. A 16 hour course in Oral Surgery (1 credit hour – 16 weeks).
8. Certification in BLS/CPR and ACLS (12 CE credit hours).

To date, Dr. Winterholler has successfully administered 135 IV moderate sedation cases under supervision of faculty here at Nebraska. By the end of his fellowship, he will have completed well over 175 IV moderate sedation cases.

Sincerely,



J. Bruce Bavitz, DMD
Chair - Surgical Specialties
UNMC College of Dentistry

Anesthesia Protocol

Pain and anxiety control, using various techniques of regional (local) anesthesia, conscious sedation, and moderate parenteral sedation have long been an integral part of the practice of dental surgery. Anxiety, fear, and pain are of concern to both the dental surgeon and patient, particularly in the view of the general perception of dental procedures. Satisfactory completion of dental surgery and general dentistry at times requires control of these factors during the perioperative period. The selection of a particular technique for controlling anxiety and pain during a specific procedure must be determined for each patient individually, considering the risks and benefits for each case.

STANDARDS AND CONSIDERATIONS FOR ANESTHESIA IN OUTPATIENT FACILITIES

1. Informed Consent: The patient or legal guardian is informed of the indications, risks, benefits, expectations, limitations, and alternative anesthetic procedures.
2. Documentation: Preoperative review of objective findings, medical history, diagnosis, previous anesthetic complications, history of allergies and other pertinent history specific to the patient will be documented. The patient's compliance with presurgical instructions regarding eating and drinking will also be noted. A preoperative physical examination appropriate to the diagnosis, proposed surgical procedure, patient's age, and circumstances will be performed as will any preoperative laboratory diagnostic tests, when indicated. It should be noted that routine laboratory studies are not indicated and are included in presurgical assessment only when the results may alter the management of the patient. Anesthesia risk factors are determined based on the ASA risk scale of ASA I, II, III, IV. (Note that only ASA I, II and very rarely, III patients are considered candidates for parenteral moderate sedation)

GENERAL CONSCIOUS SEDATION PROCEDURES

MEDICATIONS:

1. Midazolam (VERSED) multidose vial 5 mg/cc
2. Fentanyl (Sublimaze) multidose vial 50 mcg/cc
3. Dexamethasone (Decadron) multidose vial 4 mg/cc
4. Cleocin Phosphate (Clindamycin) multidose vial 150 mg/cc
5. Diphenhydramine (Benadryl) multidose vial 50 mg/cc
6. Ketamine (Ketalar) multidose vial 100 mg/cc
7. The conscious sedation is supplemented with regional block or infiltrative local anesthesia as follows
 - 2% Lidocaine HCL (Xylocaine) w/ 1:100,000 epinephrine
 - 4% Septocaine (Articaine HCL) w/ 1:100,000 epinephrine
 - 3% Mepivacaine (Carbocaine)

The dosage of medications is individualized according to the desired level of sedation, the patient's response and the dental procedures requirements. A majority of cases with ASA I and II patients will generally be administered Midazolam (5-7.5 mg), Fentanyl (50-75 mcg), Cleocin Phosphate (600 mg). Diphenhydramine is administered in cases as an anti-emetic. Ketalar within the scope of my practice would be administered through oral sedation in relationship to pediatric procedures and not parenterally.

MONITORS

1. EKG
2. Capnography
3. NIBP
4. Pulse Oximetry
5. Respirations
6. Level of consciousness/responsiveness to painful/verbal stimuli

EMERGENCY MEDICATIONS AND EQUIPMENT

Epinephrine (EpiPen); Naloxone (Narcotic Reversal); Flumazenil (Benzodiazepine Reversal); Lidocaine (Ventricular Dysrhythmia); Nitrolingual (Angina Pectoris); Albuterol Inhaler (Bronchospasm); Procainamide (Ventricular Fibrillation, dysrhythmia); Amiodorone (Ventricular Fibrillation and Ventricular Tachycardia); Diphenhydramine (Acute Allergic Reaction); Ephedrine (Hypotension); AED; Magill Forceps; Yankauer Suction; Laryngoscope and Blades; Oral Airways; Endotracheal Tubes; Bag Valve Mask (Ambu Bag)

RECOVERY/DISCHARGE

1. Patients will be monitored according to discharge criteria. The intraoperative monitors may include those that have been used during surgery or altered to reflect the level of consciousness, vital signs and/or respiratory status of the patient.
2. The following criteria establish a patient's suitability for discharge:
 - a) Oriented as to person, place and time
 - b) Appropriately responsive to verbal stimuli
 - c) Patient is able to maintain sitting/standing equilibrium with minimal assistance
 - d) All vital signs are stable
 - e) Accompanying responsible adult is present
 - f) All patients will be transported via wheelchair and accompanied by staff until seated in automobile
 - g) Printed instructions will be provided for all patients
 - h) Prescriptions for oral analgesic and antibiotic medications will be provided with instructions

- i) Postsurgical supplies including contact information, extra gauze, and special instructions will also be provided

ACLS Provider



CODY WINTERHOLLER

This card certifies that the above individual has successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association Advanced Cardiovascular Life Support (ACLS) Program.

07/16/2013
Issue Date

07/2015
Recommended Renewal Date

© 2011 American Heart Association. Tampering with this card will alter its appearance. 90-1806

Holder's Signature *Cody Winterholler*

Instructor Name MISSY UNDERWOOD Inst. ID # 1112226484

Course Location Saint Elizabeth Regional Medical Center

TC Info Grand Island, NE 68803 308-398-5876

Training Center Name Saint Francis Med Center NE02141
TC ID #



IOWA DENTAL BOARD
 400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
 Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

RECEIVED
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 MAR 01 2014

IOWA DENTAL BOARD

APPLICATION FOR MODERATE SEDATION PERMIT

SECTION 1 – APPLICANT INFORMATION

Instructions – Please read the accompanying instructions prior to completing this form. Answer each question. If not applicable, mark "N/A."

Full Legal Name: (Last, First, Middle, Suffix)
 Dudzinski, Jordan, Paul

Other Names Used: (e.g. Maiden)	Home E-mail: jdudzy@gmail.com	Work E-mail:		
Home Address: 12433 Read Street	City: Omaha	State: NE	Zip: 68118	Home Phone: 402-981-2182
License Number: 08996	Issue Date: 5/29/13	Expiration Date: 8/31/14	Type of Practice: General Practice Dental	

SECTION 2 – LOCATION(S) IN IOWA WHERE MODERATE SEDATION SERVICES ARE PROVIDED

Principal Office Address: 3331 Marketplace Drive	City: Council Bluffs	Zip: 55123	Phone: 712-366-7077	Office Hours/Days: 7-4 MTWR 7-12 F
Other Office Address:	City:	Zip:	Phone:	Office Hours/Days:
Other Office Address:	City:	Zip:	Phone:	Office Hours/Days:
Other Office Address:	City:	Zip:	Phone:	Office Hours/Days:
Other Office Address:	City:	Zip:	Phone:	Office Hours/Days:

SECTION 3 – BASIS FOR APPLICATION

Check each box to indicate the type of training you have completed.	Check if completed.	DATE(S):
Moderate Sedation Training Program that meets ADA Guidelines for Teaching Pain Control and Sedation to Dentists of at least 60 hours and 20 patient experiences	<input type="checkbox"/> Completed	
ADA-accredited Residency Program that includes moderate sedation training	<input type="checkbox"/> Completed	
You must have training in moderate sedation AND one of the following: Formal training in airway management; OR	<input type="checkbox"/> Completed	
Moderate sedation experience at graduate level, approved by the Board	<input type="checkbox"/> Completed	

SECTION 4 – ADVANCED CARDIAC LIFE SUPPORT (ACLS) CERTIFICATION

Name of Course: Conscious Sedation Consulting	Location: Philadelphia, PA
Date of Course: 4/11/14-5/4/14	Date Certification Expires:

Office Use	Lic. #	Sent to ACC:	Inspection	Fee
	Permit #	Approved by ACC:	Inspection Fee Pd:	ACLS
	Issue Date:	Temp #	ASA 3/4?	Form A/B
	Brd Approved:	T. Issue Date:	Pediatric?	Peer Eval

SECTION 5 – MODERATE SEDATION TRAINING INFORMATION

Type of Program:
 Postgraduate Residency Program Continuing Education Program Other Board-approved program, specify:

Name of Training Program: Conscious Sedation Consulting	Address: 79 Hubble Drive	City: O'Fallon	State: MO
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Type of Experience:
IV Sedation

Length of Training:	Date(s) Completed:
Number of Patient Contact Hours:	Total Number of Supervised Sedation Cases:

- YES NO 1. Did you satisfactorily complete the above training program?
- YES NO 2. Does the program include at least sixty (60) hours of didactic training in pain and anxiety?
- YES NO 3. Does the program include management of at least 20 clinical patients?
- As part of the curriculum, are the following concepts and procedures taught:
- YES NO 4. Physical evaluation;
- YES NO 5. IV sedation;
- YES NO 6. Airway management;
- YES NO 7. Monitoring; and
- YES NO 8. Basic life support and emergency management.
- YES NO 9. Does the program include clinical experience in managing compromised airways?
- YES NO 10. Does the program provide training or experience in managing moderate sedation in pediatric patients?
- YES NO 11. Does the program provide training or experience in managing moderate sedation in ASA category 3 or 4 patients?

Please attach the appropriate form to verify your moderate sedation training. Applicants who received their training in a postgraduate residency program must have their postgraduate program director complete Form A. In addition, attach a copy of your certificate of completion of the postgraduate program. Applicants who received their training in a formal moderate sedation continuing education program must have the program director complete Form B.

SECTION 6 – MODERATE SEDATION EXPERIENCE

- YES NO A. Do you have a license, permit, or registration to perform moderate sedation in any other state?
If yes, specify state(s) and permit number(s): _____
- YES NO B. Do you consider yourself engaged in the use of moderate sedation in your professional practice?
- YES NO C. Have you ever had any patient mortality or other incident that resulted in the temporary or permanent physical or mental injury requiring hospitalization of the patient during, or as a result of, your use of antianxiety premedication, nitrous oxide inhalation analgesia, moderate sedation or deep sedation/general anesthesia?
- YES NO D. Do you plan to use moderate sedation in pediatric patients?
- YES NO E. Do you plan to use moderate sedation in medically compromised (ASA category 3 or 4) patients?
- YES NO F. Do you plan to engage in enteral moderate sedation?
- YES NO G. Do you plan to engage in parenteral moderate sedation?

What major drugs and anesthetic techniques do you utilize or plan to utilize in your use etc.) and attach a separate sheet if necessary.

Will be complete 5/4/14

Name of Applicant Jordan Dudzinski

Facility Address 3331 Marketplace Dr. CB, IA 51501

SECTION 7 – AUXILIARY PERSONNEL

A dentist administering moderate sedation in Iowa must document and ensure that all auxiliary personnel have certification in basic life support (BLS) and are capable of administering basic life support. Please list below the name(s), license/registration number, and BLS certification status of all auxiliary personnel.

Name:	License/ Registration #:

BLS for
all staff
at that location
expires soon.
BLS training is
in march for renewal

SECTION 8 – FACILITIES & EQUIPMENT

Each facility in which you perform moderate sedation must be properly equipped. Copy this page and complete for each facility. You may apply for a waiver of any of these provisions. The Board may grant the waiver if it determines there is a reasonable basis for the waiver.

- | YES | NO | Is your dental office properly maintained and equipped with the following: |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. An operating room large enough to adequately accommodate the patient on a table or in an operating chair and permit an operating team consisting of at least two individuals to move freely about the patient? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. An operating table or chair that permits the patient to be positioned so the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for the management of cardiopulmonary resuscitation? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. A lighting system that is adequate to permit evaluation of the patient's skin and mucosal color and a backup lighting system that is battery powered and of sufficient intensity to permit completion of any operation underway at the time of general power failure? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Suction equipment that permits aspiration of the oral and pharyngeal cavities and a backup suction device? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. An oxygen delivery system with adequate full face masks and appropriate connectors that is capable of delivering oxygen to the patient under positive pressure, together with an adequate backup system? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. A recovery area that has available oxygen, adequate lighting, suction, and electrical outlets? (The recovery area can be the operating room.) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. Is the patient able to be observed by a member of the staff at all times during the recovery period? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8. Anesthesia or analgesia systems coded to prevent accidental administration of the wrong gas and equipped with a fail safe mechanism? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. EKG monitor? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 10. Laryngoscope and blades? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 11. Endotracheal tubes? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 12. Magill forceps? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 13. Oral airways? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 14. Stethoscope? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15. A blood pressure monitoring device? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 16. A pulse oximeter? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 17. Emergency drugs that are not expired? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 18. A defibrillator (an automated defibrillator is recommended)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 19. Do you employ volatile liquid anesthetics and a vaporizer (i.e. Halothane, Enflurane, Isoflurane)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 20. In the space provided, list the number of nitrous oxide inhalation analgesia units in your facility. |

SECTION 9 – If you answer Yes to any of the questions below, attach a full explanation. Read the instructions for important definitions.

	YES	NO
1. Do you currently have a medical condition that in any way impairs or limits your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Are you currently engaged in the illegal or improper use of drugs or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Do you currently use alcohol, drugs, or other chemical substances that would in any way impair or limit your ability to practice dentistry with reasonable skill and safety?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. If YES to any of the above, are you receiving ongoing treatment or participation in a monitoring program that reduces or eliminates the limitations or impairments caused by either your medical condition or use of alcohol, drugs, or other chemical substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Have you ever been requested to repeat a portion of any professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Have you ever received a warning, reprimand, or been placed on probation during a professional training program/school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Have you ever voluntarily surrendered a license or permit issued to you by any professional licensing agency?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7a. If yes, was a license disciplinary action pending against you, or were you under investigation by a licensing agency at that time the voluntary surrender of license was tendered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Aside from ordinary initial requirements of proctorship, have your clinical activities ever been limited, suspended, revoked, not renewed, voluntarily relinquished, or subject to other disciplinary or probationary conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Has any jurisdiction of the United States or other nation ever limited, restricted, warned, censured, placed on probation, suspended, or revoked a license or permit you held?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Have you ever been notified of any charges filed against you by a licensing or disciplinary agency of any jurisdiction of the U.S. or other nation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Have you ever been denied a Drug Enforcement Administration (DEA) or state controlled substance registration certificate or has your controlled substance registration ever been placed on probation, suspended, voluntarily surrendered or revoked?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SECTION 10 – AFFIDAVIT OF APPLICANT

STATE: IOWA COUNTY: POTTAWATTAMIE

I, the below named applicant, hereby declare under penalty of perjury that I am the person described and identified in this application and that my answers and all statements made by me on this application and accompanying attachments are true and correct. Should I furnish any false information, or have substantial omission, I hereby agree that such act shall constitute cause for denial, suspension, or revocation of my license or permit to provide moderate sedation. I also declare that if I did not personally complete the foregoing application that I have fully read and confirmed each question and accompanying answer, and take full responsibility for all answers contained in this application.

I understand that I have no legal authority to administer moderate sedation until a permit has been granted. I understand that my facility is subject to an on-site evaluation prior to the issuance of a permit and by submitting an application for a moderate sedation permit, I hereby consent to such an evaluation. In addition, I understand that I may be subject to a professional evaluation as part of the application process. The professional evaluation shall be conducted by the Anesthesia Credentials Committee and include, at a minimum, evaluation of my knowledge of case management and airway management.

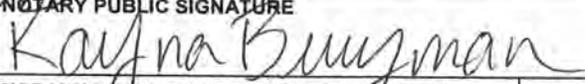
I certify that I am trained and capable of administering Advanced Cardiac Life Support and that I employ sufficient auxiliary personnel to assist in monitoring a patient under moderate sedation. Such personnel are trained in and capable of monitoring vital signs, assisting in emergency procedures, and administering basic life support. I understand that a dentist performing a procedure for which moderate sedation is being employed shall not administer the pharmacologic agents and monitor the patient without the presence and assistance of at least one qualified auxiliary personnel.

I am aware that pursuant to Iowa Administrative Code 650—29.9(153) I must report any adverse occurrences related to the use of sedation. I also understand that if moderate sedation results in a general anesthetic state, the rules for deep sedation/general anesthesia apply.

I hereby authorize the release of any and all information and records the Board shall deem pertinent to the evaluation of this application, and shall supply to the Board such records and information as requested for evaluation of my qualifications for a permit to administer moderate sedation in the state of Iowa.

I understand that based on evaluation of credentials, facilities, equipment, personnel, and procedures, the Board may place restrictions on the permit.

I further state that I have read the rules related to the use of sedation and nitrous oxide inhalation analgesia, as described in 650 Iowa Administrative Code Chapter 29. I hereby agree to abide by the laws and rules pertaining to the practice of dentistry and moderate sedation in the state of Iowa.

<p>MUST BE SIGNED IN PRESENCE OF NOTARY ▶</p>	SIGNATURE OF APPLICANT	
		
<p>NOTARY SEAL</p>	SUBSCRIBED AND SWORN BEFORE ME, THIS <u>27TH</u> DAY OF <u>FEBRUARY</u> , YEAR <u>2014</u>	
	<p>NOTARY PUBLIC SIGNATURE</p> 	
<p>NOTARY PUBLIC NAME (TYPED OR PRINTED)</p> <u>Rayna Berryman</u>		<p>MY COMMISSION EXPIRES:</p> <u>Oct. 25, 2017</u>





IOWA DENTAL BOARD
400 S.W. 8th Street, Suite D, Des Moines, Iowa 50309-4687
Phone (515) 281-5157 Fax (515) 281-7969
<http://www.dentalboard.iowa.gov>

PLEASE TYPE OR PRINT LEGIBLY IN INK.

**FORM B: VERIFICATION OF MODERATE SEDATION TRAINING
IN A CONTINUING EDUCATION PROGRAM**

SECTION 1 – APPLICANT INFORMATION

Instructions – Use this form if you obtained your training in moderate sedation from another program that must be approved by the Board (i.e. you did NOT obtain your training in moderate sedation while in a postgraduate residency program). Complete Section 1 and mail this form to the Program Director for verification of your having successfully completed this training.

NAME (First, Middle, Last, Suffix, Former/Maiden):
Jordan, Paul, Dudzinski

MAILING ADDRESS:
3331 Marketplace Drive

CITY: Council Bluffs	STATE: IA	ZIP CODE: 55123	PHONE: 712-366-7077
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To obtain a permit to administer moderate sedation in Iowa, the Iowa Dental Board requires that the applicant submit evidence of having completed an approved postgraduate training program or other formal training program approved by the Board. The applicant's signature below authorizes the release of any information, favorable or otherwise, directly to the Iowa Dental Board at the address above.

APPLICANT'S SIGNATURE: 	DATE: 2/27/14
--	-------------------------

SECTION 2 – TO BE COMPLETED BY TRAINING PROGRAM DIRECTOR

NAME OF PROGRAM DIRECTOR:

NAME AND LOCATION OF PROGRAM:	PHONE:
--------------------------------------	---------------

FAX:	E-MAIL:	WEB ADDRESS:	
DATES APPLICANT PARTICIPATED IN PROGRAM ▶	FROM (MO/DAY/YR):	TO (MO/DAY/YR):	DATE PROGRAM COMPLETED:

- YES NO 1. DID THE APPLICANT SATISFACTORILY COMPLETE THE ABOVE TRAINING PROGRAM?
- YES NO 2. DOES THE PROGRAM COMPLY WITH THE AMERICAN DENTAL ASSOCIATION GUIDELINES FOR TEACHING PAIN CONTROL AND SEDATION TO DENTISTS OR DENTAL STUDENTS?
- YES NO 3. DOES THE PROGRAM INCLUDE AT LEAST SIXTY (60) HOURS OF DIDACTIC TRAINING IN PAIN AND ANXIETY?
- YES NO 4. DOES THE PROGRAM INCLUDE CLINICAL EXPERIENCE FOR PARTICIPANTS TO SUCCESSFULLY MANAGE MODERATE SEDATION IN AT LEAST TWENTY (20) PATIENTS?
- AS PART OF THE CURRICULUM, ARE THE FOLLOWING CONCEPTS AND PROCEDURES TAUGHT:
- YES NO 5. PHYSICAL EVALUATION;
- YES NO 6. IV SEDATION;
- YES NO 7. AIRWAY MANAGEMENT;
- YES NO 8. MONITORING; AND
- YES NO 9. BASIC LIFE SUPPORT AND EMERGENCY MANAGEMENT.

(If no to any of above, please attach a detailed explanation.)

I further certify that the above named applicant has demonstrated competency in airway management and moderate sedation.

PROGRAM DIRECTOR SIGNATURE:	DATE:
------------------------------------	--------------

(ms course)

Will be complete

5/4/14

Allow PALS certification in lieu of ACLS

Iowa Administrative Code 650—Chapter 29.4(4) requires dentists administering moderate sedation to maintain current certification in Advanced Cardiac Life Support (ACLS) which is focused on the management of emergencies occurring in adults.

Iowa Administrative Code 650—Chapter 29.4(8) requires dentists utilizing moderate sedation on pediatric patients to have completed an accredited residency program that includes formal training in anesthesia and clinical experience in managing pediatric patients. Graduates of such programs are typically certified in Pediatric Advanced Life Support (PALS) which is focused on the management of emergencies occurring in infants and children.

Both ACLS and PALS standards are set by the American Heart Association.

The proposed rule change would allow moderate sedation permit holders who sedate pediatric patients to maintain PALS certification in lieu of ACLS certification.

Require capnography for Moderate Sedation permit holders

The Iowa Dental Board previously amended rules in 2013 which required all general anesthesia/deep sedation permit holders to use capnography at all facilities where they provide sedation beginning January 1, 2014. This was to remain consistent with the practices of the American Association of Oral and Maxillofacial Surgeons (AAOMS).

The Board is now considering requiring all moderate sedation permit holders to use capnography as an added measure of safety. Currently, pulse oximetry is the only measure of oxygen levels required for moderate sedation permit holders.

Pulse oximetry measures the oxygen saturation in blood and a 30 second delay can exist in the reporting of pulse oximetry results, so it is slow to indicate change in ventilation. Capnography measures expired carbon dioxide in the airway (exhaled breath), and provides a breath-to-breath status of ventilation in the patient in real time.

Such a delay in reporting is particularly concerning when sedating children who do not have the same oxygen reserve capacity as adults.

The members of the Board's Anesthesia Credentials Committee have not made a formal recommendation supporting this change as of this date. The Committee will meet to consider this issue prior to the next Board meeting and provide a recommendation at that time.

650—29.4 (153) Requirements for the issuance of moderate sedation permits.

29.4(1) A permit may be issued to a licensed dentist to use moderate sedation for dental patients provided the dentist meets the following requirements:

a. Has successfully completed a training program approved by the board that meets the American Dental Association Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students and that consists of a minimum of 60 hours of instruction and management of at least 20 patients; and

b. Has formal training in airway management; or

c. Has submitted evidence of successful completion of an accredited residency program that includes formal training and clinical experience in moderate sedation, which is approved by the board; and

d. Has completed a peer review evaluation, as may be required by the board, prior to issuance of a permit.

29.4(2) A dentist utilizing moderate sedation shall maintain a properly equipped facility. The dentist shall maintain and be trained on the following equipment at each facility where sedation is provided: capnography, EKG monitor, positive pressure oxygen, suction, laryngoscope and blades, endotracheal tubes, magill forceps, oral airways, stethoscope, blood pressure monitoring device, pulse oximeter, emergency drugs, defibrillator. A licensee may submit a request to the board for an exemption from any of the provisions of this subrule. Exemption requests will be considered by the board on an individual basis and shall be granted only if the board determines that there is a reasonable basis for the exemption.

29.4(3) The dentist shall ensure that each facility where sedation services are provided is permanently equipped pursuant to subrule 29.4(2) and staffed with trained auxiliary personnel capable of reasonably handling procedures, problems and emergencies incident to the administration of moderate sedation. Auxiliary personnel shall maintain current certification in basic life support and be capable of administering basic life support.

29.4(4) A dentist administering moderate sedation must document and maintain current, successful completion of an Advanced Cardiac Life Support (ACLS) course. A dentist administering moderate sedation to pediatric patients may maintain current certification in Pediatric Advanced Life Support (PALS) in lieu of ACLS.

29.4(5) A dentist who is performing a procedure for which moderate sedation is being employed shall not administer the pharmacologic agents and monitor the patient without the presence and assistance of at least one qualified auxiliary personnel in the room who is qualified under subrule 29.4(3).

29.4(6) Dentists qualified to administer moderate sedation may administer nitrous oxide inhalation analgesia provided they meet the requirement of rule 650—29.6(153).

29.4(7) If moderate sedation results in a general anesthetic state, the rules for deep sedation/general anesthesia apply.

29.4(8) A dentist utilizing moderate sedation on pediatric or ASA category 3 or 4 patients must have completed an accredited residency program that includes formal training in anesthesia and clinical experience in managing pediatric or ASA category 3 or 4 patients. A dentist who does not meet the requirements of this subrule is prohibited from utilizing moderate sedation on pediatric or ASA category 3 or 4 patients.

[ARC 8614B, IAB 3/10/10, effective 4/14/10; ARC 1194C, IAB 11/27/13, effective 11/4/13]

650—29.5 (153) Permit holders.

29.5(1) No dentist shall use or permit the use of deep sedation/general anesthesia or moderate sedation for dental patients, unless the dentist possesses a current permit issued by the board. No dentist shall use or permit the use of deep sedation/general anesthesia or moderate sedation for dental patients in a facility that has not successfully passed an equipment inspection pursuant to the requirements of subrule 29.3(2). A dentist holding a permit shall be subject to review and facility inspection at a frequency described in subrule 29.5(10).

29.5(2) An application for a deep sedation/general anesthesia permit must include the appropriate fee as specified in 650—Chapter 15, as well as evidence indicating compliance with rule 650—29.3(153).

29.5(3) An application for a moderate sedation permit must include the appropriate fee as specified in 650—Chapter 15, as well as evidence indicating compliance with rule 650—29.4(153).

29.5(4) If a facility has not been previously inspected, no permit shall be issued until the facility has been inspected and successfully passed.

29.5(5) Permits shall be renewed biennially at the time of license renewal following submission of proper application and may involve board reevaluation of credentials, facilities, equipment, personnel, and procedures of a previously qualified dentist to determine if the dentist is still qualified. The appropriate fee for renewal as specified in 650—Chapter 15 of these rules must accompany the application.

29.5(6) Upon the recommendation of the anesthesia credentials committee that is based on the evaluation of credentials, facilities, equipment, personnel and procedures of a dentist, the board may determine that restrictions may be placed on a permit.

29.5(7) The actual costs associated with the on-site evaluation of the facility shall be the primary responsibility of the licensee. The cost to the licensee shall not exceed the fee as specified in 650—Chapter 15.

29.5(8) Permit holders shall follow the American Dental Association's guidelines for the use of sedation and general anesthesia for dentists, except as otherwise specified in these rules.

29.5(9) A dentist utilizing moderate sedation on pediatric or ASA category 3 or 4 patients must have completed an accredited residency program that includes formal training in anesthesia and clinical experience in managing pediatric or ASA category 3 or 4 patients. A dentist who does not meet the requirements of this subrule is prohibited from utilizing moderate sedation on pediatric or ASA category 3 or 4 patients.

29.5(10) Frequency of facility inspections.

a. The board office will conduct ongoing facility inspections of each facility every five years, with the exception of the University of Iowa College of Dentistry.

b. The University of Iowa College of Dentistry shall submit written verification to the board office every five years indicating that it is properly equipped pursuant to this chapter.

29.5(11) Use of capnography required beginning January 1, 2014. Consistent with the practices of the American Association of Oral and Maxillofacial Surgeons (AAOMS), all general anesthesia/deep sedation permit holders shall use capnography at all facilities where they provide sedation beginning January 1, 2014.

29.5(12) Use of capnography required for moderate sedation permit holders. Beginning January 1, 2015, all moderate sedation permit holders shall use capnography at all facilities where they provide sedation.

Standards for Capnography

American Society of Anesthesiologists (ASA) – Standards for Basic Anesthetic Monitoring
2010 Update

RESPIRONICS
Envisioning tomorrow. Improving today.

SUMMARY

The American Society of Anesthesiologists (ASA) - Standards for Basic Anesthetic Monitoring, updated in 2010, now notes that the adequacy of ventilation during both general anesthesia and moderate and deep sedation shall be continually evaluated by both “qualitative clinical signs” and monitoring of expired carbon dioxide (1). This safety improvement long in the making identifies the monitoring of expired carbon dioxide as means to assess the adequacy of ventilation and has been implemented in part due to the risks associated with procedural sedation. (2)

In the United States, the standards relevant for carbon dioxide monitoring during anesthesia include clinical standards from the primary professional medical society of anesthesia practitioners in the United States, the American Society of Anesthesiologists (ASA) and international consensus standards for respiratory gas monitoring equipment (i.e. ISO/IEC 80601-2-55). The ASA clinical standards, termed minimum standards for basic anesthetic monitoring, were approved by the ASA House of Delegates¹ on October 21, 1986, and last amended at the 2010 Meeting of the ASA (October 20, 2010) with an effective date of July 1, 2011 and a later date with respect to continued coverage of professional liability insurance by some providers (3). This amendment expanded the use of exhaled carbon dioxide to include moderate or deep sedation. The ASA clinical standards have been widely adopted by anesthesia providers in the United States and now define the standard of care in the United States.

This standard requires that during all anesthetics, the continuous evaluation of the patient’s oxygenation, ventilation, circulation and body temperature. Section 3.1 Ventilation is intended to “ensure adequate ventilation of the patient during all anesthetics.” It includes 4 sections under methods which directly and indirectly require the use of carbon dioxide monitoring during general anesthesia, the placement and use of airway devices such as endotracheal tubes and laryngeal masks, mechanical ventilation and moderate and deep sedation. The carbon dioxide monitoring requirements with respect to each of these sections is summarized below.

SECTION 3.2.1

ADEQUACY OF VENTILATION DURING GENERAL ANESTHESIA

“Every patient receiving general anesthesia shall have the adequacy of ventilation continually evaluated.”

This includes qualitative clinical signs and monitoring. It notes that “Continual monitoring for the presence of expired carbon dioxide shall be performed unless invalidated by the nature of the patient, procedure or equipment.” Also, it notes “quantitative monitoring of the volume of expired gas is strongly encouraged.”

SECTION 3.2.2

ASSESSMENT OF ENDOTRACHEAL TUBE AND LARYNGEAL MASK POSITION

This section includes (besides clinical assessment) requirements for using expired carbon dioxide analysis from the placement of the patient interface (endotracheal tube or laryngeal mask) to its removal. This includes the availability of an audible alarm based upon the end-tidal CO₂ value. During placement, carbon dioxide must be identified in the expired gas but afterwards quantitative analysis of expired carbon dioxide gas is required.

SECTION 3.2.3

DISCONNECTION FROM A MECHANICAL VENTILATOR

This section requires the continuous use of a device to detect disconnection of components of a breathing system and the use of an audible alarm signal if a threshold has been exceeded. The monitoring of proximal carbon dioxide (at or near the wye) can help this requirement to be met.

¹ The House of Delegates is the primary legislative and governing body of the ASA.

SECTION 3.2.4 MODERATE AND DEEP SEDATION

This section has mandated the assessment of the “adequacy of ventilation” by monitoring for the presence of exhaled carbon dioxide. Other surrogates, such as respiratory rate, a qualitative measure of ventilation, do not allow assessment of the “adequacy of ventilation.” A capnometer provides a quantitative measurement of the presence of exhaled carbon dioxide as well as a measure of the respiratory rate. With the 2010 amendments, this section (shown below) has been revised and the bar has been raised by requiring monitoring of exhaled carbon dioxide during moderate and deep sedation.

“During regional anesthesia (with no sedation) or local anesthesia (with no sedation), the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs. During moderate or deep sedation the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide unless precluded or invalidated by the nature of the patient, procedure, or equipment.”

Carbon dioxide monitoring is required based upon the level of sedation, moderate or deep, irrespective of location (e.g. hospital, surgery center; doctors office) or type of anesthesia (inhaled or IV) or anesthetic used.

REFERENCES

1. ASA Standards for Basic Anesthetic Monitoring, Standards and Practice Parameters (Approved by the ASA House of Delegates on October 21, 1986, and last amended on October 20, 2010 with an effective date of July 1, 2011) - viewed 7-18-12 (www.asahq.org)
2. “No Patient Shall be Harmed by Opioid-Induced Respiratory Depression”, APSF, Fall 2011, The Official Journal of the Anesthesia Patient Safety Foundation.
3. PPM Anesthesia & the Law - A Risk Management Newsletter; Issue 31.1.



Message from President Arthur C. Jee, DMD

June
2012

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aaomsstore.com monthly special - Dental Implant DVD only \$10 while supplies last

ICD-10-CM Coding Course set for August 4, Schaumburg, IL

Still time to apply for research awards and fellowships

Dear Colleagues:

Last weekend the AAOMS Board of Trustees and senior staff welcomed more than 70 executive staff and elected officials of the state and regional OMS societies to our Rosemont, Illinois headquarters for the 2012 State Leadership Conference. This biennial meeting encourages participants to share ideas, exchange information about legislative and regulatory initiatives, and discuss regional and national trends affecting OMS practice. Additional perspectives were provided this year by guest presenters Ms. Marilyn Moats Kennedy, who offered insight into the generational traits that distinguish individuals who join professional associations; Mr. Christopher Rorick, AAOMS's Washington, DC representative and director of Government Relations at Bryan Cave LLC, who updated participants on the status of health reform in the nation's capital; and Mr. Paul Meyer, Tecker International, who discussed the key elements of association strategic planning. Representatives of 30 state and three regional societies attended this year's meeting. In my opinion there is no better venue than the day-and-a-half State Leadership Conference for an exchange of information between AAOMS and its component societies. If your state society representatives were unable to attend this year's program, please encourage them to join us in June 2014.

Capnography is coming to the OMS office in 2014

In recent years, capnography monitoring equipment, long a standard of care in the hospital OR, has been

improved and now offers real benefits in such outpatient surgery sites as the OMS office. Following the lead of the American Society of Anesthesiologists (ASA), the American Heart Association and other organizations that develop parameters of care and practice guidelines for their dental and medical surgical specialists, the AAOMS Board of Trustees approved the following revised guidelines requiring capnography equipment in the OMS office beginning in 2014:

During moderate or deep sedation and general anesthesia the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide unless precluded or invalidated by the nature of the patient, procedure or equipment; and

Improvements in monitoring exhaled CO₂ during anesthesia continue to evolve. Beginning in 2014, AAOMS Office Anesthesia Evaluations will require capnography for moderate sedation, deep sedation and general anesthesia unless precluded or invalidated by the nature of the patient, procedure or equipment.

The statements appear in the *2012 Parameters of Care: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParCare 12), version 5.0*, which is also a component of the revised *Office Anesthesia Evaluation Manual, 8th edition*. Additional information about the new capnography guidelines will be provided in the July/August issue of *AAOMS Today*.

ASDA application for specialty recognition to be decided by 2012 ADA House

Many of you may be aware that the American Society of Dentist Anesthesiologists (ASDA) is once again petitioning the ADA for specialty recognition of dental anesthesiology. Their *Application for Recognition of Anesthesiology as a Dental Specialty* was submitted to the ADA on June 1, 2011, and will be voted upon by the ADA House of Delegates at this October's ADA Annual Session. ADA's Council on Dental Education and Licensure (CDEL), which must review all applications for specialty status before they are referred to the ADA House, voted May 4, 2012 to support the ASDA application and submits its recommendation to the House. Given the importance of safe and effective office-based anesthesia to OMSs and their patients, AAOMS reviewed the ASDA's application with considerable interest. I will discuss this issue in my upcoming *AAOMS Today* President's Column, and I encourage you to review the application and the ASDA's proposed standards revision as well. Anesthesia is critical to the practice of oral and maxillofacial surgery and we must remain alert to all developments that impact its safe and effective administration in the dental operator.

AAOMS Anesthesia Evaluation Update

As of June 6, 2012, 97.5% of AAOMS Members have successfully completed an initial AAOMS Office Anesthesia Evaluation in compliance with state society and AAOMS bylaws. All members who offer moderate sedation, deep sedation or general anesthesia in an office setting must undergo an office anesthesia evaluation and be subsequently re-evaluated every 5 years.

July 1, 2012 deadline

AAOMS and State OMS societies are working to complete the office anesthesia evaluations for a small number of remaining members who have yet to complete an initial evaluation. If you have never completed an office anesthesia evaluation and have not scheduled an evaluation with your state society, please note that you must have an evaluation completed by July 1, 2012, to avoid a loss of, or disruption to, your membership status. If you have not already done so, please schedule your office anesthesia evaluation today.

Office anesthesia re-evaluation

Re-evaluation is an ongoing process which must occur for members and states to remain compliant. State societies are completing and scheduling re-evaluations regularly. If your most recent office anesthesia evaluation was completed in 2007, you are due for a re-evaluation this year and should schedule your re-evaluation as soon as possible.

And don't forget to attend the Reference Committee meetings at 7:30 am, Tuesday, September 11. The

Reference Committees are your opportunity to comment on AAOMS's resolutions and other areas of interest to you.

AAOMS 94th Annual Meeting – September 10-15 – San Diego

Early Bird registration discount ends July 1. [Register now](#) and save!

Advance annual meeting program in the mail

Your print copy of the 94th Annual Meeting advance program should arrive at your home or office this month. But you don't need to wait until it hits your mailbox. All of the information in the print version is currently available [online](#), including convenient [online registration](#) and [hotel reservations](#) through onPeak, the association's official annual meeting housing agent.

Tickets selling briskly for President's Event

*Don't miss this year's [President's Event](#), Thursday, September 13, at [Petco Park](#), home of the San Diego Padres. This once in a lifetime experience offers access to the outfield and dugout; batting practice; Inflatable Speed Pitch, Inflatable Basketball, or Fantasy Baseball with batting cage, pitchers, ball shaggers, batting helmets, bats and balls, as well as excellent food and great music. Tickets are \$75 if purchased before the registration deadline and \$95 on site. Tickets for guests under the age of 21 are specially priced at \$60 when purchased in advance. **Please note: Tickets for the President's Event will not be mailed to attendees in advance. All tickets must be picked up at the Annual Meeting Registration Desk. In addition, lost tickets cannot be replaced.***

AAOMS Annual Meeting goes GREENER New app puts annual meeting in the palm of your hand



Need to check your personal schedule, find information about a presenter, locate a restaurant for dinner, chat with a colleague, or locate a particular vendor in the exhibit hall? The new AAOMS Annual Meeting app for your smartphone or tablet can help you accomplish all of these tasks, and much more. The new app, which will be available to all meeting participants later this summer, is part of AAOMS's green initiative. You'll find it a welcome enhancement for your San Diego experience.



Updated final program is smaller, more user friendly

AAOMS's Annual Meeting final program also reflects the association's green philosophy. This year's program has been downsized. The new program is now contained in a pocket folder that includes individual pamphlets for daily schedules, special events, the exhibit hall, business sessions, and other meeting functions. The entire folder fits in a pocket or purse. You can choose to carry the entire program folder, or only those portions that relate to your daily schedule.

Annual Meeting goes bagless

If you're like me, your closets are filled with old meeting bags that you thought you would reuse when you returned home. The additions of the new meeting app and the smaller, more portable final program encouraged us to free our membership from the weight of printed meeting materials and canvas meeting bags. We have, therefore, eliminated the meeting bag from the 94th Annual Meeting in San Diego. So come to San Diego and enjoy the meeting without the added burden of extra papers and program books.

Plan your exhibit hall visits before you leave home

The [AAOMS Virtual Exhibit Hall](#) offers an interactive map of the annual meeting's vendor booths in the San Diego Convention Center's exhibit area. When you click on a vendor's name you are immediately transferred to the company's Web site where you can view their products and services from the comfort of your home or office. Maximize your time in San Diego by selecting the booths you want to visit and the products that interest you most before you leave for the meeting. Set time aside to attend the new [Product Theaters](#) from noon to 1:00 pm on Thursday and Friday, September 13-14, where select exhibitors will offer in-depth looks at the products and services offered by prominent exhibitor companies.

Don't forget the **Member Services Pavilion** where familiar AAOMS services and partners display their products and services from Wednesday through Saturday. Exhibiting in the Pavilion are the AAOMS Resource Booth, the OMS Foundation, OMSPAC, Treloar & Heisel, OMS National Insurance Company (OMSNIC), the International Association of OMS (IAOMS), Health Volunteers Overseas (HVO) and the AAOMS Membership Services-CareerLine office, where you can learn about new member benefits, check on your membership status, or sponsor your assistants for AAOMS allied staff membership. The Membership Office is also the place to post resumes and available career opportunities on the bulletin boards or through the AAOMS Career Line.

ABOMS survey to evaluate recertification exam content

In order to insure a fair and relevant examination process, the American Board of Oral and Maxillofacial Surgery has embarked on an in-depth evaluation of the current content of the Recertification Examination. A practice analysis survey will be e-mailed **next week** to all diplomates of the ABOMS who are required to participate in Certification Maintenance. It is critical that every Diplomate who receives this survey responds with complete and accurate information, as thus data will guide the ABOMS in the construction of an examination that truly reflects the contemporary practice of oral and maxillofacial surgery.

Save money – double your benefits: Buy the OAE bundle from aaomsstore.com

The newly revised [Office Anesthesia Evaluation Manual](#), 8th edition, is now available from the AAOMS estore in its traditional [hard-copy binder](#) AND a brand new, [downloadable e-pub](#) for your smartphone or tablet. Purchase the versions individually at a cost of \$95 each, or buy them together at the low [bundled](#) cost of \$158. Both versions feature updated algorithms from the American Heart Association's Pediatric Advanced Life Support (PALS) and Advanced Cardiac Life Support (ACLS), as well as the new *AAOMS Parameters of Care: Patient Assessment and Anesthesia in Outpatient Facilities*. The *Office Anesthesia Evaluation Manual* is an essential tool that assists OMS offices in preparing for their OAE inspection, helps anesthesia assistants study for the Dental Anesthesia Assistant National Certification Examination (DAANCE) and serves as a reference in the event of an anesthesia emergency.

aaomsstore.com monthly special Dental Implant DVD only \$10 while supplies last

Take advantage of extraordinary savings! Throughout June, [A Patient's Guide to Dental Implants: Your Smile for a Lifetime](#), AAOMS's Dental Implant DVD, will be available for just \$10 while supplies last! Regularly \$25,

this DVD is perfect to play in your waiting room, for community presentations or even patient giveaways!

ICD-10-CM Coding Course set for August 4, Schaumburg, IL

AAOMS's new ICD-10-CM Coding Course, *Developing Expertise in OMS Diagnosis Coding*, is designed to teach OMS coding professionals how to become proficient in the ICD-10-CM coding system that is tentatively scheduled for implementation October 1, 2014. Register now to attend the one-day workshop in August 4, 2012 at the Hyatt Regency in Schaumburg, IL. You and your staff will learn about the history, structure, and format of ICD-10-CM; how it compares to ICD-9-CM; and how to apply the new coding conventions and guidelines to OMS diagnostic code assignment.

Still time to apply for research awards and fellowships

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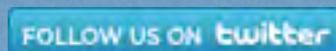
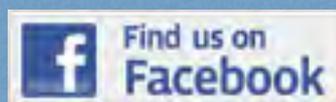
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Guideline for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures

Developed and Endorsed by

American Academy of Pediatrics and the American Academy of Pediatric Dentistry

Adopted

2006

Reaffirmed

2011

Abstract

The safe sedation of children for procedures requires a systematic approach that includes the following: no administration of sedating medication without the safety net of medical supervision, careful pre-sedation evaluation for underlying medical or surgical conditions that would place the child at increased risk from sedating medications, appropriate fasting for elective procedures and a balance between depth of sedation and risk for those who are unable to fast because of the urgent nature of the procedure, a focused airway examination for large tonsils or anatomic airway abnormalities that might increase the potential for airway obstruction, a clear understanding of the pharmacokinetic and pharmacodynamic effects of the medications used for sedation as well as an appreciation for drug interactions, appropriate training and skills in airway management to allow rescue of the patient, age- and size-appropriate equipment for airway management and venous access, appropriate medications and reversal agents, sufficient numbers of people to both carry out the procedure and monitor the patient, appropriate physiologic monitoring during and after the procedure, a properly equipped and staffed recovery area, recovery to pre-sedation level of consciousness before discharge from medical supervision, and appropriate discharge instructions.

Introduction

Invasive diagnostic and minor surgical procedures on pediatric patients outside the traditional operating room setting have increased in the last decade. As a consequence of this change and the increased awareness of the importance of providing analgesia and anxiolysis, the need for sedation for procedures in physician offices, dental offices, subspecialty procedure suites, imaging facilities, emergency departments, and ambulatory surgery centers also has markedly increased.¹⁻³⁷ In recognition of this need for both elective and emergency use of sedation in nontraditional settings, the American Academy of Pediatrics (AAP) and American Academy of Pediatric Dentistry (AAPD) have published a series of guidelines for the monitoring and

management of pediatric patients during and after sedation for a procedure.³⁸⁻⁴² The purpose of this updated statement is to unify the guidelines for sedation used by medical and dental practitioners, add clarifications regarding monitoring modalities, provide new information from medical and dental literature, and suggest methods for further improvement in safety and outcomes. With the revision of this document, the Joint Commission on Accreditation of Healthcare Organizations, the American Society of Anesthesiologists (ASA), the AAP, and the AAPD will use similar language to define sedation categories and the expected physiologic responses.⁴¹⁻⁴⁴

This revised statement reflects the current understanding of appropriate monitoring needs both during and after sedation for a procedure.^{4,5,12,19,21,22,26,45-53} The monitoring and care outlined in this guideline may be exceeded at any time, based on the judgment of the responsible practitioner. Although intended to encourage high-quality patient care, adherence to this guideline cannot guarantee a specific patient outcome. However, structured sedation protocols designed to incorporate the principles in this document have been widely implemented and shown to reduce morbidity.^{29,32-34,37,54,55} This guideline is proffered with the awareness that, regardless of the intended level of sedation or route of administration, the sedation of a pediatric patient represents a continuum and may result in respiratory depression and the loss of the patient's protective reflexes.^{43,57-60}

Sedation of pediatric patients has serious associated risks, such as hypoventilation, apnea, airway obstruction, laryngospasm, and cardiopulmonary impairment.^{2,6,22,45,46,54,60-69} These adverse responses during and after sedation for a diagnostic or therapeutic procedure may be minimized, but not completely eliminated, by a careful preprocedure review of the patient's underlying medical conditions and consideration of how the sedation process might affect or be affected by these conditions.⁵⁴ Appropriate drug selection for the intended procedure as well as the presence of an individual with the skills needed to rescue a patient from an adverse response are essential.

Appropriate physiologic monitoring and continuous observation by personnel not directly involved with the procedure allow for accurate and rapid diagnosis of complications and initiation of appropriate rescue interventions.^{46,51,54}

The sedation of children is different from the sedation of adults. Sedation in children often is administered to control behavior to allow the safe completion of a procedure. A child's ability to control his or her own behavior to cooperate for a procedure depends both on his or her chronologic and developmental age. Often, children younger than six years and those with developmental delay require deep levels of sedation to gain control of their behavior.⁵⁷ Therefore, the need for deep sedation should be anticipated. Children in this age group are particularly vulnerable to the sedating medication's effects on respiratory drive, patency of the airway, and protective reflexes.⁴⁶ Studies have shown that it is common for children to pass from the intended level of sedation to a deeper, unintended level of sedation.^{56,59,70} For older and cooperative children, other modalities, such as parental presence, hypnosis, distraction, topical local anesthetics, and guided imagery, may reduce the need for or the needed depth of pharmacologic sedation.^{31,71-81}

The concept of rescue is essential to safe sedation. Practitioners of sedation must have the skills to rescue the patient from a deeper level than that intended for the procedure. For example, if the intended level of sedation is "minimal," practitioners must be able to rescue from "moderate sedation"; if the intended level of sedation is "moderate," practitioners must have the skills to rescue from "deep sedation"; if the intended level of sedation is "deep," practitioners must have the skills to rescue from a state of "general anesthesia." The ability to rescue means that practitioners must be able to recognize the various levels of sedation and have the skills necessary to provide appropriate cardiopulmonary support if needed. Sedation and anesthesia in a nonhospital environment (private physician or dental office or freestanding imaging facility) may be associated with an increased incidence of "failure to rescue" the patient should an adverse event occur, because the only backup in this venue may be to activate emergency medical services (EMS).^{46,82} Rescue therapies require specific training and skills.^{46,54,83,84} Maintenance of the skills needed to perform successful bag-valve-mask ventilation is essential to successfully rescue a child who has become apneic or developed airway obstruction. Familiarity with emergency airway management procedure algorithms is essential.⁸³⁻⁸⁷ Practitioners should have an in-depth knowledge of the agents they intend to use and their potential complications. A number of reviews and hand-books for sedating pediatric patients are available.^{32,48,55,88-93} This guideline is intended for all venues in which sedation for a procedure might be performed (hospital, surgical center, freestanding imaging facility, dental facility, or private office).

There are other guidelines for specific situations and personnel that are beyond the scope of this document. Specifically, guidelines for the delivery of general anesthesia and monitored anesthesia care (sedation or analgesia), outside or within the operating room by anesthesiologists or other

practitioners functioning within a department of anesthesiology, are addressed by policies developed by the ASA and by individual departments of anesthesiology.⁹⁴ Also, guidelines for the sedation of patients undergoing mechanical ventilation in a critical care environment or for providing analgesia for patients postoperatively, patients with chronic painful conditions, and hospice care are beyond the scope of this document.

Definitions of terms for this report

- "Pediatric patients": all patients through 21 years of age, as defined by the AAP.
- "Must" or "shall": an imperative need or duty that is essential, indispensable, or mandatory.
- "Should": the recommended need and/or duty.
- "May" or "could": freedom or liberty to follow a suggested or reasonable alternative.
- "Medical supervision" or "medical personnel": a current, licensed practitioner in medicine, surgery, or dentistry trained in the administration of medications used for procedural sedation and the management of complications associated with these medications.
- "Are encouraged": a suggested or reasonable action to be taken.
- "ASA Physical Status Classification": guidelines for classifying the baseline health status according to the ASA (see Appendix B).
- "Minimal sedation" (old terminology "anxiolysis"): a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.
- "Moderate sedation" (old terminology "conscious sedation" or "sedation/analgesia"): a drug-induced depression of consciousness during which patients respond purposefully to verbal commands (eg, "open your eyes" either alone or accompanied by light tactile stimulation—a light tap on the shoulder or face, not a sternal rub). For older patients, this level of sedation implies an interactive state; for younger patients, age-appropriate behaviors (eg, crying) occur and are expected. Reflex withdrawal, although a normal response to a painful stimulus, is not considered as the only age-appropriate purposeful response (eg, it must be accompanied by another response, such as pushing away the painful stimulus so as to confirm a higher cognitive function). With moderate sedation, no intervention is required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. However, in the case of procedures that may themselves cause airway obstruction (eg, dental or endoscopic), the practitioner must recognize an obstruction and assist the patient in opening the airway. If the patient is not making spontaneous efforts to open his/her airway so as to relieve the obstruction, then the patient should be considered to be deeply sedated.
- "Deep sedation" ("deep sedation/analgesia"): a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully (see discussion of reflex withdrawal above) after repeated verbal or painful

stimulation (eg, purposefully pushing away the noxious stimuli). The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. A state of deep sedation may be accompanied by partial or complete loss of protective airway reflexes.

- “General anesthesia”: a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive-pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Goals of sedation

The goals of sedation in the pediatric patient for diagnostic and therapeutic procedures are: 1) to guard the patient’s safety and welfare, 2) to minimize physical discomfort and pain, 3) to control anxiety, minimize psychological trauma, and maximize the potential for amnesia, 4) to control behavior and/or movement so as to allow the safe completion of the procedure, and 5) to return the patient to a state in which safe discharge from medical supervision, as determined by recognized criteria, is possible (Appendix A).

These goals can best be achieved by selecting the lowest dose of drug with the highest therapeutic index for the procedure. It is beyond the scope of this document to specify which drugs are appropriate for which procedures; however, the selection of the fewest number of drugs and matching drug selection to the type and goal of the procedure are essential for safe practice.^{53,88,91-93,95-97} For example, analgesic medications such as opioids are indicated for painful procedures. For non-painful procedures, such as computed tomography or magnetic resonance imaging (MRI), sedatives/hypnotics are preferred. When both sedation and analgesia are desirable (eg, fracture reduction), either single agents with analgesic/sedative properties or combination regimens commonly are used. Anxiolysis and amnesia are additional goals that should be considered in selection of agents for particular patients. However, the potential for an adverse outcome may be increased when three or more sedating medications are administered.^{44,98} Knowledge of each drug’s time of onset, peak response, and duration of action is essential. Although the concept of titration of drug to effect is critical, one must know whether the previous dose has taken full effect before administering additional drug. Such management will improve safety and outcomes. Drugs with long durations of action (eg, chloral hydrate, intramuscular pentobarbital, phenothiazines) will require longer periods of observation even after the child achieves currently used recovery and discharge criteria.^{45,99,100} This concept is particularly important for infants and toddlers transported in car safety seats who are at risk of re-sedation after discharge because of residual prolonged drug effects with the potential for airway obstruction.^{45,46}

General guidelines

Candidates

Patients who are in ASA classes I and II are frequently considered appropriate candidates for minimal, moderate, or deep sedation (Appendix B). Children in ASA classes III and IV, children with special needs, and those with anatomic airway abnormalities or extreme tonsillar hypertrophy present issues that require additional and individual consideration, particularly for moderate and deep sedation.⁵¹ Practitioners are encouraged to consult with appropriate subspecialists and/or an anesthesiologist for patients at increased risk of experiencing adverse sedation events because of their underlying medical/surgical conditions.

Responsible person

The pediatric patient shall be accompanied to and from the treatment facility by a parent, legal guardian, or other responsible person. It is preferable to have two or more adults accompany children who are still in car safety seats if transportation to and from a treatment facility is provided by one of the adults.¹⁰¹

Facilities

The practitioner who uses sedation must have immediately available facilities, personnel, and equipment to manage emergency and rescue situations. The most common serious complications of sedation involve compromise of the airway or depressed respirations resulting in airway obstruction, hypoventilation, hypoxemia, and apnea. Hypotension and cardiopulmonary arrest may occur, usually from inadequate recognition and treatment of respiratory compromise. Other rare complications may also include seizures and allergic reactions. Facilities providing pediatric sedation should monitor for, and be prepared to treat, such complications.

Back-up emergency services

A protocol for access to back-up emergency services shall be clearly identified, with an outline of the procedures necessary for immediate use. For nonhospital facilities, a protocol for ready access to ambulance service and immediate activation of the EMS system for life-threatening complications must be established and maintained. It should be understood that the availability of EMS services does not replace the practitioner’s responsibility to provide initial rescue in managing life-threatening complications.

On-site monitoring and rescue equipment

An emergency cart or kit must be immediately accessible. This cart or kit must contain equipment to provide the necessary age- and size-appropriate drugs and equipment to resuscitate a nonbreathing and unconscious child. The contents of the kit must allow for the provision of continuous life support while the patient is being transported to a medical facility or to another area within a medical facility. All equipment and drugs must be checked and maintained on a scheduled basis (see Appendices C and D for suggested drugs and emergency life support equipment to consider before the need for rescue occurs). Monitoring devices, such as electrocardiography (ECG)

machines, pulse oximeters (with size-appropriate oximeter probes), end-tidal carbon dioxide monitors, and defibrillators (with size-appropriate defibrillator paddles), must have a safety and function check on a regular basis as required by local or state regulation.

Documentation before sedation

Documentation shall include, but not be limited to, the guidelines that follow:

1. Informed consent. The patient record shall document that appropriate informed consent was obtained according to local, state, and institutional requirements.¹⁰²
2. Instructions and information provided to the responsible person. The practitioner shall provide verbal and/or written instructions to the responsible person. Information shall include objectives of the sedation and anticipated changes in behavior during and after sedation. Special instructions shall be given to the adult responsible for infants and toddlers who will be transported home in a car safety seat regarding the need to carefully observe the child's head position so as to avoid airway obstruction. Transportation by car safety seat poses a particular risk for infants who have received medications known to have a long half-life, such as chloral hydrate, intramuscular pentobarbital, or phenothiazine.^{45,46,100,103} Consideration for a longer period of observation shall be given if the responsible person's ability to observe the child is limited (eg, only one adult who also has to drive). Another indication for prolonged observation would be a child with an anatomic airway problem or a severe underlying medical condition. A 24-hour telephone number for the practitioner or his or her associates shall be provided to all patients and their families. Instructions shall include limitations of activities and appropriate dietary precautions.

Dietary precautions

Agents used for sedation have the potential to impair protective airway reflexes, particularly during deep sedation. Although a rare occurrence, pulmonary aspiration may occur if the child regurgitates and cannot protect his or her airway. Therefore, it is prudent that before sedation, the practitioner evaluate preceding food and fluid intake. It is likely that the risk of aspiration during procedural sedation differs from that during general anesthesia involving tracheal intubation or other airway manipulation.^{104,105} However, because the absolute risk of aspiration during procedural sedation is not yet known, guidelines for fasting periods before elective sedation generally should follow those used for elective general anesthesia. For emergency procedures in children who have not fasted, the risks of sedation and the possibility of aspiration must be balanced against the benefits of performing the procedure promptly (see below). Further research is needed to better elucidate the relationships between various fasting intervals and sedation complications.

Before Elective Sedation

Children receiving sedation for elective procedures should generally follow the same fasting guidelines as before general anesthesia (Table 1). It is permissible for routine necessary medications to be taken with a sip of water on the day of the procedure.

For the Emergency Patient

The practitioner must always balance the possible risks of sedating nonfasted patients with the benefits and necessity for completing the procedure. In this circumstance, the use of sedation must be preceded by an evaluation of food and fluid intake. There are few published studies with adequate statistical power to provide guidance to the practitioner regarding safety or risk of pulmonary aspiration of gastric contents during procedural sedation.¹⁰⁴⁻¹⁰⁹ When protective airway reflexes are lost, gastric contents may be regurgitated into the airway. Therefore, patients with a history of recent oral intake or with other known risk factors, such as trauma, decreased level of consciousness, extreme obesity, pregnancy, or bowel motility dysfunction, require careful evaluation before administration of sedatives. When proper fasting has not been ensured, the increased risks of sedation must be carefully weighed against its benefits, and the lightest effective sedation should be used. The use of agents with less risk of depressing protective airway reflexes may be preferred.¹¹⁰ Some emergency patients requiring deep sedation may require protection of the airway before sedation.

Use of immobilization devices

Immobilization devices, such as papoose boards, must be applied in such a way as to avoid airway obstruction or chest restriction. The child's head position and respiratory excursions should be checked frequently to ensure airway patency. If an immobilization device is used, a hand or foot should be kept exposed, and the child should never be left unattended. If sedating medications are administered in conjunction with an immobilization device, monitoring must be used at a level consistent with the level of sedation achieved.

Documentation at the time of sedation

1. Health evaluation. Before sedation, a health evaluation shall be performed by an appropriately-licensed practitioner and reviewed by the sedation team at the time of treatment for possible interval changes. The purpose of this evaluation is not only to document baseline status but also to determine whether patients present specific risk factors that may warrant additional consultation before sedation. This evaluation will also screen out patients whose sedation will require more advanced airway or cardiovascular management skills or alterations in the doses or types of medications used for procedural sedation.

A new concern for the practitioner is the widespread use of medications that may interfere with drug absorption or metabolism and, therefore, enhance or shorten the effect time of sedating medications. Herbal medicines

(eg, St. John's wort, echinacea) may alter drug pharmacokinetics through inhibition of the cytochrome P450 system, resulting in prolonged drug effect and altered (increased or decreased) blood drug concentrations.¹¹¹⁻¹¹⁶ Kava may increase the effects of sedatives by potentiating gamma-aminobutyric acid inhibitory neurotransmission, and valerian may itself produce sedation that apparently is mediated through modulation of gamma-aminobutyric acid neurotransmission and receptor function.^{117,118} Drugs such as erythromycin, cimetidine, and others also may inhibit the cytochrome P450 system, resulting in prolonged sedation with midazolam as well as other medications competing for the same enzyme systems.¹¹⁹⁻¹²² Medications used to treat human immunodeficiency virus infection, some anticonvulsants, and some psychotropic medications also may produce clinically important drug-drug interactions.¹²³⁻¹²⁵ Therefore, a careful drug history is a vital part of the safe sedation of children. The clinician should consult various sources (a pharmacist, textbooks, online services, or handheld databases) for specific information on drug interactions.¹²⁶

The health evaluation should include:

- Age and weight;
- Health history, including: 1) allergies and previous allergic or adverse drug reactions, 2) medication/drug history, including dosage, time, route, and site of administration for prescription, over-the-counter, herbal, or illicit drugs, 3) relevant diseases, physical abnormalities, and neurologic impairment that might increase the potential for airway obstruction, such as a history of snoring or obstructive sleep apnea,^{127,128} 4) pregnancy status, 5) a summary of previous relevant hospitalizations, 6) history of sedation or general anesthesia and any complications or unexpected responses, and 7) relevant family history, particularly related to anesthesia;
- Review of systems with a special focus on abnormalities of cardiac, pulmonary, renal, or hepatic function that might alter the child's expected responses to sedating/analgesic medications;
- Vital signs, including heart rate, blood pressure, respiratory rate, and temperature (for some children who are very upset or noncooperative, this may not be possible and a note should be written to document this occurrence);
- Physical examination, including a focused evaluation of the airway (tonsillar hypertrophy, abnormal anatomy—eg, mandibular hypoplasia) to determine whether there is an increased risk of airway obstruction^{54,129,130};
- Physical status evaluation [ASA classification (see Appendix B)];
- Name, address, and telephone number of the child's medical home.

For hospitalized patients, the current hospital record may suffice for adequate documentation of presedation health; however, a brief note shall be written documenting that the chart was reviewed, positive findings were noted, and a management plan was formulated. If the clinical or emergency condition of the patient precludes acquiring complete information before sedation, this health evaluation should be obtained as soon as feasible.

2. Prescriptions. When prescriptions are used for sedation, a copy of the prescription or a note describing the content of the prescription should be in the patient's chart along with a description of the instructions that were given to the responsible person. **Prescription medications intended to accomplish procedural sedation must not be administered without the benefit of direct supervision by trained medical personnel.** Administration of sedating medications at home poses an unacceptable risk, particularly for infants and preschool-aged children traveling in car safety seats.⁴⁶

Documentation during treatment

The patient's chart shall contain a time-based record that includes the name, route, site, time, dosage, and patient effect of administered drugs. Before sedation, a "time out" should be performed to confirm the patient's name, procedure to be performed, and site of the procedure.⁴³ During administration, the inspired concentrations of oxygen and inhalation sedation agents and the duration of their administration shall be documented. Before drug administrations, special attention must be paid to calculation of dosage (ie, mg/kg). The patient's chart shall contain documentation at the time of treatment that the patient's level of consciousness and responsiveness, heart rate, blood pressure, respiratory rate, and oxygen saturation were monitored until the patient attained predetermined discharge criteria (see Appendix A). A variety of sedation scoring systems are available and may aid this process.^{70,100} Adverse events and their treatment shall be documented.

Documentation after treatment

The time and condition of the child at discharge from the treatment area or facility shall be documented; this should include documentation that the child's level of consciousness and oxygen saturation in room air have returned to a state that is safe for discharge by recognized criteria (see Appendix A). Patients receiving supplemental oxygen before the procedure should have a similar oxygen need after the procedure. Because some sedation medications are known to have a long half-life and may delay a patient's complete return to baseline or pose the risk of resedation,^{45,103,131,132} some patients might benefit from a longer period of less-intense observation (eg, a step-down observation area) before discharge from medical supervision.¹³³ Several scales to evaluate recovery have been devised and validated.^{70,134,135} A recently described and simple evaluation tool may be the ability of the infant or child to remain awake for at least 20 minutes when placed in a quiet environment.¹⁰⁰

Continuous quality improvement

The essence of medical error reduction is a careful examination of index events and root cause analysis of how the event could be avoided in the future.¹³⁷⁻¹⁴¹ Therefore, each facility should maintain records that track adverse events, such as desaturation, apnea, laryngospasm, the need for airway interventions including jaw thrust, positive pressure ventilation, prolonged sedation, unanticipated use of reversal agents, unintended or prolonged hospital admission, and unsatisfactory sedation/analgesia/anoxiolysis. Such events can then be examined for assessment of risk reduction and improvement in patient satisfaction.

Preparation and setting up for sedation procedures

Part of the safety net of sedation is to use a systematic approach so as to not overlook having an important drug, piece of equipment, or monitor immediately available at the time of a developing emergency. To avoid this problem, it is helpful to use an acronym that allows the same setup and checklist for every procedure. A commonly used acronym useful in planning and preparation for a procedure is **SOAPME**:

- S** = Size-appropriate **suction** catheters and a functioning **suction** apparatus (eg, Yankauer-type suction)
- O** = An adequate **oxygen** supply and functioning flow meters/other devices to allow its delivery
- A** = **Airway**: size-appropriate airway equipment [nasopharyngeal and oropharyngeal airways, laryngoscope blades (checked and functioning), endotracheal tubes, stylets, face mask, bag-valve-mask or equivalent device (functioning)]
- P** = **Pharmacy**: all the basic drugs needed to support life during an emergency, including antagonists as indicated
- M** = **Monitors**: functioning pulse oximeter with size-appropriate oximeter probes^{141,142} and other monitors as appropriate for the procedure (eg, noninvasive blood pressure, end-tidal carbon dioxide, ECG, stethoscope)
- E** = Special **equipment or drugs** for a particular case (eg, defibrillator)

Specific guidelines for intended level of sedation

Minimal sedation

Minimal sedation (old terminology “anoxiolysis”) is a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected. Children who have received minimal sedation generally will not require more than observation and intermittent assessment of their level of sedation. Some children will become moderately sedated despite the intended level of minimal sedation; should this occur, then the guidelines for moderate sedation apply.⁵⁷

Moderate sedation

“Moderate sedation” (old terminology “conscious sedation” or “sedation/analgesia”) is a drug-induced depression of con-

sciousness during which patients respond purposefully to verbal commands or following light tactile stimulation (see Definition of Terms for This Report). No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function usually is maintained. The caveat that loss of consciousness should be unlikely is a particularly important aspect of the definition of moderate sedation. The drugs and techniques used should carry a margin of safety wide enough to render unintended loss of consciousness highly unlikely. Because the patient who receives moderate sedation may progress into a state of deep sedation and obtundation, the practitioner should be prepared to increase the level of vigilance corresponding to what is necessary for deep sedation.⁵⁷

Personnel

The practitioner

The practitioner responsible for the treatment of the patient and/or the administration of drugs for sedation must be competent to use such techniques, to provide the level of monitoring provided in this guideline, and to manage complications of these techniques (ie, to be able to rescue the patient). Because the level of intended sedation may be exceeded, the practitioner must be sufficiently skilled to provide rescue should the child progress to a level of deep sedation. The practitioner must be trained in, and capable of providing, at the minimum, bag-valve-mask ventilation so as to be able to oxygenate a child who develops airway obstruction or apnea. Training in, and maintenance of, advanced pediatric airway skills is required; regular skills reinforcement is strongly encouraged.

Support personnel

The use of moderate sedation shall include provision of a person, in addition to the practitioner, whose responsibility is to monitor appropriate physiologic parameters and to assist in any supportive or resuscitation measures, if required. This individual may also be responsible for assisting with interruptible patient-related tasks of short duration.⁴⁴ This individual must be trained in and capable of providing pediatric basic life support. The support person shall have specific assignments in the event of an emergency and current knowledge of the emergency cart inventory. The practitioner and all ancillary personnel should participate in periodic reviews and practice drills of the facility’s emergency protocol to ensure proper function of the equipment and coordination of staff roles in such emergencies.

Monitoring and Documentation

Baseline

Before administration of sedative medications, a baseline determination of vital signs shall be documented. For some children who are very upset or noncooperative, this may not be possible and a note should be written to document this happenstance.

During the procedure

The practitioner shall document the name, route, site, time of administration, and dosage of all drugs administered. There shall be continuous monitoring of oxygen saturation and heart rate and intermittent recording of respiratory rate and blood pressure; these should be recorded in a time-based record. Restraining devices should be checked to prevent airway obstruction or chest restriction. If a restraint device is used, a hand or foot should be kept exposed. The child's head position should be checked frequently to ensure airway patency. A functioning suction apparatus must be present.

After the procedure

The child who has received moderate sedation must be observed in a suitably equipped recovery facility [eg, the facility must have functioning suction apparatus as well as the capacity to deliver more than 90 percent oxygen and positive-pressure ventilation (eg, bag and mask with oxygen capacity as described previously)]. The patient's vital signs should be recorded at specific intervals. If the patient is not fully alert, oxygen saturation and heart rate monitoring shall be used continuously until appropriate discharge criteria are met (see Appendix A). Because sedation medications with a long half-life may delay the patient's complete return to baseline or pose the risk of re sedation, some patients might benefit from a longer period of less-intense observation (eg, a step-down observation area where multiple patients can be observed simultaneously) before discharge from medical supervision (see also Documentation Before Sedation for instructions to families).^{45,103,131,132} A recently described and simple evaluation tool may be the ability of the infant or child to remain awake for at least 20 minutes when placed in a quiet environment.¹⁰⁰ Patients who have received reversal agents, such as flumazenil or naloxone, will also require a longer period of observation, because the duration of the drugs administered may exceed the duration of the antagonist, which can lead to re sedation.

Deep sedation

Deep sedation is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully after repeated verbal or painful stimulation (see Definition of Terms for this report). The state and risks of deep sedation may be indistinguishable from those of general anesthesia.

Personnel

There must be one person available whose only responsibility is to constantly observe the patient's vital signs, airway patency, and adequacy of ventilation and to either administer drugs or direct their administration. At least one individual must be present who is trained in, and capable of, providing advanced pediatric life support, and who is skilled in airway management and cardiopulmonary resuscitation; training in pediatric advanced life support is required.

Equipment

In addition to the equipment previously cited for moderate sedation, an electrocardiographic monitor and a defibrillator for use in pediatric patients should be readily available.

Vascular Access

Patients receiving deep sedation should have an intravenous line placed at the start of the procedure or have a person skilled in establishing vascular access in pediatric patients immediately available.

Monitoring and Documentation

A competent individual shall observe the patient continuously. The monitoring shall include all parameters described for moderate sedation. Vital signs, including oxygen saturation and heart rate, must be documented at least every five minutes in a time-based record. The use of a precordial stethoscope or capnograph for patients difficult to observe (eg, during MRI, in a darkened room) to aid in monitoring adequacy of ventilation is encouraged.¹⁴³ The practitioner shall document the name, route, site, time of administration, and dosage of all drugs administered. The inspired concentrations of inhalation sedation agents and oxygen and the duration of administration shall be documented.

Postsedation Care

The facility and procedures followed for postsedation care shall conform to those described under "Moderate Sedation."

Special considerations

Local anesthetic agents

All local anesthetic agents are cardiac depressants and may cause central nervous system excitation or depression. Particular attention should be paid to dosage in small children.^{64,66} To ensure that the patient will not receive an excessive dose, the maximum allowable safe dosage (ie, mg/kg) should be calculated before administration. There may be enhanced sedative effects when the highest recommended doses of local anesthetic drugs are used in combination with other sedatives or narcotics (see Tables two and three for limits and conversion tables of commonly used local anesthetics).^{64,144-157} In general, when administering local anesthetic drugs, the practitioner should aspirate frequently so as to minimize the likelihood that the needle is in a blood vessel; lower doses should be used when injecting into vascular tissues.¹⁵⁸

Pulse oximetry

The new generation of pulse oximeters is less susceptible to motion artifacts and may be more useful than older oximeters that do not contain the updated software.¹⁵⁹⁻¹⁶³ Oximeters that change tone with changes in hemoglobin saturation provide immediate aural warning to everyone within hearing distance. It is essential that any oximeter probe is positioned properly; clip-on devices are prone to easy displacement, which may produce artifactual data (eg, under- or overestimation of oxygen saturation).^{141,142}

Capnography

Expired carbon dioxide monitoring is valuable to diagnose the simple presence or absence of respirations, airway obstruction, or respiratory depression, particularly in patients sedated in less-accessible locations, such as magnetic resonance imaging or computerized axial tomography devices or darkened rooms.^{47,49,50,143,164-173} The use of expired carbon dioxide monitoring devices is encouraged for sedated children, particularly in situations where other means of assessing the adequacy of ventilation are limited. Several manufacturers have produced nasal cannulae that allow simultaneous delivery of oxygen and measurement of expired carbon dioxide values.^{164,165} Although these devices can have a high degree of false-positive alarms, they are also very accurate for the detection of complete airway obstruction or apnea.^{166,168,173}

Adjuncts to airway management and resuscitation

The vast majority of sedation complications can be managed with simple maneuvers, such as supplemental oxygen, opening the airway, suctioning, and bag-mask-valve ventilation. Occasionally, endotracheal intubation is required for more prolonged ventilatory support. In addition to standard endotracheal intubation techniques, a number of new devices are available for the management of patients with abnormal airway anatomy or airway obstruction. Examples include the laryngeal mask airway (LMA), the cuffed oropharyngeal airway, and a variety of kits to perform an emergency cricothyrotomy.

The largest clinical experience in pediatrics is with the LMA, which is available in a variety of sizes and can even be used in neonates. Use of the LMA is now being introduced into advanced airway training courses, and familiarity with insertion techniques can be life saving.^{174,175} The LMA also can serve as a bridge to secure airway management in children with anatomic airway abnormalities.^{176,177} Practitioners are encouraged to gain experience with these techniques as they become incorporated into pediatric advanced life support courses.

An additional emergency device with which to become familiar is the intraosseous needle. Intraosseous needles also are available in several sizes and can be life saving in the rare situation when rapid establishment of intravenous access is not possible. Familiarity with the use of these adjuncts for the management of emergencies can be obtained by keeping current with resuscitation courses, such as Pediatric Advanced Life Support and Advanced Pediatric Life Support or other approved programs.

Patient simulators

Advances in technology, particularly patient simulators that allow a variety of programmed adverse events (eg, apnea, bronchospasm, laryngospasm), response to medical interventions, and printouts of physiologic parameters, are now available. The use of such devices is encouraged to better train medical professionals to respond more appropriately and effectively to rare events.¹⁷⁸⁻¹⁸⁰

Monitoring during MRI

The powerful magnetic field and the generation of radiofrequency emissions necessitate the use of special equipment to provide continuous patient monitoring throughout the MRI scanning procedure. Pulse oximeters capable of continuous function during scanning should be used in any sedated or restrained pediatric patient. Thermal injuries can result if appropriate precautions are not taken; avoid coiling the oximeter wire and place the probe as far from the magnetic coil as possible to diminish the possibility of injury. Electrocardiogram monitoring during magnetic resonance imaging has been associated with thermal injury; special MRI-compatible ECG pads are essential to allow safe monitoring.¹⁸¹⁻¹⁸⁴ Expired carbon dioxide monitoring is strongly encouraged in this setting.

Nitrous oxide

Inhalation sedation/analgesia equipment that delivers nitrous oxide must have the capacity of delivering 100 percent and never less than 25 percent oxygen concentration at a flow rate appropriate to the size of the patient. Equipment that delivers variable ratios of nitrous oxide to oxygen and that has a delivery system that covers the mouth and nose must be used in conjunction with a calibrated and functional oxygen analyzer. All nitrous oxide-to-oxygen inhalation devices should be calibrated in accordance with appropriate state and local requirements. Consideration should be given to the National Institute of Occupational Safety and Health standards for the scavenging of waste gases.¹⁸⁵ Newly constructed or reconstructed treatment facilities, especially those with piped-in nitrous oxide and oxygen, must have appropriate state or local inspections to certify proper function of inhalation sedation/analgesia systems before any delivery of patient care.

Nitrous oxide in oxygen with varying concentrations has been successfully used for many years to provide analgesia for a variety of painful procedures in children.^{15,186-210} The use of nitrous oxide for minimal sedation is defined as the administration of nitrous oxide (50 percent or less) with the balance as oxygen, without any other sedative, narcotic, or other depressant drug before or concurrent with the nitrous oxide to an otherwise healthy patient in ASA class I or II. The patient is able to maintain verbal communication throughout the procedure. It should be noted that although local anesthetics have sedative properties, for purposes of this guideline, they are not considered sedatives in this circumstance. If nitrous oxide in oxygen is combined with other sedating medications, such as chloral hydrate, midazolam, or an opioid, or if nitrous oxide is used in concentrations greater than 50 percent, the likelihood for moderate or deep sedation increases.^{211,212} In this situation, the clinician must be prepared to institute the guidelines for moderate or deep sedation as indicated by the patient's response.²¹³

Table 1. APPROPRIATE INTAKE OF FOOD AND LIQUIDS BEFORE ELECTIVE SEDATION*

Ingested Material	Minimum Fasting Period (h)
Clear liquids: water, fruit juices without pulp, carbonated beverages, clear tea, black coffee	2
Breast milk	4
Infant formula	6
Nonhuman milk: because nonhuman milk is similar to solids in gastric emptying time, the amount ingested must be considered when determining an appropriate fasting period	6
Light meal: a light meal typically consists of toast and clear liquids. Meals that include fried or fatty foods or meat may prolong gastric emptying time. Both the amount and type of foods ingested must be considered when determining an appropriate fasting period.	6

* American Society of Anesthesiologists. Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures. A Report of the American Society of Anesthesiologists. Available at: "<http://www.asahq.org/publicationsAndServices/npoguide.html>".

Table 2. COMMONLY USED LOCAL ANESTHETIC AGENTS: DOSES, DURATION, AND CALCULATIONS*

Local Anesthetic	Maximum Dose with Epinephrine (mg/kg)†		Duration of Action (min) ‡
	Medical	Dental	
<i>Esters</i>			
Procaine	10.0	6	60-90
Chlorprocaine	20.0	12	30-60
Tetracaine	1.5	1	180-600
<i>Amides</i>			
Lidocaine	7.0	4.4	90-200
Mepivacaine	7.0	4.4	120-240
Bupivacaine	3.0	1.3	180-600
Levobupivacaine	3.0	2	180-600
Ropivacaine	3.0	2	180-600
Articaine		7	60-230

* Maximum recommended doses and duration of action. Note that lower doses should be used in very vascular areas.

† These are maximum doses of local anesthetics combined with epinephrine; lower doses are recommended when used without epinephrine. Doses of amides should be decreased by 30 percent in infants younger than six months. When lidocaine is being administered intravascularly (eg, during intravenous regional anesthesia), the dose should be decreased to three to five mg/kg; long-acting local anesthetic agents should not be used for intravenous regional anesthesia.

‡ Duration of action is dependent on concentration, total dose, and site of administration; use of epinephrine; and the patient's age.

Table 3. LOCAL ANESTHETIC PERCENT CONCENTRATION: CONVERSION TO mg/mL

Concentration (%)	mg/mL
3.0	30.0
2.5	25.0
2.0	20.0
1.0	10.0
0.5	5.0
0.25	2.5
0.125	1.25

Appendix A. Recommended Discharge Criteria

1. Cardiovascular function and airway patency are satisfactory and stable.
2. The patient is easily arousable, and protective reflexes are intact.
3. The patient can talk (if age appropriate).
4. The patient can sit up unaided (if age appropriate).
5. For a very young or handicapped child incapable of the usually expected responses, the premedation level of responsiveness or a level as close as possible to the normal level for that child should be achieved.
6. The state of hydration is adequate.

Appendix B. ASA Physical Status Classification

Class I	A normally healthy patient.
Class II	A patient with mild systemic disease (eg, controlled reactive airway disease).
Class III	A patient with severe systemic disease (eg, a child who is actively wheezing).
Class IV	A patient with severe systemic disease that is a constant threat to life (eg, a child with status asthmaticus).
Class V	A moribund patient who is not expected to survive without the operation (eg, a patient with severe cardiomyopathy requiring heart transplantation).

Appendix C. Drugs* That May Be Needed to Rescue a Sedated Patient⁴⁴

Albuterol for inhalation
 Ammonia spirits
 Atropine
 Diphenhydramine
 Diazepam
 Epinephrine (1:1000, 1:10 000)
 Flumazenil
 Glucose (25 percent or 50 percent)
 Lidocaine (cardiac lidocaine, local infiltration)
 Lorazepam
 Methylprednisolone
 Naloxone
 Oxygen
 Fosphenytoin
 Racemic epinephrine
 Rocuronium
 Sodium bicarbonate
 Succinylcholine

* The choice of emergency drugs may vary according to individual or procedural needs.

Appendix D. Emergency Equipment[†] That May Be Needed to Rescue a Sedated Patient[‡]

Intravenous Equipment

Assorted IV catheters (eg, 24-, 22-, 20-, 18-, 16-gauge)
 Tourniquets
 Alcohol wipes
 Adhesive tape
 Assorted syringes (eg, 1-, 3-, 5-, 10-mL)
 IV tubing
 Pediatric drip (60 drops/mL)
 Pediatric burette
 Adult drip (10 drops/mL)
 Extension tubing
 3-way stopcocks
 IV fluid
 Lactated Ringer solution
 Normal saline solution
 D₅ 0.25 normal saline solution
 Pediatric IV boards
 Assorted IV needles (eg, 25-, 22-, 20-, and 18-gauge)
 Intraosseous bone marrow needle
 Sterile gauze pads

Airway Management Equipment

Face masks (infant, child, small adult, medium adult, large adult)
 Breathing bag and valve set
 Oropharyngeal airways (infant, child, small adult, medium adult, large adult)
 Nasopharyngeal airways (small, medium, large)
 Laryngeal mask airways (1, 1.5, 2, 2.5, 3, 4, and 5)
 Laryngoscope handles (with extra batteries)
 Laryngoscope blades (with extra light bulbs)
 Straight (Miller) No. 1, 2, and 3
 Curved (Macintosh) No. 2 and 3
 Endotracheal tubes (2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, and 6.0 uncuffed and 6.0, 7.0, and 8.0 cuffed)
 Stylettes (appropriate sizes for endotracheal tubes)
 Surgical lubricant
 Suction catheters (appropriate sizes for endotracheal tubes)
 Yankauer-type suction
 Nasogastric tubes
 Nebulizer with medication kits
 Gloves (sterile and nonsterile, latex free)

[†] The choice of emergency equipment may vary according to individual or procedural needs.

[‡] The practitioner is referred to the SOAPME acronym described in the text in preparation for sedating a child for a procedure.

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IOWA DENTAL BOARD

February 16, 2014

Anesthesia Committee
Iowa Dental Board
400 SW 8th Street Suite D
Des Moines, IA 50309-4687

Dear Anesthesia Committee:

Regarding capnography and moderate sedation, I have enclosed a copy of the American Dental Association Guidelines and the Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists.

Neither guideline requires capnography for moderate sedation. Please note that the anesthesiology guidelines recommend consideration of carbon dioxide monitoring "for patients whose ventilation cannot be directly observed during moderate sedation." Dentists providing moderate sedation are working in the oral cavity and positioned to observe the chest ventilations. A dentist is constantly observing ventilation. Moderate sedation permit holders in Iowa should not be required to monitor sedation with capnography.

Thank you,

Dr. Stephen R. Thies

SEDATION DENTISTRY FOR ANXIETY RELIEF

ADA American Dental Association®

Guidelines for the Use of Sedation and General Anesthesia by Dentists

As adopted by the October 2012 ADA House of Delegates

I. Introduction

The administration of local anesthesia, sedation and general anesthesia is an integral part of dental practice. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists. The purpose of these guidelines is to assist dentists in the delivery of safe and effective sedation and anesthesia.

Dentists providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document are not subject to *Section III. Educational Requirements*.

II. Definitions

Methods of Anxiety and Pain Control

analgesia - the diminution or elimination of pain.

conscious sedation¹ - a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command and that is produced by a pharmacological or non-pharmacological method or a combination thereof.

In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of conscious sedation.

combination inhalation-enteral conscious sedation (combined conscious sedation) - conscious sedation using inhalation and enteral agents.

When the intent is anxiolysis only, and the appropriate dosage of agents is administered, then the definition of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) does not apply.

local anesthesia - the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

Note: Although the use of local anesthetics is the foundation of pain control in dentistry and has a long record of safety, dentists must be aware of the maximum, safe dosage limits for each patient. Large doses of local anesthetics in themselves may result in central nervous system depression, especially in combination with sedative agents.

minimal sedation - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously maintain an airway and respond *normally* to

¹ Parenteral conscious sedation may be achieved with the administration of a single agent or by the administration of more than one agent.

Documentation: An appropriate sedative record must be maintained, including the names of all drugs administered, including local anesthetics, dosages, and monitored physiological parameters.

5. Recovery and Discharge

- Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
- The qualified dentist or appropriately trained clinical staff must monitor the patient during recovery until the patient is ready for discharge by the dentist.
- The qualified dentist must determine and document that level of consciousness, oxygenation, ventilation and circulation are satisfactory prior to discharge.
- Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

6. Emergency Management

- If a patient enters a deeper level of sedation than the dentist is qualified to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.
- The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of minimal sedation and providing the equipment and protocols for patient rescue.

7. Management of Children

For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentistry *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures*.

B. Moderate Sedation

1. Patient Evaluation

Patients considered for moderate sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this should consist of at least a review of their current medical history and medication use. However, patients with significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-operative Preparation

- The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative agents and informed consent for the proposed sedation must be obtained.
- Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
- Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
- A focused physical evaluation must be performed as deemed appropriate.
- Preoperative dietary restrictions must be considered based on the sedative technique prescribed.
- Pre-operative verbal or written instructions must be given to the patient, parent, escort, guardian or care giver.

3. Personnel and Equipment Requirements

Personnel:

- At least one additional person trained in Basic Life Support for Healthcare Providers must be present in addition to the dentist.

Equipment:

- A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
- When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
- An appropriate scavenging system must be available if gases other than oxygen or air are used.
- The equipment necessary to establish intravenous access must be available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering moderate sedation must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. When active treatment concludes and the patient recovers to a minimally sedated level a qualified auxiliary may be directed by the dentist to remain with the patient and continue to monitor them as explained in the guidelines until they are discharged from the facility. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

Consciousness:

- Level of consciousness (e.g., responsiveness to verbal command) must be continually assessed.

Oxygenation:

- Color of mucosa, skin or blood must be evaluated continually.
- Oxygen saturation must be evaluated by pulse oximetry continuously.

Ventilation:

- The dentist must observe chest excursions continually.
- The dentist must monitor ventilation. This can be accomplished by auscultation of breath sounds, monitoring end-tidal CO₂ or by verbal communication with the patient.

Circulation:

- The dentist must continually evaluate blood pressure and heart rate (unless the patient is unable to tolerate and this is noted in the time-oriented anesthesia record).
- Continuous ECG monitoring of patients with significant cardiovascular disease should be considered.

Documentation:

- Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs, dosages and their administration times, including local anesthetics, dosages and monitored physiological parameters. (See Additional Sources of Information for sample of a time-oriented anesthetic record).
- Pulse oximetry, heart rate, respiratory rate, blood pressure and level of consciousness must be recorded continually.

5. Recovery and Discharge

Pulmonary Ventilation.

It is the opinion of the Task Force that the primary causes of morbidity associated with sedation/analgesia are drug-induced respiratory depression and airway obstruction. For both moderate and deep sedation, the literature is insufficient to evaluate the benefit of monitoring ventilatory function by observation or auscultation. However, the consultants strongly agree that monitoring of ventilatory function by observation or auscultation reduces the risk of adverse outcomes associated with sedation/analgesia. The consultants were equivocal regarding the ability of capnography to decrease risks during moderate sedation, while agreeing that it may decrease risks during deep sedation. In circumstances in which patients are physically separated from the caregiver, the Task Force believes that automated apnea monitoring (by detection of exhaled carbon dioxide or other means) may decrease risks during both moderate and deep sedation, while cautioning practitioners that impedance plethysmography may fail to detect airway obstruction. The Task Force emphasizes that because ventilation and oxygenation are separate though related physiologic processes, monitoring oxygenation by pulse oximetry is not a substitute for monitoring ventilatory function.

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Recommendations.

Monitoring of patient response to verbal commands should be routine during moderate sedation, except in patients who are unable to respond appropriately (*e.g.*, young children, mentally impaired or uncooperative patients), or during procedures where movement could be detrimental. During deep sedation, patient responsiveness to a more profound stimulus should be sought, unless contraindicated, to ensure that the patient has not drifted into a state of general anesthesia. During procedures where a verbal response is not possible (*e.g.*, oral surgery, upper endoscopy), the ability to give a “thumbs up” or other indication of consciousness in response to verbal or tactile (light tap) stimulation suggests that the patient will be able to control his airway and take deep breaths if necessary, corresponding to a state of moderate sedation. Note that a response limited to reflex withdrawal from a painful stimulus is not considered a purposeful response and thus represents a state of general anesthesia.

All patients undergoing sedation/analgesia should be monitored by pulse oximetry with appropriate alarms. If available, the variable pitch “beep,” which gives a continuous audible indication of the oxygen saturation reading, may be helpful. In addition, ventilatory function should be continually monitored by observation or auscultation. Monitoring of exhaled carbon dioxide should be considered for all patients receiving deep sedation and for patients whose ventilation cannot be directly observed during moderate sedation. When possible, blood pressure should be determined before sedation/analgesia is initiated. Once sedation–analgesia is established, blood pressure should be measured at 5-min intervals during the procedure, unless such monitoring interferes with the procedure (*e.g.*, pediatric magnetic resonance imaging, where stimulation from the blood pressure cuff could arouse an appropriately sedated patient). Electrocardiographic monitoring should be used in all patients undergoing deep sedation. It should also be used during moderate sedation in patients with significant cardiovascular disease or those who are undergoing procedures where dysrhythmias are anticipated.

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THE LATEST ASA MANDATE: CO₂ MONITORING FOR MODERATE AND DEEP SEDATION

The 2010 House of Delegates of the American Society of Anesthesiologists (ASA) amended its Standards for Basic Anesthetic Monitoring to include mandatory exhaled end-tidal carbon dioxide (E_tCO₂) monitoring during both moderate and deep sedation to its existing requirement for endotracheal and laryngeal mask airway general anesthesia. It became effective as of July 2011 and now reads:

"During regional anesthesia (with no sedation) or local anesthesia (with no sedation), the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs. During moderate or deep sedation, the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide unless precluded or invalidated by the nature of the patient, procedure, or equipment."

Rather than supported by the highest level of evidence-based Class A, Level 1 scientific data, this amendment was a consensus document initiated by the ASA Committee on Standards and Practice Parameters, approved by the ASA Board of Directors, and passed by the October 2010 ASA House of Delegates with supposedly little debate. This new standard makes perfect sense for medical anesthesiologists, particularly those who are based in hospitals, because it costs them essentially nothing to obtain this sometimes very valuable information. Because in most instances ASA physician anesthesiologist members provide moderate and deep sedation in the same operating rooms as they do general anesthesia, they already have the equipment to monitor E_tCO₂, and they already routinely use nasal cannula O₂ for their sedations. All that is really needed for them to meet this mandate is to either exchange their O₂ cannulas for those with a CO₂ sampling port for connecting to their E_tCO₂ monitor or to insert an intravenous catheter into a standard O₂ cannula and connect it to monitor. Because modern, "high-tech" physician anesthesiologists rarely use a precordial or pretracheal stethoscope in the operating room and their heads are almost never only a few inches away from the moderately sedated patient's open mouth and nose to monitor breathing like the operating dentist does from his or her usual position, monitoring E_tCO₂ for the anesthesiologist is far superior to the pulse oximeter for immediately

detecting an obstructed airway, opiate-induced apnea, or other airway problems that only much later may be detected by the pulse oximeter. Monitoring E_tCO₂ is particularly important when anesthesiologists provide moderate sedation for patients who are too medically compromised to safely undergo general anesthesia and who would almost never be sedated in a dental office, such as an ASA IV patient with severe chronic obstructive pulmonary disease who may retain high levels of CO₂ during sedation or a morbidly obese, insulin-dependent diabetic patient with severe obstructive sleep apnea. Additionally, when the anesthesiologist is also not the person giving the local anesthetic (as in a breast biopsy) or in the case of a colonoscopy (during which the moderate sedation is not accompanied by any local anesthesia), the anesthesiologist's only option for managing severe discomfort in the moderately sedated patient is to deepen the level of sedation by supplementing with more fentanyl, ketamine, or propofol until the patient becomes unconsciousness, when monitoring E_tCO₂ may be deemed much more important, particularly if insertion of a laryngeal mask airway device or tracheal intubation then becomes necessary if the airway becomes compromised. However, an endodontist who may be licensed for only moderate sedation does not legally have the option of deepening the level from moderate sedation to light general anesthesia in the dental office but rather must either reinforce the local anesthesia with periodontal ligament, intraosseous, or intrapulpal local anesthetic techniques or reschedule the endodontic treatment when a dentist anesthesiologist can be brought into the office to manage the discomfort associated with the endodontic procedure.

To complicate this far-reaching ASA requirement, the Centers for Medicare and Medicaid Services (CMS) in 2009 and 2010 rewrote their CMS Hospital Conditions of Participation and Interpretive Guidelines that govern anesthesia services. The CMS mandated that all anesthesia services in a hospital be organized by a qualified physician and consistently implemented in every hospital department and area where "anesthesia services" are rendered. However, as opposed to the ASA standards, the CMS definition of "anesthesia services" excludes topical and local anesthesia, minimal sedation, moderate sedation/analgesia (conscious sedation), and labor epidural analgesia. Thus, even though the CMS does not require standardization of any monitoring, including E_tCO₂, throughout the hospital for moderate sedation, because the ASA standards require anesthesiologists to monitor E_tCO₂ for all of their moderate sedations, the

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ASA believes that other less qualified, nonanesthesiologist sedation practitioners need it even more than their members to enhance their margin of safety. Therefore, if an ASA member is the hospital's "physician in charge of anesthesia services," he or she may have little choice but to require the monitoring of E_tCO_2 in all hospital areas where moderate sedation is administered if it is required in the hospital's operating rooms.

The CMS will not permit a double standard for monitoring E_tCO_2 by anesthesia specialists providing deep sedation in the operating room but not by dentists in the hospital's oral surgery clinic. If monitoring E_tCO_2 is the standard for deep sedation in a hospital's dental clinic, what are the medical-legal implications for deep sedation across the street in the private oral surgery office, where only healthy patients receive deep sedation by oral surgeons who follow the American Dental Association (ADA) guidelines for monitoring that do not mandate monitoring E_tCO_2 for deep sedation? Because the majority of ADA delegates do not administer moderate or deep sedation and because all dentists, including those with extensive anesthesia training, are regarded by the ASA as nonanesthesiologists, will the monitoring guidelines passed by the ADA House of Delegates measure up against those passed by the ASA House of Delegates that is composed entirely of the best-trained physician anesthesiologists in the world?

From your editor's extensive experience in the operating room administering intravenous moderate sedation to morbidly obese ASA IV pre-heart transplant multiple extraction dental patients with left ventricular ejection fractions of less than 10%, there is no question that monitoring E_tCO_2 can be a very valuable tool for monitoring airway patency and ventilation in that venue. One can argue that a pregnant patient in an obstetrical laboring suite who is being continuously infused with narcotic-containing local anesthetic from a labor epidural pump should have E_tCO_2 monitoring. The same argument can be made for every barely conscious patient entering the postanesthesia care unit (PACU) who is then left by the anesthesiologist with skilled nurses to watch them while they fully recover from their general anesthetic. Surprisingly, E_tCO_2 monitoring is not required in the PACU, even though many of these patients are initially considerably more deeply sedated than most moderately sedated patients in the operating room, in a dental office, or in a cardiac catheterization lab. More surprisingly, after complex surgery, even severely medically compromised unconscious patients who remain intubated in the PACU who are spontaneously breathing supplemental O_2 on a "T-piece" are not required by ASA standards to have E_tCO_2 monitored by the PACU nurses. Until the ASA mandates E_tCO_2 monitoring in these critical care

areas, it seems unreasonable for them to expect that it be required in dental offices for moderate sedation, as defined in the ADA Guidelines, wherein "the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely." Perhaps the ASA Delegates oppose mandating E_tCO_2 monitoring in these critical areas because of the huge expense in purchasing the necessary additional equipment to accomplish it.

Yes, the CMS requirement that mandates standardization throughout the hospital can reduce confusion and improve patient safety in some instances. However, this one-size-fits-all mentality does not always make sense. For instance, the standard of care after endotracheal intubation of a critically ill patient by a nonanesthesiologist emergency room physician is to obtain a chest radiograph to determine if the tube is in the correct position. If that were to become the "postintubation standard" throughout the hospital, every patient in an operating room who is intubated by an "expert intubation specialist" (anesthesiologist) would need an unnecessary radiograph, exposing them to radiation for no benefit and foolishly raising the cost of health care when resources are so limited in today's economy. The ASA and CMS standards are fine for hospitals and anesthesiologists who treat many critically ill patients, but they do not necessarily pertain to the type of patients and the level of moderate sedation taking place in the dental office.

Even more important than this E_tCO_2 monitoring issue is the overriding point that it is our profession that should be setting the anesthesia standards for dentistry; clearly, the ASA wants to do that for us. The organization must believe that we do not have the expertise to do it ourselves. Because the ASA regards dentists as nonanesthesiologists in their standards, the ADA is apparently perceived as not having enough expertise in anesthesiology to self-regulate all aspects of dental anesthesiology. Thus, by default, the ASA standards may appear to some to also apply to all levels of sedation and anesthesia in dentistry. Dentists must have a recognized level of expertise in anesthesiology to be able to accept ASA standards, modify them, or reject them and make our own. It is hoped that organized dentistry will realize that dentistry must regain control of its own destiny if this integral part of dental practice is to survive under our control. If monitoring E_tCO_2 is deemed a necessity for moderate and deep sedation, dentistry must make that decision for itself, and it is hoped that dentistry will have the clout for its standards to be accepted when they conflict with those of other professions.

Joel Weaver, DDS, PhD
Editor-in-Chief

Last Name	First & Middle Name	Degree	MS Permit		Medically- compromised	License #	Date MS			Location #1 Address Line2	City, State	Zip	Work Tel. #	Last Facility	Peer Evaluation
			#	Sedation:			Permit Issued	Exp. Date	Location #1						
Avila-Ortiz	Gustavo	D.D.S.	MS-0095	No	No	FAC-40121	01/20/12	08/31/14	UIA College of Dentistry	200 Hawkins Dr	Iowa City, IA	52242 319-335-7241	N/A - UIACOD		
Bolgren	Daniel Lee	D.D.S.	MS-0001	No	No	DDS-06259	07/09/87	08/31/14	1920 J.F. Kennedy Rd.		Dubuque, IA	52002 563-557-8150	05/13/87		
Borgwardt	Derek S.	D.D.S.	MS-0094	Yes	Yes	DDS-08578	01/20/12	08/31/14	1517 Mall Dr.		Iowa City, IA	52240 319-337-3588	08/30/11		
Bouck	Brian Lee	D.D.S.	MS-0012	No	No	DDS-06490	07/09/87	08/31/14	4015 Hurst Dr.		Waterloo, IA	50701 319-235-6287	04/01/11		
Burke	Richard Martin	D.M.D.	MS-0053	Yes	No	DDS-08579	01/25/00	08/31/14	College of Dentistry	University of Iowa	Iowa City, IA	52242 319-335-7482	N/A - UIACOD	11/01/09	
Clove	Benjamin Ivor	D.D.S.	MS-0070	No	No	DDS-08094	01/27/06	08/31/14	200 Cleveland St. Suite C		Muscatine, IA	52761 563-263-1200	01/17/06		
Dannenbring	Zach J.	D.D.S.	MS-0099	No	No	DDS-08499	04/01/13	08/31/14	2114 Pierce St.		Sioux City, IA	51106 319-321-1249	11/23/02		
Franzman	Michael Ryan	D.D.S.	MS-0080	No	No	DDS-08258	09/01/08	08/31/14	1800 E 54th St. Suite A		Davenport, IA	52807 563-344-4867	01/24/08		
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Gennatos	Fotene	D.D.S.	MS-0084	No	No	DDS-08276	01/27/10	08/31/14	2114 Pierce St.		Sioux City, IA	51104 712-898-7947	11/23/02		
Ghosheh	Natalie J.	D.D.S.	MS-0081	Yes	No	DDS-08401	01/16/09	08/31/14	1645 John F. Kennedy Rd.		Dubuque, IA	52002 563-556-6383	11/06/08		
Grandgenett	Deborah Lynn	D.D.S.	MS-0054	Yes	No	DDS-07946	01/08/01	08/31/14	2208 Philadelphia St.		Ames, IA	50010 515-956-3423	10/06/10	12/01/00	
Gregorsock	Robert Lee	D.D.S.	MS-0091	Yes	No	DDS-08289	03/10/11	08/31/14	1301 W 1st St.		Cedar Falls, IA	50613 319-277-4600	01/20/11		
Hagarty	Bradley Tyler	D.D.S.	MS-0111	No	No	DDS-07739	03/06/14	08/31/14	475 N Walnut		Colfax, IA	50054 515-674-4466	12/13/08		
Hagarty	Timothy J.	D.D.S.	MS-0017	No	No	DDS-05841	08/24/87	08/31/14	475 N Walnut	PO Box 155	Colfax, IA	50054 515-674-4466	12/13/08	06/01/09	
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Hingst	Shannon Leigh	D.D.S.	MS-0056	No	No	DDS-07949	07/23/01	08/31/14	815 38th St. SE		Cedar Rapids, IA	52403 319-365-0534	06/17/10	05/01/01	
Hoepfner	Todd Roger	D.D.S.	MS-0088	Yes	Yes	DDS-08028	10/28/10	08/31/14	615 S Illinois Ave.		Mason City, IA	50401 641-424-0060	07/22/10		
Horton	Douglas James	D.D.S.	MS-0022	No	No	DDS-06174	07/14/88	08/31/14	4141 Glass Rd. NE		Cedar Rapids, IA	52402 319-393-0773	08/09/00		
Humbert	Lewis Arthur	D.D.S.	MS-0064	Yes	Yes	DDS-06250	11/01/04	08/31/14	UIA College of Dentistry	801 Newton Rd.	Iowa City, IA	52242 319-335-7235	N/A - UIACOD		
Iben	Pollyanne J.	D.D.S.	MS-0052	Yes	No	DDS-07894	11/04/99	08/31/14	414 10th Ave. Suite B		Coralville, IA	52241 319-338-7520	08/13/09	10/01/99	
Jarrin	David Anthony	D.D.S.	MS-0100	No	No	DDS-06157	04/01/13	08/31/14	666 Loras Blvd.		Dubuque, IA	52001 563-582-0117	07/12/06		
Jordan	Bradley David	D.D.S.	MS-0103	No	No	DDS-08903	06/26/13	08/31/14	121 20th St. NW		Waverly, IA	50677 319-352-5281	05/16/13		
Kava	Richard Alan	D.D.S.	MS-0104	No	No	DDS-07432	08/02/13	08/31/14	2930 Hamilton Blvd. Upper F		Sioux City, IA	51104 712-258-6169	07/03/13		
Kohlgraf	Karl Gustaf	D.D.S.	MS-0105	No	No	DDS-08912	10/14/13	08/31/14	UIA College of Dentistry		Iowa City, IA	52242 319-353-6923	N/A - UIACOD		
Mathews	Michael Steven	D.D.S.	MS-0089	Yes	Yes	DDS-08053	10/28/10	08/31/14	409 Layne Dr.		West Burlington, IA	52655 319-752-1444	08/06/10		
Meis	John Joseph	D.D.S.	MS-0058	No	No	DDS-07152	12/06/02	08/31/14	2114 Pierce St.		Sioux City, IA	51104 712-252-3440	11/23/02	11/23/02	
Morarend	Quinn A.	D.D.S.	MS-0087	No	No	DDS-08101	10/28/10	08/31/14	2727 1st Ave. SE, Suite 3		Cedar Rapids, IA	52241 319-364-7111	07/28/10		
Mulka	Andrew Patrick	D.D.S.	MS-0101	No	No	DDS-08842	04/01/13	08/31/14	666 Loras Blvd.		Dubuque, IA	52001 563-582-0117	07/12/06		
Murray	Edward Bauman	D.D.S.	MS-0071	Yes	No	DDS-06032	04/05/06	08/31/14	40 Northcrest Dr.		Council Bluffs, IA	51503 712-328-9605	10/08/09		
Murray	Ted Joseph	D.D.S.	MS-0076	No	No	DDS-06254	09/11/06	08/31/14	4200 Asbury Rd.		Dubuque, IA	52002 563-556-2711	07/14/09		
Oestervemb	Niels	D.D.S.	MS-0106	No	No	DDS-08972	10/14/13	08/31/14	UIA College of Dentistry	801 Newton Rd.	Iowa City, IA	52242 319-335-7499	N/A - UIACOD		
Peckosh	Valerie B.	D.M.D.	MS-0086	Yes	No	DDS-08006	09/01/10	08/31/14	3455 Stoneman Rd. #2B		Dubuque, IA	52002 563-582-1478	03/29/10		
Purk	Jeffrey Wayne	D.D.S.	MS-0085	Yes	Yes	DDS-07566	01/27/10	08/31/14	4409 SW 9th St.		Des Moines, IA	50315 515-285-8888	09/21/10		
Quattrocchi	Joseph Anthony Jr.	D.D.S.	MS-0069	Yes	No	DDS-08243	11/02/05	08/31/14	40 Northcrest Dr.		Council Bluffs, IA	51503 712-328-9605	10/08/09		
Revell	Rachel Anne	D.D.S.	MS-0109	Yes	No	DDS-09012	01/24/14	08/31/14	5950 Village View Dr. #200		West Des Moines, IA	50266 515-225-1677	12/17/13		
Roth	Gary David	D.D.S.	MS-0010	No	No	DDS-06694	07/09/87	08/31/14	205 North B St.		Fairfield, IA	52556 641-472-3044	05/25/95		
Ruehs	Kelley Jo	D.D.S.	MS-0092	Yes	No	DDS-07938	03/10/11	08/31/14	1301 W 1st St.		Cedar Falls, IA	50613 319-277-4600	01/20/11		
Skinner	William Eugene	D.D.S.	MS-0108	No	No	DDS-07913	12/23/13	08/31/14	8501 Plum Dr.		Urbandale, IA	50322 515-278-2888	12/12/13		
Slayton	Rebecca L.	D.D.S.	MS-0050	Yes	No	DDS-07587	11/02/98	08/31/14	College of Dentistry	S201 Dental Science Bldg.	Iowa City, IA	52242 319-335-7486	N/A - UIACOD		
Sonksen	David Robert	D.D.S.	MS-0015	No	No	DDS-05592	07/14/88	08/31/14	1716 1st Ave. S		Fort Dodge, IA	50501 515-576-5241	05/03/95	05/04/88	
Statz	Julie Kay	D.D.S.	MS-0082	No	No	DDS-08527	04/23/09	08/31/14	4090 Westown Parkway, Suite A4		West Des Moines, IA	50266 515-223-9700	02/20/09		
Statz	Thomas Andrew	D.D.S.	MS-0083	No	No	DDS-08291	04/23/09	08/31/14	4090 Westown Parkway, Suite A4		West Des Moines, IA	50266 515-223-9700	02/20/09		
Syme	Brandon Michael	D.D.S.	MS-0107	No	No	FAC-40140	11/25/13	08/31/14	UIA College of Dentistry		Iowa City, IA	52242 319-335-7457	N/A - UIACOD		
Thies	Stephen Robert	D.D.S.	MS-0065	No	No	DDS-06242	12/15/04	08/31/14	7506 Hickman Rd.		Des Moines, IA	50324 515-276-0202	12/03/04		
Tortorich	Jordan Anthony	D.D.S.	MS-0098	No	No	FAC-40129	03/29/13	08/31/14	UIA College of Dentistry		Iowa City, IA	52242 319-335-7457	N/A - UIACOD		
Townsend	James Dwight	D.D.S.	MS-0003	Yes	Yes	DDS-06546	07/09/87	08/31/14	220 W Ridgeway Ave. #201		Waterloo, IA	50701 319-232-9023	08/24/12		
Vargas	Kaaren Giselle	D.D.S.	MS-0051	Yes	No	DDS-08554	11/02/98	08/31/14	1738 Linger Lane		North Liberty, IA	52317 319-665-2573	12/11/08		
Warrington	Jack Thomas	D.D.S.	MS-0110	Yes	No	DDS-08631	01/24/14	08/31/14	5950 Village View Dr. #200		West Des Moines, IA	50266 515-225-1677	12/17/13		
Weber	George Calvin	D.D.S.	MS-0002	No	No	DDS-05354	07/09/87	08/31/14	208 N Walnut		Glenwood, IA	51534 712-527-4801	02/19/09		
Weistroffer	Paula Louise	D.D.S.	MS-0079	No	No	DDS-08168	11/20/07	08/31/14	UIA College of Dentistry	Dept. of Perio 456 DSB	Iowa City, IA	52242 319-335-7238	N/A - UIACOD		

*Updated 3/14/14 Based on information located in MS files.