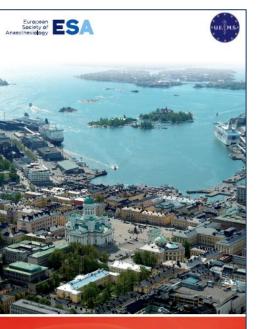




Updating the guidelines for procedural sedation

Dr. Jannicke Mellin-Olsen, Norway European Society of Anaesthesiology Secretary



HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY





Moscow September 2016

ХІV Сьезд Федерации Анестезиологов и Реаниматологов

XIV Congress of the Federation of Anaesthesiologists and Reanimatologists of Russia

20-22 сентября 2014 Россия, г. Казань ХІХ Сьеза Федерации Анестезиологов и Реаниматологог

XIV Congress of the Federatio of Anaesthesiologists and Reanimatologists of Russ

> 20-22 сентября 2014 Россия, г. Казань

FINN TORE MÅTTE SELVSNET VENTE TIL DET SÅ SKIKKEUG ROTETE UT FØR HAN FOREVIGET ROMMET!

EN DEL AV GLENGEN TILBAAGTE DET MESTE AV MOSKVATUREN PÅ HOIBHDE









HOTELL KOSMOS ROMFARTSHONUMENTET I TITA

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We request you to leave the key and this card with the reception on departure.

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Conflicts of Interest:



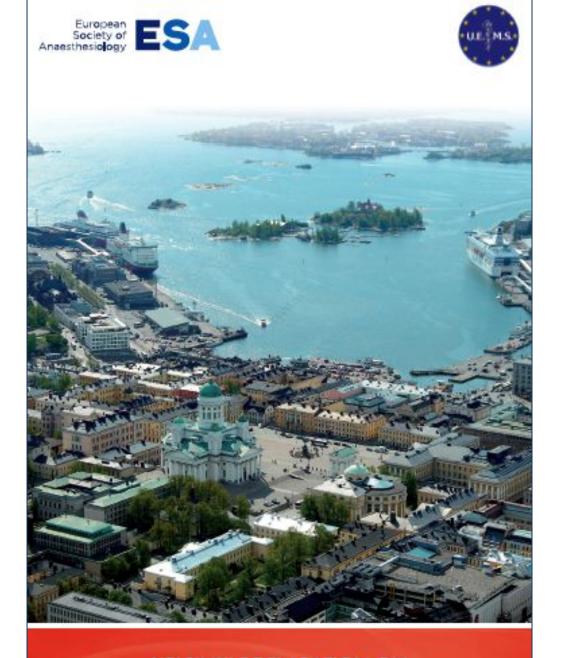
- Financial: none
- Secretary ESA
- Past President European Board of Anaesthesiology
- Deputy Secretary WFSA
- Consultant Anaesthesiologist Bærum Hospital, Norway

□ Many hats but not involving money

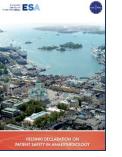
Presentation Overview:

- Anaesthesiology and patient safety
- Procedural sedation and Patient Safety
- Developing guidelines on Procedural Sedation





HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY



Anaesthesiology and patient safety

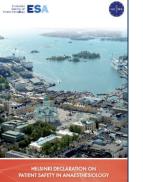
October 16, 1846 Morton's ether operation

The start of effective anaesthesia



January 28, 1848

The first fatality directly attributed to chloroform anaesthesia (Hannah Greener) was recorded.



HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY

BACKGROUND

Anaesthesiology shares responsibility for quality and safety in Anaesthesia, Intensive Care, Emergency Medicine and Pain Medicine, including the whole perioperative process and also in many other situations inside and outside the hospital where patients are at their most vulnerable.

- Around 230 million patients undergo anaesthesia for major surgery in the world every year. Seven million develop severe complications associated with these surgical procedures from which one million die (200,000 in Europe).¹All involved should try to reduce this complication rate significantly.
- Anaesthesiology is the key specialty in medicine to take up responsibility for achieving the goals listed below which will notably improve Patient Safety in Europe.



Launch Helsinki Declaration

Helsinki, June 13, 2010

Seminar at the Euroanaesthesia Congress

Presentations demonstrating our role in the OT, ICU, Pain, EM, Sedation, and more.

Support by the WHO, Patients, WFSA, UEMS, Medical-Technical Industry, Health Care Politicians

Signatures



Helsinki Declaration on Patient Safety in Anaesthesiology

- "Patients have a right to expect to be safe and protected from harm during their medical care and Anaesthesiology has a key role to play improving patient safety in all situations where vital functions of patients are potentially at risk.
- "All institutions providing sedation to patients must comply with anaesthesiology recognised sedation standards for safe practice."







Queen Victoria's 8th labour



Recent developments in medicine

- Enormous development of less traumatic surgical procedures
- Surgery may be associated with decreased stress response in patients
- Massive increase in diagnostic and therapeutic procedures, unpleasant to undergo, but not necessarily requiring anaesthesia performed by a full anaesthesia team (anaesthesiologist supported by non-physician anaesthesia personnel)



• Limited availability of anaesthesiological specialist support





HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY



Recent developments in medicine

- More potent medicines:
 - Midazolam
 - Short acting opioids with short onset time (alfentanil, remifentanil)
 - IV hypnotics (propofol, etomidate, ketamine)
- Easy to administer
- Increases the productivity of surgeons and physicians and



• Few risks?







12	AUTOP	PSY REPOR	T No. 2009-04415
	_	topsy on the body of	JACKSON, MICHAE
		ENT OF CORONER	
os Angel	, California o	m JUNE 26, 2009 @ 10	000 HOURS
m the and		(Date)	(Time)
		t history I ascribe the death to	<u>o</u> :
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O OR AS A CO	SEQUENCE OF		
	학과 관계 위에 관계 전 관계에서 가지		
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R CONDITION BEN omical Sum	SEQUENCE OF CONTRIBUTING BUT NOT RELATED TO DDIAZEPINE EFFECT any: Toxicology findin A) Propofol, lora nordiazepam, i toxicology rep B) Propofol, mida in urine. C) Propofol and l	ngs (see separate re azepam, midazolam, l identified in blood port for details). azolam, lidocaine an	lidocaine, diazepam and samples (see nd ephedrine identified I in liver tissue.

Why did Michael Jackson die?

- Wrong diagnosis.
- Wrong indication for Procedural Sedation
- Wrong PSA medicine administration
- Incompetent and non-qualified doctor
- Failing or absent personnel supervision
- Failing or absent monitoring





12	AUTOPSY REPORT	No. 2009-04415
12		JACKSON, MICHAE
Page 11		-
OPINIC	DN 2	
toxico natura The ca contri The ma 1. C	blogy studies show a high blood concent il as the presence of benzodiazepines a blogy report. The autopsy did not show al disease which would cause death. Ause of death is acute propofol intoxic: butory factor in the death is benzodia: unner of death is homicide, based on the fircumstances indicate that propofol and were administered by another.	s listed in the any trauma or ation. A zepine effect. e following:
з. т	The propofol was administered in a non-the ithout any appropriate medical indication the standard of care for administering p see anesthesiology consultation). Reco or patient monitoring, precision dosing	ion.
4. T	or patient monitoring, precision dosing as not present. he circumstances do not support self-ad ropofol.	
	PHER ROGERS, MD, MBA	S rieq
FRCP(C)	NAN SATHYAVAGISNARAN, MD DA , FCAP, FACP EDICAL EXAMINER-CORONER	8-19-09 ATE
CR:mtm: D-06/26		

17

Prerequisites for safe PSA

- PSA is an independent medical act.
- Training of PSA practitioners
- Composition and competencies of the PSA team
- Selection of patients
- Definition of PSA
- Equipment and monitoring
- Recovery facilities
- Discharge criteria
- Registration

European

Board of

Anaesthesiology

• Qualitity indicators: quality and safety



Slide adaption from Hans Knape at the launch of the Helsinki Declaration





HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY

How does Anaesthesiology respond?

- 1. Anaesthesiologists should regulate all procedural sedation and analgesia and maintain full authority over the process.
- 2. Laissez faire. Provide each specialty the flexibility to define and enforce its PSA practice without anaesthesiology oversight.
- 3. Let hospitals delegate authority for sedation leadership to an individual or a multidisciplinary hospital-wide sedation committee.
- 4. Create hospital-wide PSA committees to teach and be a resource to translate guidelines to hospital protocols meeting requirements of the hospital involved.





HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY

opear

Anaesthesiology

Guidelines on PSA by non-anaesthesiologists

• European Guidelines

 ESGE-ESGENA-ESA-Guideline: Non-anesthesiologist administration of propofol for GI endoscopy



HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY



Slide adaption from Hans Knape at the launch of the Helsinki Declaration European Society of Gastrointestinal Endoscopy, European Society of Gastroenterology and Endoscopy Nurses and Associates, and the European Society of Anaesthesiology Guideline: Non-anesthesiologist administration of propofol for GI endoscopy



Authors

J. M. Dumonceau^{1,1}, A. Riphaus^{2,1}, J. R. Aparicio³, U. Beilenhoff⁴, J. T. A.Knape⁵, M. Ortmann⁶, G. Paspatis⁷, C. Y. Ponsioen⁸, I. Racz⁹, F. Schreiber¹⁰, P. Vilmann¹¹, T. Wehrmann¹², C. Wientjes⁸, B. Walder¹³ and the NAAP Task Force Members²

Institutions

Institutions are listed at the end of article.

Bibliography

DOI http://dx.doi.org/ 10.1055/s-0030-1255728 Endoscopy 2010; 42: 960–974 © Georg Thieme Verlag KG Stuttgart - New York ISSN 0013-726X

Corresponding authors

J. M. Dumonceau, MD, PhD Division of Gastroenterology and Hepatology Propofol sedation by non-anesthesiologists is an upcoming sedation regimen in several countries throughout Europe. Numerous studies have shown the efficacy and safety of this sedation regimen in gastrointestinal endoscopy. Nevertheless, this issue remains highly controversial. The aim of this evidence- and consensus-based set of guideline is to provide non-anesthesiologists with a comprehensive framework for propofol sedation during digestive endoscopy. This guideline results the European Society of Gastrointestinal Endoscopy (ESGE), the European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) and the European Society of Anaesthesiology (ESA). These three societies have endorsed the present guideline.

The guideline is published simultaneously in the Journals Endoscopy and European Journal of Anaesthesiology.

COMMENTARY

Clin Endosc 2016;49:1-3 http://dx.doi.org/10.5946/ce.2016.49.1.1 Print ISSN 2234-2400 • On-line ISSN 2234-2443



Open Access

Sedation for Gastrointestinal Endoscopy: Practical Issues in Patient Safety and Quality Management

Seung Bae Yoon and Young-Seok Cho

Division of Gastroenterology, Department of Internal Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea

- In 2010, ESGE, ESGEN and ESA formulated guidelines for NAAP for GI endoscopy.
- However, the ESA has officially and publicly dissociated itself from the NAAP guideline after the death of Michael Jackson as a result of propofol administration without appropriate monitoring.

SPECIAL ARTICLE

Non-anaesthesiologists should not be allowed to administer propofol for procedural sedation: a Consensus Statement of 21 European National Societies of Anaesthesia

Azriel Perel

Propofol, which is the most commonly used drug for induction of general anaesthesia, has also become a popular drug for procedural sedation. Because its use may be associated with serious and potentially fatal side-effects, the manufacturers of propofol restrict its use solely to personnel trained in general anaesthesia. In spite of this warning, the use of propofol for procedural sedation by non-anaesthesiologists is rapidly expanding in many countries. Recently, the US Food and Drugs Administration (FDA) denied a petition from gastroenterologists seeking the removal of this particular restriction. This unequivocal ruling of the FDA received strong support from the American Society of Anesthesiologists (ASA). At about the same time, the European Society of Anaesthesiology (ESA), together with various European gastroenterology societies, published new guidelines entitled 'Nonanaesthesiologist Administration of Propofol for

Gastrointestinal Endoscopy' (NAAP). Following publication of the NAAP guidelines, many reservations have been expressed by ESA member societies and individuals, dealing with professional, political, procedural and safety-oriented concerns. Out of concern for patient safety, and in order to officially and publicly dissociate themselves from the NAAP guidelines, 21 national societies of anaesthesiology in Europe, all of whom are ESA members, have signed a Consensus Statement confirming that due to its significant well known risks, propofol should be administered only by those trained in the administration of general anaesthesia.

Eur J Anaesthesiol 2011;28:580-584

Published online 24 June 2011

Keywords: guidelines, patient safety, propofol, sedation, standards

Guidelines on non-anaesthesiologist administration of propofol for gastrointestinal endoscopy: a double-edged sword Christian Werner, Andrew Smith and Hugo Van Aken



European Journal of Anaesthesiology 2011, 28:553-555

Controversy

- One group opposes the guideline through perceived lack of scientific validity and apparent abandonment of anaesthesiologists' interests
- Another views the approach as an enhancement of safety standards, particularly for those countries currently providing care below the required level.
- The diverse positions among ESA members reflect the different medical practices, reimbursement policies and political leanings within individual countries.
- The guideline offers guidance and is not composed of fast and hard rules. Implementation may be subject to domestic regulations or local policy

INVITED COMMENTARY

Guidelines on non-anaesthesiologist administration of propofol for gastrointestinal endoscopy: a double-edged sword Christian Werner, Andrew Smith and Hugo Van Aken European Society of Anaesthesiology

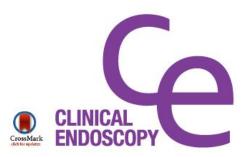
enneral regerant

European Journal of Anaesthesiology 2011, 28:553-555

- Anaesthesiologists in every European nation have a unique opportunity to show leadership in shaping the practice of procedural sedation and in training sedation practitioners.
- Using our influence and expertise to create the right conditions for skilled sedation can only enhance the quality and safety of sedation practice throughout Europe. It would be unfortunate if fundamentalism and populism were to weaken our position as a profession.

ORIGINAL ARTICLE

Clin Endosc 2016;49:47-55 http://dx.doi.org/10.5946/ce.2016.49.1.47 Print ISSN 2234-2400 • On-line ISSN 2234-2443



Open Access

Considerable Variability of Procedural Sedation and Analgesia Practices for Gastrointestinal Endoscopic Procedures in Europe

Hermanus H. B. Vaessen and Johannes T. A. Knape

Division of Anaesthesiology, Intensive Care and Emergency Medicine, University Medical Centre Utrecht, Utrecht, Netherlands

Questionnaire, 2012:

National Associations of Nurse Anesthetists in Europe National Delegates of the European Section and Board of Anaesthesiology

Country	Patients served by USC for GI endoscopy, %	% Patients served by CSC for GI endoscopy, %
Austria	<25	50-75
Belgium	50-75	25-50
Bulgaria	<25	>75
Czech Republic	50-75	<25
England	>75	<25
France	<25	>75
Germany	<25	>75
Italy	50	25-50
Luxembourg	<25	25-50
Norway	75	<25
Poland	30	60
Portugal	<25	>75
Spain	<25	>75
The Netherlands	>75	<25
Switzerland	<25	>75
Sweden	50-75	25-50

USC, uncontrolled sedation care; CSC, controlled sedation care; GI, gastrointestinal.

Country	Anesthesiol- ogist (MD)	Endoscopist (MD)	Endoscopist nurse	Nurse admin- istered propo- fol sedation	Non-anes- thesio <mark>l</mark> ogist	Endoscopy assistant (MD)	Nurse anesthetist	Sedation practitioner
Austria						×		
Belgium					×			
Bulgaria	★ ^{a)}							
Czech Republic	★ ^{a)}							
France							×	
Germany		×						
Great Britain		×						×
Italy		×	×			×		
Luxembourg	★ ^{a)}							
Norway							×	
Poland							×	
Portugal	★ ^{a)}							
Spain		×	×				×	
The Netherlands		×						×
Switzerland		×	×	×				
Sweden							×	

^{a)}Sedation: confinded to anesthesiologist.

Country	Pulse oximetry	Heart rate	NIBP	ECG	Capnography
Austria	+	+	+		()
Belgium	+	+	+	+	+
Bulgaria	+	+	1 (-	-
Czech Republic	+	+	+	_	_
England	+	+	+	+	+
France	+	+	+	+	+
Germany	+	+	+	121	<u>1</u>
Italy	+	+	+	+	-
Luxembourg	+	+	+	+	+
Norway	+	+	+	+	+
Poland	+	÷	+	-	-
Portugal	+	+	+	+	+
Spain	+	+	+	+	570)
The Netherlands	+	+	+	+	+
Switzerland	+	+	+	-	
Sweden	+	+	+	-	-

 Table 3. Routine Patient Controlled Sedation Care Monitoring during Gastrointestinal Endoscopy

NIBP, non-invasive blood pressure; ECG, electrocardiography.

Country	Pulse oximetry	Heart rate	NIBP	ECG	Capnography
Austria	+	+	+		
Belgium	+	+	+	-	<u>_</u>
Bulgaria	+	-	. ()	<u>177</u> 58	
Czech Republic	+	+	+	-	
England	+	+	+	573	57851
France	+	+	+	+	_
Germany	+	+	+	<u></u>	<u></u>
Italy	+	+	+	+	+
Luxembourg	+	+	+	+	
Norway	+	+	+	+	-
Poland	+	+	+	17.5	+
Portugal	+	+	+	+	_
Spain	+	+	+	+	+
The Netherlands	+	+	+	+	
Switzerland	+	+	+	<u>-</u>	<u>11</u> 23
Sweden	+	+	+	-	-

Table 4. Monitoring during Recovery after Controlled Sedation Care Gastrointestinal Endoscopy

NIBP, non-invasive blood pressure; ECG, electrocardiography.

Results:

ORIGINAL ARTICLE Clin Endosc 2016;49:47-55 http://dx.doi.org/10.5946/ce.2016.49.1.47 Print ISSN 2234-2400 * On-line ISSN 2234-2443

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- Huge variation
 - Safety
 - type of practitioners
 - Responsibilities
 - Monitoring
 - informed consent
 - patient satisfaction
 - complication registration
 - training requirements.



• 75 % were not familiar with international sedation guidelines. Safe sedation practices (mainly propofol-based moderate to deep sedation) are rapidly gaining popularity.

Conclusion:

ORIGINAL ARTICLE Clin Endosc 2016;49:47-55 http://dx.doi.org/10.5946/ce.2016.49.1.47 Print ISSN 2234-2400 • On-line ISSN 2234-2443



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Hermanus H. B. Vaessen and Johannes T. A. Knape

Division of Anaesthesiology, Intensive Care and Emergency Medicine, University Medical Centre Utrecht, Utrecht, Netherlands

The risky medical procedure of moderate to deep sedation has become common practice for gastrointestinal endoscopy.

Safe sedation practices:

- adequate selection of patients
- adequate monitoring
- training of sedation practitioners
- adequate after-care

are gaining attention in a field that is in transition from uncontrolled sedation care to controlled sedation care

Conclusion:

ORIGINAL ARTICLE Clin Endosc 2016;49:47-55 http://dx.doi.org/10.5946/ce.2016;49:1.47 Print ISSN 2234-2400 • On-line ISSN 2234-2443



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• International guidelines in existence.

 Lack of formal implementation processes has limited the development of uniform policies of sedation, obstructing comparative scientific research into quality and outcomes of sedation.

Conclusion:

ORIGINAL ARTICLE Clin Endosc 2016;49:47-55 http://dx.doi.org/10.5946/ce.2016.49.1.47 Print ISSN 2234-2400 • On-line ISSN 2234-2443



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Considerable Variability of Procedural Sedation and Analgesia Practices for Gastrointestinal Endoscopic Procedures in Europe

Hermanus H. B. Vaessen and Johannes T. A. Knape

Division of Anaesthesiology, Intensive Care and Emergency Medicine, University Medical Centre Utrecht, Utrecht, Netherlands

- For a risky medical procedure such as moderate-to-deep sedation further improvement of quality by harmonization of practices will contribute to quality, patient safety, and comfort.
- The international guidelines were translated into medical practice to a very limited extent.
- Many changes taking place in sedation practices in Europe, but much remains to be done to ensure maximum safety of the sedated patient.

Evidence based Guidelines on adult Procedural Sedation

Task Force on Sedation

The Task Force on Sedation has been set-up in order to elaborate an ESA/EBA guideline covering this matter.

Composition

Co-chairperson



Robert Fitzgerald EBA Thomas Fuchs-Buder ESA

ESA representatives

Filippo Bressan	
Jochen Hinkelbein	
Massimo Lamperti - Methodologist	
Pablo Rama Maceiras	
Andrew Smith	
Michel Struys	
Francis Veyckemans	

EBA representatives

2

Advisory group

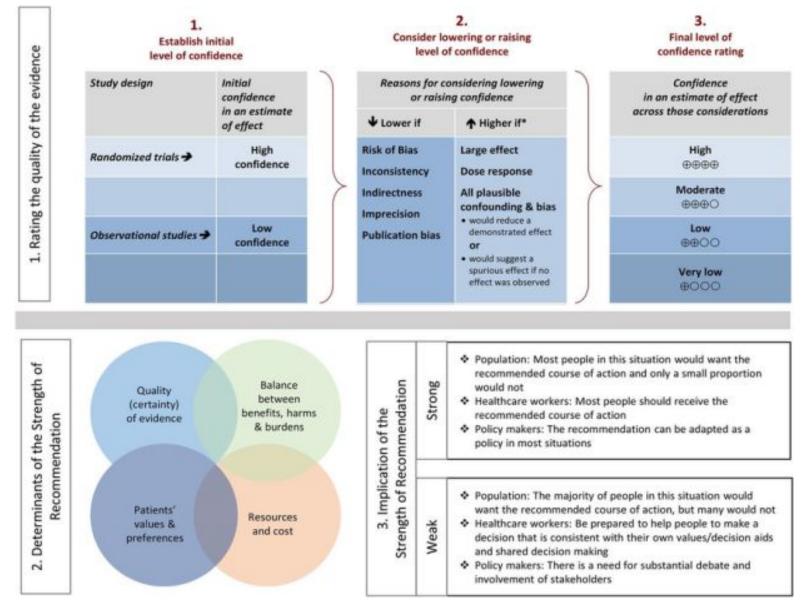
Azriel Perel

Task force – six subcommittees

- Competences
- Medicines and adverse effects
- Monitoring
- Patient selection
- Quality and follow-up
- Recovery and discharge

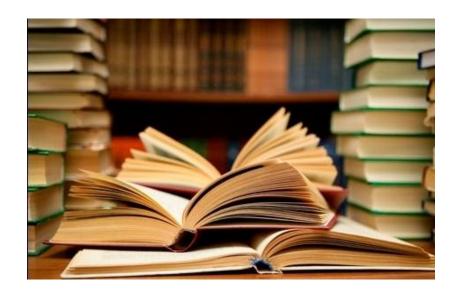
GRADE methodology

Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology (unrestricted use of the figure granted by the US GRADE Network)



Literature search MEDLINE, EMBASE, Cochrane :

- Conscious sedation
- Deep sedation
- Procedure
- Intervention
- Exam
- □ 12,263 records



Second cleaning round 2,248 records
 Third cleaning round 482 full text papers

CMS Manual System

Pub. 100-07 State Operations

Provider Certification

Human Services (DHHS) Centers for Medicare & Medicaid Services (CMS)

Department of Health &

Transmittal 74

Date: December 2, 2011

SUBJECT: Revised Appendix A, Interpretive Guidelines for Hospitals

I. SUMMARY OF CHANGES: Clarification is being provided for various provisions of 42 CFR 482.52, concerning anesthesia services.

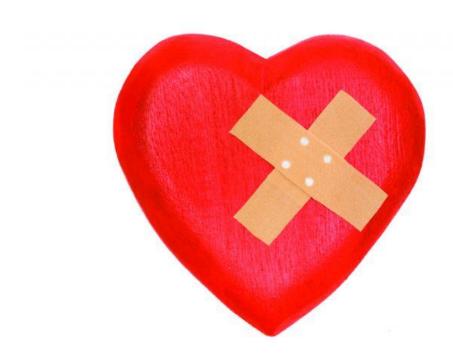
NEW/REVISED MATERIAL - EFFECTIVE DATE: December 2, 2011 IMPLEMENTATION DATE: December 2, 2011



A				
Responsiveness	Normal response to verbal stimulation	Purposeful* response to verbal or tactile stimulation	Purposeful* response following repeated or painful stimulation	Unarousable, even with painful stimulus
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous Ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular Function	Unaffected	Usually maintained	Usually maintained	May be impaired

* Reflex withdrawal from a painful stimulus is NOT considered a purposeful response

Selection of adult patients undergoing PSA - Cardiac patients



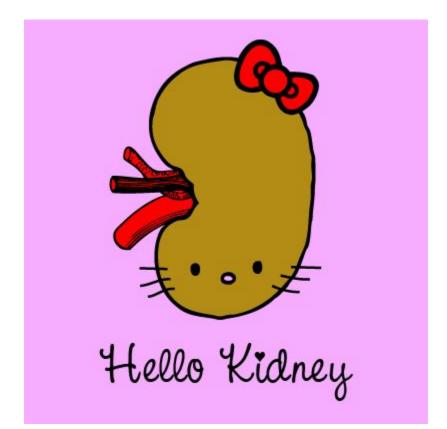
- Assess cardiac status and reserves
- Current practice: small doses of opioids + midazolam and propofol
- Dexmedetomidine?
- Anaesthesiologist: Moderate and severe hypotension and with severe cardiac abnormalities

Obstructive Sleep Apnoea



- OSAS not per se predictive of anaesthesia related cardiopulm complications during deep sedation.
- Indication carefully assessed
- Avoid opioids, minimise midazolam and propofol
- •
- Dexmedetomidine
- Anaesthesiologist if high risk of OSAS
- Nasal CPAP advisable

Chronic Renal Failure



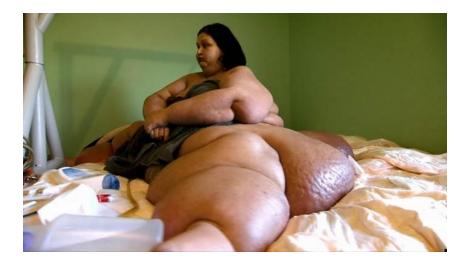
- Increased risk of developing respiratory problems during sedation
- Midazolam and fentanyl –metabolised in liver

Chronic Liver Disease



Propofol

Morbidly Obese



- High risk of respiratory complications
- Beach chair positioning
- ET-tubes preferred airway management
- Reminfentanil and dexmedetomidine preferred

ASA III and IV and old patients



Increased risk of hypoxaemia, hypotension, arrythmias.

Reduce dose, go slow

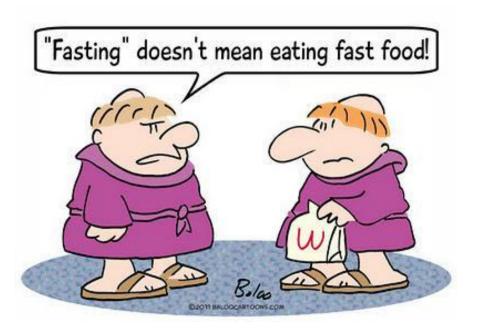
Airway Assessment



Always part of the procedure.

PSA relatively contraindicated in patients who are likely to be difficult to ventilate or oxygenate should respiratory difficulties arise while the patient is sedated.

Fasting



ASA guidelines:

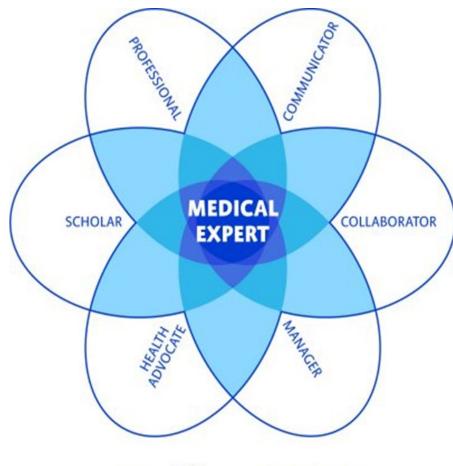
Patients undergoing PSA for "elective procedures" fast according to the standards used for general anesthesia.

Monitoring



- NIBP
- ECG
- Pulse oximetry
- Capnography
- BIS?
- Spectral entropy?
- Auditory evoked potentials?

Minimal competenies



CANMEDS

Minimal requirements of the sedation provider

- Theoretical training on sedation medicines, including emergency medicines
- Ability to perform a pre-procedure clinical assessment (including airways)
- Skills in assessing the different level of sedation
- Intravenous cannulation
- Certification in advanced life support.





Anesthesiology 2002; 96:1004-17

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Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists

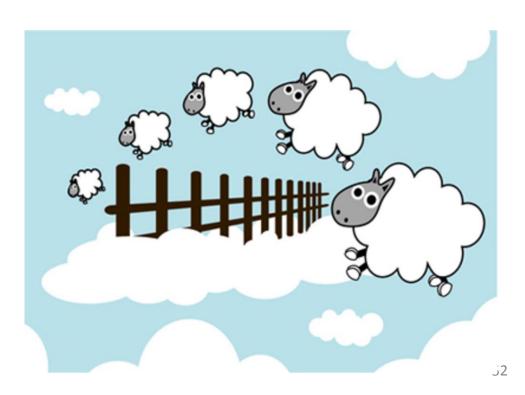
An Updated Report by the American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists

http://www.uptodate.com/contents/procedural-sedation-in-adults Procedural sedation in adults

> Robert L Frank, Allan B Wolfson, Jonathan Grayzel Literature review current through: Aug 2016. | This topic last updated: Apr 22, 2016.

Sedation medicines – often used

- Pethidine
- Morphine and other opioids
- Benzodiazepines
- Propofol
- Ketamine
- Ketofol
- Etomidate
- Etc...



Post sedation care - discharge:



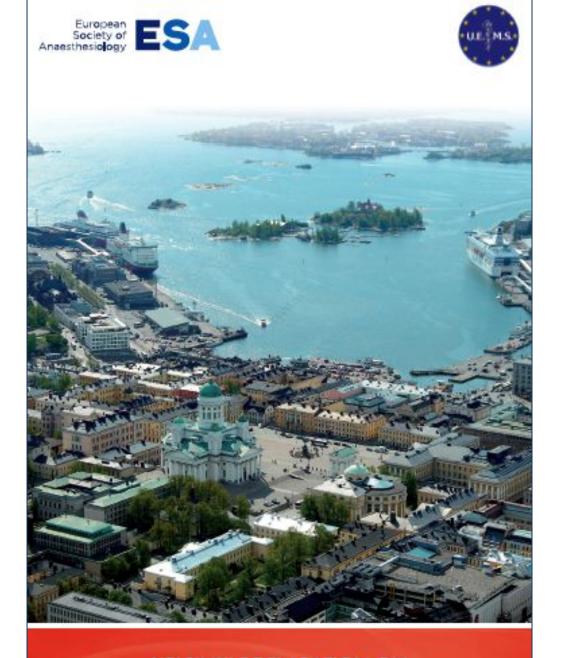
Safe for discharge:

- The procedure should be of sufficiently low risk that additional monitoring for complications is unnecessary.
- Symptoms e.g. pain, lightheadedness, and nausea should be well-controlled.
- Vital signs and respiratory and cardiac function should be stable.
- Mental status and physical function should have returned to a point where the patient can care for himself or herself with minimal to no assistance.
- A reliable person who can provide support and supervision should be present at the patient's home for at least a few hours.

Discharge

- Safely discharged within 30 minutes of receiving their last dose of sedative provided that no significant adverse events.
- Serious adverse events, e.g. hypoxia, rarely occur after discharge.
- Mild symptoms, such as nausea, lightheadedness, fatigue, or unsteadiness, for up to 24 hours common.
- This should be made clear to the patient.





HELSINKI DECLARATION ON PATIENT SAFETY IN ANAESTHESIOLOGY



большое спасибо! jannicke@mellin.no