

Procedural Sedation

-Anaesthesia Perspectives

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Cons, Dept of Anaes & OT Services, QEH

HA Convention 2016

Outline

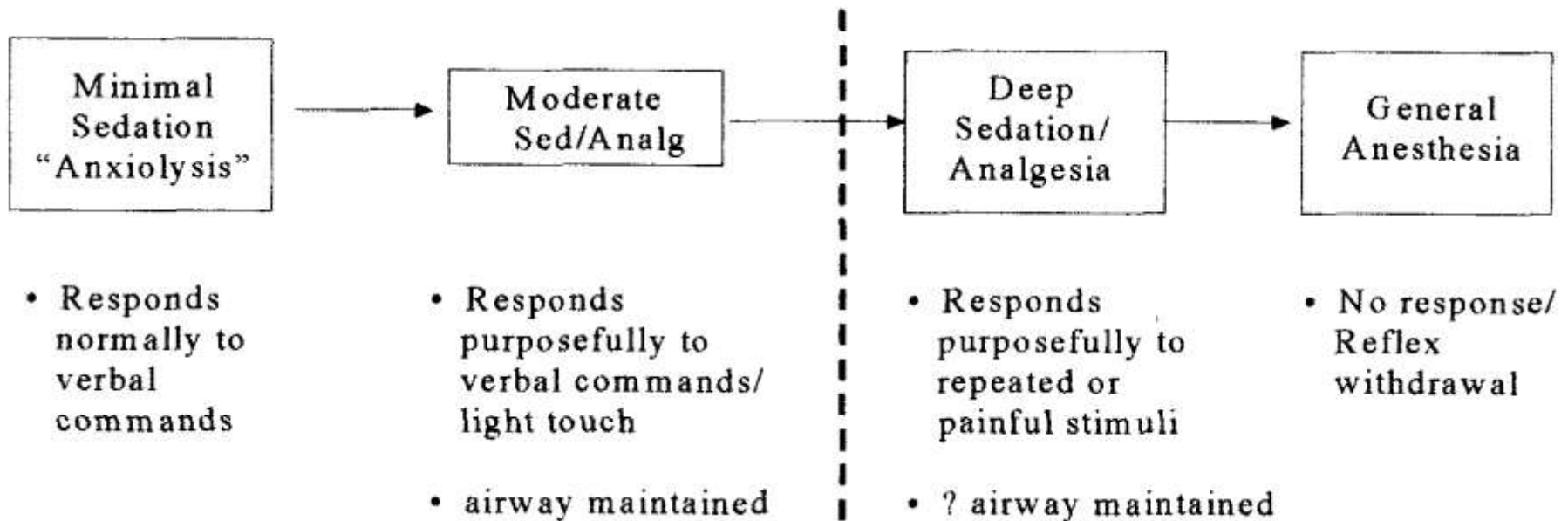
- Sedation / MAC
- Sedation is Easy?
- Procedural Sedation Guidelines
- HA Experience
- Our Practice Tour
- Sedasys: Robotic Sedation Challenge

Sedation and MAC

Sedation Definition

- “Depression of the central nervous system and/or reflexes by the administration of drugs by any route to decrease patient discomfort without producing unintended loss of consciousness”
- Difficult and confusing

ASA & JCAHO Continuum of Sedation



Loss of consciousness →

Loss of protective reflexes rapidly and unexpectedly

MAC / Monitored Anaesthesia Care?

American Society of Anesthesiologists Article

June 2004 Volume 68, Number 6

What's New In... Definitions of Monitored Anesthesia Care

Norman A. Cohen, M.D.

Committee on Economics

James P. McMichael, M.D., Chair

Committee on Economics

US Payment Till Mid 1980s:

GA, Regional and Local Standby
Full physician service

Downward Pressure on Payment for Standby Anesthesia

ASA replaced “standby
anesthesia” with “monitored
anesthesia care MAC” 1986

1998: ASA Position Statement Reaffirmed

- MAC is a specific anesthesia service in which an **anesthesiologist** has been requested to participate in the care of a patient undergoing a diagnostic or therapeutic procedure
- MAC refers to those situations in which the patient remains able to **protect the airway** for the majority of the procedure
- If, for an extended period of time, the patient is rendered unconscious and/or loses protective reflexes, then anesthesia care shall be considered a **general anesthetic**

“Extended period” and
“majority of the procedure”
were vague

A clear dividing line
between
MAC and GA

2003: ASA Position Statement

“If the patient loses consciousness and the ability to respond purposefully, the anesthesia care is a general anesthetic, irrespective of whether airway instrumentation is required”

Sedation is Easy?

What happened when sedation
went wrong?

Closed Claims Study US sedation in comparison with GA

- Respiratory depression from absolute or relative overdose of opioids
- Elective eye surgery (21%) or *facial plastic surgery* (26%)
- More than 40% of claims involved death or permanent brain damage
- *Over HALF of claims judged preventable*
 - better monitoring , increased vigilance and audible alarms

少女隆胸死 專家力證麻醉藥超標

27,231



[f 讚](#) 0
 [g+ 分享](#) 0
 [Twitter](#) 0
 [分享](#) 0

AA



【本報訊】少女為討男友歡心而隆胸，疑在診所注射過量麻醉藥死亡，案件昨續聆訊。法醫證實死者因注射過量麻醉藥致死，份量超標5倍，導致缺氧性腦受損。涉案醫生黃嘉謀傳召的專家證人整形醫生作供竟「倒米」，認為黃用藥超標，更指自己若遇到病人注射麻醉藥後仍叫痛，會立即終止手術。

法醫卓華昨供稱，從死者梁君（23歲）送院三小時後的血液中，驗出每毫升含9.3微克麻醉藥，推算她在診所注射的份量是30微克，而正常治療水平是5至6微克，加上死者注射後數分鐘出現急劇的呼吸及循環衰竭，以致腦



死者梁君生前留影。互聯網

110磅七旬教師抽脂亡 疑麻醉藥過量致過敏 診所急救儀器欠奉

文章日期：2006年2月21日

【明報專訊】體重110磅、曾接受多次整容手術的七旬女鋼琴教師，腹部長出脂肪瘤，且為消去「肚腩」，前年光顧相熟的整容名醫李宏邦，接受割切及抽脂手術，但手術剛開始，教師被注射麻醉藥後即告昏迷，送院後不治。死因庭昨日展開研訊，法醫相信教師是因為注射過量麻醉藥導致過敏而心臟停頓，又不排除一切是脂肪流入其他器官所致。

當日在場的護士昨日又供稱，醫務所內沒有急救儀器，因此教師昏迷後要向鄰近診所借用儀器。

死者林敬芳（70歲），生前任職鋼琴教師，於2003年8月28日在尖沙嘴東英大廈的整形外科醫生李宏邦的醫務所，接受脂肪瘤割切及抽脂手術期間死亡。



為老婦抽脂的名醫李宏邦，案發時在東英大廈的診所內做手術，但診所欠缺急救設備，被裁判官質疑。（林振東攝）



在抽脂手術中疑因麻醉藥劑量出錯而死的林敬芳，生前所拍下的照片。（死者丈夫提供）



下載明報

市收泰

成功申請



Doctors Imprisoned / Struck off

- Abortion doctor is **imprisoned** for killing (SCMP 31 Oct 03)
Gynaecologist gets two years for 'crass stupidity' leading to woman's death. The court heard Dr S injected Mrs. C with Remifentanyl, a pain killer he had never used before, while preparing her for an abortion. Mrs. C **died of an overdose of Remifentanyl**. Mr. Justice J said yesterday 'I find it difficult to understand why you **did not at least consult an anaesthesiologist** before you did what you did on Jan 8'.
- Plastic surgeon **struck off register** over woman's liposuction death (SCMP 21 Dec 09)
The ruling against Dr L was made after he was found guilty yesterday on three charges – that he was **unfamiliar with resuscitation procedures, unfamiliar with sedation safety guidelines and failed to provide sufficient resuscitation facilities at his clinic.**

Medical Manslaughter On the Rise

- ... *Doctors* making medical mistakes resulting in the *death* of their patients can now face criminal charges and spend time behind bars... MPS Casebook Sep 2008



Common Concerns:

- Inadequate knowledge
 - Drugs / techniques
 - Resuscitation (airway management)
- Patient Assessment / Selection
 - Pre-procedural evaluation
- Inadequate monitoring / multi tasking
- Unreasonable expectations
 - Physicians & patients

Procedural Sedation Guidelines



Issue date: December 2011

Sedation in young people

Sedation for diagnostic and therapeutic procedures in people aged 16 years and over

NICE Clinical Guideline Development Group



Guidelines for the safe use of procedural sedation and general anaesthesia in children

Original published 2003
Revised 2008
Updated 2010



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drug-induced states for medical, dental or surgical procedures. Lack of

SPECIAL ARTICLE
November 2012, Vol 10, No 11

Practice Guidelines for the Safe Use of Non-Anesthetic Sedation and General Anesthesia

ANESTHESIOLOGISTS
pharmacology, physiology, and
are frequently used in
of institutional care
patients for diagnostic
and Anesthesia has
Practice guidelines for
making decisions on
to clinical needs and
not intended as a
of practice as a
source. Finally, the
warranted for the
and open discussion of
open forum exists
The review and
for sedation
were advisory

Guidelines for the safe use of procedural sedation and analgesia for diagnostic and therapeutic procedures in children: 2010



Official Statement by
SAJAA
Sedation and Anesthesia
Society of American
J Anesth Sedation July 2010 10(7):Supplement 1:001-007



HKAM Guidelines on Sedation

- serves to recommend and ensure a minimum standard of safety measures for the sedation of patients to facilitate unpleasant diagnostic or minor surgical procedures across the different discipline

Hong Kong Academy of Medicine Guidelines on Procedural Sedation

1 Introduction

Sedation for patients undergoing diagnostic or therapeutic procedures could be undertaken by Fellows of different Colleges. Sedation is not without risk. This Guideline of the Hong Kong Academy of Medicine (the Academy) serves to recommend and ensure a minimum standard of safety measures for the sedation of patients to facilitate unpleasant diagnostic or minor surgical procedures across the different disciplines.

The risks of sedation include the following:

- 1.1 The protective reflexes are obtunded under sedation and airway obstruction may occur at any time.
 - 1.2 A wide variety of drugs, with potential adverse interactions, may be given to the patient.
 - 1.3 The difficulty in predicting absorption, distribution and efficacy of drugs, especially when not given intravenously.
 - 1.4 Unpredictable individual variance in response to drugs, especially in the elderly, the infirm and those with underlying medical diseases.
 - 1.5 The possibility that excessive amounts of sedatives may be used to compensate for inadequate analgesia.
 - 1.6 The sedation may outlast the procedure.
 - 1.7 The facilities and staffing at the locations where procedures are performed are variable.
- This document has drawn reference from current literature and various other guidelines included in the reference section. It is also advised to be read in conjunction with the following guidelines of the Hong Kong College of Anaesthesiologists (available at http://www.hkca.edu.hk/ANS/standard_publications/guidelines.htm), which will be updated from time to time:
- 1.8 Guidelines on Monitoring in Anaesthesia
 - 1.9 Guidelines for Postanaesthetic Recovery Care
 - 1.10 Recommended Minimum Facilities for Safe Anaesthetic Practice in Operating Suites

2 Definition

Sedation is the depression of the central nervous system and/or reflexes by the administration of drugs by any route to decrease patient discomfort without producing unintended loss of consciousness.

Sedation is not a set of discrete, well-defined stages but a continuum where there is the transition from complete consciousness through the various depths of sedation to general anaesthesia. Loss of consciousness with its attendant risk of loss of protective reflexes may occur rapidly and unexpectedly.

Many stakeholders for sedation...

- GI physicians / surgeons
- Radiologists
- Emergency physicians
- Cardiologists
- Paediatricians
- Dentists
- Plastic, aesthetic surgeons
- Eye...



Editorial

Safe sedation?

In the recent (2010) revision of the

paediatrics and dentistry have heightened concerns recently and the RCoA has been collaborating with

ments of different target levels of sedation because of subtle inconsistencies in the document. For exam-

- Guideline implementation still a major problem
- About one in seven hospitals had sedation committee / lead clinician for sedation
- Training needs for non-anaesthetists, safe limits of practice and governance framework are to be defined

Implementation of Guidelines

- Benefits:
 - Improve training
 - Improve delivery of sedation
 - Increase success of sedation;
 - Increase safety
- Drivers: sentinel events, hospital accreditation
- Barriers: resource / cost impact: training, additional equipment

Drivers

JCI Requirement: Sedation Policy

- Scope of sedation
- Qualified personnel to practice sedation: education, training, credentialing
- Sedation location, equipment and monitoring
- Documentation
- Sedation guidelines

ACHS Enhance Sedation Safety

Inadequate monitoring
for procedural sedation

- Taskforce to risk stratify sedation procedures set up
- New system to regulate paediatric procedural sedation implemented
- Additional staff to enforce HKMA sedation guideline recruited
- Education and training of frontline staff on safe use of sedation drugs conducted

Barriers

- a range of healthcare professionals:
 - primary care: dental and GP;
 - secondary care in hospital, using a wide range of techniques in different clinical settings: inpatients, outpatients, elective or emergency
- Staff turnover
- Additional resources
- Staff replacement costs while attending training

HA Experience

2009-2016



- About Us
- AIRS 3.0 (Log-in)
- Incident Management
- Safety Enhancement
- Publications and Education
- Coordinating Committees
- Clinical Ethics
- Breastfeeding Promotion
- Useful Links
- Staff Areas

Home > Safety Enhancement > Procedural Sedation Safety



Procedural Sedation Safety

Task Force on Procedural Sedation Safety

Term of Reference

- To advise on the collaborative planning and implementation of action to strengthen the knowledge and provision of safe procedural sedation in Hospital Authority.

Membership List

Meeting Notes

Procedural Sedation Task Force in HA

**1st Meeting of Procedural Sedation Task Force to be held on 12 July 2011
at 10:00 am in Multi-function Room, Oasis, Centre of Health Protection**

Agenda


- 1. Welcome all members**
- 2. Confirm Membership**
- 3. Background of Task Force**
- 4. Discussion on the impact on the practice of procedural sedation safety associated with the “Guideline on Procedural Sedation” promulgated by HKAM**
- 5. Review on the appropriate strategy to enhance procedure sedation safety in HA**
- 6. Any Other Business**

*11 July 2011
Hospital Authority*

Strategy

- 
- Risk Stratification Approach
 - Training

- 
- Physical Facilities and Equipment
 - Policy for Local Sedation Practice

- 
- Additional resources to Enforce HKAM Guideline
 - Quality Assurance

Training

- Framework of procedural sedation safety training
- Web-based learning
 - Procedural sedation safety eLearning; or
 - Specialty-based procedural sedation eLearning
- Simulation / interactive learning:
 - Single level; or
 - 2-level (basic & advanced)



Safe Sedation Nursing Course

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Simulation-based Training
Enhancement of Safety of Sedation I
Lesson 1

- Introduction
- Levels of sedat
- Paediatric airw
- Sedation effect

The link to the quiz will show below after watching the video.
You must complete the quiz to finish this Training



Procedural Sedation *Safety*



Simulation Training Courses

- Enhancing Safety in Sedation Workshop (ICS)
- Enhancement of Safety of Children in Diagnostic & Therapeutic Procedure (COC(Paed))
- Procedural Sedation Safety Simulation Training Course (Nursing)



	<u>2014-15</u> No. of Provider Courses <i>(No. of Participants)</i>	<u>2015-16</u> No. of Provider Courses <i>(No. of Participants)</i>	<u>2016-17</u> No. of Provider Courses <i>(No. of Participants)</i>
Enhancement of Safety of Children in Diagnostic & Therapeutic Procedure (COC(Paed))	4 (80)	4 (80)*	4 (80)
Procedural Sedation Safety Simulation Training Course (Nursing)	4 (80)	4 (80)	4 (80)
Enhancing Safety in Sedation Workshop (Institute of Clinical Simulation)	6 (120)	6 (120)	6 (120)



Enhancing Safety in Sedation Workshop for HA Staff 2015-16

The Enhancing Safety in Sedation Workshop aims to provide essential knowledge and skills to maximise safety and outcome in patients having procedural sedation. The Workshop will highlight the current standard of care, safety precautions, drugs usage and management of serious adverse events. The Workshop will take the format of web-based lectures, small groups discussions and hands-on medical simulation.

Date (2015-16): 2 May 2015, 18 July 2015, 8 August 2015,
26 September 2015, 24 October 2015,
12 March 2016
(6 identical courses)

Time: 08:45am to 16:15pm

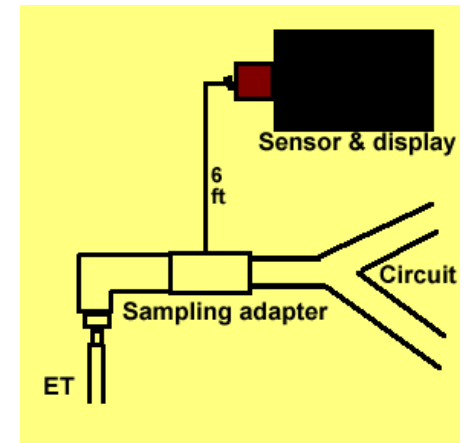
Venue: NTE Simulation & Training Centre, 3E Ward, NDH

CME accreditations: CME/CPD pending


Class Capacity: 20 doctors per course

EtCO₂ monitor

- Side-stream vs main-stream



HA Specialty Guidelines

 醫院管理局 HOSPITAL AUTHORITY	Hospital Authority Head Office	Document No.	HAHO-COC-GL-PAE-001-v01
	Practice Recommendation for Sedation of Children in Diagnostic and Therapeutic Procedures	Issue Date	2012/2013
		Review Date	2012/2016
		Page	1 of 35

 醫院管理局 HOSPITAL AUTHORITY	Hospital Authority Head Office	Document No.	HAHO-COC-GL-OPH-006-v02
	Guidelines on Use of Chloral Hydrate for Sedation of Children in Ophthalmic Out-patient Departments	Issue Date	23/04/2015
		Review Date	23/04/2016
		Page	1 of 10

Practice Recommendation for Sedation of Children in Diagnostic and Therapeutic Procedures

Guidelines on Use of Chloral Hydrate for Sedation of Children in Ophthalmic Out-patient Departments

FOR HAHO INTERNAL CIRCULATION ONLY

Version	Effective Date
2.0	23/04/2015

Version	Effective Date
1	31 December 2013
Previous Version: Guidelines for Sedation of Children in Diagnostic and Therapeutic Procedures	Year 2000

Document Number	HAHO-COC-GL-PAE-001-v01
Author	Paediatric Sedation Guideline Working Group
Custodian	Secretary, Co-ordinating Committee in Paediatrics
Approved/ Endorsed By	Co-ordinating Committee in Anaesthesiology Co-ordinating Committee in Paediatrics


Document Number	HAHO-COC-GL-OPH-006-v01
Author	Members, Coordinating Committee (Ophthalmology)
Custodian	Secretary, Coordinating Committee (Ophthalmology)
Approved/ Endorsed By	Coordinating Committee (Ophthalmology)
Approval Date	23/04/2015
Distribution List	HA Staff

Cluster Local Practice



Procedural Sedation Guidelines



 HONG KONG EAST CLUSTER Quality & Safety Office	Doc. no.	HKEC-Q&S-AA-GL-005-R0
	Effective date	1 April 2015
Guidelines on Sedation for Diagnostic and Interventional Procedures	Last review date	
	Custodian	Chairman, WG on Procedural Sedation Safety
	Approver	Chairman, CO&S Committee

1. Objective

- 1.1 This guideline sets out the minimum standard of safety measures recommended for the sedation of patients to facilitate unpleasant diagnostic or interventional procedures.

2. Scope

- 2.1 This guideline applies to all adult patients requiring sedation for diagnostic or interventional procedures in ward / unit.
(For Department of Paediatrics, follow the recommended practice developed jointly by COC Paediatrics and COC Radiology.)

3. Definition of Sedation

- 3.1 Sedation is the depression of the central nervous system and / or reflexes by the administration of drugs by any route to decrease patient discomfort without producing unintended loss of consciousness.

4. Stages of Sedation

HA: Sedation / GA by Anaesthetists 2015

- Regular: ~30 sessions /wk; total 1511/2334
 - Endoscopy: 56 / 151
 - Radiology: 499 / 829
 - Radiation Oncology: 614 / 1021
 - Cardiology: 342 / 333
- Ad hoc / Emergency

Hospital Authority Statistical Report



醫院管理局
HOSPITAL
AUTHORITY

醫管局統計年報



2013 - 2014

Table 3.4 Number of Operations by Type of Operation by Cluster / Hospital / Clinic 2013/14 (Cont'd)

表 3.4 二零一三/一四年度按手術類型及聯網/醫院/診所劃分的手術數目(續)

Cluster 醫院聯網	Hospital Management* 所隸屬的醫院*	Hospital / Clinic 醫院/診所	Number of operations by type of operation # 各手術類型的手術數目 #					Total 總計
			Ultra-major 極大型	Major 大型	Inter-mediate 中型	Minor 小型	Unclassified 未分類	
Kowloon West Cluster 九龍西聯網	CMC	Caritas Medical Centre 明愛醫院	895	4,798	2,900	4,545	32	13,170
	KWH	Kwong Wah Hospital 廣華醫院	1,306	5,289	2,675	10,276	65	19,611
	OLM	Our Lady of Maryknoll Hospital 聖母醫院	51	324	418	2,833	16	3,642
	PMH	Princess Margaret Hospital 瑪嘉烈醫院	1,523	6,837	2,161	6,596	67	17,184
	YCH	Yan Chai Hospital 仁濟醫院	1,032	1,858	1,683	5,018	25	9,616
Kowloon West Cluster Sub-total 九龍西聯網小計			4,807	19,106	9,837	29,268	205	63,223
New Territories East Cluster 新界東聯網	AHNH	Alice Ho Miu Ling Nethersole Hospital 雅麗氏何妙齡那打素醫院	510	3,017	1,971	22,282	46	27,826
	NDH	North District Hospital 北區醫院	912	2,370	2,127	93,973	54	99,436
	PWH	Prince of Wales Hospital 威爾斯親王醫院	3,941	9,875	2,819	30,672	124	47,431
New Territories East Cluster Sub-total 新界東聯網小計			5,363	15,262	6,917	146,927	224	174,693
New Territories West Cluster 新界西聯網	POH	Pok Oi Hospital 博愛醫院	276	1,970	1,949	10,624	31	14,850
	TMH	Tuen Mun Hospital 屯門醫院	2,748	7,543	3,348	11,313	74	25,026
		Tuen Mun Eye Centre 屯門眼科中心	34	2,796	2,076	1,660	0	6,566
New Territories West Cluster Sub-total 新界西聯網小計			3,058	12,309	7,373	23,597	105	46,442
Overall HA 醫院管理局總計			28,628	108,495	50,299	273,835	1,652	462,909

Note: # Include procedures / surgical operations performed for inpatients and outpatients (whether carried out inside or outside a major operating theatre and with or without a local or general anaesthetic).

* For the abbreviation of hospitals / institutions, please refer to Appendix 4 for details.

註釋: # 包括為住院及門診病人進行的程序或外科手術(不論在大型手術室內或外進行及有否局部或全身麻醉)。

* 請參閱附錄4的醫院/機構簡稱及中英對照表。

Anaesthetists impossible to do all
the sedation work

Medical Inflation

[CBS News Staff /](#)

CBS News/ March 20, 2012, 5:48 PM

Study: Colonoscopies often come with costly, unnecessary sedation



istockphoto

(CBS/AP) Dread getting a colonoscopy? You're not alone - which is why lots of people are sedated before the procedure. But a new study suggests too many people are getting extra, unnecessary sedation, racking up nearly \$1 billion annually in health care costs.

[PICTURES: 10 myths about colon cancer](#)

What's more, most of the patients utilizing anesthesiologists to monitor sedation are considered low-risk patients who don't need the extra help, the study authors said.

Our Practice Tour

**HOSPITAL AUTHORITY
CONSENT FOR OPERATION/
PROCEDURE/TREATMENT
NOT REQUIRING ANAESTHETIST(S)**

Admission/Clinic No. _____ ID _____
Name _____
Sex _____ Age _____ Chinese Name _____
Dept _____ Ward _____

A. PERSON(S) SIGNING THIS FORM

The Patient is named in the right hand top corner of this Form.

The person(s) signing this Form is/are:
(Please tick as appropriate.)

- the Patient.
 the Patient who is a competent minor (see Note 2).
 the parent or guardian of the Patient who is a minor.
 the Patient's legal guardian appointed under MHO with power to consent to treatment.

Name in Block Letters _____

HKID Card / Identity Document No. (Please refer to patient addressograph sticker at right
upper corner of this page) _____

Address _____

Phone No. (Day) _____ (Night) _____

Relationship with the Patient (please tick as appropriate):

- the parent or guardian of the Patient who is a minor.
 the Patient's legal guardian appointed under MHO with power to consent to treatment.

B. EXPLANATION OF THE NATURE, EFFECT/BENEFITS AND RISKS/COMPLICATIONS OF THE OPERATION/PROCEDURE/TREATMENT

The doctor/health professional, who signs this Form, has explained the nature, effect/benefit and risks/complications of the operation/procedure/treatment to the Patient and/or the Patient's parent or guardian/the Patient's legal guardian appointed under the MHO as set out below.

INDICATIONS FOR AND THE NATURE AND EFFECT/BENEFITS OF THE OPERATION/PROCEDURE/TREATMENT

The Patient's diagnosis/indications for the operation/procedure/treatment:

Name and nature of the operation/procedure/treatment for the Patient:

Sedation for Diagnostic and/or Therapeutic Procedures

The intended effect/benefits of the operation/procedure/treatment are:

Enable the doctor to perform the procedure smoothly and safely while you remain
sleepy, calm and still

C. GENERAL RISKS/COMPLICATIONS ASSOCIATED WITH AN OPERATION/PROCEDURE/TREATMENT

Aspiration of gastric contents, airway obstruction, decreased breathing effort, hypox
unstable blood pressure and irregular heart beats, adverse drug reactions (including
allergic reaction which may be severe).

D. SPECIFIC RISKS/COMPLICATIONS AND RELEVANT TREATMENT OPTIONS

Specific risks/complications of the operation/procedure/treatment (including low probability serious consequence risks/complications) are:

There is a rare but serious risk of anaphylaxis and even death after conscious
sedation. Risks related to diagnostic and/or therapeutic procedure.

Other treatment options (including the option of no treatment) and their risks/complications

**HOSPITAL AUTHORITY
CONSENT FOR OPERATION/
PROCEDURE/TREATMENT
NOT REQUIRING ANAESTHETIST(S)**

Admission/Clinic No. _____ ID No. _____
Name _____
Sex _____ Age _____ Chinese Name _____
Dept _____ Ward _____ Bed _____

The antecedent sedation

A. PERSON(S) SIGNING THIS FORM

The Patient is named in the right hand top corner of this Form.

The person(s) signing this Form is/are:
(Please tick as appropriate.)

- the Patient.
 the Patient who is a competent minor (see Note 2).
 the parent or guardian of the Patient who is a minor.
 the Patient's legal guardian appointed under MHO with power to consent to treatment.

Name in Block Letters _____

HKID Card / Identity Document No. _____

Address _____

Phone No. (Day) _____ (Night) _____

Relationship with the Patient (please tick as appropriate):

- the parent or guardian of the Patient who is a minor.
 the Patient's legal guardian appointed under MHO with power to consent to treatment.

B. EXPLANATION OF THE NATURE, EFFECT/BENEFITS AND RISKS/COMPLICATIONS OF THE OPERATION/PROCEDURE/TREATMENT

The doctor/health professional, who signs this Form, has explained the nature, effect/benefits and risks/complications of the operation/procedure/treatment to the Patient and/or the Patient's parent or guardian/the Patient's legal guardian appointed under the MHO as set out below.

INDICATIONS FOR AND THE NATURE AND EFFECT/BENEFITS OF THE OPERATION/PROCEDURE/TREATMENT

The Patient's diagnosis/indications for the operation/procedure/treatment:

Name and nature of the operation/procedure/treatment for the Patient:

The antecedent sedation (Including oral +/- Intravenous injection of drugs)

The intended effect/benefits of the operation/procedure/treatment are:

C. GENERAL RISKS/COMPLICATIONS ASSOCIATED WITH AN OPERATION/PROCEDURE/TREATMENT

D. SPECIFIC RISKS/COMPLICATIONS AND RELEVANT TREATMENT OPTIONS

Specific risks/complications of the operation/procedure/treatment (including low probability serious consequence risks/complications) are:

Facial flushing, increased secretion, muscle twitching, nightmares, vomiting, hypoxia,
respiratory depression, hypotension, raised intracranial pressure, allergic reaction

Other treatment options (including the option of no treatment) and their risks/complications are:

Other treatment options: _____



Sedation for Diagnostic and Therapeutic Procedures:

What should you know?

診斷和治療程序施行的鎮靜麻醉 概覽

Introduction

This leaflet aims to provide you with the basic information about the sedation that you are going to receive. If you have any questions about your sedation that are not covered in this leaflet, please discuss with your doctor.

What is sedation?

Sedation is a process to make you sleepy and comfortable by administering drug(s) during procedures that are often associated with significant discomfort. It enables the doctor to perform the procedure smoothly and safely while you remain sleepy, calm and still. After sedation, you may or may not be aware of what is going on during the procedure. You may or may not remember the procedure when the sedative effects of the drugs have worn off.

Who is responsible for your sedation?

The doctor who is responsible for your sedation will need to assess and prepare you first. After giving you the sedatives, the doctor (and other health care providers) will monitor your wellbeing while you undergo the procedure. He/She will also be responsible for your recovery and discharge, and to manage any emergencies and complications related to sedation.

Safety First

- Define a minimum standard for the conduct of sedation
 - Properly trained personnel
 - No multi-tasking i.e. the person doing the sedation and observation cannot be the person assisting the procedurist
 - Availability of resuscitation equipment & drugs in the suite
- Audit and Feedback

Sedasy's Robotic Challenge

Johnson & Johnson



**FDA Grants Premarket Approval (PMA)
for the SEDASYS® System for
Healthy Patients Undergoing Sedation
During Routine Colonoscopy and
EGD Procedures**

**- Reduces risks associated with
oversedation, facilitates faster patient
recovery and increases physician
satisfaction -**

SEDASYS[®], Airway, Oxygenation, and Ventilation: Anticipating and Managing the Challenges

Basavana Gouda Goudra · Preet Mohinder Singh ·
Vinay Chandrasekhara

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Abstract In May 2013, the FDA (Federal Drug Administration) approved SEDASYS[®], a device that enables non-anesthesia physicians to provide mild-to-moderate sedation to patients undergoing colonoscopy and esophagogastroduodenoscopy. SEDASYS[®] is the first among the devices being built to provide computer-assisted personalized sedation. Although the intention of this approval is to cut the anesthesia related expenses, it is likely to create new challenges to the users—both clinical and administrative—that might even increase the cost. Deep sedation is required frequently for a successful completion of the procedure, which poses unforeseen challenges. The present review aims to provide clear information to the users regarding pre-procedure assessment, possible sedation

Background

Availability of effective sedative medications like propofol has increased the number of gastrointestinal (GI) endoscopy procedures performed around the world by enhancing the acceptability among patients [1]. The success of the colonoscopy screening program is in part attributable to short acting sedative medications like propofol that leave minimal hangover. However, the use of propofol comes at a significant financial cost with added concerns regarding safety [2, 3]. Until recently, in the United States, propofol was administered exclusively by anesthesia providers in the setting of GI endoscopy. However, the Food and Drug Administration (FDA) has recently approved its use by non-



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Lee Sedol



It's game over for the robot intended to replace anesthesiologists

By **Todd C. Frankel** March 28 



Tricia Kunkel, RN preps Lisa McLaughlin, 49, for a colonoscopy at the ProMedica Toledo Hospital on April 9, 2015. A dose of propofol is

Most R

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J&J to Stop Selling Automated Sedation System Sedasys

Poor sales from a product that was opposed by anesthesiologists

By **JONATHAN D. ROCKOFF**

1 COMMENTS

March 14, 2016 5:08 p.m. ET

Johnson & Johnson is halting sales of its automated sedation system, a casualty of poor sales and cost cuts by the health-product company.

The machine, called Sedasys, promised to automate a common procedure in hospitals and doctors' offices: sedating patients undergoing colon-cancer screenings. J&J saw great sales potential in a device that could improve care and reduce the costs of the colonoscopies.



The machine was considered an example of the commercial potential in introducing cost-saving new technologies into a cash-strapped health-care system. But it also became a symbol of the pushback companies can face in replacing humans with automation.

The better the v

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Thank You