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Guidelines for conscious sedation during non operative procedures

Essay

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BY

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LIST OF ABBREVIATIONS

AAP	: American Academy of Pediatrics
ADA	: American Dental Association
ASA	: American Society of Anaesthesiologist.
AVM	: Arterio Venous Malformation
BIS	: Bispecteral Index
BP	: Blood Pressure
CAPS	: Computer Assisted Personalized System
CNS	: Central Nervous System.
CT	: Computed Tomography.
ECG	: Electrocardiography.
ECT	: Electro-Convulsion Therapy.
ED	: Emergency Department
EEG	: Electroencephalogram
ERCP	: Endoscopic retrograde cholagiopancreatography
EUS	: Endoscopic Ultra Sound
GABA	: Gamma Amino Buteric Acid.
HBO	: Hepato Biliary Obstruction.
ICP	: Intracranial Pressure
IM	: Intramuscular.
INR	: Interventional neuroradiology
IV	: Intravenous.
LOC	: Level of Consciousness.
MAC	: Monitored Anaesthesia Care.
MAO	: Mono Amino-Oxidase.
MRA	: Magnetic Resonance Angiography.
MRI	: Magnetic Resonance Imaging.
NAPS	: Non Anaesthesiologist Propofol Sedation
NORA	: Non Operating Room Anaesthesia
NPO	: Nothing Per Oral.
NSAIDs	: Non Steroidal Anti-inflammatory Drugs.
OBA	: Office Based Anaesthesia
OR	: Operating Room.
PACU	: Post Anaesthetic Care Unit.
PADSS	: Post Anaesthetic Discharge Scoring System.
Po	: Per Os (Mouth)
PO	: Post Operative
POE	: Preoperative evaluation
PSA	: procedural sedation and analgesia
RF	: Radiofrequency
RN	: Registered Nurse.
SAH	: Subarachnoid haemorrhage
TCI	: Target Controlled Infusion
TIVA	: Total Intravenous Anaesthesia
US	: Ultrasound
WFNS	: World Federation of Neurosurgical Societies

Chapter I

Introduction

Introduction

The number of noninvasive and minimally invasive procedures performed outside of the operating room has grown dramatically over the last several decades **(Krauss & Green, 2006).**

More medically complex patients have been undergoing more procedures outside the operating room, due to technological advances in medicine, the increased proficiency of proceduralists and a raised awareness of healthcare costs **(Robbertze et al., 2006).**

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 ***(*American Academy of Pediatrics, 2006).**

Conscious sedation was first introduced by the American Dental Association (ADA) and refers to a "minimally depressed level of consciousness that is produced by a pharmacologic method, a non-pharmacologic method, or a combination of both, in which the patient retains the ability to maintain an airway independently and continuously and to respond appropriately to physical stimulation or verbal command" **(Waring et al., 2003).**

Conscious sedation is the preferred practice for certain surgical interventions; one advantage that it has over general anesthesia is that patient-doctor cooperation is possible. The reductions in anxiety and amnesia also result in higher levels of patient comfort **(Schweickert** & **Kress, 2008**).

One of the main advantages of conscious sedation and analgesia is the patient's rapid return to presedation levels, such patients generally experience a shorter recovery period, ambulate earlier and more readily participate in the

discharge process than do patients receiving general anesthesia. Side effects from the medications are minimal and complications are few **(Cohen et al., 2007)**.

Various procedures that require procedural sedation are better served by considering the goals of procedural sedation and determining if a particular patient requires pharmacological intervention to meet the following goals during a procedure as patient safety, minimizing pain and anxiety associated with procedure minimizing patient's motion during the procedure, maximizing the chance of success of procedure and returning the patient to presedation state as quickly as possible **(Nelson, 2009).**

There are many challenges in providing safe anaesthesia at a remote location as limited space, lighting or patient access, monitors and equipment which may be old and unfamiliar, a lack of piped medical gases, scavenging, and power outlets, lack of trained anaesthetic assistance and immediate backup in the event of emergency and limited or nonexistent recovery facilities **(Dallimore & dally, 2011).**

While sedation can improve the patient experience of unpleasant procedures, if performed poorly it has the potential to cause harm **(carol & sara, 2011).**

The demand for safe efficient sedation and analgesia outside the operating room has outstripped the available supply of anaesthesiologists. The lack of sufficient anaesthesiology care providers has lead to the demand to create sedation services led by non-anesthesiologists (i.e., nurse practitioners, pediatricians, emergency department physicians, intensivists and dentists) who often use sedative agents including anaesthetic drugs **(Kaplan et al., 2009).**

Sedation requires a holistic approach with comprehensive pre- and post-procedural assessments, regular monitoring and a department that is fully equipped and staffed. Further, it requires responsible healthcare professionals to have good knowledge of the pharmacology of the drugs used, to identify high-risk patients and to recognize and manage complications appropriately **(Mayson et al., 2006).**

Routine monitoring during procedural sedation should include continuous pulse oximetry and ECG monitoring as well as intermittent recordings of respiratory rate and blood pressure at a frequency of at least every 5 minutes during the procedure **(Joseph, 2011).**

Chapter II

Aim Of The Work

Aim of the Work

The aim of this essay is to provide effective, standardized, guidelines for the safe administration, monitoring, recovery and discharge of patients who have received sedation / analgesia outside the operating room.

Chapter III

Terminology And Guidelines

Terminology and Guidelines

Sedation continuum

Progression from minimum sedation to general anaesthesia does not lend itself to arbitrary division. Low doses of opioids or sedative-hypnotics induce mild analgesia or sedation respectively, with little danger of adverse events. Higher doses provide progressively deeper sedation, increasing the risk of respiratory and airway compromise. Almost all non-dissociative drugs for procedural sedation and analgesia in common use, including opioids, benzodiazepines, barbiturates, etomidate, and propofol, can induce a state of general anaesthesia with loss of protective airway reflexes. Additionally, sedation depth will drift during any given procedure. Noxious stimuli can lighten sedation, and the withdrawal of external stimuli at the end of a procedure can deepen it. Accordingly, continuous monitoring is essential and clinicians must be prepared to rescue patients from levels of sedation deeper than intended **(Krauss and Green, 2006).**

Guidelines for Sedation:

Cravero and Blike, mention that the first monitoring guideline for sedation was written at 1983 by the American Academy of Pediatrics (AAP). This guideline was written in response to reports of three deaths in a single dental office and other incidents primarily involving dental sedation **(Cravero and Blike, 2004).**

In 1992, the Amercan Academy of Pedatric guidelines were revised to reflect advances in technology and required pulse oximetry for all sedated children **(American Academy of Pediatrics, 1992).**