Sedation for painful procedures by non-anaesthetists in the Netherlands.

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Sedation.....????

We’ve been doing it for yeeeaars...!
Background

The last 10 years there is a strong increase of diagnostic and therapeutic interventions of a limited invasive character;

- gastro-enterology
- interventional radiology
- interventional cardiology
- pulmonology
- gynaecologie (IVF)
- etc...
Definitions
(Insp. for Health Care, Dutch Ministry of Health, Welfare and Sports)

Sedation

= Flattening of consciousness thereby making a painful procedure more bearable and improving the working conditions of the doctor
General anaesthesia

= Complete unconsciousness, no communication possible, vital functions/reflexes are impaired
Major difference sedation/general anaesthesia

- Communication with patient is still possible
- Vital functions/reflexes are unimpaired
The Sedation Anaesthesia Spectrum

1. Awake
2. Conscious Sedation
3. 
4. Deep Sedation
5. Excitation

- Loss of protective reflexes
- Airway Obstruction
- Ventilatory and Vasomotor Depression

- (1) Awake & Orientated
- (2) Somewhat Sleepy
- (3) Eyes closed, responds promptly to verbal stimulus
- (4) Eyes closed, responds only to physical stimulus
- (5) Eyes closed, does not awaken in response to physical stimulus
Current situation in most hospitals in the Netherlands

- Consulting doctors administer sedation themselves
- Double task; - the intervention (complicated)
  - sedation (divided attention)
Sedation is not without danger!

Mortality in sedation is 3-10 times higher than in general anesthesia!

(Quine MA, Gut, 1999)

(Arbous S, Anesthesiology 2005)
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The ‘awake’ patient

- For the patient; 
  - uncomfortable
  - anxiety
  - pain
  - long immobilisation

- For the doctor; 
  - un-co-operative patient
  - difficult intervention
Who is the Sedation Practitioner Specialist (SPS)?

- Registered Nurse Anesthetist
- > 2 years of clinical experience
- Certified in BLS and ALS
- 1 year of extra theory/practice training
  (10 theory lectures, 50 pt under direct and 50 under indirect supervision of a certified SPS)
- Theory exam and practice evaluation before certification
Tasks of the SPS

- Pre-operative screening (POS)
- Per-operative management
- Post-operative management

= completely independent.

An anaesthetist is to be available for consultation or in case of emergencies (2-3 min. away)
M.O. of the SPS
Target Controlled Infusion
Advantages of Propofol

- **Pharmacokinetic properties;**
  - quick distribution (plasma 2-4 min)
  - quick metabolisation without adverse effects

- **Pharmacodynamic properties;**
  - very quick onset (30-60 sec)
  - quick recovery
  - possible to titrate
Disadvantages of Propofol

- Painful on injection
- Hypersensitivity/allergy for soja, proteins
- Restlessness, euphoria and disinhibition of fantasies
- Hypotension
2. Snare-placement: open the snare slowly, while communicating with the endoscopist. Placement of the ER-snare in the distal ridge inside the cap, the target area is aspirated into the ER-cap. When the snare is placed, synchronize movements with the endoscopist.

3. Tighten the snare quickly and forcefully, inform and stop tightening when significant resistance is met. Closing the snare should be done within a max. of 1-2 sec. pass the snare to the endoscopist without letting it slip. 4. Resection: subsequently the snare is tightened and the target area is resected with electrocautery, coag. 45 watt. 5. Immediately after the resection: remove the snare and inspect the resection site.

SPECIMEN RETRIEVAL:
At the end of the procedure, resection specimens are retrieved from the stomach, a single specimen in the cap, multiple specimens: foreign body basket.

HANDLING THE RESECTION SPECIMEN:
The specimens are then pinned down on a block of paraffin with the mucosal side up and immediately fixed in 4% formalin. Prevent folded edges, by stretching. TAKE CARE: don’t stretch too much. Prevent contamination labelling. Formalin: formalin reagents. Enter specimen is fully immersed (not upside down).

Conclusion
This procedure is designed for doctors and nurses. The resection process requires communication between doctor and nurse to ensure successful outcomes.
Tuning targets
Effect site concentration!
Recovery

- Recovery room on the unit
- Respiratory surveillance;
  - SpO2, Freq., BP
- Properly awake
  - no pain or PONV, chaperone to go home!
Type of patient...

- ASA 1-2 (ASA 3 and above unsuitable/an anaestetist has to be consulted)
- Obesity
- COPD
- Cardio-vascular compromised conditions
- Mental retardation
- Diabetes
- Cystic fibrosis
- Sleep apnoe (OSAS)
- etc...
Unsuitable patients...

- Allergic to soya, Propofol
- Difficult Airway management
- ASA 3 and > (consult backup)
- Has not fasted
- MI < 6 months previous to procedure
What does sedation involve?

- **Titration**: tuning amount of sedation/analgesia to individual needs changes per minute, per patient and per procedure.
  - Purpose: the exact level of sedation needed for the procedure.
  - Short-acting drugs: < therapeutic range.
What does sedation involve?

- Vital functions (interpretation monitoring)
- Airway management skills
- IV skills
- Knowledge of anesthetic/sedative drugs
- CPR-skills
What does sedation involve?

- Direct action in:
  - airway obstruction
  - hypoxaemia
  - arrythmias
  - myocardial ischaemia
Latest developments

‘Sedation and/or analgesia outside the Operation Theatre has to be done by certified and competent personnel’

Conclusion

- Sedation by an SPS means;
  - better patient safety
  - easier life for the medical practioner
  - good sedation
  - good monitoring
  - quick recovery
  - very satisfied patients
Groei van ondersteuning door PSA

Ondersteuning PSA in dagdelen / week

- Start met MDL: 2 dagdelen / week
- Snelle uitbreiding MDL naar 18 dagdelen / week
- Start met 4 dagdelen Radiologie / week

2007 2008 2009 2010 2011 2012
`Where sedation is concerned there is no room for doubt: there was an era before sedation practitioner specialist and now we are in the era of the sedation practitioner specialist.’

(Medical practitioners of the Gastro-enterology department AMC)