# Sedation and pain management in interventional radiology

## Descriptor:

This audit tool is aimed to evaluate the efficacy and safety of different analgesics and sedative agents utilised in interventional radiological procedures based on patients' expectations pre-procedure and their experiences post procedure in the setting of a teaching hospital radiology department.

## Background:

There is an exponential growth of Interventional radiological (IR) procedures in terms of number, complexity and length. The patients are awake during these procedures hence it is crucial to minimise pain and distress. Good sedation techniques, along with adequate analgesia and supportive patient management all play integral roles in minimising interventional side effects' thus enhancing the patients' experience and optimising patient outcome. This template is based on the Royal College of Radiologists Guidelines on Safe sedation, analgesia and anaesthesia within the radiology department, second edition,2018.

**Pre-procedural Assessment**

Patients requiring sedation should undergo pre-procedural assessment and have a sedation plan in place. The assessment should include addressing patient consent, expectation and post-procedural instructions.

**Monitoring**

There should be continuous monitoring of electrocardiogram (ECG), respiratory rate and pulse oximetry, with at least 5-minute and 10-minute interval measurements for blood pressure and sedation and pain, respectively.

Any adverse event should be fully documented in the patient's notes.

**Therapeutic Agents – Analgesia & Sedation**

Analgesic drug doses should be given incrementally and the minimum initial dose used – as determined following pre-procedural assessment by the clinician – so that the patient remains rousable. Initially, analgesics should be given before sedatives to reduce the risk of respiratory depression.

The benzodiazepine of choice for intravenous use is Midazolam. The dose of benzodiazepines should be titrated to the patient's needs taking into consideration a waiting time period of at least 2 minutes to assess sedative effects before administering an additional dose or a second drug.

## The Cycle

### The standard:

• Patients should be offered and given adequate and effective sedation/analgesia during an interventional radiological procedureif deemed appropriate.

• Patients who require the use of sedation should undergo pre-procedural assessment and have a sedation plan in place.

• Patients who are sedated should be monitored appropriately and regularly as set out by the RCR guidelines.

### Target:

100% of these criteria should be met.

## Assess local practice

### Indicators:

1. Documented pre-procedural assessment and sedation plan should be present within the patient notes.

2. Appropriate monitoring with recorded observations as per RCR guidelines.

3. Evaluation of pre- and post-procedure experience of patients.

### Data items to be collected:

Questionnaire

Pre and post-procedure sections to be completed by patients. In order to complete the post procedure section the patients given sedation will require to take the questionnaire back to the ward or home with them and should be given a stamped addressed envelope to facilitate return.

Monitoring during the procedure section to be completed by the angiography suite nursing staff - in the questionnaire the type, dose and timing of drugs given should be documented - not just a tick.

### Suggested number:

50.

# Suggestions for change if target not met:

• A talk on safe sedation and analgesia from a consultant anaesthetist.

• E-learning resources tailored to sedation within IR (R-ITI).

• Departmental guidelines regarding safe sedation and pain management in IR.

• Repeat of audit.

Sedation and pain management questionnaire - 45 KB

## References:


1. Sedation, Analgesia, and Local Anesthesia: A Review for General and Interventional Radiologists. Thea C. Moran, Alan D. Kaye, Andrew H. Mai, and Leonard R. Bok. RadioGraphics 2013 33:2, E47-E60

2. Moderate Sedation: What Radiologists Need to Know.Jonathan W. Olsen, Richard L. Barger, Jr., and Shashin K. Doshi. American Journal of Roentgenology 2013 201:5, 941-946.

3. The use of sedation in the radiology department. K. Patatas, A. Koukkoulli. Clinical Radiology (2009) 64, 655-663 https://www.ncbi.nlm.nih.gov/pubmed/19520209

4. The Royal College of Radiologists. Safe sedation, analgesia and anesthesia within the Radiology Department second edition. 2018. https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr182_safe_sedation.pdf

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## Submitted by:


Dr Mohammad Daneshi. Updated by Szeyi Lai and P Mehrotra



**Published Date:**

Wednesday 12 December 2012

**Last Reviewed:**

Tuesday 22 October 2019