Procedural Sedation and Analgesia in Emergency Care Online Course

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Latest Review	January 2025
Accreditation:	RACGP (Activity Number 441469) & ACRRM (Activity Number: 39775) for the 2026-2028 triennium

Learning Outcomes:

At the completion of the workshop the participants should be able to:

1. Differentiate the indications, contraindications and potential complications of procedural sedation
2. Prioritise the history and examination findings critical to the clinical assessment of a patient prior to procedural sedation
3. Outline the monitoring requirements, recovery procedure and criteria for discharge
4. Discriminate the pharmacology, complications and technique for intravenous sedation using Midazolam/Fentanyl
5. Discriminate the pharmacology, complications and technique for intravenous sedation using Propofol
6. Differentiate the pharmacology, indications, dosage and administration routes for the use of Ketamine for procedural sedation
7. Summarise the indications, monitoring requirements and technique for intranasal sedation
8. Identify contraindications to intravenous regional anaesthesia (IVRA)

Summary of the e-Learning Program

The e-learning is interactive and requires the clinician to consider a range of the clinical problems and scenarios and provide a response. At the end of each topic a summative quiz is used to evaluate learning and understanding of the topic material. There are six topics with a total course time of 6.5

The five topics are:

1. Parenteral Procedural Sedation : Core Principles
2. Intravenous Sedation using Midazolam / Fentanyl
3. Intravenous Sedation using Propofol
4. Parenteral Sedation using Ketamine
5. Intranasal Sedation using Midazolam, Fentanyl, Ketamine
6. Intravenous Regional Anaesthesia - Bier Block

Outline of the Program

1. Parenteral Procedural Sedation – Core Principles

Module summary: This section reviews the standards of care and core knowledge in relation to procedural sedation using the intravenous or intramuscular route. Topics include the role / uses of procedural sedation, common terminology, contraindications, monitoring and staff requirements, potential complications, recovery and criteria for discharge.

Interaction/Assessment:

- Chapter reading: ABCDs of Emergency Medicine – Intruction to Procedural Sedation and Analgesia
- Video eTutorial: Preparing for Procedural Sedation
- Video eTutorial: Recovery from Procedural Sedation
- Interactive module: Parenteral Procedural Sedation – Core Principles
- Topic Quiz – Parenteral Procedural Secation Core Principles

2. Intravenous Midazolam / Fentanyl

Module summary: Drugs used for Procedural sedation in the adult patient are most often administered using the intravenous route as this is associated with rapid onset of clinical effect and enables titration of the drug to the level of sedation required for the procedure. Benzodiazepines have been used frequently for procedural sedation. Midazolam has replaced (the older drug) Diazepam as the agent of choice for procedural sedation. Compared to Diazepam, Midazolam is less painful to inject, produces more rapid onset of sedation and the shorter half life results in faster recovery and discharge. As benzodiazepines have no analgesic properties they are commonly combined with an opioid agent (eg morphine or fentanyl)

Interaction/Assessment:

- Chapter reading: ABCDs of Emergency Medicine – Intravenous Midazolam and Fentanyl
- Video eTutorial: Midazolam and Fentanyl
- Interactive module: Procedural Sedation using Midazolam/Fentanyl
- Topic Quiz – Midazolam/Fentanyl

3. Intravenous Propofol

Module summary: Propofol is the most recent addition to the drugs utilised for intravenous procedural sedation. When compared to benzodiazepines, Propofol has a significantly quicker onset of effect (30 seconds), and shorter duration of action (5 minutes). Use of the drug requires a thorough knowledge of the drug's properties including contraindications (and circumstances where complications are more likely) and skills in advanced airway management.

Interaction/Assessment:

- Chapter reading: ABCDs of Emergency Medicine – Intravenous Propofol
- Video eTutorial: Procedural Sedation with Propofol
- Interactive module: Propofol Sedation
- Topic Quiz – Propofol Sedation

4. Ketamine for Procedural Sedation

Module summary: Ketamine produces a unique sedative state, termed “dissociation”, in which the patient appears to be in a “trance like state”. Ketamine has a number of physiological advantages over other agents used for sedation: the patient's airway reflexes are preserved, there is minimal associated respiratory depression and there is mild elevation blood pressure (rather than hypotension). Recently Ketofol, a mixture of Ketamine and Propofol, is increasingly used for procedural sedation with the aim of using the drugs to counteract some of the adverse effects of the individual agents.

Interaction/Assessment:

- Chapter reading: ABCDs of Emergency Medicine – Ketamin and Ketofol
- Video eTutorial: Procedural Sedation using Ketamine
- Interactive module: Ketamine sedation
- Topic Quiz – Ketamine Sedation

5. Intranasal Sedation

Module summary: The intranasal route provides an ideal method for the administration of sedation and /or analgesia in circumstances where IV access is not readily available. Fentanyl, Midazolam and more recently Ketamine, may be administered using the intranasal route with clinical effects usually evident within 5 to 10 minutes. It is especially useful in children where it may be used to avoid needles or the requirement to obtain IV access.

Interaction/Assessment:

- Chapter reading: ABCDs of Emergency Medicine – Intranasal Sedation and Analgesia
- Video eTutorial: Intranasal Sedation in Clinical Practice
- Interactive module: Intranasal Sedation
- Topic Quiz – Intranasal Sedation

6. Intravenous Regional Anaesthesia (IVRA) – Bier Block

Module summary: Although not strictly a method for "procedural sedation" the Bier Block may be used to provide anaesthesia and muscle relaxation for the management of distal upper limb injuries. It is especially useful in circumstances where intravenous procedural sedation and general anaesthesia are contraindicated or potentially difficult due to pre-existing disease.

It is included here to provide the clinician with a wider range of options for managing patients requiring procedures in the ED.

Interaction/Assessment:

- Video eTutorial: Introduction to Bier Block
- Video eTutorial: IV Regional Anaesthesia – Bier Block
- Interactive module: IVRA – Bier Block
- Topic Quiz – IVRA (Bier Block)

6. Final Post Course Assessment Quiz

Final Course Quiz – Procedural Sedation and Analgesia in Emergency Care