Procedural Sedation and Analgesia in Emergency Care Online Course

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Accreditation:	RACGP (Activity Number 202896) & ACRRM (Activity Number: 20212) for the 2020-2022 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

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 five topics, with a total course time of 8.5 hours.

The five topics are

1. Priniciples of Procedural Sedation
2. Intravenous Sedation using Midazolam / Fentanyl
3. Intravenous Sedatuon using Propofol
4. Ketamine for Procedural Sedation
5. Intranasal Route for Procedural Sedation

Outline of the Program

1. Principles of Procedural Sedation

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:

- Interactive module: Procedural Sedation – Core principls (Formative assessment: 90 mins)
- Topic Quiz – Parenteral Procedural Secation Core Principles (Summative assessment: 30 mins)

2. Intravenous Sedation using 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:

- Interactive module: Procedural Sedation using Midazolam/Fentanyl (Formative assessment: 60 mins)
- Topic Quiz – Midazolam/Fentanyl (Summative assessment: 30 mins)

3. Intravenous Sedation using Propofol

Mmodule 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:

- Interactive module: Procedural Sedation using Propofol (Formative assessment: 60 mins)
- Topic Quiz – Propofol Sedation (Summative assessment: 30 mins)

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:

- Interactive module: Procedure sedation using Ketamine (Formative assessment: 60 mins)
- Topic Quiz – Ketamine Sedation (Summative assessment: 30 mins)

5. Intranasal Route for Procedural 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:

- Interactive module: Procedural sedation using the intransasal route (Formative assessment: 60 mins)
- Topic Quiz – Intranasal Sedation (Summative assessment: 30 mins)

6. Final Post Course Assessment Quiz

Final Course Quiz – Procedural Sedation and Analgesia in Emergency Care (Summative assessment: 30 mins)