



An audit of critical events occurring during conscious sedation

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Background

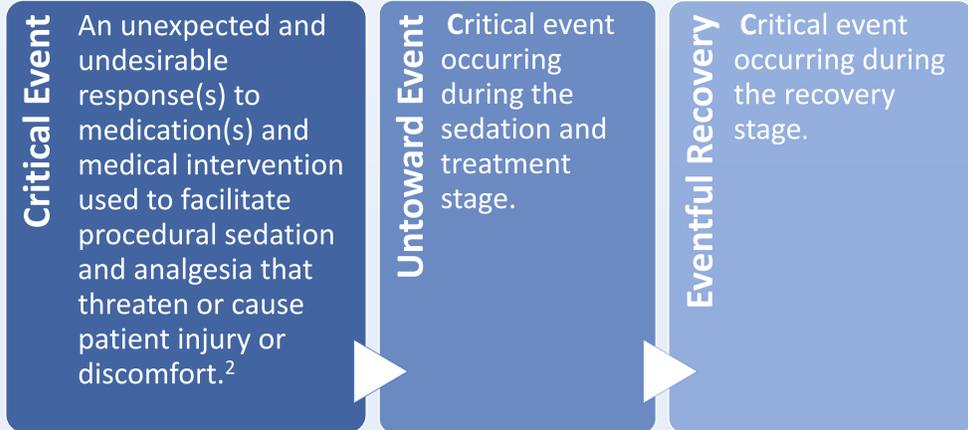
- Conscious sedation is a common adjunct to Oral Surgery procedures.

Conscious sedation

Use of a drug or drugs that causes depression of central nervous system enabling treatment to be carried out during which verbal contact is maintained.¹

Should carry a margin of safety wide enough to render loss of consciousness unlikely.¹

- In secondary care settings, such as Birmingham Dental Hospital, sedation can be offered to patients of ASA I-III.
- The safety of sedation for these patients, i.e. the risk of critical events occurring during sedation and treatment (untoward event, UE) or recovery stages (eventful recovery, ER) must therefore be understood.



Aims

- To assess the reporting of and nature of critical events occurring during inhalation sedation (IHS) and intravenous sedation with midazolam (IVS).

Standard

- IACSD Standards for Conscious Sedation recommend maintaining a high quality record of 'number, type and comprehensive detail of any untoward events'.³
- As per IACSD standards it was expected 100% of cases would have a clear log and report as to the occurrence of any critical events.

Method

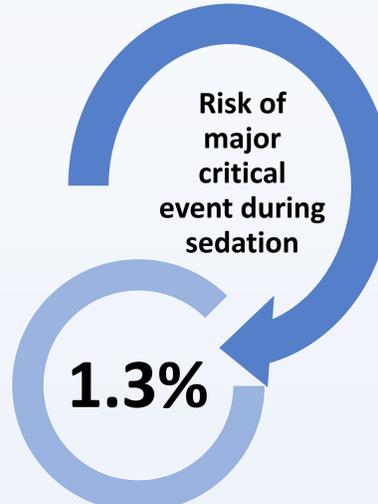
- Data from all BDH Oral Surgery IHS and IVSM sedation logs completed in 2019 was retrospectively collected and analysed by two independent assessors.
- Supporting information was sought from 2019 OS Datix reports.
- Critical events were classified as major i.e. risk to the patient treatment outcome or minor i.e. patient care not directly affected.

Conclusions

The risk of a major critical event was found to lower than that previously quoted. IVSM carried higher risk of critical event than IHS. The reporting of critical events could be improved, perhaps by using an online logbook tool.

Results

- A total of 1437 sedation cases were completed in 2019. IHS accounted for 30% (n=425) and IVSM 70% (n=1012) of cases.
- Critical events were reported in 3.1% (n=44) of cases, of which 93.2% (n=41) occurred during IVSM and 6.8% (n=3) during IHS (as shown in Table 1).
- Just under two thirds (63.6%, n=28) of critical events were classed as UEs the remaining 16 were classed ERs.
- Major events occurred in 1.3% of cases (n=19), more commonly so during IVSM (n=17). The classification of Major events is shown in Table 2.
- Of the 44 critical events recorded, 36.3% (n=16) had no accompanying detail of the event.



Critical Events	Total (of 1437)		IVSM (of 1012)		IHS (of 425)	
	UE	ER	UE	ER	UE	ER
Major Event	1.0% (15)	0.3% (4)	1.3% (13)	0.4% (4)	0.5% (2)	0% (0)
Minor Event	0.3% (4)	0.3% (5)	0.4% (4)	0.4% (4)	0% (0)	0.2% (1)
Inadequate detail	0.6% (9)	0.5% (7)	0.9% (9)	0.7% (7)	0% (0)	0% (0)
Total	1.9% (28)	1.1% (16)	2.6% (26)	1.5% (15)	0.5% (2)	0.2% (1)
Overall total	3.1% (44)		4.1% (41)		0.7% (3)	
Datix recorded	0.3% (5)		0.3% (3)		0.2% (1)	

Table 1: Incidence and Recording of Untoward Events (UE), Eventful Recoveries (ER) and overall Critical Events.

Major Events	Total	IVSM	IHS	Minor Events
Cardiac	2	2	0	Escort issue
Oversedation	6	5	1	Fire alarm
Seizure	3	3	0	Cannula tissue during treatment
Paradoxical reaction	3	3	0	Seizure of escort
Other	5	5	0	

Table 2: Classification of Major and Minor Critical Events.

Discussion

- The standard was not met. Over two thirds of cases did not contain detail of the critical events reported. Though included in the calculation of the incidence of critical events (to ensure worst case scenario reported) the omission of detail prevented clear understanding of the context and severity of the events in these 16 cases.
- Where adequate detail was included to allow classification, 1.3% (n=19) represented 'major' critical events impacting the patients care and outcome, the majority of which (89.5%, n=17) were IVSM. The rate of 1.3% is a lower incidence than has previously been recorded in the literature.⁴
- Implementation of changes such as the introduction of an online logbook tool may be of benefit in prompting the complete recording of patients sedation experience and allowing accurate review of the safety of sedation practice on re-audit.