

Distractions During Critical Phases of Anaesthesia in the Obstetric Theatre

Angela Jenkins, Anaesthetics Department, Victoria Infirmary

JV Wilkinson, Anaesthetics Department, Princess Royal Maternity Hospital

MA Broom, Anaesthetics Department, Princess Royal Maternity Hospital

MA Akeroyd, Institute of Hearing Research, Glasgow Royal Infirmary

Introduction

Accidents in aviation have been attributed to distractions in flight crews at critical times. This led to the sterile cockpit rule and pilots refraining from all non-essential conversations and activity during critical phases of flight.¹ Take off and landing can be considered analogous to the critical phases of anaesthesia and has been looked at in the general theatre setting. We decided to look at distractions during critical phases in the obstetric theatre environment.

Methods

Approval was obtained from the West of Scotland Research Ethics Service. Permission was sought from the duty anaesthetic consultant to obtain data during cesarean section. Data was collected at the time of establishing regional anaesthesia (phase 1), time of testing of the block (phase 2) and following delivery of the head (phase 3). We recorded the nature and frequency of potential distractions, including background noise levels, sudden loud noises, staff present, entrances / exits to and from theatre and conversations unrelated to the task in hand.

Results

We collected data for 30 patients during the 3 phases identified above. Results are tabulated below:

	Phase 1	Phase 2	Phase 3	pvalue
--	----------------	----------------	----------------	---------------

Sound Level (dB)	62.5 (3.9)	63.9 (4.1)	66.8 (5.0)	<0.001
Average conversations (per 1 min interval)	3.4 [2.7-3.9]	4 [3.6-4.5]	4.3 [3.6-5.0]	0.006
Rate of entrances and exits / minute	0.6 [0.3-0.8]	0.5 [0.4-0.7]	0.2 [0-0.4]	<0.001
Staff Present	6.5 [6-8]	8.0 [7-9]	10 [9-11]	<0.001
Recordings > 70 dB (per 1 min interval)	0.05 [0-0.2]	0.13 [0.1-0.3]	0.6 [0.3-0.8]	<0.001

Table: Auditory distractions during 3 phases of anaesthesia. Values are mean (SD), median [IQR] or proportion.

Discussion

We observed clinically higher decibel levels compared with a previous similar study in the general theatre setting (sound levels during induction, maintenance and emergence were 46.4, 52.0 and 58.3dB respectively).² There were also a significant number of events >70dB and other distracting events which could potentially affect patient safety. It may be that the sterile cockpit rule has a role in obstetric theatres.

References

1. Sumwalt RL. *Aviation Safety Reporting System Directline Issue 4 1993. The Sterile Cockpit.*
http://asrs.arc.nasa.gov/publications/directline/dl4_sterile.htm
(accessed 04/01/12)
2. Broom MA et al. *Critical Phase Distractions in Anaesthesia and the Sterile Cockpit Concept.* *Anaesthesia* 2011 **66** 175-179