

DATA FROM 1997/98 ANAESTHETIC QUESTIONNAIRES – CHILDREN

This data supplement should be read in conjunction with the 1999 NCEPOD Report, “Extremes of Age”.

The question numbers in the supplement correspond to those in the anaesthetic or surgical questionnaire from which the data was derived.

Where a question is omitted from the supplement it is because the data was not statistically analysed; in most instances these were free text questions which were reviewed by the Advisors but could not be analysed on our database.

DATA FROM 1997/98 ANAESTHETIC QUESTIONNAIRES - CHILDREN

1. If you were not involved in any way with this anaesthetic and have filled out this questionnaire on behalf of someone else, please indicate your position:

Chairman of Division	1
College tutor	2
Duty consultant	7
Other consultant	2
Not applicable	73
Total	85

2. In what type of hospital did the final operation take place?

District General (or equivalent)	6
University	29
Special Children's	46
Single surgical specialty	4
Total	85

3. Indicate which of the following are available in the hospital in which the final operation took place: 85 cases, answers may be multiple

Special care baby unit	34
Neonatal intensive care unit	56
High dependency unit solely for children	53
High dependency unit for children and adults	10
Intensive care unit solely for children	64
Intensive care unit for children and adults	17
Children's ward	79
Children's bed in an adult ward	3

4. Does the hospital have a named consultant responsible for the organisation of paediatric anaesthetic services?

Yes	76
No	5
Not answered	4
Total	85

5. Does the hospital have a dedicated paediatric operating list(s)?

Yes	77
No	5
Not answered	3
Total	85

6. Does the hospital have a specific separate consultant anaesthetic paediatric on-call rota?

Yes	64
No	13
Not answered	8
Total	85

7. Age of patient at time of final operation:

Less than 1 month	21
1 month to less than 6 months	19
6 months to less than 1 year	6
1 year to less than 2 years	4
2 years to less than 4 years	3
4 years to less than 11 years	14
11 years to less than 16 years	18
Total	85

8. Gestational age at birth (weeks) of patient (where under 6 months old at the time of surgery):

	Less than 1 month	1 month to less than 6 months	Total
24	1	1	2
25	0	2	2
26	1	0	1
27	3	3	6
28	0	3	3
29	2	0	2
30	2	2	4
31	1	0	1
32	1	0	1
33	1	0	1
34	2	1	3
35	2	0	2
36	1	0	1
37	0	0	0
38	2	2	4
39	0	2	2
40	1	2	3
41	0	0	0
42	1	1	2
Total	21	19	40

9. Day of admission:

Monday	13
Tuesday	20
Wednesday	7
Thursday	13
Friday	9
Saturday	11
Sunday	11
Not answered	1
Total	85

Number of days from admission to operation:

Same day	30
Next day	16
2 days	4
3 days	1
4 days	5
5 days to 9 days	7
10 days to 19 days	5
20 days to 29 days	2
30 days or more	14
Not answered	1
Total	85

10. Was the child admitted as a day case?

No	84
Not answered	1
Total	85

11. Was the child transferred as an inpatient from another hospital?

Yes	53
No	31
Not answered	1
Total	85

a. If yes, had the child's condition apparently deteriorated during transfer?

Yes	2
No	47
Not answered	3
Not known	1
Total	53

13. Co-existing medical diagnoses 85 cases, answers may be multiple

None	6
Not answered	2
Respiratory	50
Cardiac	31
Neurological	26
Endocrine	5
Alimentary	27
Renal	25
Hepatic	18
Musculoskeletal	8
Vascular	4
Haematological	24
Genetic abnormality / recognised syndrome	19
Obesity	1
Sepsis	25

14. ASA status prior to the final operation (NB we do not use the E subclassification)

ASA 1	3
ASA 2	3
ASA 3	17
ASA 4	35
ASA 5	27
Total	85

15. Which of the following investigations were done before the anaesthetic? (Including tests carried out in the referral hospital and available before the operation.) 85 cases, answers may be multiple

None		1
Not answered		3
Haemoglobin		75
Packed cell volume		51
White cell count		72
Sickle cell test (e.g. Sickledex)		2
Blood group +/- cross match		69
Coagulation screen		47
Plasma electrolytes	Na	71
	K	71
	Cl	25
	HCO ₃	43
Blood urea		70
Creatinine		71
Serum albumin		48
Bilirubin (total)		35
Glucose		36
Amylase		4
Urinalysis (ward or lab)		16
Blood gas analysis	pH	36
	pCO ₂	35
	pO ₂	34
Chest x-ray		54
Electrocardiography		24
Respiratory function tests		1
Special cardiac investigation (e.g. echocardiography)		17
CAT scan / ultrasound / MRI / NMR		27
Special neurological investigation (e.g. imaging)		9

16. Record of the patient's weight available by classification of operation:

	Emergency	Urgent	Scheduled	Elective	Total
Yes	14	40	17	0	71
No	9	4	0	0	13
Not answered	1	0	0	0	1
Total	24	44	17	0	85

17. Was a record of the child's height available?

Yes	9
No	73
Not answered	3
Total	85

19. Were there any respiratory therapies in use before the operation?

Yes	60
No	24
Not answered	1
Total	85

a. If yes, please indicate which: 60 cases, answers may be multiple

Oxygen therapy	33
Artificial airway	25
Ventilatory support (including CPAP, IMV, IPPV etc.)	50

20. Were other intensive treatments in progress?

Yes	25
No	54
Not answered	6
Total	85

a. If yes, please indicate which: 25 cases, answers may be multiple

Inotropic support	21
Renal support	7

21. Was there any history of a drug (including anaesthetic) reaction?

Yes	4
No	80
Not answered	1
Total	85

22. Did the child receive intravenous fluid therapy in the 12 hours before induction?

Yes	67
No	13
Not answered	5
Total	85

Did patient receive intravenous fluid therapy in the 12 hours before induction by classification of operation:

	Emergency	Urgent	Scheduled	Elective	Total
Yes	18	40	9	0	67
No	4	4	5	0	13
Not answered	2	0	3	0	5
Total	24	44	17	0	85

23. Was it necessary to delay the anaesthetic to improve the child's state before the operation?

Yes	13
No	69
Not answered	3
Total	85

a. If yes, please indicate which system(s) needed attention: 13 cases, answers may be multiple

Cardiac	6
Respiratory	4
Metabolic	3
Not answered	2

24. Were premedication drugs prescribed?

Yes	12
No	72
Not answered	1
Total	85

26. Day of operation:

Monday	10
Tuesday	15
Wednesday	13
Thursday	18
Friday	12
Saturday	10
Sunday	7
Total	83

27. Classification of the final operation:

Emergency	24
Urgent	44
Scheduled	17
Total	85

30. Was an anaesthetist consulted by the surgeon (as distinct from informed) before the final operation?

Yes	66
No	19
Total	85

31. Did an anaesthetist visit the patient before the operation?

Yes	82
No	3
Total	85

a. If yes, where?

Ward	23
Accident and Emergency department	7
ICU/HDU	52
Total	82

b. Was the parent or guardian present at this time?

Yes	54
No	18
Not answered	7
Not known	3
Total	82

c. If yes, did the anaesthetist discuss the anaesthetic with them?

Yes	48
No	6
Total	54

d. Was the anaesthetist who visited the child before the final operation present at the start of the final operation?

Yes	75
No	5
Not answered	2
Total	82

32. Grade of most senior anaesthetist present at the start of the anaesthetic:

Consultant	71
SpR – Accred / CCST	3
SpR 4	7
SpR 3	2
SHO 1	1
Not answered	1
Total	85

35. Which higher diploma(s) in anaesthesia were held at the time of the operation? 85 cases, answers may be multiple

None	1
Fellowship (Royal College, College or Faculty)	83
DA (or Part 1 FRCA)	8
Part 2 FRCA (physiology/pharmacology)	2
Not answered	1

36. If the most senior anaesthetist present at the start of the anaesthetic was not a consultant, when was a consultant anaesthetist informed about this case?

Before the anaesthetic	8
After the anaesthetic	2
Consultant not informed	3
Not answered	1
Total	14

37. If the most senior anaesthetist at the start of the anaesthetic was not a consultant, where was consultant help available?

A consultant came to the theatre before the end of the anaesthetic	1
A consultant was available in the operating suite but not directly involved	1
A consultant was available in the hospital, but was not present in the operating suite	2
A consultant was available by telephone	9
Not answered	1
Total	14

38. Was advice sought, at any time, from another anaesthetist who was not present during the anaesthetic?

Yes	12
No	61
Not answered	12
Total	85

38. If yes, from what grade of anaesthetist was advice sought?

Consultant	10
Not answered	2
Total	12

a. When was this advice sought? 12 cases, answers may be multiple

Before the anaesthetic	7
During the anaesthetic	4
After the anaesthetic	2

39. Was there more than one anaesthetist present during the procedure?

Yes	76
No	7
Not answered	2
Total	85

a. If yes, please specify: 76 cases, answers may be multiple

	Start of anaesthetic	Later in the procedure
Consultant	18	13
SpR – Accred / CCST	14	10
SpR – 4	36	23
SpR – 3	12	10
SpR – 2	8	6
SpR – 1	3	3
SHO >2 yrs	6	4
SHO – 2	5	3
Other (trainee)	1	0
Not answered	1	7

43. What was the grade of the most senior surgeon in the operating room?

Consultant	66
Specialist registrar	10
Other	7
Not answered	2
Total	85

44. Was there a trained anaesthetist's assistant (i.e. ODP, anaesthetic nurse) present for this case?

Yes	81
No	1
Not answered	3
Total	85

a. If yes, does the assistant work regularly with children?

Yes	77
No	1
Not answered	3
Total	81

45. Is there an anaesthetic record for this operation in the patient's notes?

Yes	79
No	3
Not answered	3
Total	85

46. Was blood loss assessed?

Yes	55
No	27
Not answered	2
Not known	1
Total	85

b. If yes, how was the blood loss assessed? 55 cases, answers may be multiple

A visual estimate alone	35
Swab weighing	15
Sucker volume	19

47. What measures were taken to maintain body temperature in the operating room? 85 cases, answers may be multiple

None	4
Ambient room temperature adjustment	50
Water / air / electric over or underblanket	67
Overhead heater	8
Specific lagging of patient	29
Warmed intravenous fluids	38
Inspired gas humidification	53

48. Did the patient receive intravenous fluids during the operation?

Yes	76
No	7
Not answered	2
Total	85

If yes, indicate which: 76 cases, answers may be multiple

a. Crystalloid

Dextrose 5%	2
Dextrose 4% saline 0.18%	24
Dextrose 10%	16
Saline 0.9%	12
Hartmann's (compound sodium lactate)	9

b. Colloid

Modified gelatin (Gelofusine, Haemaccel)	12
Human albumin solution	29
Mannitol	5

c. Blood

Blood	35
Platelets	9
Fresh frozen plasma	23

49. Was the anaesthetic room used for induction of anaesthesia?

Yes	38
No	46
Not answered	1
Total	85

50. Were monitoring devices used during the management of this anaesthetic?

Yes	84
Not answered	1
Total	85

a. If yes, were monitoring instruments already attached to the patient (i.e. from ICU or A&E)?

Yes	58
No	25
Not answered	1
Total	84

b. Monitoring instruments used: 84 cases, answers may be multiple

	In place already	Used during induction	Used during operation
ECG	56	75	84
Pulse oximeter	58	82	84
Indirect BP	27	48	61
Oesophageal or precordial stethoscope	2	14	23
O ₂ analyser	15	53	78
Inspired anaesthetic vapour analyser	5	33	64
Expired CO ₂ analyser	9	48	80
Airway pressure gauge	17	45	73
Ventilation volume	8	18	40
Ventilation disconnect device	17	38	68
Peripheral nerve stimulator	1	7	14
Temperature	10	19	54
Urine output	16	19	31
CVP	12	13	25
Direct arterial BP (invasive)	23	26	39
Intracranial pressure	1	1	6

51. Did anything hinder full monitoring?

Yes	15
No	67
Not answered	3
Total	85

52. What type of anaesthetic was used?

General alone	72
Regional alone	1
General and regional	3
General and local infiltration	9
Total	85

GENERAL ANAESTHESIA (total number of cases = 84)

53. Was cricoid pressure used at induction of anaesthesia?

Yes	12
No	34
Not answered	1
Not applicable (patient already intubated)	37
Total	84

54. When was IV access established?

Before theatre	70
Before induction	6
After induction	7
Not answered	1
Total	84

55. Were there any problems with adequate IV access?

Yes	9
No	73
Not answered	2
Total	84

56. Was an interosseous needle used?

No	82
Not answered	2
Total	84

57. Method of induction:

Intravenous	27
Gaseous	19
Not answered	1
Not applicable (patient already intubated)	37
Total	84

58. Were muscle relaxants used for intubation at induction?

Yes	34
No	11
Not answered	2
Not applicable (patient already intubated)	37
Total	84

a. If yes, please specify:

Suxamethonium	13
Non-depolariser	21
Total	34

59. How was the airway established during anaesthesia? 84 cases, answers may be multiple

Face mask (with or without oral airway)	2
Laryngeal mask	2
Orotracheal intubation	34
Nasotracheal intubation	8
Tracheostomy	2
Patient already intubated prior to arrival in theatre suite	37

60. Were there any problems with airway maintenance, intubation or ventilation of the lungs?

Yes	17
No	67
Total	84

REGIONAL ANAESTHESIA (total number of cases = 4)

61. If the anaesthetic included a regional technique, which method was used?

Epidural	- caudal	3
	- thoracic	1
Total		4

62. Which agent was used?

Local	4
Total	4

63. What was the mode of ventilation?

Spontaneous	5
Controlled	71
Both	1
Not answered	8
Total	85

a. If controlled, what method was used?

Manual	11
Machine	56
Both	5
Total	72

64. Were muscle relaxants used during the anaesthetic?

Yes	60
No	14
Not answered	11
Total	85

65. Was a fully staffed and equipped recovery area available for this child at the time of transfer out of the operating room?

Yes	65
No	9
Not answered	11
Total	85

a. If yes, were paediatrically trained recovery nurses available for this child?

Yes	54
No	4
Not answered	6
Not known	1
Total	65

66. Where did the child go on leaving the operating room?

Recovery area / room	9
Special care baby unit	2
Neonatal intensive therapy unit	24
High dependency unit solely for children	2
High dependency unit for children and adults	1
Intensive care unit solely for children	35
Intensive care unit for children and adults	4
Another hospital for intensive or high dependency care	2
Died in theatre	5
Not answered	1
Total	85

67. Were monitoring devices used, or investigations carried out during the management of this child in the recovery room?

Yes	9
Not applicable – recovery room not used	76
Total	85

a. If yes, which devices? 9 cases, answers may be multiple

ECG	1
Pulse oximeter	9
Indirect BP	7
Temperature	3
Urine output	3
CVP	2
Direct arterial BP (invasive)	2
Blood gas analysis	1

68. Who decided that the child should be discharged from the recovery room?

Most senior anaesthetist present at the start of anaesthesia	8
Nurse	1
Total	9

69. Had the child recovered protective reflexes before discharge from the recovery room?

Yes	7
No	2
Total	9

71. Where did this child go next? (i.e. after the recovery room)?

Not applicable – recovery room not used	76
High dependency unit solely for children	1
Intensive care unit solely for children	1
Intensive care unit for children and adults	2
Children’s ward	5
Total	85

72. Was this an appropriate location for this child?

Yes	85
Total	85

73. If the child was returned to a ward, please specify the additional measures taken: 5 cases, answers may be multiple

Increased nursing ratio	3
Specific monitoring - oximeter	5
- apnoea mattress	10

74. Was controlled ventilation used postoperatively?

Yes	63
No	16
No answered	6
Total	85

a. If yes, why? 63 cases, answers may be multiple

Routine management	10
Respiratory inadequacy	37
Cardiac inadequacy	14
Control of intracranial pressure or other neurosurgical indications	11
Part of the management of pain	5
Poor general condition of patient	37
To allow recovery of body temperature	2
Other	1

75. Did any of the following events, which required specific treatment, occur during anaesthesia or immediate recovery (i.e. the first few hours after the end of the operation)?

Yes	42
No	40
Not answered	3
Total	85

a. If yes, please specify 42 cases, answers may be multiple

Airway obstruction	2
Arrhythmia	1
Bradycardia (to or less than 50% of resting)	7
Cardiac arrest (unintended)	6
Hypotension (decrease of more than 50% resting systolic)	18
Hypoxaemia	16
Major blood loss	13
Misplaced tracheal tube	1
Pulmonary oedema	3
Respiratory arrest (unintended)	1
Tachycardia (increase of 50% or more)	1
Ventilatory inadequacy	10
Excessive spread of regional anaesthesia	1
Other	4

76. Was there any mechanical failure of equipment during anaesthesia or recovery?

Yes	4
No	80
Not answered	1
Total	85

a. If yes, please specify:

Equipment for IPPV	1
Syringe drivers	1
Instrumental monitor	2
Total	4

77. Were there complications within 24 hours after the operation?

Yes	53
No	26
Not applicable – child died in theatre	5
Not answered	1
Total	85

a. If yes, please specify: 53 cases, answers may be multiple

Airway problems	6
Bleeding sufficient to require postoperative transfusion or re-operation	11
The need for mechanical ventilation of the lungs	29
Septicaemia	18
Renal failure sufficient to require mechanical renal support (i.e. dialysis, CVVH)	12
Central nervous system failure (persistent coma), failure to recover consciousness, convulsions	13
Other conditions*	5

* Other conditions includes :

Failure of liver graft due to vascular insufficiency.
Right haemopneumothorax.
Cardiac arrhythmia / type unknown cardiac arrest.
Patient became unconscious and stopped breathing in recovery room.
Vasoconstrictor support for cardiac output.

78. Is there an acute pain team available for children?

Yes	63
No	21
Not answered	1
Total	85

79. Do nursing staff receive training in acute pain techniques?

Yes	80
No	4
Not answered	1
Total	85

80. Were drugs given in the first 48 hours after operation for pain?

Yes	70
No	9
Not answered	6
Total	85

a. If yes, which drug type? 70 cases, answers may be multiple

Opiate/opioid	61
Local analgesic	3
Non-steroidal analgesic	4
Paracetamol	15

b. If yes, which method / route? 70 cases, answers may be multiple

Intramuscular injection	3
Oral	12
Rectal	4
Continuous IV/SC infusion	48
PCA	3
Continuous epidural	1
IV bolus (including nurse controlled analgesia)	9

c. Did complications occur as a result of these analgesic methods?

Yes	1
No	68
Not answered	1
Total	70

81. Were other sedative/hypnotic or other drugs given in the first 48 hours after operation?

Yes	37
No	40
Not answered	3
Not applicable – died in theatre	5
Total	85

a. If yes, which? 37 cases, answers may be multiple

Propofol	6
Midazolam	29
Other benzodiazepine	2
Other*	5

* Other includes :

Triclofos	3
Trimeprazine	1
Thiopentone	1

82. Number of calendar days between operation and death:

Same day	13
Next day	14
2	8
3	8
4	2
5	4
6	5
7	7
8	3
9	1
10	1
11-15	6
16-20	8
21-25	1
26-30	4
Total	85

84. Place of death:

Theatre	5
Intensive care unit	68
High dependency unit	2
Ward	4
Home	2
Another hospital	2
Not known	2
Total	85

86. Do you have morbidity/mortality review meetings in your department?

Yes	78
No	7
Total	85

a. If yes, will this case be, or has it been discussed at your departmental meeting?

Yes	26
No	51
Not known	1
Total	78

87. Has a consultant anaesthetist seen and agreed this form?

Yes	41
No	3
Not applicable (completed by consultant)	41
Total	85