THE FUTURE ROLE OF THE PAEDIATRIC ANAESTHETIST IN THE DISTRICT GENERAL HOSPITAL

Peter Crean

Royal Belfast Hospital for Sick Children

NCEPOD 1989

- Surgeons and anaesthetists should not undertake occasional practice
- Consultants who take responsibility for the care of children must keep up to date with the management of children

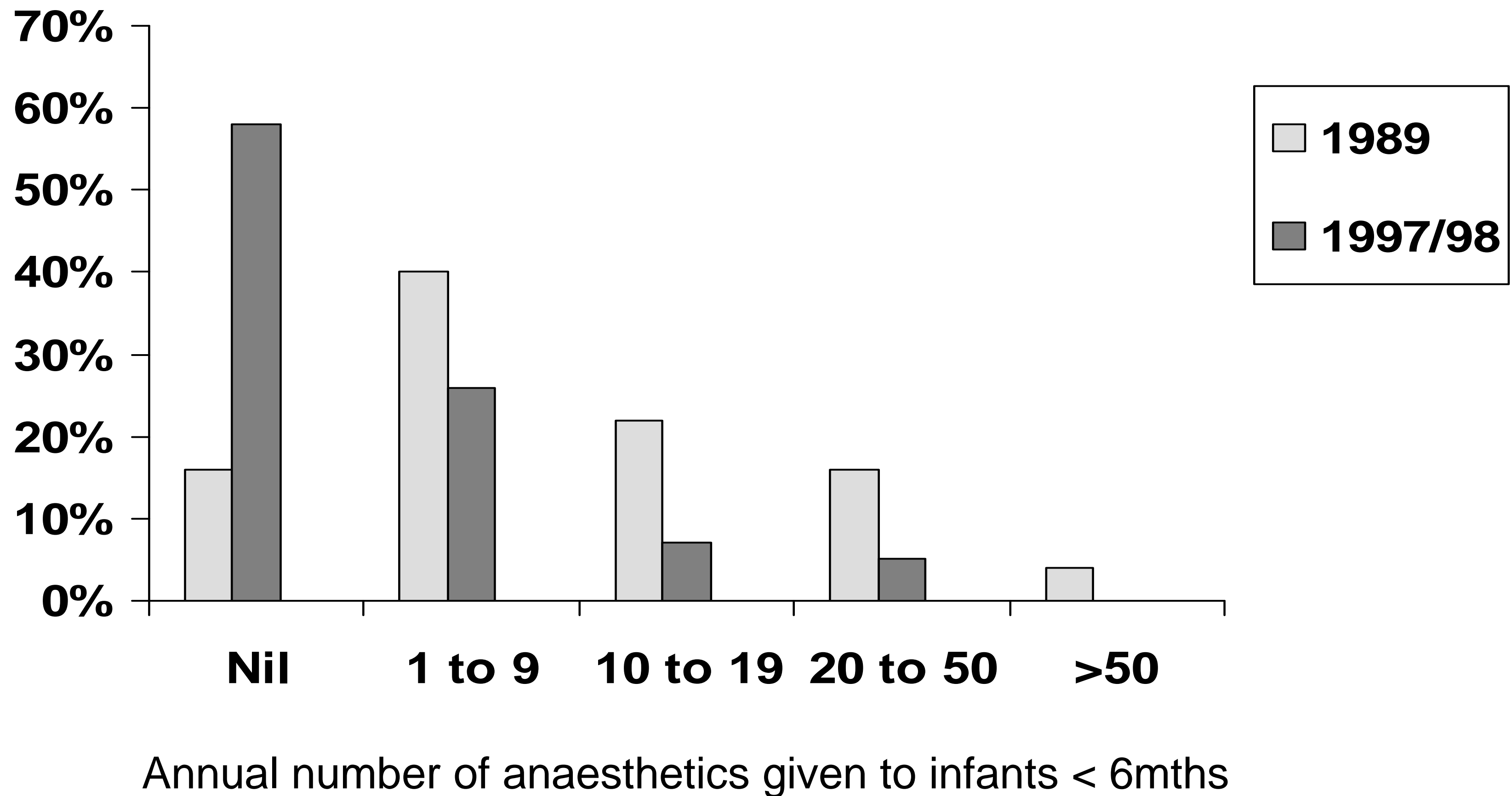
Developments

- Lead paediatric anaesthetist
- Separate paediatric anaesthetic on-call rota
- Cover provided by on-call anaesthetist
- Decision by on-call anaesthetist
- Withdrawal of surgical services for younger children

Other factors

- Minimum case load (Lunn)
- Increasing centralisation of paediatric services
- Reduced participation in elective paediatric surgery
- No on-going experience - withdrawal of emergency cover
- Perceived threat of medico-legal action against occasional practitioner should anything untoward occur

Percentage of consultants anaesthetising infants



Trends in Children's Surgery: Evidence from Hospital Episode Statistical Data

Joint Statement on the future of General Paediatric Surgery provision in DGH's

The acutely or critically sick or injured child in the District General Hospital: A team response

Children's hospital services improvement review

Trends in Children's Surgery: Evidence from Hospital Episode Statistical Data

- RCS Children's Surgical Forum requested information on trends in children's surgery in 2005
- Perception of children's surgery from DGH's to Specialist centres
- Report by Hugh Cochrane and Stuart Tanner
- Data from England only

Data Collection

- Extracted from Hospital Episode Statistics (HES)
- Based on counting finished consultant episodes (FCE's) for children having operations and a group of marker operations
- The analysis based on hospital episodes for day cases and ordinary admissions and excluded regular attenders
- Patients classified as children if their age at the start of the FCE was 17 years or younger

Marker operations

- Pyloromotomy
- Reduction of intussusception
- Surgery for testicular tortion
- Appendicectomy emergency/non -emergency
- Herniotomy
- Orchidoplexy
- Cricumcision – for health reasons/non-health reasons
- Grommets
- Tonsillectomy
- Adenoidectomy
- Squint
- Fracture

Methodology

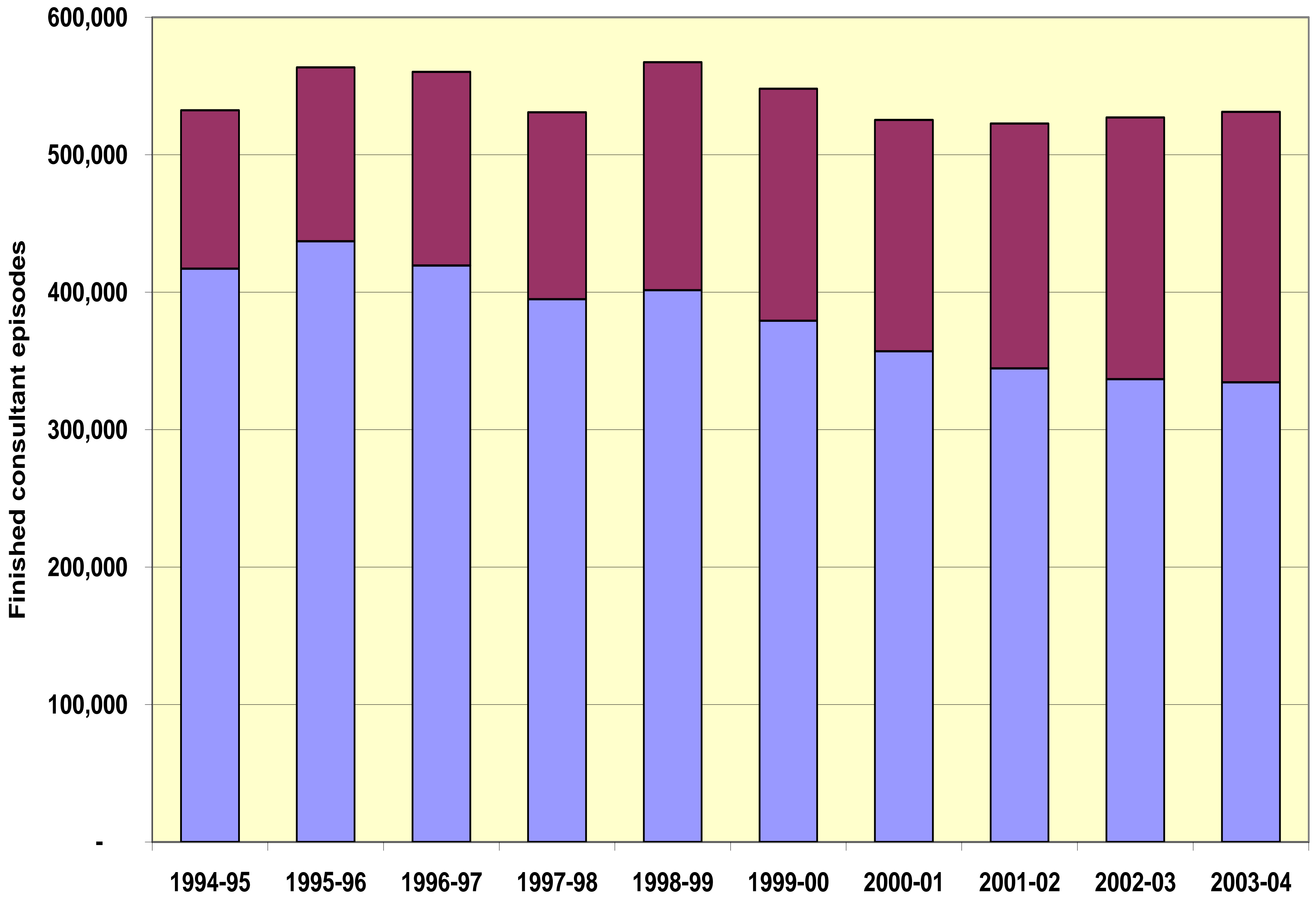
- Data was extracted from HES for the ten year period 1994-5 to 2003-4

- Operations were chosen as marker procedures with the expectation that these would fall into 1 of 3 groups

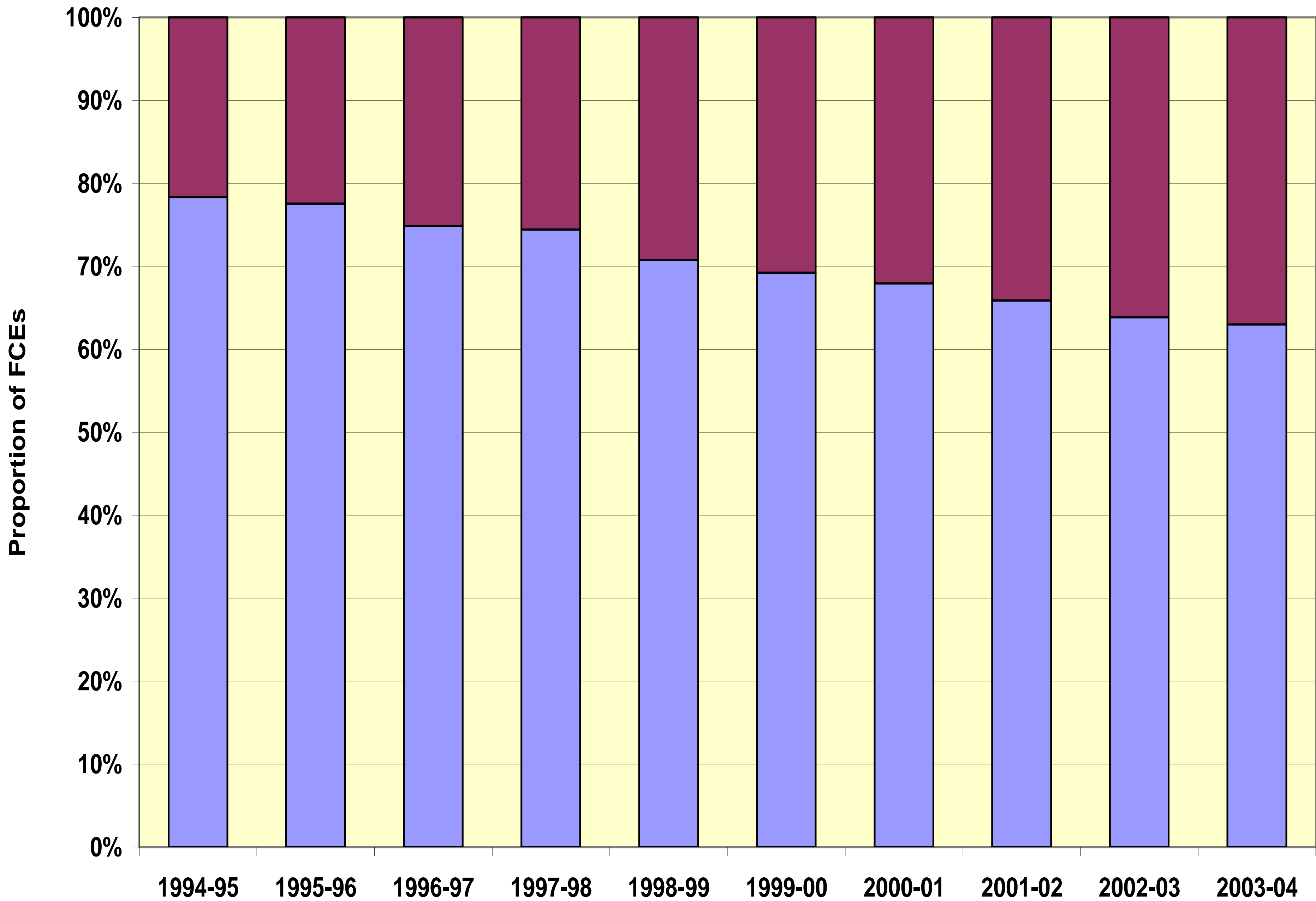
  - Not show temporal shift from DGH to Specialist centre (pyloromyotomy, reduction of intussusception, surgery for testicular tortion)

  - Procedures that may show shift (herniotomy, appendicectomy, grommets, squint, fracture)

  - Procedures that are expected to show an overall fall in numbers due to change in practice (circumcision, orchidoplexy, tonsillectomy, adenoidectomy)



DGH
SPECIALIST
600,000
500,000
400,000
300,000
200,000
100,000
-
Finished consultant episodes
1994-95
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04



DGH
SPECIALIST
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Proportion of FCEs
1994-95
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04

500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0

Finished consultant episodes

0 1 2 3 4 5 6 7 8 9

Year from 1994-995

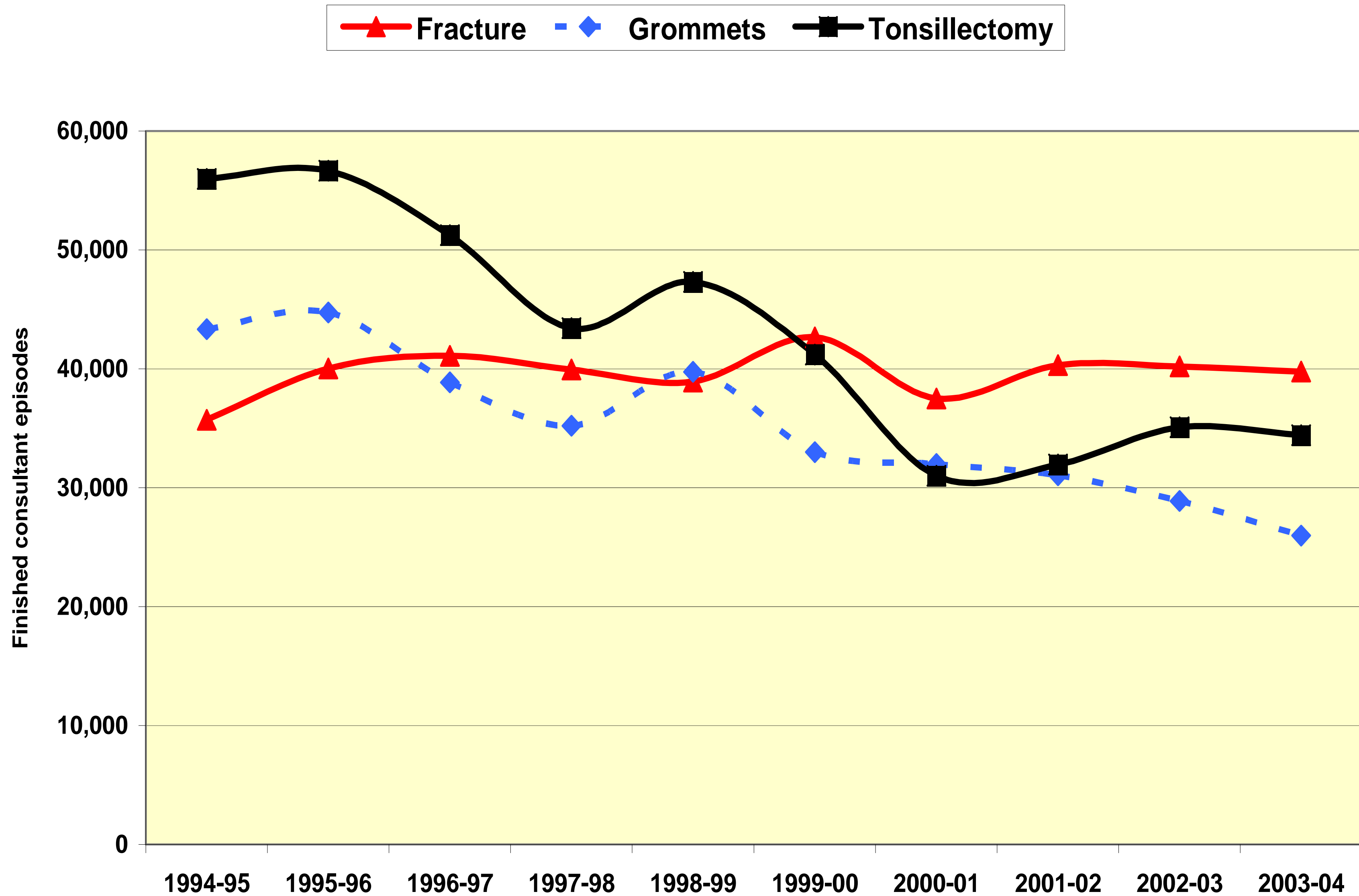
0-4 DGH
0-4 SPECIALIST
5-10 DGH
5-10 SPECIALIST
11-17 DGH
11-17 SPECIALIST

180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
Finished consultant episodes
0
1
2
3
4
5
6
7
8
9
Year from 1994-95

Trends for marker operations

	Total FCEs	FCEs with an operation	FCEs with a marker operation	% of total FCEs with an operation	% of total FCEs with a marker operation
1994-95	1,715,228	542,330	221,278	32%	13%
1995-96	1,664,819	573,952	225,509	34%	14%
1996-97	1,711,594	568,019	206,291	33%	12%
1997-98	1,880,310	540,841	186,355	29%	10%
1998-99	1,901,158	576,835	195,731	30%	10%
1999-00	1,869,898	558,909	179,378	30%	10%
2000-01	1,820,518	536,751	158,716	29%	9%
2001-02	1,848,706	534,775	157,800	29%	9%
2002-03	1,859,497	541,289	159,764	29%	9%
2003-04	1,906,969	543,049	154,928	28%	8%

Trends in FCE's for selected marker operations



Trends for marker operations in DGH's and Specialist centres

	DGHs	Specialist centres	Total	% of total in Specialist centres
1994-95	187,264	31,093	218,357	14%
1995-96	190,186	32,955	223,141	15%
1996-97	170,795	34,182	204,977	17%
1997-98	153,689	31,615	185,304	17%
1998-99	155,750	38,854	194,604	20%
1999-00	141,399	36,836	178,235	21%
2000-01	122,842	34,768	157,610	22%
2001-02	121,294	35,382	156,676	23%
2002-03	120,380	38,275	158,655	24%
2003-04	117,333	37,175	154,508	24%

Proportion of FCE’s in Specialists centres

Surgical procedure	1994-95	2003-04	change in %
Pyloromyotomy	40%	81%	41%
Reduction of intussusception	57%	83%	26%
Orchidopexy	20%	44%	24%
Herniotomy	29%	50%	21%
Circumcision - for non-health reasons	42%	60%	18%
Appendicectomy - non-emergency	17%	32%	15%
Surgery for testicular torsion	19%	34%	15%
Squint	14%	28%	13%
Adenoidectomy	15%	25%	11%
Tonsillectomy	12%	22%	9%
Grommets	12%	21%	9%
Circumcision - for health reasons	11%	18%	7%
Appendicectomy - emergency	12%	18%	6%
Fracture	13%	19%	6%

Summary

- Over 10 yr period relatively small percentage changes in overall numbers of FCE's for children with an operation
- Noticeable fall in number of FCE's for marker operations
- Strong evidence of a shift in children's surgery from DGH's to Specialist centres in 10 yr period, including all marker operations
- Most noticeable in pyloromyotomy, reduction of intussusception and orchidoplexy
- Shift to Specialists centres occurred in all age groups but most marked in 0-4 yrs

Joint Statement on the future of General Paediatric Surgery provision in DGH’s

British Association of Paediatric Surgeons

Senate of the Surgical Colleges

Association of Surgeons of Great Britain and Ireland

Association of Paediatric Anaesthetists

Royal College of Paediatrics and Child Health

Problems

- Provision of General Paediatric Surgery (GPS) in DGH is reaching crisis
- Failure to train and recruit competent General Surgeons with appropriate paediatric skills and experience
- In 1999 new training scheme for General surgeon with a paediatric interest. Would be able to manage GPS >1yr. Virtually no uptake

Postal Survey

- Undertaken by ASGBI in 2004
- 1044 DGH General Surgeons in England and Wales
- Only 18 (<2%) indicated GPS as a special interest
- Consequently majority of DGH General Surgeons who are being appointed have no training or competency in GPS problems
- As ‘older generation’ of Surgeons retire shift in number of children transferred from DGH to Specialist centres

Outcome of this change

- Care of children presenting with acute surgical emergencies in DGH may be compromised
- Anaesthetic services for children in DGH may be threatened
- Could compromise other surgical services in DGH (ENT, Opthalmology, dental, orthopaedics)
- Impact on families who may have to travel great distance from home to receive care
- Adverse effects on functioning of Specialist centres if no shift in resources. Threatens beds for specialist paediatric surgery. Case mix for surgeons

New RCS training initiative

- From 2005 compulsory period of 6 months training in GPS for General Surgical Trainees.
- In DGH under supervision of recognised surgical trainer
- Undertaken in ST 1 or 2
- Competency based where trainee expected to achieve a level of proficiency to safely deal with surgical problems in children >5 yrs

Alternative proposals (BAPS)

- In future attaining CCT in Paediatric Surgery will have trained individuals in GPS
- Become General Paediatric Surgeons (as opposed to General Surgeons with an interest in paediatric surgery)
- A minority may wish to acquire addition skills
- This training will occur post CCT following a period of credentialing.
- Become Specialist Paediatric Surgeons

If RCS training initiative fails

- General surgeons with no formal training or experience in GPS
- Generic surgical skills that apply to adults and older children
- Should be able to competently treat GPS emergencies in children 8 yrs and older, provided they have paediatric medical support

Future of Paediatric Surgery

- Dependent of outcome of Training Programme for General Surgeons
- Likely that almost all children <5 yrs and most <8 yrs with GPS emergency will be transferred from DGH to Specialist centre
- Management undertaken by General Paediatric Surgeons
- Develop Paediatric Surgical Networks
  - Out-patient clinics and day case list in GPS in DGH
  - Continuing education and training of DGH surgeons
  - Maintain paediatric anaesthetic and theatre personnel skills
  - Facilitate the retention of paediatric ENT/opthalmology, dental/orthopaedic surgery

Roles of other personnel in DGH

- Greater involvement in DGH paediatricians in initial assessment and management of GPS emergencies
- Best able to recognise ‘sick child’
- Involvement of anaesthetists in resuscitation and stabilisation of surgical patients
- Robust retrieval/transfer arrangement for children who require emergency surgery

3 centre model

- Based around managed networks of care for General and Specialist Paediatric Surgery
- Small DGH
- Intermediate centre (large DGH or University Hospital)
- Specialist or Tertiary Centre

Small DGH

- Provide resuscitation and stabilisation of all infants and children with surgical pathology
- Elective surgery for children by visiting General Paediatric Surgeons– lower age dependant on local skills
- Emergency/urgent surgery in children<5/<8 (depending on DGH General Surgeon) will need to be transferred to intermediate/tertiary centres
- Special arrangements will be needed for remote and rural community

Intermediate Centre

- General Paediatric Surgeons on site
- Provide emergency and elective care for non specialist paediatric surgery (including babies outside neonatal period and trauma)
- Require support of paediatric anaesthetists, radiologists, pathologist etc
- Paediatric HDU facilities

The Specialist or Tertiary Centre

- Full range of paediatric surgical care including neonatal, urological and cancer surgery
- Supported by NICU and PICU on site and full retrieval facilities
- Complement of Specialist paediatric surgeons and anaesthetists
- General paediatric surgeons may also work from same site (eg in large conurbation)

The acutely or critically sick or injured child in the District General Hospital: A team response

- To consider issues regarding anaesthetic and other services to children who are critically ill or injured in DGH's
- Fewer anaesthetists in DGH's now involved in elective paediatric surgery, potentially reducing their ability to manage paediatric emergencies
- RCoA, RCPCH, APA, RCS, Royal College of Nursing, The Department of Health

- Generic skills required of all personnel
- Assessing the levels of urgency in the surgical and medical cases
- Pre-hospital care of the critically ill child
- Training the competent resuscitation team
- Stabilisation
- Surgical specialties provided in the DGH
- Transfer of the critically ill child
- Networks of care
- Standards and audit
- The needs of families

Planning for the care of the critically ill child

- Emphasis on competencies rather than professional labels
- Team working
- Networks of care
- The whole pathway, from presentation to PIC

Anaesthetists (1)

- Opportunities should be provided for anaesthetists in DGH’s to maintain their paediatric skills
- Participate in elective surgery lists in their own Trust
- Take part in in-service training of other staff and in scenario practices
- Short attachments to a larger centre

Anaesthetists (2)

- Forward planning of resuscitation and stabilisation teams and clear network arrangements will reduce the chances of an anaesthetist being left in the sole charge of a critically ill child

Anaesthetists (3)

Where an anaesthetist is, through unexpected circumstances such as a very ill child inappropriately presenting to a hospital without paediatric expertise, required to act beyond his or her practised competencies it is his duty to make the care of the patient his first concern and his employing Trust's duty to support him

Anaesthetists (4)

In some DGH's intensivists with significant experience in paediatric intensive care may be comfortable with all aspects of resuscitation and stabilisation of the critically ill child, and may be a valuable resource in assisting paediatricians, emergency department practitioners and anaesthetists.

Stabilisation

- Team of competent individuals
  - Paediatrician
  - Anaesthetists/intensivist
  - Nurse
- Team lead by clinician of appropriate seniority
- Local guidelines on location where child should be managed
- Formals checks of drugs and equipment
- Common standards for managing and stabilising critically ill children – applicable to different settings

Children's Hospital Services Improvement Review

- Assessment of performance that will feed into the annual performance ratings of the NHS
- Review of 157 hospitals across England
- Assessed progress on number of elements from hospital standard of NSF for Children and Young People
- Looked at areas where trusts should have already made improvements

Findings

- Assessed emergency care, outpatient care, day care, in patient care, emergency surgery and elective surgery
- 25% of trust rated ‘excellent/good’, 70% ‘fair’, 5% ‘weak’
- 28% trusts weak in emergency care
- In relation to training of both surgical and anaesthetic staff
  - 28% weak on training for staff in emergency surgery
  - 22% weak in elective surgery
  - No trust scored good or excellent in either category

THE FUTURE ROLE OF THE PAEDIATRIC ANAESTHETIST IN THE DISTRICT GENERAL HOSPITAL

13: Paediatric Anaesthesia

- ‘Key Unit of Training’
- Trainee should spend equivalent of at least 1 month of training and, normally, not more than 3 months
- Not expected that all will be able to gain experience with neonates and preterm infants
- Be able to organise and manage safely a list of straightforward children over the age of 3 years with available consultant cover
- Understand potential hazards of paediatric anaesthesia and have as much practical training as possible in planning for the management of such events

Paediatric anaesthesia for those intending to work in a DGH

All trainees aspiring to be generalists should acquire the competencies listed for higher training in paediatric anaesthesia (page IV-32). **Normally** this will require a period of higher training in paediatric anaesthesia during SpR years 3, 4 or 5. This training does not have to be taken as a single block; the important thing is to acquire the necessary competencies.

11. Advanced Training in Paediatric Anaesthesia

- To prepare trainee who aspires to a career in full-time paediatric anaesthesia, or a trainee wishing to assume the role of lead consultant for paediatric anaesthesia in a DGH
- Advanced training programme should be for a minimum period of 6 months
- Likely that a period of 12 months will be required for trainees intending to pursue a career with a substantial commitment to paediatric anaesthesia

Guidance on the provision of Paediatric Anaesthetic Services (1)

- Anaesthesia services for children require specially trained clinical staff together with equipment, facilities and an environment appropriate to the needs of children

- The service should be led at all times by consultants who regularly anaesthetise children

- At all times there must be adequate trained assistance; skilled assistance should be provided by staff specifically trained for the task

RCoA 2004

Guidance on the provision of Paediatric Anaesthetic Services (2)

- In a life-threatening emergency where transfer is not feasible, the most senior appropriately experienced anaesthetist should undertake anaesthesia
- Paediatric resuscitation equipment must be available wherever and whenever children are treated and staff must receive regular retraining in paediatric life support
- There should be a properly staffed and funded acute pain service that covers the needs of children

RCoA 2004

Elective surgery

- Most surgical procedures performed on children will be elective and relatively straightforward
- Can be performed in DGH setting usually on fit infants and children
- Children with significant acute or chronic medical problems, those undergoing more complex procedures, neonates and small infants are usually referred to specialist units or tertiary paediatric centres

Emergency care

- Arrangements for managing and treating simple surgical emergencies
- Able to resuscitate and stabilise seriously children of all ages, prior to their transfer

Consultant anaesthetist with CCT

- Obtained basic paediatric anaesthesia training as SpR
- Be competent to provide anaesthesia for straightforward elective and emergency surgery for children ASA 1&2 who have reached their fifth birthday
- Unless there is no requirement to anaesthetise children it is expected that this competence will need to be sustained through regular exposure, CME and/or refresher courses

Consultants with sub-specialty interest in paediatric anaesthesia in DGH

- In many cases nominated lead consultant for paediatric anaesthesia
- Typically might undertake at least one paediatric list or equivalent per week
- Responsible for co-ordinating and overseeing anaesthetic services for children
- Obtained 6 months paediatric anaesthetic training as Spr 3-5

Regional networks

- Establishment of close links between departments of anaesthesia and critical care in DGH's and corresponding departments in tertiary paediatric centre

- Should facilitate
  - provision of advice (when required)
  - production of evidence based protocols and guidelines
  - arrangement of clinical attachment

Where are we now?

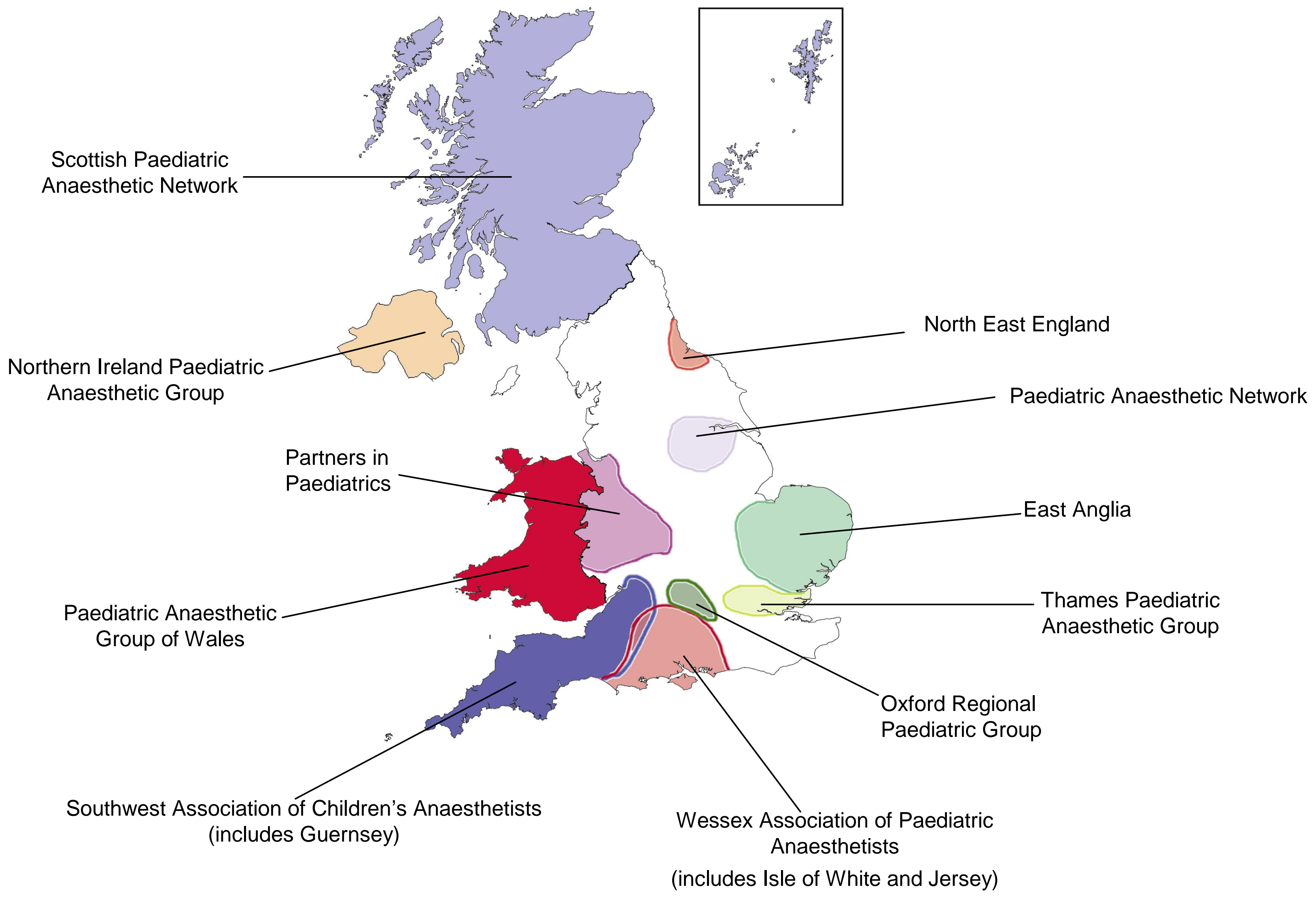
- Demographic shift
- Requirement for services to be maintained locally
- Regional planning of Children’s surgical services including emergency care
- Arrangement for management of very ill children at point of access
- Hospitals with unrestricted access

Anaesthetic issues

- Anaesthetic training
- Appointments panel
- Departmental organisation
- Keeping up to date
- Job planning and appraisal
- Networks

The APA Linkman Scheme

- Questionnaire to College Tutors requesting information about paediatric anaesthetic practice within their hospitals in 2005
- Identified 'Paediatric Leads' within anaesthetic departments
- Information on local/regional groups/networks
- Able to create Linkman Database
- Now 136 individuals – form basis of Linkman Scheme



Scottish Paediatric
Anaesthetic Network
Northern Ireland Paediatric
Anaesthetic Group
North East England
Paediatric Anaesthetic Network
Partners in
Paediatrics
East Anglia
Paediatric Anaesthetic
Group of Wales
Thames Paediatric
Anaesthetic Group
Oxford Regional
Paediatric Group
Southwest Association of Children's Anaesthetists
(includes Guernsey)
Wessex Association of Paediatric
Anaesthetists
(includes Isle of White and Jersey)

Paediatric anaesthetic networks

- Develop and share common guidelines, practices and protocols
- Encourage a consistent approach to training
- Providing CPD usually through formal educational meetings run locally
- Networking and exchanging ideas
- Setting standards and auditing practice
- Consider commissioning issues relevant to local needs

Association of Paediatric Anaesthetists

Inaugural Meeting of :

PAEDIATRIC ANAESTHESIA LINKMEN

PROGRAMME

Session 1
Chair: Alison Carr, Derriford Hospital, Plymouth
9:00am *A regional network: what it can do and making it work*

A coherent framework for training
Jane Lockie, UCLH and Thames Paediatric Anaesthetic Group (ThamesPAG)

Empowering the anaesthetist in the district hospital
Nicky Williams, Gloucester Royal Hospital and South West Association of Children's Anaesthetists (SWACA)

Networking and politics
Ros Lawson, Raigmore Hospital Inverness and Scottish Paediatric Anaesthesia Network (SPAN)

10:20am *Some implications of the National Services Framework Document*

The acute pain service in the non-specialist hospital: an audit of practice
Karen Tan, Royal Hospital for Sick Children, Glasgow

10:45am *REFRESHMENTS*

Session 2
Chair: Jane Peutrell, Royal Hospital for Sick Children, Glasgow

11:15am *Implementing 'The acutely or critically ill or injured child in the District General Hospital: a team approach'*

A Summary
Professor Stuart Tanner, Sheffield, Chairman to the Department of Health's Working Party

Implementing the recommendations in practice
Anna-Maria Rollin, St Helier NHS Trust Epsom

Supporting the care of the critically ill child in the district hospital; the role of the regional unit
Catriona Barr, Gilbert Bay Hospital, Lerwick, Shetland & David Rowney, Royal Hospital for Sick Children, Edinburgh

1:00pm *LUNCH & CLOSE OF MEETING*

Meeting Date: Friday 17th November 2006

Meeting Fee: £50

Venue: Royal College of Anaesthetists
Churchill House
35 Red Lion Square
London