

The future training of surgeons to manage patients with cleft lip and palate disorders

Senior surgical fellowships have developed in an ad hoc way. To combat this, the four surgical colleges working with a lead deanery have instituted structured training to cover the more advanced tuition required to practice surgery at a higher level in several areas. Ideally all surgeons treating cleft lip and palate patients should be trained this way to ensure an adequate standard is met. This article explores the issues around this.

The development of the face and the upper lip occurs during the fifth to ninth week of pregnancy. A cleft is a separation or split in either the upper lip or palate and sometimes both. Cleft lip and palate can occur on its own (non-syndromic) or is sometimes part of a wider series of birth defects (syndromic).

A rising birth rate in the UK has resulted in a gradual rise in the number of patients with cleft lip and palate. The incidence is around 1 in 6–700 live births per year, with the condition having a multifactorial aetiology and common comorbid associations. In 2010, 1100 children were born in the UK with cleft lip and palate (Figure 1), of which 9% were bilateral. One fifth had serious comorbidity (CRANE Database, 2011). Three quarters have middle ear ventilation problems, most have dental, and many have residual cosmetic deformity. There are specific health-care needs for infants, children, adolescents and adults.

Patients are treated by teams that involve different groups of surgeons including plastic and reconstructive surgeons, oral and maxillofacial surgeons, and otolaryngologists (ear nose and throat surgeons). Other members of the teams include audiologists, orthodontists, geneticists, psychologists, speech therapists and specialist nurses – emphasizing team working.

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Results of surgery may take years to be known, unlike cardiac surgery (Figure 2), and have to be seen within the context of body growth and development. Some outcomes, such as those with speech, require more work, particularly in a multicultural society.

Development of a national training programme

The selection and training of doctors to look after the needs of small numbers of patients with complex problems requires careful thought after the issues with paediatric cardiac surgery where a single specialty undertakes the surgery of congenital cardiac cases. The General Medical Council has recently recognized this as a subspecialty.

It is essential that cleft lip and palate services and training are properly structured and regulated to meet patient expect-

Figure 1. Infant with right-sided unilateral cleft lip and palate. This is more common on the left side and found more frequently in boys.



tation for all ages. This may only be achieved by standardization of all those practicing in the UK and working in teams with properly audited data. Cleft lip and palate audits are supra-regional rather than UK wide as in cardiac surgery. With Northern Ireland, Scotland and Wales operating on small numbers this makes UK audit advisable.

Workforce planning

Surgical results are improved by surgeons undertaking an adequate number of procedures both to keep in practice and to train. The number of surgeons performing cleft lip and palate surgery in the UK has decreased over the past 15 years from over 100 to 24. Surgeons come currently from two specialties: oral and maxillofacial surgery and plastic surgery. However, an ear nose and throat surgeon may train to be a

Figure 2. The same patient as in Figure 1 5 years after her primary surgery with good closure of the defect. This stresses the need for long-term follow up.



cleft lip and palate surgeon, a more common situation outside the UK.

At the same time the service has been concentrated in 11 supra-regional centres across 16 trusts in the UK providing teams to manage patients with primary cleft lip and palate problems. The centres are: London (two units), Birmingham, Bristol and Swansea, Cambridge, Glasgow and Edinburgh, Leeds and Newcastle, Liverpool and Manchester with North Wales, Oxford and Salisbury, Trent, and Northern Ireland. The interface fellowship programme is built on this but at present not all units have applied to train fellows. In contrast to other interface fellowships, cleft lip and palate fellowships are very closely linked to manpower needs. A fellowship is only advertised when there is an opportunity for a consultant post in the near future with one or two fellowships being awarded per year, but with small numbers this varies considerably. There are four interface fellows in training at present.

Advanced interface training fellowships

There are currently five surgical specialties offering interface fellowships:

1. Hand surgery
2. Breast oncoplastic surgery
3. Cleft lip and palate surgery
4. Reconstructive aesthetic surgery
5. Head and neck oncology (Lees et al, 2010).

The fellowships are recognized by the Joint Committee on Surgical Training for training within the certificate of completion of training. This time is approved by the General Medical Council but the curricula are in different stages of development. The cleft lip and palate fellowship curriculum has been approved by the Joint Committee on Surgical Training and the General Medical Council and is identical for each of the three specialties. Applicants must have the exit exam by the time they take up their fellowship, and must have the support of their programme director to take time out of regular training. These fellowships therefore extend the certificate of completion of training and the fellows keep their national training number until they get their certificate of completion of training and complete their grace period. The

interface fellowships are administered by the lead deanery (currently Severn) and quality assured by the training interface groups of the Joint Committee on Surgical Training which includes deanery input. The trainee's parent deanery is responsible for the annual review but may delegate this to the host deanery (summarized in *Figure 3*). While all fellowships have similarities, there are specialty-specific issues involved with each type of fellowship.

Three important initiatives have allowed progress in training to be made:

- A fellowship cannot be recognized as an interface fellowship unless it is part of the national competitive recruitment process carried out by the Joint Committee on Surgical Training and the lead deanery
- The Joint Committee on Surgical Training work closely with the lead deanery to develop the person specification, long-listing, short-listing and selection criteria
- The funding of the interface fellowships is through central Department of Health funding which is currently held by the South West Strategic Health Authority with the lead dean as the responsible officer for the funding.

Ideally all surgeons involved with primary surgery to cleft lip and palate patients should be trained through an interface fellowship to ensure an adequate standard is met.

Challenges for training

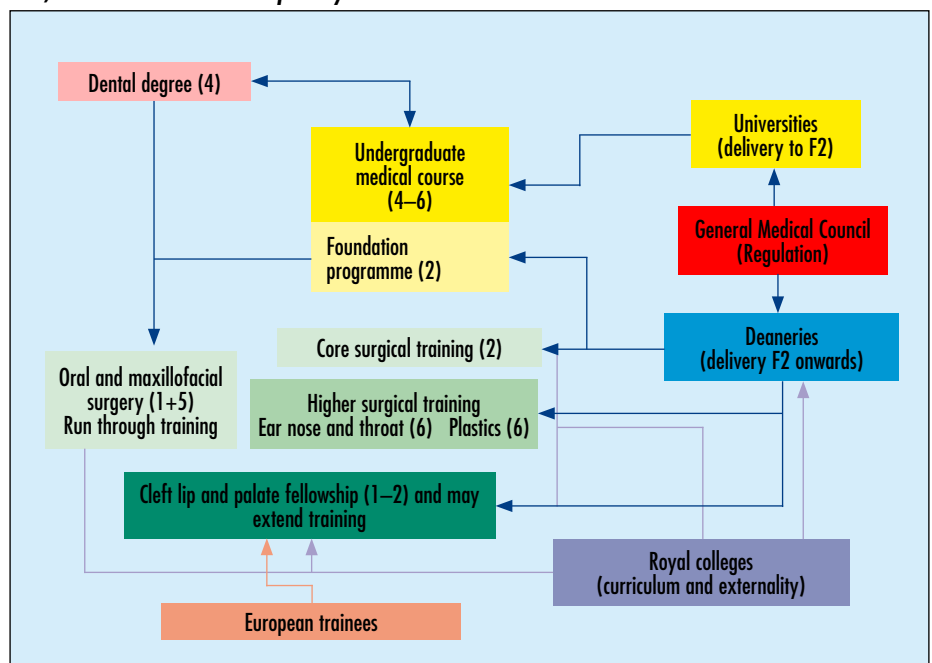
Junior surgeons in training in the three specialties need to be exposed to patients with cleft lip and palate deformities to understand the management problems. This may be achieved within the deanery structure with the curriculum generated, and quality assured by the respective specialty advisory committees.

The programme directors in the three specialties are able to identify likely applicants and support their desire for higher training. Trainees obtain experience with cleft lip and palate patients differently in each of the three specialties (Royal College of Surgeons of England, 2007). All applicants must have shown additional interest in managing patients with cleft lip and palate patients during their first 4 years of specialist registrar training.

Selection into the fellowship programme

The selection process for advanced surgical fellows is competitive and follows a similar

Figure 3. Training pathway. Numbers in brackets indicate years required but some higher surgical training may be included within the fellowship. Training operates within EU law: it is concerned with process rather than equivalence. Oral and maxillofacial surgery training requires a dental degree, usually studied first, and does not exist as a specialty within some EU states and other countries.



structure to those used in the foundation and national selection into higher specialist surgical training. When there is a potential consultant vacancy, the Joint Committee on Surgical Training staff contacts the units involved in cleft lip and palate fellowship training to see if they would like to offer a position, and if so notify the Severn Deanery staff who organize the process.

After advertisement, each applicant completes an on-line application form. The deanery staff undertakes long listing, ensuring that each applicant meets the essential criteria of the person specification. These include being a medically qualified trainee within the EU and from one of the three specialties allowed for a cleft lip and palate fellow. The UK applicant has to have part one of the exit exam and complete the final part before the fellowship.

The interviewing committee comprises members of the Joint Committee on Surgical Training training committee, the lead deanery and the units offering a training post. Each member then makes sure that each applicant has met the minimum short-listing criteria in various areas such as exposure to cleft lip and palate patients, audit and constructive use of sessions set aside for supporting professional activities by completing an on-line scoring form.

Applicants who fulfil these conditions are then interviewed and the panel is chaired by a lay representative. The marking is discussed before the interview and the selection criteria are agreed. The interview is broken down into three or four stations with two independent interviewers at each station. The topics are chosen beforehand and each interviewer asks the same set of questions. One of the constant stations is the portfolio station and this is difficult for those who work outside the UK as they may not have developed an educational portfolio. The applicants are ranked with the top applicants being able to select their centre of choice.

Before the interview the short-listed candidates submit their ranking of the centres to the deanery. Once these are matched, the deanery staff notifies the parent and receiving deaneries as well as the Joint Committee on Surgical Training. The start date is agreed and is within the next 6 months. Fellowships run for a minimum of 1 year and can be for 2 years.

Curriculum and competency

Changes to the surgical curricula started well before the advent of the Postgraduate Medical Education and Training Board in 2005. A common fellowship curriculum for the three specialties has been agreed by the Joint Committee on Surgical Training and is administered through the Intercollegiate Surgical Curriculum Programme. The Intercollegiate Surgical Curriculum Programme is a vital and evolving structure for developing the curriculum as it allows agreement across the various surgical specialties with a good method of recording most aspects of training both centrally and on line.

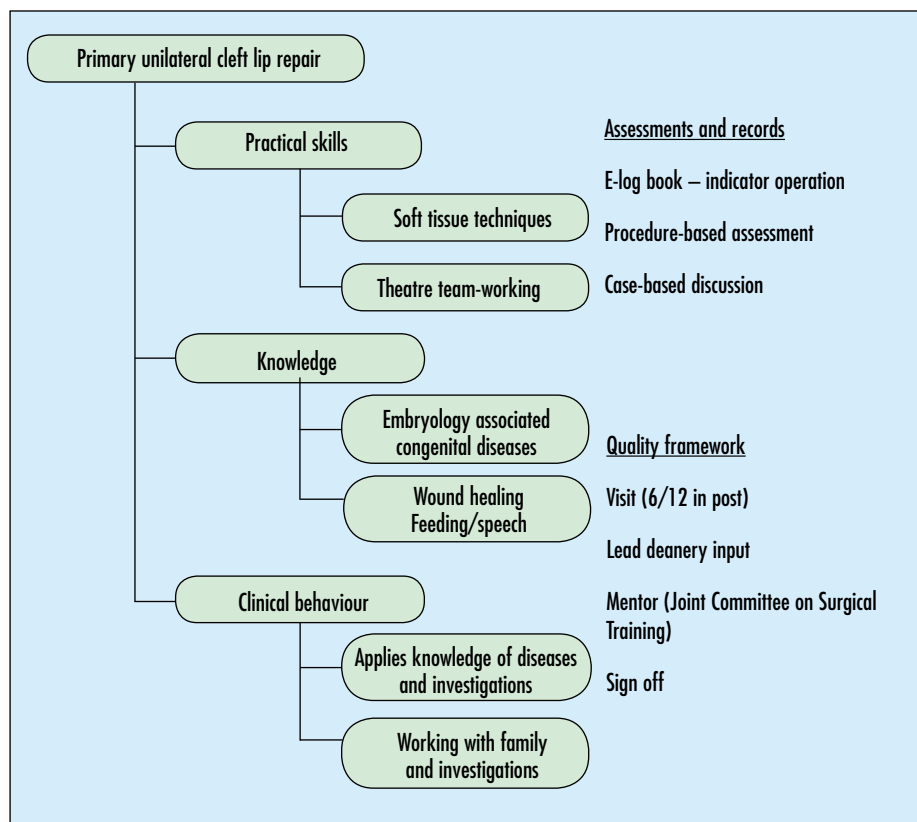
David McClelland originally developed the concept of competence and while this has since been developed, his three strands of knowledge, skills and behaviours are still the easiest way to structure a curriculum and its assessments (McClelland, 1973). A similar behaviourist approach has gone into how students learn and assessments may be built around this (Miller, 1990). These form the basic structure of the curricula.

Assessment for and of learning

No selection process or assessment structure is perfect. The key is to minimize errors using valid methods with strong internal consistency (Ebel and Frisbie, 1991). Knowledge and some judgement may be tested before the fellowship and then progress may be measured experientially in the workplace but there has been reluctance to accept change in assessment (Carr, 2006). If work-based assessments are properly constructed, undertaken regularly and supervised rigorously, they are the best way to measure progress in the fellowship. These, together with the learning agreement and e-logbook, provide documentary evidence of increasing competence.

Five procedure-based assessments have been mapped to the curriculum: primary cleft lip repair, primary palate repair, alveolar bone graft, pharyngoplasty and lip revision (*Figure 4*). In addition others such as septorhinoplasty may be added. The domains include consent, preoperative planning, exposure and closure, intra-operative techniques and postoperative management.

Figure 4. Competency framework for the delivery of training and surgical skill may be used to map through the curriculum. Any of the five procedure-based assessments mentioned in the text may be used for this.



While the principles behind procedure-based assessments are excellent, there are limitations with the approach of one size fits all and greater flexibility is desirable. For example, in primary cleft lip repair there is no exposure and closure is the procedure. If case-based discussions are combined with this the variety of conditions and other aspects of management are robustly covered.

Progress within the fellowship

After successful selection the deanery and the Joint Committee on Surgical Training work together to ensure that the fellows liaise with the parent and host deaneries. Each fellow has a mentor and this person does not have to be from the same specialty as the fellow. The mentor's job is to ensure that the fellow understands what is expected and act as an independent advisor and arbiter both to the trainee and unit. The mentor should ensure that the fellow is adequately supported and supervised by the educational and clinical supervisors. The role of the educational supervisor is the same as in any surgical training scheme including ensuring that educational objectives are set in the learning agreement and that progress meetings occur regularly.

In order that progress is satisfactory, the mentor arranges a meeting with the fellow and members of his/her unit after an initial 6 months in post. Evidence to inform the quality management process of the training is agreed before the meeting. For example,

a recent visit in South Thames was conducted as follows: the two representatives, one from the Joint Committee on Surgical Training and one from the lead deanery, had three separate meetings, one with the fellow, one with the trainers, and finally one with other members of the team. The two visitors were then able to triangulate the responses from all the parties and produce feedback for the fellow and trainers. Any training requirements were highlighted and actions agreed. A summary of the visit was then sent to all parties for comment. This process is open, fair and involves both the lead deanery and Joint Committee on Surgical Training as well as the training unit. It complies with standard 4 of the Deanery Standards for the use of external advisors (General Medical Council, 2010).

Learning from other centres including overseas

Fellows spend the first year in their base unit making sure that they learn the basics and are fit to progress. During the second year they may visit other units either within the UK or abroad. It is important that new skills are brought into practice and that trainees have the opportunity to see how other surgeons and teams work. Following discussions with the educational supervisor and mentor, fellows are allowed to have six funded months in another unit in the developed world if the educational supervisor and mentor agree.

Similarly trainees may be able to give something back to the developing world and as long as they go with a recognized team with a supervisor, they may take 1 month away in the developing world. It is hoped that by this practice, such surgeons would be encouraged to undertake such work as a consultant. In addition to treating patients in the developing world, the aim should be to develop medical practice and train in these environments to leave a lasting legacy (Hall, 2011).

Study leave and professional development

To enhance these and other interface fellowships and to meet the needs of the NHS each cleft lip and palate fellow is supported by additional professional activities:

- All fellows have access to £1k study leave budget, use of which has to be agreed by the educational supervisor and mentor
- Each fellow is entitled to attend a 2-day leadership and professional development course
- There is a national residential weekend to which all fellows are invited. This covers the role of the modern NHS consultant including risk management, finance and business planning.

As well as allowing for professional development, these learning events provide a point of contact for the fellows to engage with each other.

Reflective practice

The lead dean has appointed an educational lead for the five interface fellowships who developed reflective practice. This was piloted in the Reconstructive Trauma Fellowships in the Queen Elizabeth Hospital in Birmingham. It has three stages:

- A reflective diary – personal
- Regular discussions between the trainee and the educational supervisor – shared
- A handover document for the next trainee – public.

In future all trainees will need to undertake this.

Signing off

Once the fellow has completed training, the chairman of the interface group signs the trainee off after inspecting the educational reports from the educational super-

KEY POINTS

- Five senior surgical fellowships are recognized for training within the certificate of completion of training by the General Medical Council.
- Trainees must be supported by their programme director and preferably have their exit exam before they become fellows.
- Cleft lip and palate fellowships last between 1 and 2 years depending on the educational needs of the fellow.
- Cleft lip and palate fellows are only appointed in relation to manpower needs.
- A lead deanery and the surgical colleges manage these fellowships jointly.
- Assessment and progress is measured through the Intercollegiate Surgical Curriculum Programme.
- Study leave expenses and professional development are met through the programme.
- Cleft lip and palate fellows may be funded to gain up to 7 months experience abroad during their second year.
- Reflective practice is encouraged.
- A national audit database for all cleft lip and palate patients should be developed.

visor and fellow. This is forwarded by the trainee to the parent deanery and the certificate of completion of training is awarded through the usual channels.

Conclusions

A structured senior fellowship programme in cleft lip and palate training allows surgeons to be trained to meet the needs of the patients and service. Close cooperation between the lead deanery, the Joint Committee on Surgical Training and the training units gives a closely regulated programme. This method is recommended to

other medical disciplines where doctors are required who treat small numbers of patients requiring high levels of skill. **BJHM**

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