

# Training to be a cleft surgeon in the UK

With surgical training continuing to evolve, how do trainees prepare themselves for a career in an interface specialty such as cleft lip and palate?

M Fell Plastic Surgery Registrar<sup>1</sup>

N Brierley Cleft TIG Fellow<sup>2</sup>

A Sadri Cleft Surgeon<sup>3</sup>

S Chummun Cleft Surgeon<sup>4</sup>

K Moar Cleft Surgeon<sup>5</sup>

<sup>1</sup>North Bristol NHS Trust, UK

<sup>2</sup>Leeds Teaching Hospitals NHS Trust, UK

<sup>3</sup>Great Ormond Street Hospital for Children NHS Foundation Trust, UK

<sup>4</sup>University Hospitals Bristol NHS Foundation Trust, UK

<sup>5</sup>Cambridge University Hospitals NHS Foundation Trust, UK

In the UK, cleft surgery is one of six interface specialties, as defined by the Joint Committee on Surgical Training (JCST), in which surgeons graduate from more than one parent specialty.<sup>1</sup> The other specialties include hand surgery, head and neck oncology, reconstructive and aesthetic surgery, major trauma and oncoplastic breast surgery. Generic interface specialties often rely on fellowships undertaken prior to award of the Certificate of Completion of Training (CCT) to train their surgical workforce but with the risk of surgical training length being reduced owing to the influence of national policies such as the Shape of Training report, the existence of pre-CCT fellowships is under threat.<sup>2</sup>

Trainees interested in interface specialties such as cleft surgery will have to be prepared well in advance to be able to adapt to changes in surgical training over the coming years. This article describes the current UK cleft training pathway and related opportunities available to trainees at all stages of training.

Cleft lip and/or palate (CLP) is a group of congenital abnormalities giving rise to facial deformity and difficulties with speech, eating, social interaction and child development. The UK incidence of CLP is 1:700, with over 1,000 babies born with a cleft in the UK each year.<sup>3</sup> Cleft surgeons work in a multidisciplinary team to provide treatment for CLP, which is often life changing for the patients and their families. They have a mixed workload of paediatric and adult patients with the rare surgical opportunity of being able to witness their long-term follow-up. The surgery itself is technically challenging, requiring an appreciation of soft tissues, bone and dentition. Being a surgeon in a cleft multidisciplinary team therefore has the potential to be enormously rewarding.

In 1998, the Clinical Standards Advisory Group (CSAG) revolutionised cleft care in the UK by demonstrating that units treating high volumes of cleft patients had superior aesthetic and functional outcomes.<sup>4</sup> Subsequently, there was centralisation

of UK cleft care and there are now 9 cleft services with surgical procedures performed at 16 hospital sites (Figure 1).<sup>5,6</sup> Each centre is required to provide cleft care in accordance with strict protocols, which specify that surgeons undertaking primary lip and palate repair should treat at least 30 new babies per year.<sup>7</sup> For trainees wishing to specialise in cleft surgery, the CSAG summary report emphasised the need for structured training via a common pathway, in a high volume centre where all aspects of cleft care are undertaken.<sup>4</sup>

### UK CLEFT TRAINING PATHWAY

Although cleft surgery does have its own dedicated training programme, governed by the JCST, this does not currently lead to the award of a CCT. Instead, it is considered to be an interface surgical specialty with trainees hailing from otolaryngology, maxillofacial and plastic surgery parent specialties. Cleft fellowships, taken towards

the end of higher surgical training, are considered to be the main way of obtaining the skills required to become a cleft consultant. Table 1 offers ideas for cleft related activities at each stage of surgical training in the UK.

### CLEFT EXPERIENCE PRE-FELLOWSHIP

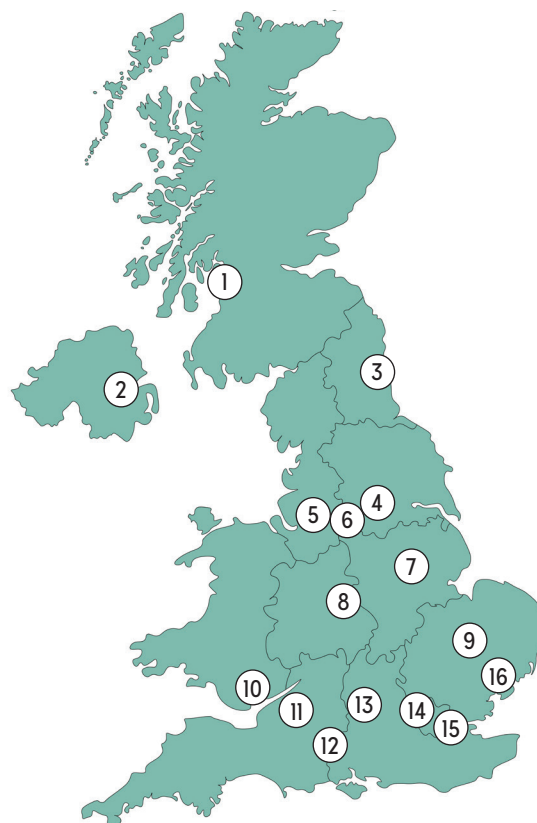
Aspiring cleft surgeons in their early years of training (medical school through to registrar level) need to be self-motivated, focused and actively seeking out opportunities that will enable them to gain experience of CLP. This will allow trainees to be competitive when applying for cleft fellowships towards the end of their surgical training.

### Commitment to specialty

Demonstrating commitment to the cleft specialty involves showing an interest in CLP for a prolonged period of time and being involved in cleft projects in the wider community (and possibly around

Figure 1 NHS Cleft services

- ① Royal Hospital for Sick Children, Glasgow
- ② Royal Belfast Hospital for Sick Children
- ③ Royal Victoria Infirmary, Newcastle-upon-Tyne
- ④ Leeds General Infirmary
- ⑤ Alder Hey Children's Hospital, Liverpool
- ⑥ Royal Manchester Children's Hospital
- ⑦ Nottingham City Hospital
- ⑧ Birmingham Children's Hospital
- ⑨ Addenbrooke's Hospital, Cambridge
- ⑩ Morriston Hospital, Swansea
- ⑪ University of Bristol Dental Hospital
- ⑫ Salisbury District Hospital
- ⑬ John Radcliffe Hospital, Oxford
- ⑭ Great Ormond Street Hospital, London
- ⑮ Guy's & St Thomas' Hospital, London
- ⑯ Broomfield Hospital, Chelmsford





**Table 1** Opportunities for cleft experience at different stages of surgical training

Stage of Training	Opportunities for cleft experience
Medical/dental school	<ul style="list-style-type: none"> <li>• Special study module in a cleft unit</li> <li>• Intercalated BSc or MSc degree related to cleft electives themed in cleft (either in the UK or abroad)</li> <li>• Involvement in cleft charity organisations (eg CLAPA events in the UK)</li> </ul>
FI-CT2	<ul style="list-style-type: none"> <li>• Audits or quality improvement projects themed in cleft</li> <li>• Presentations at CFSGBI</li> </ul>
ST3-ST8 (otolaryngology, OMFS, plastic surgery)	<ul style="list-style-type: none"> <li>• Clinical cleft experience during training rotations</li> <li>• Research projects with the CMC or ECRG</li> <li>• Research degree themed in cleft</li> <li>• Attendance at relevant cleft courses</li> <li>• Attend CFSGBI conference and surgical CEN</li> </ul>
Cleft fellowships (UK or overseas)	<ul style="list-style-type: none"> <li>• Achieve cleft competences in line with GMC TIG cleft syllabus</li> <li>• Continued involvement in quality improvement, audit and research</li> </ul>

the world). The Craniofacial Society of Great Britain and Ireland (CFSGBI) is the national organisation representing the cleft multidisciplinary community. Trainee membership offers opportunities to receive information and attend the conferences as well as the surgical Clinical Excellence Network. The Cleft Lip and Palate Association represents cleft patients in the UK. It relies on volunteers to run a wide range of events all across the country.

#### Clinical cleft experience

Trainees should endeavour to gain clinical CLP experience during registrar training rotations but exposure may vary depending on parent specialty and UK region. The minimum number of cleft operations required for the CCT indicative logbook in plastic surgery is 35 and in maxillofacial surgery, it is 15 whereas the otolaryngology training guidelines do not list cleft surgery operative numbers specifically. In order to enhance experience in the UK, trainees can arrange observation visits to UK cleft units. However, this requires advanced planning owing to the need for honorary contracts in the separate NHS trusts. In addition, trainees can visit units abroad for elective studies or mini fellowships.

#### Practical skills in cleft surgery

Cadaveric cleft surgery courses are currently run in the UK and Europe. Synthetic cleft

palate simulators have been developed, which offer trainees access to develop skills in a safe environment, outside of the operating theatre.<sup>8</sup> In addition, national and international CLP conferences provide the opportunity to learn about cutting edge developments in the specialty, present original research and network with members of the cleft multidisciplinary team.

#### Audit

Audit experience is mandated during every year of training but may not be cleft specific if time spent in UK cleft units has been limited. The NHS England CLP quality dashboard provides targets for cleft teams in key areas of CLP care and may be utilised by trainees to inspire cleft audit ideas.<sup>9</sup> Short audits and service evaluations can also be undertaken on electives and fellowships.

#### Research

Participation in cleft research enables trainees to gain a deeper understanding of

the cleft specialty and answer important questions relating to CLP surgery. The UK is ideally placed to perform high quality cleft research owing to the centralised nature of care as well as the existence of national registries and databases. The James Lind Alliance set out the top 12 research priorities in CLP in 2012 and this may be used by trainees to guide research questions.<sup>10</sup>

There are several organisations that can encourage and assist with CLP research opportunities, and the details of these can be found in the research section of the CFSGBI website.<sup>11</sup> The Cleft and Craniofacial Conditions Clinical Studies Group (CSG) is a National Institute for Health Research initiative to help researchers to develop high quality cleft research proposals. The Early Career Researchers Group (ECRG) is a subgroup of the CSG. It offers opportunities and support for members of the multidisciplinary CLP team who wish to develop research questions and skills. Information about the CSG and ECRG can be sought via email (csg.crnchildren@nih.ac.uk). The Cleft Multidisciplinary Collaborative (CMC) is a trainee-led UK organisation that aims to produce high quality, multicentre research.<sup>12</sup>

An exciting resource, unique to the UK, is the Cleft Collective, which is a national longitudinal cohort study and the largest of its kind in the world.<sup>13</sup> The Cleft Collective recruits CLP patients and their families in order to collect a wide range of data including surgical information, biological samples, psychological surveys and speech samples. Collaborators from all disciplines across the world are encouraged to apply to use the resource, which is currently free to access.<sup>14</sup>

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*As a trainee, it is important to be mindful that involvement in projects overseas must be carried out in an ethically and culturally acceptable way.*

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**Cleft care overseas**

UK cleft surgeons have had a long history of involvement with the provision of cleft care overseas in low and middle income countries (LMICs), and there are many UK charitable organisations and non-governmental organisations involved in this field.<sup>15</sup> As a trainee, it is important to be mindful that involvement in projects overseas must be carried out in an ethically and culturally acceptable way.<sup>16</sup> If organised properly, cleft experiences in LMICs can be immensely rewarding and beneficial.<sup>17</sup>

**CLEFT FELLOWSHIPS**

Fellowships are the mainstay of cleft surgery training as they enable focused apprenticeship-style opportunities for trainees to learn the art and science of cleft surgery. It is not expected that trainees can obtain sufficient training and experience within their base higher surgical training. The cleft training interface group (TIG) fellowship scheme run by the JCST is a pre-CCT fellowship and is currently considered the recognised route to become a UK cleft consultant. NHS England stipulates that new cleft consultants should have met the requirements of TIG approved cleft surgery fellowship training or must be able to evidence equivalent training and experience.<sup>7</sup> As the longevity of pre-CCT fellowships cannot be guaranteed, it is important for trainees to be aware of the breadth of cleft fellowship training opportunities available.

**TIG cleft fellowships**

National cleft training posts (known as TIG fellowships) have been designed to provide multidisciplinary cleft surgery training, following the CSAG recommendations, in order to promote the best quality of care for patients.<sup>18</sup> TIG fellowships are centrally funded, nationally appointed fellowships recognised by the JCST and administrated via the Severn Deanery.<sup>1</sup> They are undertaken prior to award of the CCT in the final years of registrar training so applicants are usually grades ST6–ST8.

**Table 2** Syllabus for special interest training in cleft lip and palate surgery<sup>18</sup>

Core knowledge	<ul style="list-style-type: none"> <li>Embryology</li> <li>Genetics and syndromes</li> <li>Growth and development in infant/child nutrition</li> <li>Speech development</li> <li>Preoperative management</li> </ul>
Antenatal management	<ul style="list-style-type: none"> <li>Possibilities and limitations of antenatal diagnosis, likelihood of undiagnosed coexistent abnormalities</li> </ul>
Postnatal management	<ul style="list-style-type: none"> <li>Airway</li> <li>Feeding</li> <li>Counselling</li> <li>Principles of presurgical orthodontics</li> </ul>
Primary surgery	<ul style="list-style-type: none"> <li>Primary lip repair</li> <li>Primary palate repair</li> </ul>
Secondary surgery	<ul style="list-style-type: none"> <li>Lip revision and fistula closure</li> <li>Investigation of velopharyngeal function</li> <li>Secondary palatal surgery, surgical management of velopharyngeal insufficiency</li> <li>Alveolar bone graft</li> <li>Rhinoplasty</li> <li>Cleft related orthognathic surgery</li> </ul>
Multidisciplinary teamworking	<ul style="list-style-type: none"> <li>Basic otology and hearing assessment</li> <li>Orthodontics</li> <li>Speech and language therapy</li> <li>Paediatric and restorative dentistry</li> <li>Child and adolescent psychology</li> <li>Children with disabilities</li> <li>Ethical issues</li> <li>General paediatric issues</li> <li>Management of residual cleft deformity in adults</li> </ul>

Applicants for a TIG cleft fellowship are required to fulfil the following eligibility criteria:<sup>19</sup>

- Applicants must have a current national training number in one of the cleft parent surgical specialties (ie otolaryngology, maxillofacial or plastic surgery).
- Applicants must hold part 1 of the FRCS exit examination at the time of the TIG interview.
- Applicants must have obtained the full FRCS exit examination before commencement of the TIG fellowship.
- The TIG fellowship must have commenced prior to the anticipated date of the applicant being awarded the CCT.

TIG fellowships are advertised nationally and are appointed in open competition. Applicants are longlisted according to essential criteria and then shortlisted to be

invited for interview. The interview involves 3–4 desk-based stations testing knowledge and understanding of cleft surgery in the UK and worldwide. The interview stations vary from year to year but will assess current protocols, research and controversies in the management of CLP. One of the interview stations will involve a physical portfolio so it is well worth preparing this well in advance as it will take a significant amount of time and effort. Successful applicants are able to choose a unit at which to undertake their TIG fellowship, with the highest ranking applicant given first choice. Only UK cleft units that are verified TIG training centres can host TIG fellows and a list of these can be found on the JCST website.

TIG fellowships are only advertised when consultant vacancies are anticipated, which means that an average of 1–2 fellowship posts are available each year (although there is significant variation). A TIG cleft

fellowship is a minimum of one year and a maximum of two years. The first year is spent in a base UK CLP unit, enabling the fellow to gain core cleft skills. The second year can allow a period of up to six months to be spent in different units in the UK or abroad, in high income countries or LMICs.<sup>20</sup>

TIG fellows must demonstrate progress in accordance with the cleft syllabus approved by the General Medical Council, summarised in Table 2.<sup>18</sup> Fellows are also encouraged to participate in audit and research projects during their fellowship, and to take advantage of the national networking events associated with the TIG fellowship scheme.

In recent months, the General Medical Council has stated its intent to move the pre-CCT TIG fellowships to post-certification fellowships.<sup>21</sup> The exact criteria and process that will be applied to these fellowships is yet to be made clear although there will be a period of time during which current trainees can access the pre-CCT TIG fellowship so that they will not be disadvantaged. This has created uncertainty but the new training pathway will be reviewed and circulated in due course as there is a need to maintain standards in training.

#### UK non-TIG cleft fellowships

Several UK CLP units have standalone trust grade cleft fellowships, which offer similar clinical opportunities to the TIG fellowship scheme in that they allow trainees to obtain focused, multidisciplinary experience in CLP care. These posts are not verified by the JCST and do not have a specific syllabus attached to them, unlike the TIG fellowships. Trainees will therefore need to be organised and structured with their time during these fellowships so they are able to demonstrate that the competences acquired are equivalent to the TIG fellowship. Applications for UK cleft fellowships are advertised via the NHS Jobs website and candidates are appointed by interview.

#### International cleft fellowships

International fellowships can be extremely beneficial training opportunities as they

allow trainees to experience CLP care in a different cultural setting and in a different healthcare system. While UK fellowships tend to focus purely on cleft training, international fellowships are usually broader in scope and may be labelled paediatric plastic or craniofacial fellowships. These may involve a focus on CLP but may also include other subspecialty areas such as paediatric hand surgery, craniofacial surgery and paediatric burns surgery. The reason for this is that surgeons performing cleft operations internationally often do so as part of a wider workload of paediatric reconstruction.

Trainees applying for international fellowships will need to adhere to the registration requirements of the specific country. Some countries may require fellowship candidates to acquire additional qualifications via examinations whereas other countries will accept UK qualifications. Most international fellowship applications will take at least a year to set up so trainees are advised to prepare well in advance.

During an international fellowship, it would be important for trainees to demonstrate the competences they have learnt, and the TIG syllabus could be utilised as a structure to target experiences and document progress. It would be advisable to keep a complete logbook of cases, and to engage with audit and research during the fellowship.

#### CLEFT CONSULTANT POSTS AND INTERVIEWS

Cleft consultant posts are advertised individually on the NHS Jobs website and appointments are made via interview. Trainees can gain an insight into the requirements for consultant appointments from the person specification guidance for CLP surgery published by The Royal College of Surgeons of England.<sup>22</sup>

#### CONCLUSIONS

UK CLP services are centralised and involve multidisciplinary teams, offering patients a high quality of care and surgeons a potentially enormously rewarding career. Surgical trainees wishing to specialise in

cleft surgery should endeavour to gain targeted experience early in their surgical career as this will stand them in good stead for the cleft training fellowship applications towards the end of higher surgical training. There are a multitude of cleft fellowships worldwide for trainees but the pre-CCT TIG fellowship is currently considered the most accepted training scheme for UK consultant posts. As surgical training continues to evolve and the longevity of pre-CCT fellowships cannot be guaranteed, it is important for trainees to be aware of the variety of cleft training opportunities available to them.

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