

Tips for GP trainees working in plastic surgery

INTRODUCTION

Plastic surgery is often misrepresented in the popular media, and as a predominantly postgraduate specialty, many doctors also misunderstand it. Unlike other surgical specialties, it is defined by the application of technical skills throughout the body, rather than by a distinct anatomical area. GP trainees can easily find themselves cross covering plastics on-calls out of hours. Combined with limited previous experience and the varied case-mix, this can be daunting. However, plastic surgery provides an abundance of very relevant learning opportunities.

GENERAL TIPS

1. *Familiarise yourself with plastic surgery concepts.* Be prepared to adapt to the variety of presenting problems seen in plastic surgery. When on call these will range from wounds (particularly in challenging sites, for example, faces), burns, open and closed hand injuries, to lower limb trauma. The key is to first understand and then apply simple concepts, such as the reconstructive ladder (Box 1), to the problem facing you. A good introductory text will provide the knowledge and skills to make initial assessments, for example, *The Oxford*

Box 1. The reconstructive ladder

This is one way of conceptualising the options available for reconstructing a soft tissue defect. In general, start at the lowest rung of the ladder, and 'climb' until the simplest solution for the problem is identified:

1. Heal by secondary intention

Not just the 'easy option'. This can be labour-intensive, and require frequent attendances for dressing changes.

2. Primary closure

Suturing appropriate, clean, debrided wounds.

3. Delayed primary closure

Sometimes a wound is initially cleaned, debrided, and dressed, and only closed at a later stage (typically to reduce the chance of infection). This is sometimes performed for bite wounds.

4. Grafts

Grafts are pieces of tissue moved from one site on the body to another, but without maintaining any intrinsic circulation. They then have to gradually derive a blood supply from the recipient site. They can comprise different tissues, for example skin or bone.

5. Local flaps

Flaps are pieces of tissue moved with their own capillary network intact. Again, these can involve different tissues, such as skin or muscle. Local flaps use geometry to reorganise nearby tissue laxity and close a defect.

6. Regional flaps

Here the tissue is moved from a different region of the body, but without detaching its blood supply. An example is detaching the origin of latissimus dorsi from the central back and swinging it through the axilla (where it derives its blood supply) to reconstruct a breast after a mastectomy.

7. Free flaps

The flap is completely separated from the body, with the relevant artery and vein dissected and then divided at the donor site. The vessels are then surgically anastomosed to a recipient artery and vein. An example would be detaching both origin and insertion of latissimus dorsi from the back, dividing the thoracodorsal artery and vein supplying it in the axilla, then moving it to the leg and anastomosing these cut vessels to the side of the anterior tibial artery and vein, to use the muscle flap to cover an open tibial fracture.

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2. *Recognise informal learning opportunities.* Seeing last week's skin graft with the consultant when they attend dressing clinic for their graft check, for example, at lunchtime, is the best way to see what a skin graft should look like after a week. This chance may only arise once. Enthusiasm is generally noted, and you are likely to get more opportunities as a result.
3. *Brush up on anatomy and read about operations in advance.* If covering on calls, revising key areas such as hand and forearm anatomy before can be invaluable. Keep an anatomy resource (paper or electronic) handy. If attending an elective session, target the relevant area for that day the night before.
4. *Learn specialist examinations early on.* For example, this may involve refreshing examination of flexor tendon function. The majority of plastic surgery involves superficial soft tissues, and so old-fashioned good clinical examination skills, rather than complex imaging or investigations, are still essential.
5. *Use national and local guidelines.* Many areas of plastic surgery have national guidelines. Knowing the key summary points of lower limb trauma guidelines will help you in this post,² and skin cancer ones will definitely help in your later clinical practice.³ Some aspects of practice vary. Local guidance may be available. If so, follow it. Often it will guide topics like antibiotic usage, remember that animal bites require specific coverage for organisms like pasteurella.
6. *Learn from multidisciplinary staff.* Physiotherapists often know more than career plastic surgeons about hand rehabilitation. Likewise, burns nurses will have a lot of experience with dressings. You may also see medical leeches, larvae therapy, and negative pressure therapy being used. Take the opportunity to learn from all relevant team members.
7. *Recognise true plastic surgery emergencies.* While plastic surgery may have less out-of-hours operating than other surgical specialties, there are some key emergencies to appreciate. Know about necrotising fasciitis, flexor sheath infections, dog bites, non-accidental injuries in children. Most importantly, involve your seniors early if unsure.
8. *Cover the basics.* When working up complex emergency cases, all team members may become distracted and overlook simple tasks. For example, everybody else may forget to ensure the patient has up to date tetanus prophylaxis.
9. *Be organised when on call.* Many patients seen on call will be brought back to trauma clinics or for review the next day. Accurate and organised lists of patients are essential for this. If you send patients home overnight to come back, note their telephone number, so that they can be easily contacted if the plan needs to be changed.
10. *Document in detail.* Keeping detailed notes, particularly regarding the history of the presenting complaint, is very important. Your notes may be called on in the future, particularly in cases of occupational injuries, alleged assaults, and non-accidental injury. Identifying inconsistencies in the story may only be possible if notes are detailed and complete.
11. *Identify the sub-specialties on offer and target your learning.* Plastic surgeons often sub-specialise and different departments will have different opportunities available. If minor surgery interests you, then skin cancer lists and multidisciplinary teams may appeal. If you intend to do minor injuries work, then burns and hand trauma experience can be useful.

HAND SURGERY

12. *Know local pathways.* Referral pathways for presentations such as hand fractures can vary from centre to centre, for example, to orthopaedics or plastics.
13. *Attend clinic.* Much of hand surgery involved non-operative management. This is best learned in clinic. You could learn how to give steroid injections for a variety of conditions.
14. *Take the pressure off.* Use CE marked digital tourniquets and follow local guidelines. Remember that they can easily be left on at the end.

BURNS AND WOUNDS

15. *A picture is worth a thousand words.* Inspection is key to clinical assessment in plastic surgery. High-quality medical photographs capture this inspection. Photographing burns may be mandatory and some plastics

centres use a telemedicine service for incoming referrals. Your unit may have a dedicated camera. Check local resources and medical imaging policies. Drawing diagrams in the notes is also common practice.

16. *Always identify very accurately the agent responsible for a chemical burn.* Be aware that some chemical burns (especially hydrofluoric acid) need specific emergency treatment. Use resources like TOXBASE®, and check with your senior if unsure.
17. *Circumferential limb burns and facial burns may require emergency intervention.* If in doubt, always check with your senior early.

SKIN CANCER

18. *Practice makes perfect.* Plastic surgery is the ideal place to develop your minor operative skills. Although plastic surgeons are stereotypically a bit obsessive about neatness, it's a great chance to learn and consolidate skills.
19. *Peripheral clinics.* Often consultants run peripheral clinics and operating lists. These may not have as many other trainees in attendance, so will provide a great learning opportunity if you can go.

FREE FLAPS, BREAST, HEAD AND NECK

20. *Learn how to monitor free flaps.* Optimising circulation through anastomosed vessels requires the patient to be warm and well hydrated. Free flap skin paddles should be warm and soft with capillary refill of around 2 seconds. Pale cold flaps may have compromised arterial inflow, and swollen purple flaps with brisk refill may have venous outflow compromise.

Both are emergencies. Call your senior, and plan for the possibility of a return to theatre.

21. *Adjuncts.* Your unit may use tools like Doppler probes to help monitor flaps. See them with a senior initially to understand how they can be helpful.
22. *Do not transfuse free-flap patients without taking senior advice.* There is a theoretical risk to the flap from the viscosity of red cell concentrate.

PRIVATE WORK

23. *Keep covered.* If you are going to the private sector, you should inform your medical indemnity provider, even if you are just attending to observe.
24. *Learn about aesthetic work.* This is an experience you are unlikely to get in other specialities and will be invaluable if patients consult you seeking advice.

Provenance

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