The survivor's guide to working in trauma and orthopaedics

Introduction

It is only normal to be anxious when starting work in a new specialty, and trauma and orthopaedics is no exception. This anxiety can be eased with a bit of preparation before you start the job.

The standard rules for any surgical specialty like 'good history and clinical examination', 'good documentation', 'patient safety' and 'ask for help' hold well in orthopaedics.

Familiarize

Attending the department induction will go a long way to help in your posting. It not only familiarizes you with the work pattern and system but also allows you to meet your colleagues. Get to know the department structure, protocols (for things such as deep vein thrombosis prophylaxis and use of antibiotics), request forms and procedures for various investigations, pagers, the admission and discharge system, and the rota.

Ask whether the department has specific protocols for managing patients with hand injuries, spine problems, soft tissue injuries or abscess, for example. Some of them can overlap with the intake of other surgical specialties such as plastic surgery.

Team work

Never forget your team. Nurses, physiotherapists, occupational therapists and plaster technicians play a substantial role in patient management. Along with your seniors they can often provide helpful suggestions and advice. Ward clerks, medical secretaries and managers know the system better than anyone else, and can help you with administrative issues. It is useful to know other people, like the orthotist and prosthetist, who are often needed in orthopaedic practice.

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Learn at work

Trauma meetings

Most units start their day's work with a morning trauma meeting to discuss the admissions. It is very important to attend and participate in these discussions to get a feel for the various management plans which experienced colleagues use. It also keeps you updated on new admissions and changes to patients on the wards.

Ward duties

Ward rounds can be regular or a grand round and are often informative. Attending ward rounds with geriatricians can be useful in the management of elderly patients.

Reassessment of preoperative patients to confirm the diagnosis and plan further management keeps you on top of ward work. Postoperative patients need to be examined with particular emphasis on observations, wound checks, blood test results and surgical drain collection.

Chest pain, pulmonary embolism, infection, hypotension and deep vein thrombosis are frequent concerns on an orthopaedic ward. Revising the algorithms for emergency management of these issues will improve your confidence at dealing with them.

Clinics

Outpatient orthopaedic clinics vary and include fracture, elective and follow up. Other clinics such as subspecialty, one stop and preoperative assessment exist in some units. Clinics can be a great place to learn, so try to find your way to some of these during your posting. They allow you to learn and practice orthopaedic examination techniques under supervision. There will be opportunities to learn interventions such as joint injections, plastering and use of splints. Many of these situations can be used to complete the assessment forms for your portfolio during this posting.

Theatres

The most exciting part of orthopaedics is probably being in the operating theatre. Try to learn about making theatre lists, theatre booking and consenting for routine procedures. Use your theatre time effectively by trying to assist at and/or do routine orthopaedic procedures under supervision. Learn about common surgical approaches, tourniquets and instruments. Junior trainees can often get hands-on experience doing some straightforward fracture fixations such as hip, wrist and ankle fractures.

Accident and emergency

This is another place to learn while being on-call. Attention to neurovascular and musculotendinous integrity is important in any orthopaedic patient examination. Manipulation of some common fractures and dislocations can be gratifying but will need some reading and help initially. The *Pocketbook of Orthopaedics and Fractures* (McRae, 2006) is an essential read to help you deal with common referrals from accident and emergency.

ATLS (advanced trauma life support) knowledge is essential if you are going to be involved with trauma calls. Going on an ATLS course before or during the orthopaedic posting will make you more confident in dealing with such situations.

Be prepared

There are a few 'not to miss' diagnoses which are considered as orthopaedic emergencies. In these cases, early involvement of seniors is essential. Some reading about and preparation of these important conditions will go a long way in improving your confidence in managing these cases.

Compartment syndrome

Disproportionate pain not responsive to analgesics and pain on passive stretch of involved muscle groups are considered useful signs in early diagnosis of this condition.

Classic symptoms of acute compartment syndrome such as disproportionate pain, paraesthesia, paralysis, pallor and pulselessness may not always be seen.

Cauda equina syndrome

Saddle anaesthesia, absence of ankle reflexes, bladder and bowel habit alteration and

loss of anal tone are some of the classic signs. A complete neurological examination including per rectal examination is essential to diagnose this condition at an early stage.

Open fractures
Broad spectrum antibiotics, tetanus cover, clinical photographs, sterile dressing, splints and informing seniors are all essential parts of the initial management.

Non-accidental injury
A high index of suspicion is needed when considering this in a vulnerable individual. Most hospitals run short child protection training courses and these are worth attending.

Fractures
Distal radius, ankle, hip and long bone fractures are commonly seen and are worth revising before the start of the job. Read about manipulation and plaster application techniques for distal radius and ankle fractures. Neurovascular and musculotendinous integrity needs to be verified in all cases.

Dislocations
Manipulation techniques for reduction of shoulder dislocations are essential reading before you start this post.

Geriatric fractures
Fragility fractures such as hip fractures in the elderly need special attention. Most centres have a fast-track system for hip fractures but a further detailed assessment is needed. Medical co-morbidities need to be checked and a complete physical examination is important. Check routine blood test results and exclude any acute medical conditions leading to the fall and injury. Pathological causes such as metastasis should be considered and may need further investigation. Osteoporosis management should be considered in all fragility fractures in consultation with geriatric specialists.

Tumours
Suspicious musculoskeletal swellings will often need further investigations and discussion with seniors at an early stage.

Infections
Bone and joint infections are quite disabling and a high index of suspicion is needed in diagnosis. Infection of native or artificial joints is an orthopaedic emergency and will need attention from a senior colleague.

Consider hip infection as a possible cause of limp in a child along with other possibilities for the age group.

Aspirations and injections
The knee joint commonly needs aspiration and injection techniques. It is vital to use aseptic technique in any such procedure. Other joint procedures can be easily mastered with some reading and help from the experienced.

Splints and tractions
While there are several commonly used splints in orthopaedic practice, working knowledge of the Thomas splint is often useful. Use of skin traction and care of skeletal tractions may be needed on some occasions.

Plaster techniques
Most units have plaster rooms and plaster technicians seem to be the most helpful and enthusiastic people around. The easiest way to learn plastering techniques is to regularly attend the plaster room and get some hands-on experience. While it is important to know about plaster application, it is equally essential to know about plaster removal or cutting methods.

Radiographs
Proper radiographs are not only essential for diagnosis but are also useful for preoperative planning. Some rules such as two joints (one joint above and below) and two views are suggested but may not always be done. Some situations such as shoulder problems may need special views like axillary and transcapular radiographs.

Conclusions
Trauma and orthopaedics is an exciting specialty and offers opportunities to learn practical skills. Some background reading before the start of the posting will go a long way to alleviate any anxiety and to build up your confidence. **BJHM**

Conflict of interest: none.

McRae R (2006) *Pocketbook of Orthopaedics and Fractures.* 2nd edn. Churchill Livingstone, Oxford

Further reading

McRae R, Esser M (2008) *Practical Fracture Treatment.* 5th edn. Churchill Livingstone, Oxford

KEY POINTS
- A little background preparation will make your posting in orthopaedics more interesting.
- Ask for help at an early stage when you are not sure what to do.
- Use the opportunity to learn and practice practical skills.