

# How can orthopaedics learn from the mistakes of the past as it moves into the future?

## Introduction

Orthopaedics has been practiced for thousands of years, originally dating back to primitive times with archaic evidence of splinting and rehabilitation practices. The speciality has subsequently evolved and been propelled forward by the ancient Egyptians, Romans, and notably during the Renaissance period, all of which laid the foundations for modern day Orthopaedics(1). At present, the specialty is advancing rapidly and will continue to do so in order to cope with our ageing population and our increasing desire for functionality throughout life. Accelerated development precipitates many challenges, which, if not managed correctly, could lead to increased numbers of clinical errors and in turn compromise patient safety. As a result, it is of vital importance for Orthopaedics to reflect upon and learn from mistakes of the past in order to prevent their reoccurrence and progress in the future.

## Wrong-site surgeries

Wrong-site surgery is a relatively rare occurrence in the UK, however, it is of vital importance as it is an avoidable error that can have devastating consequences for patients and surgeons alike. Between 1995 and 2007, evidence gathered from the NHS Litigation Authority found that 292 procedures were carried out on the wrong patient or the wrong anatomical site(2). Orthopaedic surgery was the worst offending speciality.

On consideration, there are multiple factors which increase the risk of such an incident occurring. These include junior members of the team not feeling comfortable to voice their concerns, not enough time taken for safety checks and dubious site marking. Hospital trusts undoubtedly attempt to tackle these issues, however, there seems to be a lack of communication between trusts regarding sharing problems and solutions. For example, if one hospital develops a robust protocol that optimizes site marking, then this idea should be better disseminated across all NHS trusts, who can each decide whether to implement it(3). Encrypted communication apps can aid this process. In addition, checklist fatigue should also be considered. The WHO Surgical Safety Checklist was developed in order to aid theatre teams in reducing clinical errors. However, it is sometimes viewed as an unnecessary chore and therefore steps may be missed or glanced over. Checklists which are more specific, intelligent and adaptable should be developed and the current wealth of sophisticated technology can make this achievable(4).

## Regulation of orthopaedic devices

Earlier this year, a patient safety alert was issued regarding several orthopaedic cases where reconstruction plates were incorrectly used to fix fractures instead of dynamic compression (DC) plates(5). This error was attributed to changes in the design of the reconstruction plates and as a result, 5500 cases are to be reviewed. This is an interesting example whereby a seemingly trivial change to the design of a medical device can have detrimental consequences on patient safety. Furthermore, the demand on resources and budgets to remedy such a mistake is hugely significant.

This brings into question the quality assurance and regulation of new orthopaedic devices, which in itself has undergone much scrutiny in recent years as a result of incidents such as metal-on-metal hip replacements. This specific type of hip replacement was associated with very high failure rates and in addition there was concern regarding the release of toxic ions into the body(6, 7). In response, the 'Beyond Compliance' initiative was developed in order to promote high quality independent post-market surveillance of orthopaedic implants(8). If such an initiative was rolled out to encompass all new orthopaedic devices, including fracture plates, then the aforementioned incident may have been avoided, or at least contained to a much smaller scale. In addition, if the NHS limited the number of devices it purchased it would reduce the likelihood of staff being unfamiliar with their use. A balance must be struck whereby technological growth is encouraged but not allowed to exceed the abilities of staff to utilise it safely.

### **Culture of blame**

Mistakes are inevitable in every aspect of medicine, including Orthopaedics. There is a growing concern over the current blame culture within the NHS, whereby individuals are unfairly disciplined for multifaceted clinical errors, which are often due to institutional shortfalls. In the current age of social media, some cases are made even more complicated by the national and global coverage they receive, such as the Bawa-Garba case(9).

In the aviation industry, adverse incidents are dealt with sensitively and lessons are disseminated. As such, the industry learns from its mistakes and moves forward(10). Of course, accountability is necessary and disciplinary action is sometimes just, however, in the NHS, too often incidents are viewed as negligence, resulting in scapegoats being stripped of their clinical duties. This simply damages morale and deters people from disclosing errors thereby the opportunity to learn is lost.

The Care Quality Commission recently outlined the story of an Orthopaedic patient who was due to receive an injection to relieve sciatica, however, unfortunately this was administered on the wrong side. The patient noticed that safety checklists were continually interrupted due to the highly pressurised clinical environment and the department appeared unable to cope with its caseload. The clinical governance lead invited the patient to give feedback on the event, after which, appropriate changes were made to the service. The patient felt content that the issue had been addressed and progress had been made in improving patient safety, without anyone needlessly assuming the blame(11). This example is evidence of a scenario where an orthopaedic error was managed correctly, and is a good case from which the NHS can learn.

### **Conclusion**

It is clear that innovative ideas must be sought in order to improve communication across the Orthopaedic specialty to ensure that lessons are better disseminated. Furthermore, technology is becoming an ever-growing component of Orthopaedics, and it remains crucial that the appropriate regulation must be in place so that it can be harnessed to drive the best possible clinical practice. Most importantly, when things go wrong, a transparent no-blame environment is required to learn from such events and effectively improve patient care.

## References

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