Knee Surgery, Sports Traumatology, Arthroscopy (2019) 27:1009–1010
https://doi.org/10.1007/s00167-019-05393-7

EDITORIAL

Am I the right surgeon, in the right hospital, with the right equipment and staff to do this operation?

Jonathan R. A. Phillips[1] · Andrew D. Toms[1] · Roland Becker[2] · Michael T. Hirschmann[3,4]

Received: 12 December 2018 / Accepted: 30 January 2019 / Published online: 9 March 2019

It was a regular morning trauma meeting and cases were being discussed. Unusually, it was a light day for trauma and the afternoon trauma list lay empty of cases. A displaced distal humerus fracture (Holstein–Lewis variant) was presented to the (mainly lower limb) trauma surgeons at the meeting that day. The fracture was closed and there were no neurovascular concerns; it was, in essence, a non-urgent trauma case.

"That would be a perfect case for that new humerus plate… you know… the one that bends at the end to go down the lateral side" the knee surgeon running the meeting remarked. "Which one is that?", the hip surgeon replied. "Hold on, I'll have a look on google…" responded the knee surgeon. After a few minutes, they found the plate, and the theatre nurse confirmed that it was in stock and available. A discussion then took place. Should a surgeon really be performing surgery if they have to check Google before the case? It became obvious very soon that the case would be best left for their upper limb colleagues the following day.

This case raised a number of issues; just because a surgeon can do an operation, should they be doing the operation? When should the case better be referred to a specialised center?

Revision knee surgery is such a good example. With the technological advances in instruments, implants, fixation and the diagnosis of infection, should non-expert surgeons be doing such surgery? Is there a correlation of the degree of expert level and quality of knee revision surgery? Revision knee surgery is also extremely expensive. The average cost of treatment of an infected knee replacement is well over 30,000 Euros [1].

This topic is currently under scrutiny in Europe. In UK The Get It Right First Time (GIRFT) report, published in 2012, supports centralisation of specialist surgery to improve patient outcomes, while making cost savings through minimising complications and loan equipment [2]. There are already a number of examples how networks can improve patient outcomes, such as in major trauma and sarcoma networks [3–5]. In Germany and Switzerland, there is an ongoing discussion about minimum surgical numbers as a threshold for primary and total knee revision surgery. Hospitals in Germany have to perform a minimum number of 50 total knee replacements to receive reimbursement for the procedures by the health insurance companies, and hospitals that do not reach the minimum number are not allowed to perform these procedures. No such threshold of numbers exists for revision knee operations.

During a recent National UK Revision Knee Surgery meeting, a collaborate consensus discussion was held and the principles of a new classification system for knee revision surgery were established. This led to the formation of the Revision Knee Complexity Classification (RKCC). This classification is published and discussed in this issue. The underlying principle behind the RKCC is that revision knee surgery can be complex, and complications are more common than after primary surgery. However, there are predictable variations that lead to an increase in complexity and outcomes. These include the presence of infection, bone loss, patient co-morbidities and extensor or soft tissue compromise. There are a number of other scenarios that increase complexity, such as stiffness requiring enhanced exposure techniques, re-revision surgery and complex instability.

✉ Jonathan R. A. Phillips
jonphillips@nhs.net

[1] Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Barrack Road, Exeter, Devon, UK

[2] Department of Orthopaedic and Traumatology, Brandenburg Medical School Theodor Fontane, Hochstrasse 29, 14770 Brandenburg/havel, Germany

[3] University of Basel, Basel, Switzerland

[4] Department of Orthopaedic Surgery and Traumatology, Kantonsspital Baselland (Bruderholz, Liestal, Laufen), Bruderholz, 4101 Basel, Switzerland

Surgeons who perform such surgery should be suitably experienced in dealing with these issues.

Details of the classification system are detailed in Table 1, and there is additional information including data on its reproducibility and reliability in this issue [6].

R1 revision surgery cases are those that should be straightforward and predictable, not requiring advanced techniques for surgical access, reconstruction or without complicating patient factors.

R2 cases have a higher level of complexity or involve first-time infection, and R3 cases are complex salvage cases. There is also the understanding that simple cases can become complex very quickly during revision surgery.

The RKCC classification system opens a debate internationally on decision making around who performs revision knee surgery and where it is performed. The underlying reason for this debate is patient safety—if you or a family member were to have a complex operation performed, you would wish it to be performed by an expert to a high standard. We must move beyond economic and egocentric factors and do what is right for patients. Surgery must move beyond the 'have a go hero' model.

The authors comment that not all revision surgery needs to be performed in specialist centres. There are capacity issues that must be considered, and there are many experienced surgeons with the skills required to perform revision knee surgery that do not work at tertiary referral centres [7]. Good surgeons must not be encouraged to stop performing these cases, and the RKCC supports this, however it is beholden on all of us to take part in a multi-disciplinary discussion with colleagues and at the very minimum answer three questions: Am I the right surgeon, in the right centre with the right team and implant availability?

Many of the highly complex salvage cases are already being treated in specialist centres. What the RKCC supports is the development of local multi-disciplinary team (MDT) meetings and networks to support lower volume surgeons performing the more predictable revision operations, while at the same time referring the more complex, more expensive, more unpredictable cases to centres that perform these types of surgery more regularly. It allows the use of simple, key data to construct a score, enabling and encouraging the discussion of cases and the development of a system where surgeons work as teams, across regional networks.

In summary, the world we are moving into must become more responsible. Surgeons must reflect on their cases to ensure that they are the correct person to be performing the surgery, in the correct centre at the most appropriate time.

References

1. Kallala RF, Vanhegan IS, Ibrahim MS, Sarmah S, Haddad FS (2015) Financial analysis of revision knee surgery based on NHS tariffs and hospital costs: does it pay to provide a revision service? Bone Jt J 97-B(2):197–201
2. Briggs T (2015) A national review of adult elective orthopaedic services in England. Getting it right first time. British Orthopaedic Association, Liverpool
3. National Institute for Health and Clinical Excellence (2006) Guidance on cancer services. Improving outcomes for people with sarcoma. The evidence review
4. Metcalfe D, Perry DC, Bouamra O, Salim A, Woodford M, Edwards A, Lecky A, Costa M (2016) Regionalisation of trauma care in England. Bone Jt J 98-B(9):1253–1261
5. Moran C, Lecky F, Bouamra O, Lawrence T, Edwards A, Woodford A, Willett K, Coats T (2018) Changing the system—major trauma patients and their outcomes in the NHS (England) 2008–2017. EClin Med (Lancet) 2:13–21
6. Phillips JRA, Al-Mouazzen L, Morgan-Jones R, Murray JR, Porteous AJ, Toms AD (2019) Revision knee complexity classification—RKCC: a common-sense guide for surgeons to support regional clinical networking in revision knee surgery. Knee Surg Sports Traumatol Arthrosc. https://doi.org/10.1007/s00167-019-05462-x **(this issue)**
7. Barksfield R, Murray J, Robinson J, Porteous A (2017) Implications of the getting it right first time initiative for regional knee arthroplasty services. Knee 24(5):1191–1197