Perioperative care pathways

Well-coordinated care delivered through a joint replacement care team consisting of primary and secondary health professionals, would make the journey from preoperative preparation to postoperative rehabilitation while undergoing elective arthroplasty a more pleasant experience. Drs Abhay Vaidya, VR Koppada and Professor Romesh Gupta discuss how this will maximise limited health and social care resources, and contribute towards achieving a patient focused NHS.

The UK has an ever-increasing ageing population. According to the National Statistics, in a population of nearly 60 million in mid-2004, approximately one in six was aged 65 or over. This changing demography will have significant implications on NHS resources. The Department of Health’s Hospital Episode System (HES) data show that in 1995/6 over 38,000 primary total hip replacements (THRs) were performed in NHS hospitals in England, whereas in 2004/5 the number of total prosthetic hip joint replacement was in excess of 61,000. This is in keeping with the suggestion of Birrell et al that the estimated number of hip replacements will increase by 40 per cent over the next 30 years because of demographic change alone.

Special challenges
Features that make elective joint arthroplasty in the elderly even more challenging are:
> this surgery constitutes the bulk of elective orthopaedic work in the elderly;
> the majority of these patients have multiple co-morbidities and carry higher perioperative risks of complications and mortality;
> most patients would need post-operative rehabilitation;
> many live alone and would benefit from proper discharge planning.

It is vital to plan the entire perioperative journey of these elderly in advance to avoid multiple hospital visits and last minute operation cancellations, which not only could cause distress to patients but also waste NHS resources. The NHS Modernisation Agency Theatre Programme highlighted the fact that over 67,000 operations...
were cancelled by hospitals at the last minute during 2002/3. In February 2002 the secretary of state announced an allocation of funds totalling £8.5m for the new Operating Theatre and Pre-operative Assessment Programme to spread good practice across NHS.

Pre-operative assessment clinics
Following this initiative, many trusts developed specialist nurse-led pre-operative assessment clinics. However, in the authors’ personal experience, pre-operative assessment after a patient has been listed for operation has had limited success in preventing last minute cancellation of surgery. An audit of suspended elective upper and lower limb surgery cases at Wrightington Hospital in Wigan by one of the authors showed that over 20 per cent of suspensions were due to medical factors. Therefore, serious consideration should be given to addressing this issue. The last minute operation cancellations are largely because anaesthetists feel a patient has been inadequately investigated and/or prepared for the safe conduct of the anaesthesia. Despite several outpatient visits, optimal treatment and stabilisation of existing co-morbidities is not achieved because of the fragmented way of assessments and investigations.

Pre-operative optimisation
Elderly patients requiring surgery often suffer from multiple pathologies. They are more prone perioperatively to develop complications such as infections, thromboembolism, heart failure, fluid imbalance, arrhythmias and renal failure. Day and Rasmussen, having looked at the evidence for the effectiveness of specialist geriatric services in acute, post-acute and sub-acute settings, concluded: ‘Inpatient comprehensive geriatric assessment (CGA) and rehabilitation programmes showed overall benefit across a range of settings compared to usual care, especially those programmes with “medical control” over CGA recommendations with long-term follow-up management.’

To improve pre-operative optimisation of patients, close teamwork between physicians for the elderly, surgeons, anaesthetists, rheumatologists and other healthcare professionals is essential. Early involvement of a physician in elderly medicine can assist decision-making, reduce unnecessary cross referrals and avoid delays. In January 2006, the Department of Health published a white paper, Our health, our care, our say: a new direction for community services’, in response to public consultation regarding their expectations from the NHS. The concept of such a paper was good and the assessment, investigations and stabilisation of medical conditions in the community with the support and leadership of a physician with an interest in the elderly should be strongly advocated. We should be striving towards one-stop clinics while recognising the limitations. Anaesthetist should be involved early to assess the patients’ fitness for anaesthesia.

Post-operative rehabilitation and the engagement of a multidisciplinary team in the planning discharge of these patients back in the community is vital for successful outcomes. Necessary adaptations to their present accommodations and/or relocation in a care home (short or long stay) may become evident during planning in some cases. The involvement of patients, their relatives and carers – and the social services – at an early stage will decrease inpatient stay, thereby optimising the use of hospital resources.

Need for guidelines
In the UK, the decision whether or not to operate is based on a radiological examination, and on the patient’s pain and/or disability, and is left to the consultant orthopaedic surgeon. Birrell et al suggested that, as is done in some other countries (eg, US and New Zealand), objective criteria and guidelines be developed in UK for deciding when to operate. Although we support this concept, we propose to go a step further and suggest that a more holistic integrated perioperative care pathway be developed and implemented by a multidisciplinary joint replacement care team (JRCT).

Joint replacement care team
Multidisciplinary teams have been the norm in the management of various conditions such as cancer and stroke. Surgical and anaesthetic departments are lagging behind in developing such partnerships (exceptions being complex super speciality cases). Often physicians for the elderly are not involved in the pre-operative management of such patients at an early stage, but they are expected to provide post-operative care and rehabilitation as well as to plan discharge.
The JRCT should develop objective and evidence-based guidelines that are clear, simple and easy to implement. The JRCT should consist of a general practitioner (GP), a physician for the elderly, a rheumatologist, an orthopaedic surgeon, an anaesthetist, a physiotherapist, an occupational therapist, a social worker and – most importantly – the patient and their carers. Preferably, the physician for the elderly should lead the team with the aim to:

> assist the primary care team in assessing the suitability of patients requiring referrals to orthopaedic surgeons;
> provide an early physiotherapy and assessment by occupational therapist;
> coordinate and assist other healthcare professionals to organise relevant investigations (eg. x-rays, bone density scans);
> provide evaluation, including anaesthetic assessment and treatment of coexisting conditions, optimising patient preparations;
> map out the patient’s journey from admission to discharge and plan rehabilitation and their return in the community.

The involvement of a physician for the elderly and an anaesthetist early in the planning stages will avoid unnecessary multi-speciality hospital visits and provide a discussion forum regarding the relevance of tests, such as echocardiogram and pulmonary function. The patient’s condition would be optimised to the best possible level in consultation with the anaesthetist and the surgeon. This will minimise last minute cancellations, optimise bed utilisation and maximise use of NHS resources. The JRCT should continue to provide follow-ups and rehabilitation services in the community where appropriate. Regular review meetings should be held to monitor the progress and tie-up any loose ends. An audit should be carried out to see the effectiveness of the pathway.

**Key points**

> The number of elderly needing elective lower limb joint replacement is expected to rise by as much as 40 per cent in coming decades.
> Fragmented consultations due to lack of locally agreed guidelines for orthopaedic referrals lead to excessive investigations, delays and last minute cancellations.
> Establishment of a multidisciplinary joint replacement care team led by a physician with interest in the elderly will lead to a patient-focused seamless provision of a lower limb joint arthroplasty service.
> Development of an integrated care pathway will improve preparation of the patients within the community, optimise NHS resources and reduce inpatient stay.

### References

6. Day P, Rasmussen P. What is the evidence for the effectiveness of specialist geriatric services in acute, post-acute and sub-acute settings? N2HTA REPORT, 2004; Volume 7 Number 3

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