The effectiveness of physiotherapist-led arthroplasty follow-up clinics

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ABSTRACT

INTRODUCTION The conventional job descriptions of professionals within the NHS need to evolve in order to meet increasingly stringent targets and demands. One innovation is the introduction of a physiotherapist-led arthroplasty follow-up clinic. We present an audit of 1000 appointments to this clinic.

PATIENTS AND METHODS A total of 865 patients were seen with 933 arthroplasties over an 8-month period; 135 appointments were not attended. Prospective data were collected at each attendance.

RESULTS Less than 7.5% of patients required re-referral to an orthopaedic consultant, of which 36% were for consideration for further joint replacement. The cost of a physiotherapy appointment was £4.97 compared to £5.04 for a traditional orthopaedic assessment. By reducing the number of follow-up patients seen in orthopaedic clinics, we estimate that each consultant would be able to see two additional new patients per week.

CONCLUSIONS Assessment of arthroplasty follow-up outside of the traditional orthopaedic clinic setting is a time-effective alternative; however, the cost-benefit and educational impact is less clear.

KEYWORDS

Arthroplasty – Physiotherapy – Audit

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Over the last five years, the NHS has seen radical changes in its organisation. The implementation of numerous UK Government directives and targets, in particular the reduction of operation and out-patient waiting times, has placed increasing pressures on already pressurised staff. To be successful in meeting these ever-stringent demands, we shall require either an increase in man-power and funding or a wide ranging redefinition of the roles of the different professionals within the NHS.

Previous studies have demonstrated that physiotherapists are as effective in the assessment and management of new referrals to orthopaedic out-patients as junior surgeons.^{1,2} Patient satisfaction is actually increased by physiotherapist assessment probably due to the fact that patient interaction is greater.¹ To date, we are unaware of any published series evaluating the effectiveness of physiotherapist-led management of out-patient arthroplasty patients.

In 1999, Nottingham City Hospital created an out-patient clinic to see patients following routine total knee (TKR) and total hip (THR) replacements. Those patients who had

undergone revision surgery, resurfacing procedures or who did not have a full weight-bearing status were reviewed in the 'conventional' orthopaedic clinic setting. Over the last 5 years, the facility has been extended to three clinics with the capacity to see 36 patients per week. A protocol has been established for the physiotherapist to order radiographs at each of these intervals for subsequent review by the consultants.

This review assesses the effectiveness of these clinics in terms of physiotherapy management, need for surgical re-assessment and of cost and time benefit.

Patients and Methods

A prospective questionnaire recorded the management options of all routine patients seen in the physiotherapist-led clinic between January and August 2004.

Patients were seen at 6 weeks, 4 months, 1 year and 5 years and then referred back to the consultant for 10-year review. Attempts were made to combine the appointments

of those patients with two or more arthroplasties so they could be assessed together. The physiotherapist had direct referral access to the consultant's out-patient clinic if orthopaedic review was required or, if more urgent, the on-call senior house officer (SHO) was contacted.

Results

There were 1000 clinic appointments over this time period and 865 patients were assessed (933 arthroplasties). Patients did not attend 135 booked appointments. These patients were all sent further appointments. Two patients repeatedly failed to attend and were referred for orthopaedic consultant assessment. All others re-attended the physiotherapist clinic system following a single reminder.

Of patients seen, 51% had undergone a TKR, 41% a THR and 8% had multiple joint arthroplasties which, although small in number, represented a significant increase in workload per clinic appointment.

Outcomes following assessment

Of the 865 patients assessed, 64 (7.4%) required re-referral to the consultant. Of these, 36% were for consideration of further arthroplasty surgery and 10% were for final 10-year review (Table 1). Other reasons for referral included leg-length discrepancy, need for orthotics and recurrent 'did not attend'.

Seven patients required urgent assessment by the on-call SHO – three for deep venous thrombosis investigations, one to exclude pulmonary embolism, two for wound review and one for rationalisation of analgesia. Twelve patients were referred for additional out-patient physiotherapy. All of these remained in the physiotherapist clinic system.

Time-benefit analysis

Over an 8-month period, this clinic was able to assess 1000 appointments that would otherwise have to be made to orthopaedic out-patient clinics. Over a year, this would equate to 1500 slots. If the re-referral rate to consultant continued at 7.4%, 114 patients would require additional orthopaedic assessment. Assuming one new patient equates to two follow-up patient appointments, we could, in theory, see 632 extra new patients per year at Nottingham City Hospital.

Cost-benefit analysis

In order to calculate the cost-benefit of physiotherapist assessment as opposed to orthopaedic surgeon assessment, we made several assumptions. This calculation is based upon an average of 12 patients seen in each physiotherapist clinic, with three clinics per week. We will estimate that one orthopaedic clinic per week, run by a single consultant and a specialist registrar (SpR), will see 9 new patients and 25 follow-ups. Each patient in the physiotherapy clinic is given

Table 1 Reasons for consultant re-referral

Reason for referral	Patients	
	<i>n</i>	%
Consideration for further arthroplasty	23	35.9
Persistent pain in joint replacement	7	10.9
Pain in other joint	6	9.4
Trauma	2	3.1
Patient request	1	1.6
Other	11	17.2
Reason not recorded	14	21.9
Total	64	100

the same allocated time but a new patient is given two follow-up slots in the orthopaedic clinic. We assumed that the consultant and SpR were at the mid-point of their pay-scales. On-call and banding supplements were not included. One clinic per week will, therefore, cost one-tenth of their combined basic salary. The physiotherapist was at mid-point of the Agenda for Change Band 7 pay-scale without on-call supplements. Three clinics per week, therefore, cost three-tenths of their basic salary.

Consultant salary	£77,569
SpR salary	£35,092
Physiotherapist salary	£31,004
Physiotherapist units of activity per week	36
Cost of clinics per week	£178.87
Cost per clinic appointment	£4.97
Orthopaedic units of activity per week	43
Cost per clinic	£216.66
Cost per clinic appointment	£5.04

Discussion

We have shown that physiotherapist-led clinics are able to see large numbers of selected patients post-arthroplasty surgery effectively. Less than 7.5% of patients required subsequent review by the consultant and 36% of these were for consideration of further surgery. Further advantages not addressed here are increased support staff required by surgeons (*e.g.* secretarial) and that patients are both assessed and treated in the physiotherapist-led follow-up, theoretically reducing physiotherapy out-patient pressures. The removal of arthroplasty follow-ups from the

orthopaedic clinic enables more new patients to be seen, waiting list to be reduced and targets met.

The physiotherapist clinics, however, represent only a 1% cost saving over the orthopaedic clinics. The increased time given to each patient by physiotherapists enables rehabilitation advice to be given and, possibly, patient satisfaction to be improved; however, the cost-effectiveness is reduced. We have not shown any evidence in this audit that patient satisfaction was decreased by not being postoperatively assessed by their surgeon. Only one patient requested re-referral.

The possible negative effect upon the experience of junior surgeons is not yet fully known. With all routine patients being seen out of orthopaedic clinics, are future trainees going to lose their knowledge and recognition of 'normal' and lose important feedback about their operation outcomes? Conversely, it may lead to trainees assessing more new patients and their subsequent experience being more diverse. The removal of the most senior physiotherapists from their traditional roles, however, may divert their experience to the detriment of physiotherapy services in general and a loss to their junior colleagues.

Conclusions

The increasing numbers of nursing, surgical and physiotherapy practitioners may be beneficial in meeting targets but they do not represent the large cost-savings initially anticipated. In order to justify physiotherapist-led clinics, they must be viewed as an effective redistribution and utilisation of inherent skills and not as a cost-cutting exercise.

Although we can generate increased capacity within the orthopaedic out-patient system, do we have the resources within the in-patient system to cope with the demand of greater numbers of patients being put upon the waiting lists?

References

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