Supporting limb reconstruction patients: a fine-wire circular fixator support group

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ABSTRACT

INTRODUCTION External fixator frames are widely used in limb reconstruction surgery. They are used for relatively long periods and the multidimensional impact on patients is documented. We examined the role of a nurse-led specialist group when supporting patients both pre-operatively and postoperatively.

PATIENTS AND METHODS All patients with external fixators were contacted via postal questionnaire. Questions asked covered regularity of attendance at the specialist group, information received and problems with the frames.

RESULTS Thirty-seven patients replied. Twenty-one had attended the clinic and nearly all (32) had been offered the opportunity to attend. Most reported being well prepared for surgery and felt that the information given was satisfactory. Problems were generally addressed within the group and patients attended the group with frame-related problems before attending their general practitioner or the accident and emergency department. All patients found the group environment supportive.

CONCLUSIONS We describe a unique patient support group. To our knowledge, it is the first in the country. It is a valuable resource in equipping patients prior to surgery as well as dealing with problems that arise with the frame *in situ*. We recommend it to other limb reconstruction units.

KEYWORDS

Limb reconstruction – External fixator frame – Support group – Audit

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Fine-wire circular external fixation is used for a variety of different problems in both trauma and elective orthopaedics. In elective surgery, frames are used in the treatment of deformity, limb lengthening, segmental bone defects and arthrodesis. In the trauma setting, they may be applied acutely for fracture management or secondarily for management of complications, including infection, non-union and segmental bone loss. Whatever the underlying condition being treated, frames will be *in situ* for several months and often for over one year. Before and during treatment, patients have significantly impaired general health status including mental and social function.¹ Several studies have identified the hardship entailed in living with a frame and recognised the need for patient support.^{2,3}

At Hope Hospital, Salford, there is a twice weekly, nurse-led, fixator support group. It can be attended by patients without an appointment and care is provided by specialist nurses, a group physiotherapist and is supported by doctors from the Limb Reconstruction Unit. Problems are addressed

in a group setting and discussion regarding shared experiences is encouraged. Patients are encouraged to attend pre-operatively to help demystify and inform them prior to surgery.

We examined the informational requirements of patients with fine-wire frames, both pre- and postoperatively. We then assessed how these requirements are met by the provision of the nurse-led support group.

Patients and Methods

All patients with Ilizarov frames applied at Hope Hospital were contacted. Given the large geographical area that we receive limb reconstruction patients from, it was impractical to see them face-to-face. Patients were, therefore, surveyed by postal questionnaire. Fifteen questions were asked. Areas covered included preparation before surgery, changes to life-style and information received. Specific questions were asked about attendance at the nurse-led support group.

Figure 1 Were you adequately prepared before your surgery regarding the following issues?

Thirty-seven patients replied – 22 still had frames on and 15 had recently had them removed. The commonest indication for frame use was treatment of non-union (Table 1).

Results

Most patients reported feeling well-prepared before surgery regarding pain, functional problems, life-style changes and physical appearance. Only regarding ‘changes to work life’ did more than half of patients feel under-prepared (Fig. 1). Two-thirds (25) felt they had received adequate information pre-operatively and none felt the information provided was excessive (Fig. 2).

Regarding patient usage of the support group, three-quarters (26) patients had attended the group on at least one occasion. Over half attended only if they have a frame-related problem. However, a quarter of patients were attending the group every week (Fig. 3). Most patients (21) had attended the group pre-operatively and nearly all patients (32 of 37) were offered the opportunity to attend pre-operatively. The commonest reason for non-attendance was the distance required to travel from their home.

Over three-quarters (17) of patients agreed they would attend the group with a ‘frame problem’ before attending their own general practitioner or the accident and emergency department. All patients found the group supportive and felt

Figure 2 How much information did you receive prior to surgery?

comfortable discussing their problems. Under half (8 out of 19) would prefer individual appointments to the group setting (Fig. 4).

Discussion

McKee *et al.*¹ found that trauma patients had good health status outcomes following Ilizarov frame fixation; however, before and during treatment, health scores were persistently low. Martin *et al.*,³ in a study of young people, found that frame fixation was a demanding treatment for patients. To offset this, they identified the importance of ‘peer-support’ throughout treatment.⁵

The fine-wire circular fixator support group has been used at Hope Hospital for over 10 years to help patients with frames, before, during and after surgery. To our knowledge, it is the only dedicated group in the country. In our unit, the group is well publicised with the majority of patients being

Figure 3 How often do you attend the group?

Table 1 Indications for frames

Immediate fracture management	4
Non-union	9
Infected non-union	4
Segmental excision	3
Other	5

given the opportunity to attend pre-operatively. This allows patients to meet other 'frame-users' and previous frame-users pre-operatively, hopefully helping to dispel myths and reduce apprehension. In general, our patients are well-prepared for surgery. The group is well used and most patients enjoy the group element; very few would prefer private consultations. The informal appointments' system improves access for patients; however, this does cause a fluctuation in the number of attendees week-to-week. Patients perceive that their problems are generally resolved in the group and the majority use the group before attending their general practitioner or the accident and emergency department.

Anecdotally, we know that external fixators cause confusion when encountered by non-specialists and simple problems are often slowly solved. We argue that the drop-in fixator group must reduce the burden on non-specialist clinicians and improve the consistency of advice.

In addition to our findings, there are other obvious benefits. The group provides patient education in pin-site care and is a simple access point to physiotherapy and occupational therapy. The group is an educational resource for junior doctors and provides an informal feedback loop to consultants regarding patients' progress.

Conclusions

Circular fine-wire fixation has a multifaceted impact on patients' lives. At all stages of therapy, there are significant informational needs. These can be addressed in a nurse-led group in a supportive manner. The groups are well attended, well utilised and well received by patients. The groups share the burden of frame care and provide an excellent educational resource for patients. We recommend that this service be adopted by other limb reconstruction units.

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