A review of the first 12 months of a hand clinic

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SUMMARY

The potential problems faced on setting up a hand clinic and how they may be overcome are discussed. In its first 12 months there were 199 new referrals over 50% of which were either lacerations, fingertip injuries or fractures. The management of these cases is discussed.

INTRODUCTION

Injury to the hand is a frequent occurrence accounting for between 13 and 21% of attendances at casualty departments (Clark *et al.*, 1985; Wilson, 1986) and 32% of the emergency referrals to a regional plastic surgery unit (McLean & Cutting, 1986).

As the initial examination and management of the injured hand greatly influences the final result (Smith & Jones, 1985), casualty officers must have specialized advice freely available 'on the spot' from a surgeon knowledgeable in the treatment of such cases.

Many hospitals already have an established hand clinic staffed by either the orthopaedic or plastic surgery department, but until recently there was no such clinic at our hospital. The authors wish to report on the potential problems faced in setting up a hand clinic, to discuss how they may be overcome and to review the first 12 months referral to such a venture.

SETTING UP THE CLINIC

In May 1984, the opportunity arose to set up a hand clinic. A list of the potential problems that might be encountered was drawn up (Table 1), the most important being

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Table 1 Potential problems to be faced when setting up a hand clinic

(1)	Support of accident and emergency consultant
(2)	Support of one's own consultant
(3)	Availability of clinic space
(4)	Availability of medical staff and nursing staff
(5)	Easy access to physiotherapist, occupational therapist and plaster technician
(6)	Suitable time for starting clinic
(7)	Cover of colleagues during absence from sickness or annual leave

gaining the full support of the Consultant in Charge of the Accident and Emergency (A&E) Department.

An area of the Casualty department was partitioned off into three separate cubicles (Fig. 1) and, in conjunction with senior nurses, it was arranged to hold the clinic weekly at a convenient time when the department was relatively quiet. This was over and above the normal 24-h emergency service provided by the 'on-call' plastic surgery team. Two nurses were allocated to cover and the senior physiotherapist made arrangements to give 'on the spot' advice. Although, due to staff shortages, the occupational therapist was unable to attend on a regular basis, open access was available to their department for occupational therapy and the manufacture of splints.

Fig. 1 View of the hand clinic.

No restriction was placed on either the numbers or the types of cases referred. The majority of the patients had been treated in the A & E department for a variable period of time prior to referral to the hand clinic.

RESULTS

In the first 12 months of the clinic, from 1 May 1984 to 30 April 1985, there were 366 attendances (Fig. 2) of which 199 were new referrals. Eighty-four per cent were referred from our own casualty officers (Table 2), 78% of the cases were male and the mean age was 35 years. Each patient attended 1.8 times on average and 65 patients refused to return for further treatment after the initial attendance. The type of injuries seen and their aetiology is shown in Tables 3 and 4. The most common presentation (27%) was a sutured skin laceration with no underlying tendon or neurovascular damage which was referred for a second opinion if there was a suspicion on clinical examination of a potential injury to the deeper structures (Fig. 3).

Fig. 2 Analysis of the monthly variation in total attendances.

Table 2 Sources of referral

Casualty Department	167
Other hospitals	16
Plastic surgery wards	10
Other wards in hospital	3
General practitioners	1
Others	2

Table 3 Cases referred to the hand clinic

	No. of patients
Skin lacerations	53
Fingertip injuries	33
Fractures (total)	19
Phalanx	12
Metacarpal	5
MCP dislocation	2
Skin loss	15
Burns	14
Infection	13
Extensor tendon injury	9
Digital nerve injury	5
Foreign body	4
Dog bites	4
Unhealed wounds	3
Mallet finger	3
Flexor tendon injury	2
Pyogenic granuloma	2
Painful finger	1
Flexor tendon and digital nerve injury	1
Tender scar	1
Bruised finger	1
Palmar haematoma	1
Synovitis of wrist	1
Arm laceration	1
<i>Other referrals</i>	
Nasal fracture	3
Anterior tibial lacerations	2
Laceration of heel	1
Divided musculo-cutaneous nerve	1
Leg ulcer	1
Camptodactyly	1
Burn of foot	1
Lacerated ear	1
Painful arc syndrome	1
Palmar dermatitis	1

Table 4 Mechanism of injury to hand

Lacerating injury	68	
Crush/avulsion injury	34	
Fall	18	
Electrical instrument	18	
Burns	14	
Infection	13	
Unspecified	13	
Bite	8	
Others	13	(not hand injury)

Fig. 3 Tightly sutured laceration of the index finger with impending necrosis of the skin flaps.

The next was a fingertip injury that was slow to heal. The majority of these were crushing injuries which had been treated prior to referral with a wide variety of different dressings, in some cases for up to 6–8 weeks. These injuries were treated with zinc oxide tape (Fig. 4a & b). This was changed by the patient on a daily basis or earlier if soiling occurred. The fingertip wound initially becomes moist but quickly epithelializes under the occlusive dressing. This simple method has been used in the authors' unit for many years in the management of small burns and it is thought that the topical application of zinc in the tape accelerates wound healing.

The number of hand infections is, perhaps, a little low for a busy A & E department but, during this period, a further 20 severe hand infections were admitted directly for parenteral antibiotics. As our casualty officers are well able to deal with the more minor hand infections, only the recalcitrant cases are referred to the clinic. All burned hands

Fig. 4 (a) Unhealed wound of fingertip 2 months after injury. (b) Zinc oxide tape applied: this wound healed within 10 days.

are treated in plastic bags filled with Flamazine as outpatients. These are changed daily and physiotherapy encouraged. Small burns are occluded with zinc oxide tape. The most common mechanism of injury was a laceration on either glass or metal (Table 4). The majority of the children's finger tip injuries were related to being caught in a closing door. Thirteen patients who were under the influence of drink had no recollection of how the injury had occurred.

The majority of the patients with skin loss in the hand healed without surgery although two required a small split skin graft which was taken under a local anaesthetic. All of the mallet finger injuries had been treated in splints for up to 6 weeks prior to referral. It is our policy to treat these conservatively in mallet finger splints for between 8 and 12 weeks, and the patient is actively encouraged to remove the splint daily and wash both it and the finger on condition that the digit is held extended on a table top during the washing procedure. The authors have found that this greatly reduces the problems with skin maceration and super added fungal infection. Similar treatment is also used in untreated Boutonniere deformity. Several of which have been seen recently.

The majority of the injuries have been treated mainly in our own casualty department prior to referral and it is interesting to note there were 13 other patients with a variety of injuries varying from nasal fractures to anterior tibial lacerations. It is felt that this service is important as the plastic surgeon is 'on the spot' in the A & E department to offer advice, not only on the hand injuries, but also on all kinds of soft tissue trauma.

DISCUSSION

Although many hospitals have an established hand clinic, little has been written on either the problems associated with setting it up or the types of cases referred. In fact there are no publications listed under 'clinics' in the 15-year index of the *British Journal of Hand Surgery*. In setting up the clinic, the authors were fortunate in having the complete backing of the consultants and senior nurses involved, and they are extremely grateful to them for their help and advice.

One of the most important aspects of managing the acutely injured hand is the place of physiotherapy and it is essential to have a keen physiotherapist to give immediate advice and treatment. Although, due to staff shortages, an occupational therapist was unable to attend regularly, the department is available for splint manufacture and therapy as required.

The A & E staff have found it useful to have a plastic surgical presence in their department. Although the clinic is only held one afternoon a week, due to logistics there is a 24-h 'on-call' emergency service for advice at any time as well as basic lectures run on soft tissue trauma and management. This is now a part of the new casualty officers teaching programme, as is encouragement to attend at outpatient clinics and theatre sessions.

As there is no restriction on either the number of cases attending or the type of injuries seen, there is a wide variety of other referrals treated (Table 2). It is felt that the plastic surgeon, with his wide interest in many forms of trauma, can offer advice on the management of many of the soft tissue injuries seen in the A & E department. If the

minor, but by no means trivial, injuries are properly dealt with then the major ones will receive the correct treatment. It is hoped that, if well taught, the casualty senior house officers should do better with the more serious forms of trauma.

During the first year of the clinic there were 199 new referrals attending on a total of 366 occasions. In the second year, this figure has increased to over 500 new referrals confirming the success of the venture.

Any case requiring in-patient treatment was admitted under a consultant hand surgeon.

Although many of the injuries referred were of a minor nature, if they receive the wrong or inappropriate treatment, then the rehabilitation of the patient, particularly the manual worker, is greatly prolonged leading to financial difficulties due to loss of earnings.

In conclusion, the authors present a review of the first 12 months of a hand clinic and discuss the potential obstacles to be overcome on setting it up. Looking towards the future, one would hope that a hand clinic could become a forum for a multi-disciplinary approach to the injured hand, allowing discussion between all the specialities interested in the management of these most interesting, but difficult, clinical cases.

ACKNOWLEDGEMENTS

We wish to thank Dr J. Thurston and Mr J. V. Jeffs for their enthusiastic support, the Department of Medical Illustration and Photography, and Mrs K. Savage for typing the manuscript.

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