

THE DEVELOPMENT OF PODIATRIC SURGERY

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INTRODUCTION

Chiropody can be defined as the maintenance of the feet in a healthy condition and the treatment of their disabilities by recognised chiropodial methods in which the practitioner has been trained⁽¹⁾. Podiatrist is the title used for foot specialists elsewhere in the world. It is possible that the profession of chiropody in the UK will wholly adopt the title of podiatrist in the near future.

The disorders of the foot that a chiropodist treats can be classified into three broad categories according to their nature and origin⁽²⁾:

- Those arising from (bio)mechanical factors
- Those caused by infections
- Those manifestations in the foot as part of systemic disease

Cartright and Henderson⁽³⁾ found that half of the respondents (52%) in a random sample of over 65-year olds reported some trouble with their feet. The majority of the forefoot deformities presenting in everyday practice are biomechanical in origin. Hallux abducto valgus (bunions), for instance, has the following factors implicated in its aetiology:

- Hypermobility of the first metatarsal
- Instability of the midtarsal joint
- Calcaneal eversion beyond vertical
- Instability of the peroneus longus

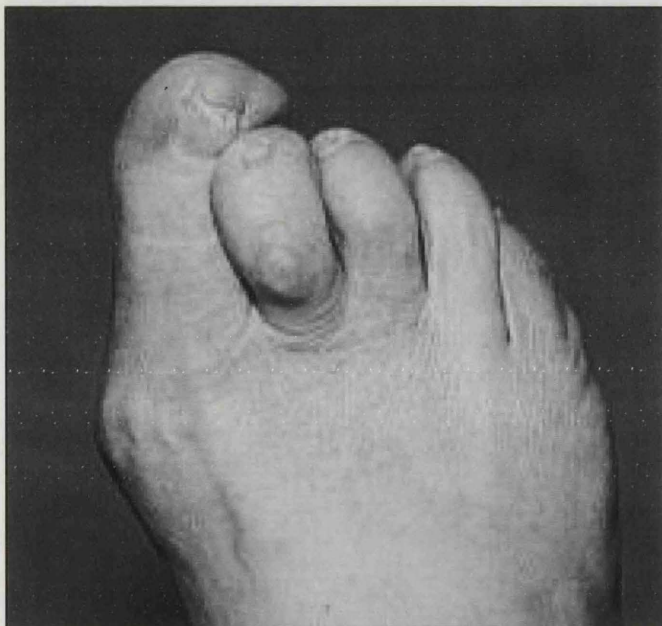


Figure 1 Typical appearance of bunion with hammer toe contracture of second digit. Note the dorsal callosity.

Community chiropody clinics are overloaded with patients returning for routine palliative care. Locally, for every patient that is discharged from the service, two new referrals are accepted. The average episode of care per referral is a staggering eight years. The table below demonstrates the overall casemix of care provided. One factor that we will be looking to address over the coming years is the amount of nail care being performed. Traditional chiropody methods have been largely unsuccessful in producing a cure for hyperkeratotic lesions, hence the lower discharge rate.

	% overall caseload
verrucae	0.1
nail surgery	0.1
wound care	2
insole therapy	2
callus treatment	23
corn therapy	27
nail care	45.8

Figure 2 Chiropodial casemix by treatment category

The picture is the same nationally. Gilbert and Galloway⁽⁴⁾ provide evidence of the poor use of chiropody to manage long-standing symptoms by repetitive hard skin reduction. Surgery to correct a foot deformity may avoid many years of palliative chiropody treatment, improve clinical outcomes and increase the number of discharged and satisfied patients. Hood⁽⁵⁾ demonstrates that a discharge rate of 8% was achieved in patients receiving chiropody for chronic digital callosities. When patients underwent surgical intervention following chiropody the discharge rate increased to 48.5%.

Surgical specialties are facing an increased demand for their services due to increasing patient expectations, ageing populations and advances in surgical techniques. Within finite resources, surgeons and managers must look at ways to cut the unit cost of each procedure to cope with such pressures.

Day surgery provides one option. The costs of using expensive in-patient facilities for minor operations have been recognised for years⁽⁶⁾, and the cost-effectiveness of surgical day care has been established in British and American literature⁽⁷⁾. In July 1985 (republished in 1992) the Royal College of Surgeons of England published Guidelines for Day Case Surgery⁽⁸⁾ which set out the college's view on the scope of day surgery and the facilities required. This report defined a surgical day case as one that is admitted for an operation or for an investigation on a planned, non-resident basis, and occupies a bed in a unit set aside for this purpose. This definition excludes minor cases performed under local

anaesthetic that do not require a bed (matching the definitions used in the US). The first report by the Audit Commission for the NHS (October 1990), *A Short Cut to Better Services: Day Surgery in England and Wales*⁽⁹⁾, endorsed the college's views and recommended an increased provision of day surgery.

Chiropody has seen its scope of practice extend to include surgical procedures following the incorporation of local anaesthesia training into pre- and post-registration education.

This has allowed the application of techniques not available to previous generations of practitioners. The leading edge of this development is in invasive bone surgery. This specialism is known as podiatric surgery where forefoot surgery is carried out under local anaesthesia on a day-case basis.

Members of the Society of Chiropodists and Podiatrists wishing to train in podiatric surgery follow a comprehensive postgraduate syllabus over a period of three to four years and are examined in all aspects of theoretical and practical surgery to gain fellowship status. The content of the syllabus is outlined below⁽¹⁰⁾.

Part A examination (written)

anatomy and physiology
podiatry
diagnostic imaging
general pathology and medicine
pharmacology

Part B examination (written)

management of complications
clinical investigations
decision-making

Part C examination (practical)

clinical diagnosis
clinical clerking
case presentations

Part D examination (practical and oral)

anaesthesia
theatre protocols
surgical cases

During 1997/98 the former South Cumbria Community and Mental Health NHS Trust developed a business plan for podiatric surgery. On 20th March 1998, MP Mr John Hutton presided over the launch of the service.

ADVANTAGES AND BENEFITS OF PODIATRIC SURGERY

Improved access and delivery

- Increased cost-effectiveness can be demonstrated through day surgery
- Podiatric surgery improves the effectiveness of the chiropody service, adding another tier to patient management and complementing the total foot health service

- The release of manpower and facilities for more demanding cases is seen in the acute sector.

Medical advantages

- General anaesthesia with its attendant risk and unpleasantness is avoided
- Rapid post-operative mobilisation reduces the potential for thrombotic complications
- The use of specialised evaluation and surgical techniques, together with orthotic therapy where appropriate, reduces the incidents of recurrence and the development of transfer lesions, and therefore the need for revisionary surgery
- Early intervention prevents later disability and morbidity, particularly with patients suffering early vascular disease or diabetes mellitus.

SCOPE OF PRACTICE

- Cysts, ganglia and soft tissue masses
- Nerve entrapment syndromes
- Sub ungual exostectomies
- Digital and interdigital callosities
- Hammer, mallet, claw and rotated toes
- Metatarsal surgery
- Surgery for hallux limitus/hallux rigidus
- Surgery for hallux valgus and other hallux deformities

QUALITY ASSURANCE

The essence of good ambulatory foot surgery comprises:

- 1 Appropriate patient selection and evaluation – to include assessment of the patient's surgical and medical status
- 2 Assessment of the deformity – some foot deformities do not lend themselves to ambulatory foot surgery as carried out by the podiatric surgeon
- 3 Social evaluation – it is essential that someone will be able to care for the patient for up to two weeks post-operatively
- 4 Good surgical technique – meticulous tissue handling and haemostasis combined with specialised surgical techniques
- 5 Chiropodial support – access to palliative chiropodial care as an alternative or adjunct to surgical intervention
- 6 A continuous cycle of audit and training.

REFERRAL

The service works to the following referral criteria:

- 1 All patients that require an opinion for podiatric surgery should be referred to the specialist in podiatric surgery at

the trust headquarters, Slyne Road, Lancaster (GP referrals).

- 2 Chiropodists wishing to refer for podiatric surgery should also refer direct to Slyne Road, using the standard Chiropody Report Form, a copy of which must go to the GP.

SELECTION GUIDELINES⁽¹¹⁾

- 1 Patients should be fit and healthy (ASA class 1 or 2)
- 2 Exclude patients where severe post-operative pain or haemorrhage may arise
- 3 Patients must be accompanied home
- 4 Patients must have a carer at home and will be restricted to bathroom activity for the first two days following surgery.

All patients referred for a surgical opinion undergo the following cycle:

- 1 Referral
- 2 Primary assessment to establish if surgery is indicated
- 3 History taking and physical examination: pre-operative audit details taken
- 4 Operation performed
- 5 First dressing: 4-7 days after surgery
- 6 Sutures removed: 10-14 days after surgery
- 7 Four weeks: review
- 8 Twelve weeks: post-operative follow-up and audit score
- 9 Discharge.

MEDICO-LEGAL ASPECTS

The concern over the course of events that can occur when the patient returns home (and is therefore no longer under direct medical supervision) is cited as the reason many surgeons do not take up day surgery. There are no grounds for this fear if day surgery is performed within safe parameters. Day surgery is a major (and patient-popular) part of surgical practice in the USA; this would not have occurred in the most litigious of societies if it were not a safe form of treatment⁽¹²⁾.

AUDIT AND TRAINING

Responsible practice necessitates constant monitoring of results and/or complications. By doing this, day-to-day management will improve and problem areas can be identified and addressed. The activity was audited using an outcome measure modified from an audit tool proposed by Kitaoka *et al.*⁽¹³⁾ This tool assesses the patient's functional and symptomatic details preoperatively and post-operatively and allows the two values obtained to be compared. The following factors are examined and scored as appropriate:

MODIFIED AUDIT SYSTEM	
PAIN	
None	0
Mild	20
Moderate	30
Severe	40
CALLUS	
No callus or asymptomatic callus	0
Symptomatic callus	10
MTP/IPJ MOTION	
No restriction	0
Severe restriction	10
ALIGNMENT	
Good, digit well aligned	0
Fair, some degree of malalignment, no symptoms	8
Poor, obvious symptomatic malalignment	15
FUNCTION	
No activity of daily or recreational activities	0
Minor limitations of daily or recreational activities	5
Moderate limitations of daily and recreational activities	10
Severe limitations of daily and recreational activities	15
FOOTWEAR REQUIREMENTS	
Conventional shoes, no insole or orthodigita required	0
Comfort footwear, shoe insole or orthodigita required	5
Modified shoe, shoe insole and orthodigita required	10

Assessment against each variable allows the clinician to arrive at a numerical value. During 1998/99, 48 patients underwent surgery (79 toes) for soft tissue and/or digital deformities. At the time of writing, a total of 247 patients have been referred for a surgical opinion, all of whom will be entered into the on-going audit process.

INITIAL OUTCOME SCORES

VARIABLE	PRE-OPERATIVE	POST-OPERATIVE
mean	72.3	15.5
median	74	13
minimum	55	0
maximum	95	63
range	40	63

Thus, using the modified audit system the average pre-operative score was reduced from 74 to 13 following surgical intervention. Longer-term functional studies are also planned.

COMPLICATIONS

Specific details on post-operative complications are recorded. The information is presented below:

PATIENT	COMPLICATIONS
9	Post-operative pain from a tight bandage
14	Continuous pain from a fibrous adhesion

Patient Number 9 experienced post-operative pain from an over-tight bandage. This was alleviated by a dressing change and the rest of the post-operative course was unremarkable.

Patient Number 14 presented at her primary assessment with a hammer toe, chronic bursitis and capsular adhesions

following previous electro-surgical therapy. An excisional arthroplasty was performed. At the six-week post-operative visit her symptoms had not subsided and the decision was taken to perform revisionary surgery.

Subsequent soft tissue excision alleviated the symptoms and the patient was discharged from the referring chiropodial caseload.

The service now operates a 24-hour on-call service via a numerical paging system. All patients receive written and oral instructions to contact the service in the first instance should any emergency arise.

POST-OPERATIVE INFECTION

To date, no post-operative infections have been seen.

THE FUTURE

The result of the audit pilot indicates that podiatric surgery had a useful role to play in the provision of expert foot health services and that the service should be available widely. Bay Community NHS Trust is aware that the commissioning of a new service is difficult at a time of major organisational change within the primary care environment. However, the trust is committed to the service and will therefore financially support the continued provision and development of this service over the next twelve months. During 1999/2000 my chiropody colleagues will continue to refer patients for surgical assessments. We will also continue to provide the service on referral from GPs.

The service will continue to audit its results as it expands the scope of practice. It is our hope that Morecambe Bay Health Authority and the PCGs will wish to use such information as we will look to secure commissioning of this service into the new millennium.

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