Direct access carpal tunnel decompression: Early evaluation of a new service
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Citation

Abstract
A direct access carpal tunnel decompression (CTD) service was established at a satellite community hospital in rural Wales to minimise inconvenience for local patients and to reduce the orthopaedic outpatient and operating theatre workload for the main orthopaedic unit. The structure of the service is described together with an initial evaluation from the patients' perspective.

INTRODUCTION
Carpal Tunnel Syndrome (CTS) is the commonest peripheral nerve entrapment neuropathy. Patients with CTS are often elderly and usually present with many months of debilitating symptoms and further delays prior to treatment may adversely affect outcome following surgery. Hereford County is a District General Hospital (DGH) that services a large and predominantly rural area including Powys in mid Wales. Orthopaedic outreach clinic and theatre services are provided at Community Hospitals throughout the catchment area. Previously, patients with suspected CTS were referred to an orthopaedic consultant and after an initial consultation were referred for limited Nerve Conduction Studies (NCS). They then had a follow up appointment to discuss the results and finally a further wait for definitive surgical decompression on the routine waiting list.

In order to reduce the delay from diagnosis to surgical decompression and to reduce the inconvenience of travelling long distances to the DGH for multiple hospital attendances, a Direct Access Carpal Tunnel Decompression Service was established in Llandrindod Wells Community Hospital in 2002. This report describes the structure of the new service and the results of a preliminary quality of service review that was conducted 12 months after service inception.

METHODS
General Practitioners (GP) in the region were informed about the service and information booklets were provided. Female patients over 40 years of age who had classic symptoms of median nerve compression at the wrist and positive nerve conduction studies were referred to the service (Table 1). A letter explaining the condition, treatment options and expected outcomes was sent to each patient. A date for surgery was offered directly from the community hospital. Patients attended on the day of surgery and underwent routine open decompression. All patients were given the alternative option of attending an outpatient consultation prior to surgery. All subsequent follow up was arranged through the local GP. Delay from diagnosis to surgery was recorded together with patient perceptions of the service, using a postal questionnaire. The mean delay from onset of symptoms to definitive surgery was compared with a cohort of 40 patients referred through the usual channels.

RESULTS
The first 40 patients who used the service were included in the survey. 33 completed responses were received (78%). Of the respondees all 33 had undergone surgery using the direct access service. All had positive NCS performed prior to
surgery. The mean duration of symptoms prior to consulting
the GP was 12 weeks (range 2-52 weeks). The mean delay
before NCS was 9 weeks (range 4-16 weeks). The
subsequent delay to surgery was 16 weeks (4-26 weeks).
Patients using the direct access service experienced shorter
waits overall than those referred using the normal channels.

Two patients described minor problems following surgery
and these were dealt with by the GP. None were followed up
at the hospital although 5 patients thought that it was
necessary. 24 rated the service as excellent, 7 good and 2
satisfactory. Thirty one patients stated that they would be
happy to use the service again.

**Figure 2**

Table 2: Cumulative mean delay (weeks) from 1 symptoms

<table>
<thead>
<tr>
<th></th>
<th>Direct Access CTS</th>
<th>Normal service</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>12 weeks</td>
<td>11 weeks</td>
</tr>
<tr>
<td>OPA</td>
<td>-</td>
<td>33 weeks</td>
</tr>
<tr>
<td>NCS</td>
<td>21 weeks</td>
<td>53 weeks</td>
</tr>
<tr>
<td>OPA</td>
<td>-</td>
<td>61 weeks</td>
</tr>
<tr>
<td>Surgery</td>
<td>37 weeks</td>
<td>79 weeks</td>
</tr>
</tbody>
</table>

**DISCUSSION**

CTS is a common peripheral nerve entrapment syndrome
and although diagnosis may be difficult or symptoms vague,
a good proportion of those coming to surgery will have
classical symptoms of nocturnal parasthesias coupled with
the demonstrable clinical signs described by Tinel and
Phalen. When NCS are also positive the specificity is high.
Patients often experience delays at all stages of the
diagnostic and treatment process and this study helps to
quantify such delays. Overall patients waited more than
twice as long for surgery using the conventional referral
pathways compared with the direct access service, despite no
changes to the availability of NCS. Whilst some of the
reduction can be explained by the omission of two outpatient
consultations prior to surgery, it is possible that inclusion
bias may have been a factor in the direct access group due to
an increased level of awareness on the part of the GPs who
were recruited to the study. It is also possible that prior to
this study the GPs had instigated their own treatment
protocols and therefore the patients may have been referred
to the hospital after a period of failed conservative
management. This would help to explain some of the delay
from first GP consultation until NCS (Table two).
Reviewing the data after NCS would eliminate these
variables and it can be seen that the direct access group
waited a mean 16 weeks (37 minus 21) compared with 26
weeks (79 minus 53). The direct access service also results
in fewer outpatient consultations and if follow up is
delegated to the GP, four appointments may be saved for
each patient (2 preoperatively and the 2/52 and 6/52
postoperatively). This frees up time to see other referrals and
improves efficiency.

Inevitably the service could not be extended to all patients
with a final diagnosis of CTS but it is possible to expand the
service using less stringent inclusion criteria (subject to
audit) to further decrease the utilisation of orthopaedic
outpatient services.

**CONCLUSIONS**

Direct access carpal tunnel surgery can be safely performed
with excellent patient satisfaction in select patient groups
when the necessary service infrastructure is provided.

**References**

1. Long-term results of carpal tunnel decompression.
   Assessment of 60 cases.
   Haupt WF, Wintzer g, schop A, Lottgen J, Pawlik G. J Hand
   Surg (Br).1993;18:471-4
2. Direct access carpal tunnel surgery.
   Jarrett ME, Giddins GE. J Bone Joint Surg
   Br.2003;85:869-70
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