



# Focus On Carpal Tunnel Syndrome

Carpal Tunnel Syndrome is a common condition with 37,745 carpal tunnel decompressions performed by the NHS in England in 2001.<sup>1</sup> The prevalence of carpal tunnel syndrome in the general population has been studied in several countries, with reports ranging from 2.7–5.8%.<sup>2,6</sup> There is evidence that the incidence of carpal tunnel syndrome is increasing.<sup>5,7,8</sup>

Carpal tunnel syndrome is approximately three times commoner in women than men. The prevalence is greater in patients over 55 yrs of age, and the obese.<sup>2,9</sup> Carpal tunnel syndrome is commoner in heavy manual workers and those that work with vibrating tools, but is unaffected by repetitive administrative tasks such as typing.<sup>9,11</sup> The incidence is increased in patients with Rheumatoid Arthritis, but population studies do not support a link with Diabetes or thyroid disease.<sup>2</sup>

There is considerable controversy as to the need for electrophysiology in carpal tunnel syndrome. Electrophysiology has been proposed as the standard of care for diagnosing carpal tunnel syndrome with a recommendation that it should be performed before surgery in all cases.<sup>12</sup> This view has been supported by recent articles in the JAMA<sup>13</sup> and the BMJ.<sup>14</sup>

However this position is not universally accepted, and many studies have questioned the need for nerve conduction studies.<sup>15-21</sup> Median nerve conduction is abnormal in a proportion of asymptomatic individuals.<sup>4,22-24</sup> It is also well recognised that there are patients with symptoms of carpal tunnel syndrome, but normal nerve conduction, who respond to surgery.<sup>16,18,19,25</sup> Several authors have found that nerve conduction studies do not improve,<sup>16,19</sup> or predict the clinical outcome of carpal tunnel surgery.<sup>19,26,27</sup> However there is a correlation between electrophysiological recovery and pre-operative nerve conduction studies.<sup>27-29</sup> Three studies, which have used response to surgery as the gold standard, have reported that the sensitivity and specificity of clinical assessment and neurophysiological examinations are similar.<sup>16,20,22</sup>

A fundamental problem is the lack of an accepted “gold standard” for the diagnosis of carpal tunnel syndrome. Surveillance criteria have been proposed, pain or paraesthesia or numbness in the radial three digits of the hand combined with one or more of the following: a positive Tinel's sign; nocturnal exacerbation of symptoms; wasting of APB; abnormal nerve conduction studies.<sup>30</sup>

Not all patients with carpal tunnel symptoms require treatment, but a recent study suggests that 0.7% of the Swedish population has carpal tunnel symptoms sufficiently severe to warrant

intervention.<sup>31</sup> Most patients will respond to a steroid injection, but the symptoms recur in at least 50%.<sup>32,33</sup> Surgery is probably the most effective treatment for patients with severe or recurrent symptoms.<sup>32,34-36</sup> There is some evidence that the outcome of carpal tunnel release is worse in patients who have experienced prolonged delays in diagnosis and treatment<sup>34,37,38</sup> although this finding has not been supported by more recent studies.<sup>39</sup> The results of surgery are less predictable in the very elderly.<sup>40-42</sup> There is little or no advantage to endoscopic techniques.<sup>43-44</sup>

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