INTRODUCTION

The role of the sympathetic nervous system (SNS) has not been defined in acute, chronic or neuropathic pain states. However, there seems to be a significant component in reflex sympathetic dystrophy (RSD) and causalgia. There might be a component in such other neuropathic pain states as postherpetic neuralgia, radiculopathies, certain peripheral neuropathies, and central pain syndromes. The role of the SNS is even less clear in conditions such as phantom pain and pain-dysfunction syndromes (PDS). This is a group of poorly-defined pain syndromes which have many of the clinical characteristics of RSD. They include categories such as Repetitive Strain Injury (RSI), Cumulative Trauma Disorder (CTD), Regional Pain Syndrome or Overuse Syndrome (particularly in musicians). They are characterized by progressive pain (often of a burning nature) throughout the extremity, impairment of function, edema, sensory changes and autonomic dysfunction. As described by Roberts (8) and presented later in Chapter 7, these may represent a group better designated as having sympathetically maintained pain, or they may reflect some abnormality in spinal cord signal processing.

DIAGNOSIS OF SYMPATHETIC PAIN SYNDROMES

This syndrome has three stages: (1) Acute hyperemia, (2) Dystrophic ischemia, and (3) Chronic atrophia, and three degrees of severity as presented in the opening chapter: (1) Mild, (2) Moderate, and (3) Severe.
There is therefore no single test or group of tests which are absolutely specific or reliable. The diagnosis is often made by clinical experience and gestalt, in the absence of validated diagnostic criteria. The IASP Taxonomy (2) has proven inadequate and will require redefinition, though the following criteria are suggested as the basis for future standardisation.

Presentation:
1) Burning pain
2) Allodynia
3) Temperature/color changes
4) Edema
5) Skin, hair, nail growth changes

Clinical Tests:
6) Thermometry/thermography
7) Bone x-ray
8) 3-phase bone scan
9) Quantitative sweat test (QSART, cobalt blue)
10) Quantitative sensory testing (cold and mechanical)
11) Response to sympathetic blockade

It is suggested that at least 6 of these criteria are required for a positive diagnosis of RSD. Those with a score of 3-5 may represent "Possible RSD" or fall into the category of "Sympathetically Maintained Pain" where the dystrophic and motor responses are not yet evident. RSD is not present with less than 3 of these criteria. Muscle strength, endurance, and joint mobility in the affected limb should be measured before treatment as a baseline to judge response to treatment. Limb volume measures can be used for the same purpose. In addition, a full medical and work history, social, legal, psychologic and domestic factors must be defined as stressed in the preceding chapter. Ancillary measurements might include EMG and peripheral blood flow studies. Quantitative pain intensity scoring should be objectively evaluated in every case.