Nerve blocks may be either diagnostic, therapeutic or both.

Diagnostic blocks tend to use local anaesthetic agents to assess whether the symptoms are alleviated by temporary disruption of the nerve pathway. They are fraught with difficulty, with significant incidence of false positive and negative results.

Therapeutic blocks are designed to promote a sustained interruption in the nerve transmission. They have been used for a wide variety of problems.

NOTE: 1. that repeated stellate ganglion blocks (see below) can permanently damage sympathetic nerve cells and result in a **virtual sympathectomy**, with additional problems such as migraine headaches.

NOTE: 2. an area of hyperthermia (raised temperature) points to sympathetic damage; experts in CRPS warn that traumatic procedures such as surgical exploration, nerve blocks, Clonidine patch, topical capsaicin cream or EMG needle insertion should NOT be applied to the affected area because this MAY LEAD TO FURTHER DAMAGE AND AGGRAVATION OF THE CONDITION.

NOTE: 3 if pain is not sympathetically-maintained, i.e. has become chronic and sympathetically-independent, then it will not respond to local nerve blockade.

NOTE: 4 chemical and radiofrequency sympathectomy cause chemical damage and scarring of the adjacent tissues: which can then become the source of further pain.

Until fairly recently, it was thought that the nervous system was incapable of regeneration. Now

it is recognised that in fact it has a remarkable ?plasiticity', : ability to change.

This of course explains why nerve blockade, previously thought to be permanent, is in fact only transient.

Use of neurotoxic agents such as **phenol**, to ?kill' the nerve, and thus interrupt the pain pathway, is now known to cause the main part of the nerve, the axon, to respond by ?sprouting' from the side rather than at the end of it. These sprouts can transmit severe pain. Peripheral nerves can regenerate.

Thus, **neurolysis/nerve ablation** that has been used to treat a variety of conditions including nerve pain in cancer, CRPS, excessive sweating etc. is in fact not only temporary, but also potentially devastating if it occasions ?mutated' new nerve growth.

Nowadays, chemical neurolysis has been largely replaced by techniques such as Radiofrequency Neurolysis/nerve ablation (RF), which have been applied in various clinical situations including intractable back pain.

However, this technique still does not prevent recurrent pain, nor the risk of **anaesthesia dolorosa** , which is the severe pain syndrome that results from axonal sprouting.

It is now generally accepted that the use of nerve ablation, because of its imprecise and temporary effect and severe complications, should be reserved strictly for the terminally ill.