Nerve repair

The primary indications for nerve repair or grafting are

1) Nerve injury or continuity defect in a nerve, as a result of trauma, pathology, surgery, or disease, that cannot regain normal function without surgical intervention.

2) loss of normal neurologic function, resulting in anesthesia, paresthesia, dysesthesia, or paralysis, that cannot be corrected by nonsurgical treatment.

In some nerve injuries (e.g., neurapraxia), the nerve regains sensory or motor function unless irreversible compression, neuroma (axonotmesis), or transection (neurotmesis) occurs. In more severe injuries, there may be significant loss of nerve substance (continuity defect), or a section of nerve may need to be removed to expose normal nerve tissue in preparation for nerve repair. Thus, nerve repair and nerve grafting procedures may be required to provide continuity between the proximal and distal portions of the nerve.

The optimal refinement in nerve repair techniques has reached a plateau, making it imperative to continually explore newer avenues for improving the clinical outcome of peripheral nerve regeneration.

A review discuss the role and mechanism of brain plasticity in neuroregeneration, and explore the possible application of this knowledge for improving the clinical outcome following nerve repair [1].

1)
Mohanty CB, Bhat D, Indira Devi B. Role of Central Plasticity in the Outcome of Peripheral Nerve Regeneration. Neurosurgery. 2015 Sep;77(3):418-23. doi: 10.1227/NEU.0000000000000851. PubMed PMID: 26087003.