

## Rehabilitation of Patient after Colle's Fracture using NMES - IS NMES Successful?

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### Abstract

The case study was conducted on a Female patient age 45 years with Colle's fracture who was referred to Physiotherapy after immobilization period of six weeks. The study was done to determine the effectiveness of NMES in a post fracture stiffness case. Based on the study, it is concluded that NMES is an effective modality in increasing the ROM and Strength in a case of Post fracture stiffness. Patient showed marked increase in ROM and near normal muscle strength after five weeks of rehabilitation Programme which shows that NMES is a very effective Programme.

Key Words: NMES (Neuro Muscular Electrical Stimulation), Mobilisation, Range of Motion, Colle's fracture

### Introduction

Patient was a 45 year old female who fractured her right wrist after an accident.

Examination of orthopedist revealed Colle's fracture and a cast was given for 6 weeks with wrist in 10° flexion and 8° of ulnar deviation. Immobilization was discontinued after 6 weeks when X-Ray showed healing of fracture site and patient was referred to physiotherapy.

### Evaluation and Assessment

ROM measurement was done for wrist joint

|                  | Active | Passive |
|------------------|--------|---------|
| Wrist Flexion    | 10°    | 15°     |
| Wrist Extension  | 25°    | 30°     |
| Radial Deviation | 10°    | 15°     |
| Ulnar Deviation  | 15°    | 25°     |
| Pronation        | 45°    | 50°     |
| Supination       | 30°    | 35°     |

ROM for shoulder, elbow and finger was normal.

MMT was not done due to pain.

### Intervention

Short term goals

To decrease pain

To decrease oedema

Long term goals

To regain adequate ROM and strength

- NMES was selected to assist ROM by preventing fibrous restriction and joint contractures. To decrease pain and to increase sensory, visual and proprioceptive input.
- Patient also received joint mobilization, active and active assisted range of motion. Exercise to wrist, elbow and digits.

### NMES

Stimulation was given to both the flexors and extensor groups of muscles. Parameters chosen for the treatment were pulse width 300µs and pulse frequency was 30pps. For flexor group of muscles