

## TREATMENT PROTOCOL SERIES

# LYME DISEASE (PTLDS) FACIAL PALSY

## Lyme Disease

The following information has been sourced from the U.S. Department of Health & Human Services - [READ MORE](#)

“Lyme disease is the most common vector-borne disease in the United States. Lyme disease is caused by the *bacterium Borrelia burgdorferi* and rarely, *Borrelia mayonii*. It is transmitted to humans through the bite of infected blacklegged ticks. Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migrans. If left untreated, infection can spread to joints, the heart, and the nervous system. Lyme disease is diagnosed based on symptoms, physical findings (e.g., rash), and the possibility of exposure to infected ticks.

Laboratory testing is helpful if used correctly and performed with validated methods. Most cases of Lyme disease can be treated successfully with a few weeks of antibiotics. Steps to prevent Lyme disease include using insect repellent, removing ticks promptly, applying pesticides, and reducing tick habitat. The ticks that transmit Lyme disease can occasionally transmit other tick-borne diseases as well.

## Post-Treatment Lyme Disease Syndrome (PTLDS)

Lyme disease is caused by infection with the bacterium *Borrelia burgdorferi*. Although most cases of Lyme disease can be cured with a 2- to 4-week course of oral antibiotics, patients can sometimes have symptoms of pain, fatigue, or difficulty thinking that lasts for more than 6 months after they finish treatment. This condition is called Post-Treatment Lyme Disease Syndrome (PTLDS).

Why some patients experience PTLDS is not known. Some experts believe that *Borrelia burgdorferi* can trigger an “auto-immune” response causing symptoms that last well after the infection itself is gone. Auto-immune responses are known to occur following other infections, including campylobacter (Guillain-Barré syndrome), chlamydia (Reiter’s syndrome), and strep throat



### Evidence

### Based Research and Clinical Effectiveness

The Research & Development aspect of the NMT institute is based upon the creation of clinical experiences and controlled treatment trials leading to research projects that eventually modify how we treat our patients.

### PROFESSIONAL TRAINING IN HEALTH CARE

All training courses in the medical and health area of the NeuroMuscular Taping Institute are certified by Continuing Education Credits in the country where they are held.

NeuroMuscular Taping Institute is an activity of Savà rehabilitation LINK.



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## LYME DISEASE (PTLDS) FACIAL PALSY

(rheumatic heart disease). Other experts hypothesize that PTLDS results from a persistent but difficult to detect infection. Finally, some believe that the symptoms of PTLDS are due to other causes unrelated to the patient's *Borrelia burgdorferi* infection.

Unfortunately, there is no proven treatment for PTLDS. Although short-term antibiotic treatment is a proven treatment for early Lyme disease, external studies funded by the National Institutes of Health (NIH) have found that long-term outcomes are no better for patients who received additional prolonged antibiotic treatment than for patients who received placebo. Long-term antibiotic treatment for Lyme disease has been associated with serious, sometimes deadly complications.”

Patients with PTLDS usually get better over time, but it can take many months or years to feel completely well. Some symptoms may include:

*a) In the acute phase ranging from 3 to 30 days after a tick bite.*

- Fever, chills, headache, fatigue, muscle and joint aches, and swollen lymph nodes may occur in the absence of rash
- Erythema migrans (EM) rash in the area of the tick bite

*b) Later signs may include:*

- Severe headaches and neck stiffness
- Additional EM rashes on other areas of the body
- Facial palsy (loss of muscle tone or droop on one or both sides of the face)
- Arthritis with severe joint pain and swelling, particularly the knees and other large joints.
- Intermittent pain in tendons, muscles, joints, and bones
- Heart palpitations or an irregular heart beat
- Episodes of dizziness or shortness of breath
- Inflammation of the brain and spinal cord
- Nerve pain
- Shooting pains, numbness, or tingling in the hands or feet

### **Treatment prospects with NeuroMuscular Taping**

NMT Institute has created a treatment concept of decompression taping called “NeuroMuscular Taping” widely known in medicine and rehabilitation. This NMTConcept is used in physical rehabilitation, in sports medicine, in nursing, in speech therapy and language pathologies and in all aspects of health care. It is a therapeutic ally in the prevention of and in the active treatment of many conditions requiring increased self-healing capacity. NeuroMuscular Taping (NMT) methodology, is the application of a non-stretched tape over the skin in an extended position resulting in a decompressive taping definition. NeuroMuscular taping refers to a specific decompressive taping application techniques which originated in the early 2000’s in Italy. This NMT taping system is characterized by resulting skin wrinkling, skin folds or skin undulations. Also this taping application creates various types of skin, muscle, joint, sensory, vascular and tactile stimulation under study over the last decade.



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DermoTaping (treatment concept developed by NMT Institute) uses the NMT methodology specific for the treatment of skin disorders. Special adhesive tapes exert a biomechanical pumping stimulation on the skin to facilitate lymphatic and vascular flow. In DermoTaping, the purpose is to improve the oxygenation of the skin to promote activation of the skin's regeneration processes. While in NMT, the objective is improving blood flow and oxygenation at a deeper level affecting nerve endings, lymphatic vessels, muscles and joints improving mobility and reducing pain.

*Exclusion criteria:* NeuroMuscular Taping decompression methodology is not indicated in the acute phase of Lyme disease infection.

All applications are focused on normalising alterations of the lymphatic, vascular and nervous systems in the aftermath of infection in the PTLDS phase. Typical NMT protocols in this later phase cover:

- stiff neck and shoulders, body muscle and tendon pain
- joint arthritis of the elbow, wrists, shoulder, knee, hip and ankle
- respiratory difficulties
- neuropathologic pain and numbness of the hands and feet
- facial palsy

**This paper outlines specific NMT protocol treatments for facial palsy.**

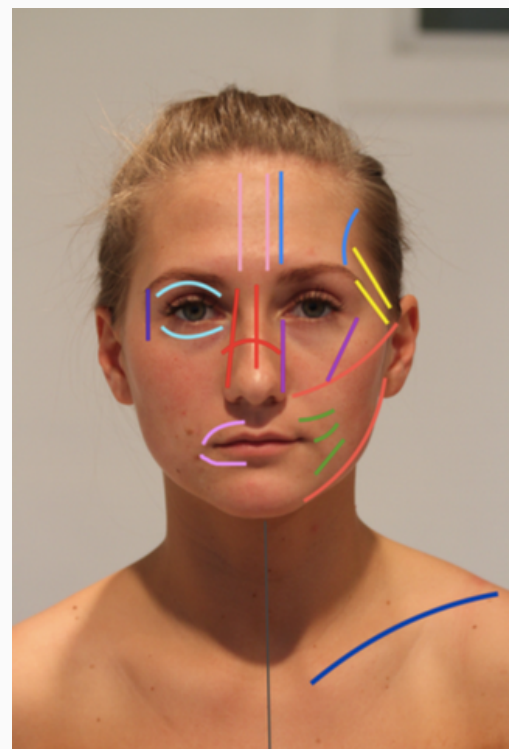
Treatment is concentrated in the area of paralysis on the face and neck. Treatment is usually bilateral. There are many applications which help blood circulation and oxygenation to specific muscles and nerve endings. These specific treatments are for final aspects of recovery.

### **Facial areas and lines of maximum skin elasticity**

The areas of the face treated in the initial phase of facial palsy are the following:

- forehead (blue)
- temporalis (yellow)
- mandibular (orange)
- mouth (purple)
- posterior neck

It is fundamental to have a complete understanding of lines of skin elasticity in these areas in order to have correct applications and consequently the best skin stimulation possible.



Typical applications in the initial phases of treatment are the following:

## Forehead

Tape characteristics

- Width: 3-5mm
- Length: 5-7cm
- Form: I
- Number: 8-14 strips
- 0% tension
- Frequency and treatment cycle: 2 to 3 times weekly for 4-8 weeks



**How to apply:** Strips of neuromuscular tape are cut 3, 4 or 5 mm wide depending on the thickness and characteristics of the skin and age. The thicker the skin the wider the tape. The length of the strips are calculated from the hairline to the eyebrow line. Each strip is applied over the skin stretched in 2 directions (up and down). The distance between the strips is calculated at 4mm. Completely cover the forehead area applying from 4 to 8 strips depending on the size of the forehead.

## Temporalis

Tape characteristics

- Width: 3-5mm
- Length: 5-10cm
- Form: I
- Number: 2 - 3 strips
- 0% tension
- Frequency and treatment cycle: 2 to 3 times weekly for 4-8 weeks



**How to apply:** Strips of neuromuscular tape are cut 3, 4 or 5 mm wide depending on the thickness and characteristics of the skin, hairline and age. The thicker the skin the wider the tape. The length of the strips are calculated from the temporal ridge to the area anterior to the ear. Each strip is applied over the skin stretched in 2 directions (up and down). The distance between the strips is calculated at 4mm. Completely cover the temporal area applying from 2 to 3 strips bilaterally depending on the size and the hair line.

## Complete Mandibular/Jaw zone

Tape characteristics

- Width: 4, 5, 6mm
- Length: 7-12cm
- Form: I
- Number: 3-5 strips
- 0% tension
- Frequency and treatment cycle: 2 to 3 times weekly for 4-8 weeks



**How to apply:** Strips of neuromuscular tape are cut 4, 5 or 6 mm wide depending on the thickness and characteristics of the skin and age. The thicker the skin the wider the tape. The length of the strips are calculated from the ear lobe to the smile line. Each strip is applied over the skin stretched in 2 directions (towards the ear and towards the lips). The distance between the strips is calculated at 4mm. Completely cover the mandibular area applying from 3 to 5 strips depending on the size of the jaw.

## Orbicularis mouth

Tape characteristics

- Width: 3-5mm
- Length: 5-10cm
- Form: I
- Number: 2 + 2 strips
- 0% tension
- Frequency and treatment cycle: 2 to 3 times weekly for 4-8 weeks



**How to apply:** Strips of neuromuscular tape are cut 3, 4 or 5 mm wide depending on the thickness and characteristics of the skin, thickness of facial hair and age. The thicker the skin the wider the tape. The length of the strips are calculated from the Philtrum margin to the lateral border of the corner of the mouth. Each strip is applied over the skin stretched in 2 directions (left and right). The distance between the strips is calculated at 3mm. The lower lip application is done in 2 halves - meaning from the center line to the right side + center line to the left side. Completely cover the upper and lower lip.



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### Posterior neck

Tape characteristics

- Width: 1 cm
- Length: 12- 20cm
- Form: I
- Number: 2 + 2 strips
- 0% tension
- Frequency and treatment cycle: 2 to 3 times weekly for 4-8 weeks



**How to apply:** Strips of neuromuscular tape are cut 1 cm wide.

The length of the strips are calculated from the hairline to the thoracic vertebra T4. Each strip is applied over the skin stretched with the head in a forward flexed position. The distance between the strips is calculated at 1cm. Completely cover the posterior neck area applying from 2 + 2 strips as shown.

### Treatment cycle and expected results

The treatment cycle depends on the severity of the facial paralysis and the time frame from onset. The correct NMT application will create many skin folds which will increase over time as the facial muscles improve their tone. The quantity of skin folds reflects in the capacity of the tape to create decompression and consequently to increase blood flow and oxygenation to the area treated. Expected outcome will be improved sensitivity of the skin and facial area, normalisation of local temperature, improved muscle and facial tone and coordination, improved facial expression. Once the facial palsy improves additional applications maybe chosen on the basis of specific facial muscles involved. These will be dealt with in Lyme disease facial palsy series N° 2. It is advised to complete the treatment with facial exercises and expert physical treatment.

### EVIDENCE BASED RESEARCH AND CLINICAL EFFECTIVENESS

The EB selection of clinical papers is an international open access to all areas in medicine and rehabilitation that underline possible advances in basic and advanced clinical research. Our objective is to create a platform for sharing correct NMT treatment methodology and result reciprocity which is the basis to all “good quality” evidence based research and clinical trials. This ongoing NeuroMuscular Taping EB selection newsletter will present research articles, reviews, short communications, patient testimonials and case reports which have been published and available from independent sources. Authors and trained NMT specialists are encouraged to publish their personal experience. Only through your personal effort to share your consolidated and sometimes experimental results you are able to positively influence “how we treat our patients” and to increase our understanding of fundamental principles in the treatment and rehabilitation progression.

**Help us share your professional KNOW-HOW to others.**