

Efficacy of Neuro-Proprioceptive facial Rehabilitation method (NPR) for the lasting reduction of Bell's palsy sequelae in the later stages of the recovery

Authors: Alex Pashov, Elena Pashova
Crystal Touch Bell's Palsy clinic, Rotterdam, The Netherlands



Patient M. (38 years) from Enschede, The Netherlands

Congenital facial palsy due to birth injury.

Bell's phenomenon, deep grooves of the facial muscles on the affected side (see pictures of the neurological tests), heavy asymmetry of the facial movements, difficulty with articulation, permanent facial pain above the eyebrow.

Result after 4 months of NPR program (4 treatments).



EXAMPLES OF SYNKINESIS (BELL'S PALSY SEQUELAE)



Crystal Touch is the only specialized Bell's palsy clinic in Europe



Patient R. (47 years) from Rotterdam, The Netherlands

Non-recovered Bell's palsy since 2005.

Multiple synkineses, rigidity of facial muscles, facial asymmetry, lack of self-confidence

Result after 9 weeks of NPR program (2 treatments).

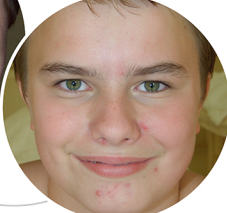


Patient E. (15 years) from Moscow, Russia

Non-recovered Bell's palsy since 2010.

Multiple synkineses, rigidity of facial muscles, facial asymmetry, local facial pain, lack of self-confidence

Result after 4 months of NPR program (3 treatments).



SYNKINESIS AFTER BELL'S PALSY CAN BE PERMANENTLY REVERSED

THE PREVAILING CAUSE OF SYNKINESIS AFTER BP IS THE EFFORTS-INDUCED NEUROPLASTIC CHANGES IN MIMETIC PATTERNS, NOT ABERRANT REGENERATION

After the onset of BP, the patient almost continuously exerts maximal (and further) volitional efforts trying to produce facial movements. These mental efforts are in fact an isometric exercises, which are repeated countless times per day at maximal intensity. If a full spontaneous recovery does not take place within 4-6 weeks, then the maximal volitional mental efforts to produce any facial movements become a habit.

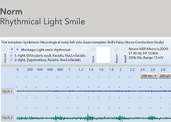
These efforts however cannot produce any satisfactory facial movements before the neuronal regeneration is completed. Once a gradual re-connection of the facial muscles to the facial nerve takes place, the new mimetic pattern that has been formed in the brain, receives a positive dynamic feedback. It strengthens, becoming a standard, reflexive "volitional amplifier" of any attempts for spontaneous facial movements, including blinking.

Obviously, at maximal effort levels one can not produce a finely differentiated muscles engagement. Only mass synergistic movements can be produced. Therefore multiple facial muscles become engaged in the new, pathological mimetic patterns. Synkineses are being formed due to efforts-induced neuroplastic changes.

The detailed analysis of the photo and video records of mimetic patterns of Crystal Touch patients, of their surface EMG data as well as of the instrumentally measured synkinesis graphs confirms this hypothesis.



MEASURING SYNKINESIS



SURFACE EMG

Patient R. (38 years): Bell's palsy right side, since 2001

