FALSE PROPRIOCEPTIVE INFORMATION DIAGNOSTICS AND THERAPY (FPID/T)

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We present new original reflex diagnostic and/or therapeutic method which uses focused and structured **arteficial proprioceptive stimulation applied on body periphery as a false proprioceptive information**, which evokes elementar, followed by global central motor system response, to analyse and/or cure neurogenic posture and movement pathology in children, adolescents and adults. This methode is based on arteficial proprioceptive information imitating selected muscle group contraction without any true appropriate contraction of the target muscles and without any distraction of any other muscles (especially antagonists) to evoke predictable posture and/or motor central nervous system (CNS) action. The main mode of action of the FPID/T is the **unbraking reciprocal antagonists inhibition on the spinal cord level**. The peripheral reflection of this CNS action may be used for posture and atitude analysis and/or correction in pathology. FPID/T methode might be applied independently on any patient cooperation and might be used for motor system *tuning* and/or active posture *trimming* in patients without respect to their age, mental and/or general condition. One of strong modes of FPIT action is the anti-neglect effect on the central representation of the paretic muscle groups. The practical application of the FPID/T is simple and takes only few minutes for each session. FPID is also suitable for neurosurgical treatment of spasticity target planning. FPIT (like FPID) is realizing by simple pressing or other kind of focused stimulation of target muscles sensory point/s and might be applied by any caregiver after only short education. Sensory-motor learning effect of repeated stimulation may be used.

Diagnostic applications (FPID):

Early diagnostics of the central developmental motor disorders in newborns and small children (esp. in central tonus disorder and/or central coordination disorder):

- **unmasking of the paresis** hidden under dystonia and/or spasticity

- **unmasking of the presence of preserved central global postural and/or motor programm** hidden or arrested by dystonia and/or spasticity esp. in patients with cerebral palsy (CP) or other central developmental motor disorder

- **early detection of defect of central global motor programm** hidden or arrested by dystonia and/or spasticity esp. in patients with cerebral palsy (CP) or other central developmental motor disorders

Diferentiation between dynamic and fixed muscle contractures

Early diferential diagnostics of structural (esp. degenerative or idiopatic) **and functional** (neuromuscular) **deformities of supporting system** (e.g. scoliosis, foot deformities)

FPID application in neurosurgery:

Selective dorsal rhizotomy (SDR) target planning:

- **detection and/or analysis of cranio-caudal and/or caudo-cranilal and/or proximo-distal and/or disto-proximal and/or latero-lateral relations in pathophysiology of spasticity on the spinal cord level (spinal cord hyperexcitation spreading)** to plan the SDR treatment strategy (single SDR-C(T) or SDR-(T)LS, successive SDR-(T)LS + SDR-C or one time surgery SDR-C(T)+ (T)LS) in the treatment of central movement disorders (esp. in CP)

- **target roots (myotomes) selection in the SDR planning**

Some of the therapeutic applications (FPIT):

Quick release of localizes muscle contractures (axial blocade, e.g. CC junction, C-, T-, LS-spine, SI joint)

Short-term reduction of spasticity (e.g. in CP patients)

Short-term correction of asymetric and/or excentric muscle tonus in central tonus disorder

Short-term correction of asymetric and/or excentric spontaneous movement activity in central coordination disorder

Anti-neglect effect on central projection of partialy denervated region on periphery and blocade of synkinesias developement in partialy denervated region on periphery (e.g. brachial plexus injury, esp. of perinatal origin, facial nerv palsy)

Posture *trimming* (due to musle groups *tuning*) **of axial organ and/or main joints** (functional centration of axial organ and/or main joints)

Correction of body posture pathology due to neuromuscular dyskoordination esp. in children and adolescents (e.g. functional pes equinovarus, flatfoot, intoeing, outtoeing, genua vara, valga or recurvata, pelvis anteflection, hyperlodosis, hyperkyphosis, shoulder protraction)

Therapy of neuromuscular and idiopatic child and juvenile scoliosis

Therapy of functional dyssynergy of abdominal and pelvis muscles (neurogenic dysorders of bladder evacuation and of urine and stool control, some types of womans functional sterility)

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