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## Areerat Suputtitada

Chulalongkorn University & King Chulalongkorn Memorial Hospital, Thailand

## **Spasticity management: How to optimize?**

C pasticity is a common problem and quite a major challenge to the neurorehabilitation team. It manifests as an increase in Stretch reflexes, producing tendon jerks and resistance appearing as muscle tone. Effects of spasticity range from mild muscle stiffness to severe, painful muscle contractures and repetitive spasms that can prevent or hamper function, cause pain, disturb sleep, and major difficulties for hygiene care. However, spasticity can also be useful, perhaps allowing a person to stand or walk when weakness would not otherwise permit it. It is imperative that management is always patient and function focused rather that aimed at the reduction of spasticity only. Of the course of more than 30 years, the novel therapeutic spectrum of botulinum toxin type A (BTA) has been successively expanding worldwide. Optimizing of BTA treatment is challenging. The trick in practical management is to use it intelligently and to know when and when not to use it. BTA is better tolerated than neurolysis with phenol or alcohol. It is a relatively safe medication and has few serious side effects but its high cost limits the use. Both BTA and phenol or alcohol have dose ceiling limitation. Neurolysis should be preserved for pure motor innervations muscles to avoid paresthesia. BTA is recommended in the distal muscles which are mixed nerves innervations. The proper use of these treatments requires careful patient assessment and realistic goals, knowledge of the peripheral functional anatomy, and an understanding of how these treatments work and how to best to administer them. Several techniques, using electromyography, electrical stimulation, ultrasound guidance are aimed to increase the accuracy of targeting. Neurorehabilitation after BTA injection and neurolysis also enhance treatment outcomes. Basic and sophisticated instrumental balance and gait training, therapeutic exercises, functional electrical stimulation are also important to increase functional outcome. Repetitive transcranial magnetic stimulation (rTMS), transcranial direct current stimulation (tDCS), extracorporeal shock wave therapy (ESWT) are increasing evidences supported. Optimizing BTA, neurolysis and neurorehabilitation in spasticity treatment are important.

## **Biography**

Areerat Suputtitada, M.D. is Professor of Rehabilitation Medicine, full time working at Department of Rehabilitation Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital in Bangkok, Thailand. She is the Director of Excellent Center for Gait and Motion at King Chulalongkorn Memorial Hospital and Chair of Neurorehabilitation Research Unit of Chulalongkorn University. She has been involved in education, residency training, research, and clinical treatment related to rehabilitation medicine for over 20 years. Her subspecialties are botulinum toxin and neurolysis, gait and motion, pain, and neurorehabilitation. She is an internationally recognized speaker, clinician, and researcher. Her works have been published extensively in numerous medical journals and books, more than 70 articles nationally and internationally. She has four important positions in the International Society of Physical and Rehabilitation Medicine (ISPRM) as the follows; (1) Chair of Women and Health Task Force, (2) Assembly of Individual Members Election Committee for Asia Oceania, (3) International Exchange Committee, and (4) Representative of the Active Individual Members to the Assembly of Delegate

prof.areerat@gmail.com

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