



## Clinical Opinion

# Ultrasound guided intra-articular botulinum toxin injection for treatment of the osteoarthritic knee pain: expert opinion.

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Osteoarthritis is the most common form of arthritis and cause of joint pain and disability [1]. The prevalence, burden and socioeconomic impact of osteoarthritis of the knee is considerable and growing [2]. Knee pain is the most cardinal symptom of the osteoarthritic knee and is associated with a high degree of impaired function and daily activities [3]. Intra-articular injection provides a safe and cost effective control of knee pain with improvement of function and activities of daily living [4]. Ultrasound guidance improves the accuracy of the intra-articular injection in knee joint and clinical outcomes and lowers health care costs [5]. Botulinum toxin targets many neuropeptides leading to reduction of pain, peripheral sensitization and in turn reduction of the central sensitization. Also, botulinum toxin plays an anti-inflammatory role by reduction of the neurogenic inflammation [6]. The following table summarizes how to use botulinum toxin in clinical practice according to authors experience. However, further large-scale multicenter randomized controlled trials are needed to confirm effectiveness and determine the exact position of this intervention in the therapeutic armamentarium for the osteoarthritic knee pain.

DOSE PER KNEE	COMPLICATIONS AND CONTRA - INDICATIONS	FREQUENCY OF INJECTIONS	DURATION OF PAIN RELIEF	FAILURE OF RESPONSE	COMBINATIONS
<p><b>BMI 25 - 30</b></p> <p>Botox → 50 IU Dysport → 100 IU</p>	Similar to general complications and contra-indications as a regard local injection	Can be repeated after 6 months  Onset of action  Delayed. Patients might start to feel the improvement of the pain after 2 weeks of the injection.	* 6 - 12 months after 1st injection  * 12 - 18 months after 2nd injection	After second injection due to auto-antibodies formation is rare.	Can be combined with hyaluronic acid and platelet rich plasma
<p><b>BMI 30 - 40</b></p> <p>Botox → 100 IU Dysport → 200 IU</p>					
<p><b>BMI &gt; 40</b></p> <p>Botox → 200 IU Dysport → 400 IU</p>					

BMI = Body Mass Index

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