



# Botulinum toxin is a promising treatment for the Jumping Stump

## Jumping Stump: A Case Report

### INTRODUCTION

🔍 Peripherally induced movement disorder due to nerve damage.

🚑 52y/o, male, below-the-knee amputation, **involuntary muscle contractions** in the amputated extremity.

### TREATMENT and OUTCOMES

😊	Botulinum toxin treatment: temporary decrease of symptoms.
😞	Surgical interventions: partially successful.
😞	Baclofen, diazepam, clonazepam, clotiazepam, pramipexole. Peroneal nerve block. Prosthesis modifications.

Due to severe pain and functional impact, a **mid-thigh amputation** was performed, with complete resolution of symptoms but recurrence later that year.

### DISCUSSION

- **Pain** as a possible important trigger.
- Drug treatment generally ineffective.
- Botulinum toxin shows promising results.
- No definite solution.

Table 1. Case Report: Treatment and investigation overview

Date	Treatment / Investigation	Effect (duration)
01-2017	First notice of involuntary muscle jerks at lateral site of the amputation stump.	
03-2017	US: involuntary contractions of peroneal muscles. Levobupivacaine hydrochloride (Chirocaine®) 5% test block for peroneal nerve. Baclofen trial up to 3 x 10mg/day.	Decrease of lateral, but start of posterior located contractions. None.
05-2017	MRI upper leg: tibial nerve neuroma: local infiltration refused by patient. No triggerable electric point: surgical excision not indicated.	
07-2017	Diazepam trial.	None.
09-2017	Botulinum toxin type A (Xeomeen®) - Gastrocnemius muscle, medial head: 50E.	Partial decrease of contractions (2 months).
11-2017	Clonazepam 0.5mg trial.	None.
01-2018	Resection of vascular graft. Dissecting tensor fasciae latae muscle.	Partial decrease of contractions (2 months).
03-2018	Tenolysis of semitendinosus muscle. Partial tenolysis of semimembranosus muscle.	Completely resolved (6 weeks).
04-2018	Pregabalin 75mg (because of phantom pain).	None.
07-2018	Prosthesis modifications.	None.
10-2018	Resection residual vascular grafts and scar tissue.	Completely resolved (1 month).
11-2018	US: deep vein thrombosis of popliteal artery.	
01-2019	Mid-thigh amputation.	Completely resolved (11 months).
05-2019	US: fluid collection (hematoma) at distal stump.	
09-2019	US: recent bleeding component in hematoma.	
12-2019	Recurrence of segmental myoclonic movements of medial hamstrings.	Spontaneously resolved after 2 months.
02-2020	X-ray: no traumatic fracture.	
03-2020	US: increased fluid collection size, no recent bleeding component.	
04-2020	US: possible recent bleeding component in hematoma.	
05-2020	Recurrence of segmental myoclonic movements of medial hamstrings. Tramadol (because of stump pain). Ibuprofen 2x 800mg (started by patient). Clotiazepam 10mg trial. Pregabalin 2x 150mg (because of phantom pain). Prosthesis modifications.	None. None. None. Decrease of phantom pain. Decrease of stump pain.
06-2020	BS: increased bone turnover at the distal end of the femur.	
07-2020	Clonazepam 2.5mg trial. Pramipexole 0.18mg trial.	None. None.
11-2020	Planned surgical revision.	Postponed due to COVID-19.

US: ultrasound; BS: bone scintigraphy.

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