

Author Year; Country Score Research Design Sample Size	Methods	Outcome																														
<p>Kim et al. 2003; USA PEDro=9 RCT N=36</p>	<p>Population: 22 males, 14 females, neurologically impaired patients (20 SCI, 7 multiple sclerosis, and 9 others) with urodynamically verified detrusor hyperreflexia. Treatment: Randomized double blind, placebo-controlled trial. Intravesical instillation of Resiniferatoxin (RTX) 0.005, 0.025, 0.05, 0.10, 0.2, 0.5, or 1.0 microM of RTX (n=4 each group) or placebo (n=8). Outcome Measures: incontinence episodes, bladder capacity.</p> <p>Effect Sizes: Forest plot of standardized mean differences (SMD ± 95% C.I.) as calculated from pre- to post-intervention data and pre-intervention to retention/follow-up data</p> <p style="text-align: center;">Kim et al. 2003; Resiniferatoxin (Various Doses)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Comparison</th> <th>SMD (95% C.I.)</th> </tr> </thead> <tbody> <tr><td>MCC (0.005µM) (Pre->Post)</td><td>0.57 (-0.67, 1.80)</td></tr> <tr><td>MCC (0.025µM) (Pre->Post)</td><td>0.37 (-0.85, 1.58)</td></tr> <tr><td>MCC (0.05µM) (Pre->Post)</td><td>0.58 (-0.66, 1.81)</td></tr> <tr><td>MCC (0.10µM) (Pre->Post)</td><td>0.58 (-0.65, 1.82)</td></tr> <tr><td>MCC (0.2µM) (Pre->Post)</td><td>0.54 (-0.69, 1.77)</td></tr> <tr><td>MCC (0.5µM) (Pre->Post)</td><td>-0.01 (-1.21, 1.19)</td></tr> <tr><td>MCC (1.0µM) (Pre->Post)</td><td>0.56 (-0.67, 1.79)</td></tr> <tr><td>MCC (0.005µM) (Pre->Ret)</td><td>-0.32 (-1.53, 0.89)</td></tr> <tr><td>MCC (0.025µM) (Pre->Ret)</td><td>0.81 (-0.46, 2.07)</td></tr> <tr><td>MCC (0.05µM) (Pre->Ret)</td><td>-0.02 (-1.22, 1.18)</td></tr> <tr><td>MCC (0.10µM) (Pre->Ret)</td><td>0.45 (-0.77, 1.67)</td></tr> <tr><td>MCC (0.2µM) (Pre->Ret)</td><td>-0.32 (-1.53, 0.89)</td></tr> <tr><td>MCC (0.5µM) (Pre->Ret)</td><td>0.34 (-0.88, 1.55)</td></tr> <tr><td>MCC (1.0µM) (Pre->Ret*)</td><td>0.71 (-0.54, 1.96)</td></tr> </tbody> </table> <p>*Retention data for 1.0µM from 6 week post-baseline (12 week post-baseline otherwise)</p>	Comparison	SMD (95% C.I.)	MCC (0.005µM) (Pre->Post)	0.57 (-0.67, 1.80)	MCC (0.025µM) (Pre->Post)	0.37 (-0.85, 1.58)	MCC (0.05µM) (Pre->Post)	0.58 (-0.66, 1.81)	MCC (0.10µM) (Pre->Post)	0.58 (-0.65, 1.82)	MCC (0.2µM) (Pre->Post)	0.54 (-0.69, 1.77)	MCC (0.5µM) (Pre->Post)	-0.01 (-1.21, 1.19)	MCC (1.0µM) (Pre->Post)	0.56 (-0.67, 1.79)	MCC (0.005µM) (Pre->Ret)	-0.32 (-1.53, 0.89)	MCC (0.025µM) (Pre->Ret)	0.81 (-0.46, 2.07)	MCC (0.05µM) (Pre->Ret)	-0.02 (-1.22, 1.18)	MCC (0.10µM) (Pre->Ret)	0.45 (-0.77, 1.67)	MCC (0.2µM) (Pre->Ret)	-0.32 (-1.53, 0.89)	MCC (0.5µM) (Pre->Ret)	0.34 (-0.88, 1.55)	MCC (1.0µM) (Pre->Ret*)	0.71 (-0.54, 1.96)	<ol style="list-style-type: none"> No statistical significance due to small sample sizes. Intravesical RTX administration was well tolerated. This patient group was refractory to all previous oral pharmacologic therapy, yet some patients responded with improvement in bladder capacity and continence function shortly after RTX administration. In some cases, mean cystometric capacity increased up to 500% over baseline. Incontinence episodes decreased by over 50% for the 2 highest doses. No data available on long term effect of RXT on AD.
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<p>Giannantoni et al. 2002; Italy PEDro=6 RCT N=23</p>	<p>Population: Refractory detrusor hyperreflexia. Treatment: Randomized two treatments a) single dose of 2 mM. capsaicin in 30 ml ethanol plus 70 ml 0.9% sodium chloride OR b) 100 mM. resiniferatoxin in 100 ml 0.9% sodium chloride.</p>	<ol style="list-style-type: none"> Capsaicin group showed no significant urodynamic or clinical improvements at 30 and 60 days. Resiniferatoxin group demonstrated significant urodynamic improvement at 30 and 60 days. 																														

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	<p>Outcome Measures: Urodynamics, frequency of daily catheterizations, incontinence episodes and side effects.</p> <p>Effect Sizes: Forest plot of standardized mean differences (SMD ± 95% C.I.) as calculated from pre- to post-intervention data</p> <p style="text-align: center;">Giannantoni et al. 2002; Resiniferatoxin vs. Capsaicin (control)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Forest Plot Data</caption> <thead> <tr> <th>Parameter</th> <th>SMD (95% C.I.)</th> </tr> </thead> <tbody> <tr> <td>Mean uninhibited detrusor contraction threshold (30d)</td> <td>0.76 (-0.09, 1.62)</td> </tr> <tr> <td>Mean uninhibited detrusor contraction max amplitude (30d)</td> <td>1.74 (0.75, 2.73)</td> </tr> <tr> <td>Mean max bladder capacity (30d)</td> <td>1.91 (0.89, 2.93)</td> </tr> <tr> <td>Mean max bladder compliance (30d)</td> <td>0.12 (-0.70, 0.94)</td> </tr> <tr> <td>Mean uninhibited detrusor contraction threshold (60d)</td> <td>0.76 (-0.09, 1.62)</td> </tr> <tr> <td>Mean uninhibited detrusor contraction max amplitude (60d)</td> <td>1.74 (0.75, 2.73)</td> </tr> <tr> <td>Mean max bladder capacity (60d)</td> <td>1.85 (0.85, 2.86)</td> </tr> <tr> <td>Mean max bladder compliance (60d)</td> <td>-0.16 (-0.98, 0.66)</td> </tr> </tbody> </table> <p style="text-align: center;">Effet size calculated for 1) pre-intervention to 30 days (30d) post-intervention and 2) pre-intervention to 60 days (60d) post-intervention</p>	Parameter	SMD (95% C.I.)	Mean uninhibited detrusor contraction threshold (30d)	0.76 (-0.09, 1.62)	Mean uninhibited detrusor contraction max amplitude (30d)	1.74 (0.75, 2.73)	Mean max bladder capacity (30d)	1.91 (0.89, 2.93)	Mean max bladder compliance (30d)	0.12 (-0.70, 0.94)	Mean uninhibited detrusor contraction threshold (60d)	0.76 (-0.09, 1.62)	Mean uninhibited detrusor contraction max amplitude (60d)	1.74 (0.75, 2.73)	Mean max bladder capacity (60d)	1.85 (0.85, 2.86)	Mean max bladder compliance (60d)	-0.16 (-0.98, 0.66)	<p>3. Most patients receiving capsaicin, but none receiving resiniferatoxin developed AD, limb spasms, suprapubic discomfort and hematuria.</p>
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<p>Igawa et al. 2003; Japan Pre-post N=7</p>	<p>Population: 5 subjects with cervical injuries and 2 subjects with thoracic injuries. Treatment: bladder instillation with capsaicin solution under general anesthesia. Outcome Measures: blood pressure, heart rate, serum catecholamines, blood ethanol concentration.</p>	<ol style="list-style-type: none"> 1. Capsaicin attenuated elevated BP secondary to bladder distention (empty or full) post-treatment. 2. In all individuals, episodes of AD become negligible and well tolerated > 3 months. 																		