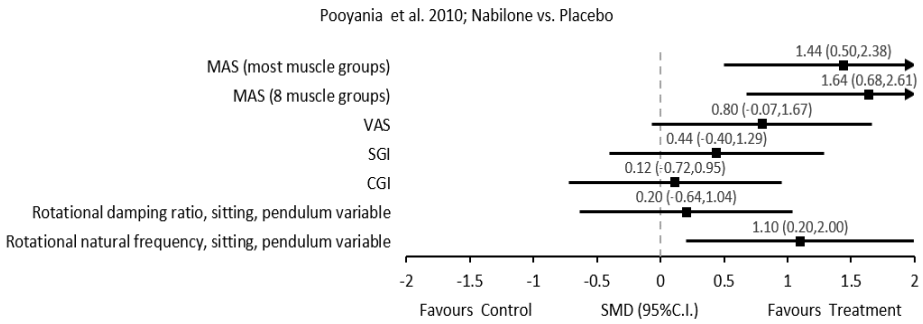
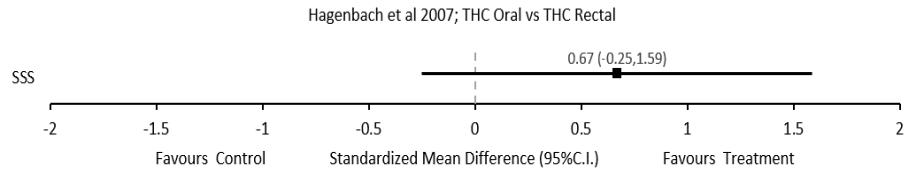
Author Year Country Research Design Score Total Sample Size	Methods	Outcome
Nabilone		
Pooyania et al. 2010 Canada RCT Crossover PEDro=8 Level 1 N=11	**Population:** Mean age: 42.4 yr: Gender: males=11, females=0; Injury etiology: traumatic, non-traumatic SCI; Level of injury: tetraplegia=6, paraplegia=5; Time since injury: >1yr. **Intervention:** Individuals received either nabilone in tablet form or placebo during 4 wk. period (0.5-1.0 mg/day) with crossover design with 2 wk. wash-out period in between. **Outcome Measures:** Ashworth Scale (AS), Spasm Frequency Scale (SFS), Visual Analog Scale (VAS), Wartenberg Pendulum Test, Global Impression of Change.	1. A significant decrease in SFS, as measured by the AS, was observed for those on active treatment in the most involved muscle (mean difference=0.909±0.85; p=0.003), as well as for muscles overall (p=0.001). 2. There was no significant difference in other measures. 3. Side effects were mild and tolerable.
	Effect Sizes: Forest plot of standardized mean differences (SMD±95%C.I.) as calculated from pre- and post-intervention data. 	
Tetra-9-tetrahydrocannabinol (dronabinol)		
Hagenbach et al. 2007 Switzerland Phase 1–Pre-post Level 4 Phase 2–RCT PEDro=6 Level 1 N=22 (RCT N=13)	**Population**: Age range: 29-66 yrs; Gender: males=11, females=2; Injury etiology: SCI=15; Level of injury: C4-T11; Level of severity: AIS: A, B, C, D. **Intervention:** Phase 1–Open label oral and rectal detra-9-tetrahydrocannabinol (dronabinol). Phase 2- Oral detra-9-tetrahydrocannabinol (dronabinol) versus placebo. **Outcome measures:** Spasticity Sum Score (SSS) (average of 2 x independent left/Right Modified Ashworth Scale (MAS) scores of 6 joints), Self-rating of spasticity and side effects.	1. Phase 2 (RCT): main comparison (dronabinol versus placebo) was not analyzed due to potential confounds associated with large baseline group differences on SSS. 2. Phase 1 (pre-post dronabinol/rectal THC): mean SSS decreased significantly during active treatment compared to control on day one ($p<0.001/p<0.05$), day 8 ($p<0.001/P<0.05$) and day 43 ($p<0.05/p<0.05$) of treatment. 3. Phase 1 vs 2: (open label dronabinol versus placebo): 4. Mean SSS decreased significantly relative to placebo over days 1, 8 and

		43 by a mean of 4.89 as compared to baseline (p=0.001). 5. Significant decrease in self-rated spasticity on day 1 (p=0.033) but not for days 8 or 43 (p>0.05). 6. No significant differences on mood or psychological testing, nor on FIM scores in intervention versus placebo groups. 7. Total of 9 dropouts during open-label phases were due to increased pain, anxiety, decreased compliance, decreased attention and mood.
	Effect Sizes: Forest plot of standardized mean differences (SMD±95%C.I.) as calculated from pre- and post-intervention data.  	
Wilsey et al. 2016 USA RCT Crossover PEDro=8 Level 1 N=42 (29 SCI)	**Population**: Mean age=46.4±13.6 yrs; gender: males=29, females=13; Level of injury: C=22, T=14, L=6. Intervention: crossover design with placebo, 2.9% and 6.7% THC vapour; 4 puffs at t=0 and 4 puffs at t=240 min. Treatment periods were 480 min. for each exposure with measurements every 60 min. **Outcome Measures**: Numeric Rating Scale of Spasticity (NRSS) for spasms, pain and muscle stiffness & Patient Global Impression of Change (PGIC)	1. 2.9% THC group: spasticity was significantly reduced at t = 420 min. (p<0.0001) and patients experienced pain relief at t = 420 (p=0.0227). No significant results at other measure points. 2. 6.7% THC group: no significant change in spasticity
Kogel et al. 1995 USA Pre-Post Level 4 N=5	**Population:** Age range: 28-55 yrs; Gender: males=5, females=0; Level of injury: tetraplegia; Time since injury range: 6 mos–9 yrs. **Intervention:** Open label design: Oral detra-9-tetrahydrocannabinol (dronabinol), with dose escalation: 2x5mg/day – 4x10 mg/day – 3x20mg/day) + current spasticity regimen. **Outcome Measures:** Pendulum Drop Test, Weschler Memory Scale (WMS), Profile of Moods Scales (POMS).	1. Spasticity was markedly improved in 2 of 5 subjects. 2. Results fluctuated in one participant, did not change in one participant, and worsened in another participant. 3. Psychological testing was unchanged (n = 4), with 2 improving on memory testing
Non-Specified Types		
Malec et al. 1982 USA Observational Level 5 N=43	**Population:** Age range: <20-60+ yrs; Gender: males=38, females=5; Injury etiology: 43; Time since injury range: 6 mo-5+ yr.	1. SCI persons reported decreased spasticity with marijuana use; present use of marijuana correlated positively with past use.

	Intervention: Survey to examine the perceived effects of cannabis on spasticity. **Outcome Measures:** Customized cross-sectional survey addressing demographic information (age range, sex, marital status, education, and range of time since injury), marijuana use, belief patterns associated with use, severity of spasticity associated with use/non-use, Spasticity Change Index, computed by subtracting level of spasticity in the drug-state from the non-drug-state.	2. The person's reference or peer group contributed significantly to current use. 53% reported using marijuana during last year with correlation to use prior to SCI ($r=0.78$, $p<0.001$, $n=43$; agrees with other studies). Also correlated with degree of use in present social reference group ($r=0.32$, $p<0.05$, $n=38$) and prior social reference group ($r=0.30$, $p<0.05$, $n=37$). Age was negatively correlated with current use ($r=-0.56$, $p<0.001$, $n=43$). 3. Reduction in spasticity via use was reported in 88% (21/24) while 12% reported no change. 4. No correlation between Spasticity Change Index and any variable (if significant correlation, then perhaps placebo effect). 5. Education moderately correlated with reported change in spasticity ($r=-0.65$, $p<0.001$, $n=23$): lower education associated with greater reported change in Spasticity Change Index. Marijuana use prevalence (53%, 23/43) among SCI surveyed and especially of SCI <30 yr (76%, 16/21).