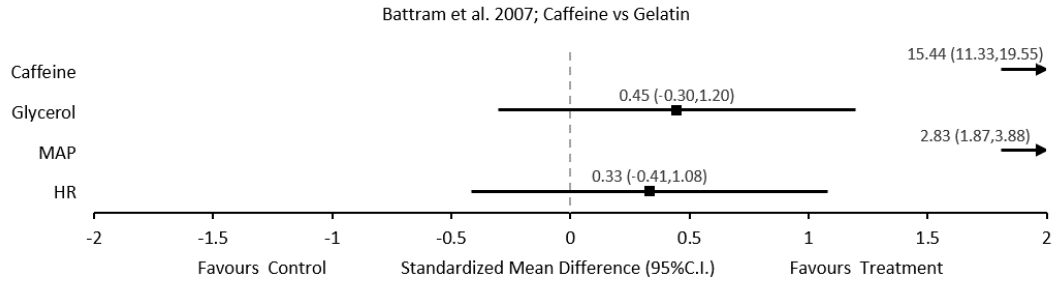
Author Year Country Research Design PEDro Score Total Sample Size	Methods	Outcome
Glucose		
Battram et al. 2007 Canada RCT PEDro=6 N=14	**Population:** Mean age=44.9 yr; Mean weight=82.1 kg; Level of injury: C4-C6; Level of severity: AIS A=5, AIS B and C=9; Mean time since injury=15.0 yr. **Intervention:** Participants were randomized to receive a 4 mg/kg dose of caffeine capsule or gelatin placebo capsules. Both groups then consumed a standard 75 gram glucose solution, and then a oral glucose tolerance test (OGTT) was performed. Analyses were performed between intervention groups, and subgroup analyses between SCI severity (complete vs. incomplete). **Outcome Measures:** Glucose response area under the curve (AUC), Insulin levels, Proinsulin levels, Proinsulin to insulin (PI/I) ratio, glucagon-like-peptide-1 (GLP-1), Epinephrine concentrations, Free fatty acid levels, glycerol concentrations, Mean arterial pressure (MAP),	1. The caffeine and placebo groups were not significantly different in glucose response AUC during the OGTT (p>0.05). 2. The complete SCI subgroup had a 50% greater glucose response AUC compared with the incomplete SCI subgroup (p<0.05). 3. Proinsulin levels were 40% lower in the complete group compared to the incomplete group (p<0.05). 4. There were no treatment or subgroup effects on insulin levels (p>0.05), proinsulin levels or PI/I ratio (p>0.05), GLP-1 (p>0.05), epinephrine concentrations (p>0.05), free fatty acid (p=0.07), glycerol (p>0.05), 5. The caffeine group had a significantly higher MAP compared to the placebo group (p<0.05).
	Effect Sizes: Forest plot of standardized mean differences (SMD ± 95%C.I.) as calculated from pre- and post-intervention data. 	
Bennegard & Karlsson 2008 Sweden Prospective Controlled Trial N=19	**Population:** SCI (n=9): Mean age=40.8 yr; Mean weight=71.2 kg; Level of injury: C=2, T=7; Severity of injury: AISA A=8, B=1; Non-SCI controls (n=10): Mean age=31.9 yr; weight=75.9 kg. **Intervention:** Blood flow and overnight fasting glucose. **Outcome Measures:** Glucose uptake, plasma flow, lean tissue mass, and lactate.	1. SCI individuals were found to have significantly higher glucose uptake than those in the control group (p<0.05). 2. Plasma flow was higher in legs of SCI individuals than the controls. 3. Control subjects had higher lean tissue mass in their legs compared to the SCI subjects who only had 2/3 of the lean mass of the control subjects. 4. For non-SCI individuals glucose uptake was lower in legs than arms in the control group whereas venous glucose concentration was higher in the leg (p<0.05); no differences were observed for those with SCI. 5. Control subjects had a higher lactate production in arms than legs (p<0.05), while SCI subjects did not.
Bauman &	**Population:** Paraplegia (n=50): Mean	1. 82% of controls had normal oral glucose

Author Year Country Research Design PEDro Score Total Sample Size	Methods	Outcome
Spungen 1994 USA Cohort N=150	age=51±2 yr; Time since injury=19±2 yr; Tetraplegia (n=50): Mean age=47±2 yr; Time since injury=17±2 yr; Controls (n=50): Mean age=51±2 yr; SCI and controls were age- and BMI-matched. **Intervention:** Oral glucose tolerance test (OGTT). **Outcome Measures:** Mean plasma glucose and insulin values, serum lipid levels.	tolerance vs. 38% of those with tetraplegia and 50% with paraplegia. 2. Subjects with SCI had significantly higher mean glucose and insulin values during the OGTT when compared to controls. 3. Serum lipid levels in subjects with SCI showed a decreased HDL cholesterol level (38±1 mg/dL).
Bauman et al. 1999 USA Pre-Post N=201	**Population:** Mean age=39 yr; Gender: males=169, females=32; Mean duration of injury=13 yr; Mean weight=75.9 kg; Mean BMI=25; Level of injury: tetraplegia=81, paraplegia=120; Severity of injury: complete=140, incomplete=61. **Intervention:** Oral glucose tolerance test (OGTT). **Outcome Measures:** Serum glucose concentration, plasma insulin levels, hyperinsulinemia, and serum uric acid.	1. Individuals with complete tetraplegia had higher values for serum glucose concentration at 60 min, 90 min and 120 min and for plasma insulin at 90 min and 120 min after OGTT. 2. Levels of serum glucose were similar in both men and women; however, plasma insulin levels were greater in men than women at all time points ($p<0.05$). 3. Individuals with complete tetraplegia also had an increased frequency of diabetes mellitus compared to others. 4. Individuals with tetraplegia had a significantly higher rate of hyperinsulinemia than individuals with paraplegia ($p<0.05$). 5. A significant relationship was found between serum uric acid and BMI ($p<0.0001$), peak serum glucose ($p=0.001$) and peak plasma insulin ($p=0.01$).
Lipid		
Ketover et al. 1996 USA Prospective Controlled Trial N=58	**Population:** SCI (n=29): Mean age=51 yr; Gender: males=28, females=1; Obesity (BMI>27)=11; Non-SCI controls (n=29): Mean age=36 yr; Gender: males=13, females=16; Obesity (BMI>27)=14. **Intervention:** All individuals were administered a 20 g fat liquid meal. **Outcome Measures:** Gallbladder emptying.	1. No significant difference was seen in gallbladder emptying and volumes between SCI individuals and non-SCI subjects. 2. In SCI subjects with diabetes and obesity, poor gallbladder emptying was observed. 3. Age and injury level had no effect on gallbladder emptying.

Note: AISA=ASIA Impairment Scale; BMI=Body Mass Index