

Author Year Country Research Design PEDro Score Sample Size	Methods	Outcomes
Becker et al., (1987) USA RCT PEDro=6 N=15	Population: Age range=17-75yr; Gender: males=11, females=3; Severity of injury: complete/incomplete. Chronicity: Acute. Intervention: Rotating treatment tables. Outcome Measures: Impedance blood plethysmography.	1. 4/5 control individuals and only 1/10 treated individuals developed positive fibrinogen leg scans.
Matsumoto et al. (2015) Japan Observational N=29	Population: Mean Age: 63.2yr; Gender: males=25, females=4; Injury etiology: High fall (n=11, 38%), Fall at ground level (n=8, 28%), Motor Vehicle Accident (n=4, 14%), Sports (n=3, 10%), Low fall (n=2, 7%), Stairs (n=1, 3%); Severity of Injury: American Spinal Injury Association Impairment Scale (AIS) A=9, AIS B=2, AIS C=8, AIS D=10; Level of Injury: C3-4=11, C5-8=8, T1-12=6, L1-4=4. Chronicity:<24 hr post SCI. Intervention: All individuals were monitored for the development of deep venous thrombosis (DVT) after surgery and after they had received Intermittent pneumatic compression (IPC) with a calf pump and elastic stockings. The pump was attached throughout the day for at least 2wk after surgery and the elastic stockings were utilised after a median of 3 days post-surgery. Assessments were conducted 1, 3, 7, 14, and 28 days post-surgery. Outcome Measures: Development of deep venous thrombosis (DVT), D-Dimer levels.	1. DVT developed in 12 individuals (41.4%), all of which were located distal to the popliteal vein. 2. The median length of time from surgery to detection of DVT was 7.5 days. 3. Seven of the 12 individuals (58.3%) with DVT were classified as AIS A, one classified as AIS B (8.3%), three classified as AIS C (25.0%), and one classified as AIS D (8.3%). 4. Mean D-Dimer level in individuals who developed DVT was 14.6+13.5ug-ml but this was not significantly different compared to individuals who did not developed DVT (p>0.05) at all assessment time-points except for 7 days after surgery (p=0.028). 5. Cutoff D-Dimer levels according to the receiver operator characteristic curve did not differ significantly between individuals who developed DVT and those who did not except for 3 days after surgery (p=0.0287).
Chung et al., (2011) Korea Pre-Post N=37	Population: Mean age=53 yr; Gender: Males=26, females=11; Level of injury: cervical-lumbar; Severity of injury: American Spinal Injury Association Impairment Scale (AIS) A-D. Chronicity: All individuals were studied beginning within 1 week of injury. Intervention: Only routine mechanical prophylaxis was	Timing of DVT onset: Routine checks for DVT were performed every 2 weeks beginning usually within 1 week of injury. 27% of individuals developed DVT within 7 days after injury, 8% developed DVT within 2-3 weeks after injury, and 8% developed DVT>1 month after injury. Incidence of DVT:

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	administered to all individuals in the form of gradient elastic stockings (GES), external sequential pneumatic compression, and early ambulation. Outcome Measures: Incidence of deep vein thrombosis (DVT) or pulmonary embolism (PE). Method of Diagnosis: Doppler ultrasonography.	1. 43% of individuals developed DVT. 2. 2 individuals (5%) developed a PE. 3. Incidence of DVT in individuals in the present study was higher when compared to studies using pharmacological forms of prophylaxis.
Maxwell et al., (2002) USA Case Series N=111	Population: Mean age=37.5 yr; Gender: males=81%, females=19%; Level of injury: not specified; Severity of injury: paraplegia=41.4%, tetraplegia=58.6%. Chronicity: Individuals were hospitalized and monitored for an average of 23 ± 20 days following injury. Intervention: Retrospective review of individuals using sequential compression devices alone or in combination with 5000 IU low dose unfractionated heparin (LDUH) subcutaneously every 12 hr or low molecular unfractionated heparin (LMWH) (Enoxaparin) 30 mg subcutaneously every 12 hr. Outcome Measures: Incidence of deep vein thrombosis (DVT) or pulmonary embolism (PE). Method of Diagnosis: Venous duplex ultrasonography.	Timing of DVT onset: Screening for DVT was performed on average 2.3 times during each admission. No other information was provided. Incidence of DVT: 1. The overall incidence rate for DVT and PE in SCI individuals was 9.0% and 1.8%, respectively, which was not significantly different. 2. The incidence of DVT and PE in individuals using compression only was 7.1% and 2.4%, respectively.
Winemiller et al., (1999) USA Case Series N=285	Population: Mean age=26 yr (VTE), mean age=25 yr (no VTE); Gender: males=88% (VTE), males=72% (no VTE); Level of injury: cervical-lumbar/sacral; Severity of injury: Frankel scores: A-B.	Timing of DVT onset: DVT/PE first detected at a median of 14.5 days after injury. 63% of initial DVT/PE events occurred within the first 3 weeks. Incidence of DVT: 1. Overall Incidence of DVT/PE was 19.6%. 2. Multivariate analysis showed that SCD and GES were associated with a reduced risk of venous thromboembolism. 3. The risk reduction for heparin compared to SCD/GES was not significant (p=0.06 (95% CI,

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	Chronicity: All individuals were studied for the initial 6 week duration following injury. Intervention: Retrospective review of individuals who were administered antithrombotic prophylaxis (sequential compression devices (SCD)/gradient elastic stockings (GES)) or unfractionated heparin (UFH) for 42 days-6 weeks after injury. Outcome Measures: Incidence of deep vein thrombosis (DVT) or pulmonary embolism (PE). Method of Diagnosis: Fibrinogen scans, impedance plethysmography, Doppler studies, venograms, and ventilation-perfusion scanning.	0.05-1.08) for the first 14 days, $p=0.13$ for anytime); SCD/GES and heparin seemed to each be effective. 4. SCD/GES should be continued after 2 weeks post injury.
CHRONIC		
Nash et al., (2000) USA RCT PEDro=8 N=20	Population: Mean age=27.9yr; Gender: males=20; Level of injury: tetraplegic=20; Chronicity: 2mo-17yr post SCI. Intervention: Individuals were randomized into one of two groups: 1) Slow sequential pneumatic compression devices (SCD)-15sec compression, 45sec relaxation at 35 mmHg (ankle), 30 mmHg (calf) or 20 mmHg (thigh); or 2) intermittent pulsatile compression (IPC-2sec compression, 18sec relaxation at 160mmHg.	1. Popliteal vein: no differences between devices. 2. Femoral vein: increase in VFM and MVV during IPC versus SCD ($p<0.05$). 3. Rest versus compression: VFM, AVV and MVV, all increased during compression ($p<0.001$).

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	Outcome Measures: Venous flow/min (VFM); average venous velocity (AVV); maximum venous velocity (MVV); for bilateral popliteal and femoral veins at rest (baseline) and during compression.	