Author Year; Country Score Research Design Total Sample Size	**Methods**	**Outcome**
Dudley-Javoroski et al. 2016 Pre-post 2016 USA N=7	**Population:** 7 participants (5 men, 2 women); age: 38.1 ± 19.6 years; TPI: 5.9 (range: 0.1-29.2); 6 thoracic, 1 cervical; AIS-A/B: 5/2; TPI at first pQCT: 5.6 ± 6.5 years; TPI at first CT: 7.4 ± 4.9 years. **Treatment:** n=6; 12 months of vibration; mean of > 2.14 sessions/week, for 112-152 sessions One leg of each participant underwent vibration (+ cycles of 10-35% body weight), the other acted as control n=1 did not participate in vibration (participant 1); followed-up at 2.7 years post-SCI (first pQCT & CT @ 0.14 & 0.36 years post-SCI) **Outcome Measures:** BMD and bone micro-architecture variables including network length, plate volume fraction, and others. Variables measured via peripheral quantitative CT (pQCT) and high-resolution CT (CT). CT analyzed at multiple regions and peel* modes	1. pQCT found no significant training (yes/no) x time (pre/post) interaction for BMD of either tibia or femur 2. CT found significant training x time and training x region interactions only for certain variables at certain peels and regions of tibia and femur 3. pQCT found a significant decline in distal femur & tibia BMD post-training but found no overall decline femur or tibia BMD 4. CT found significant post-training decreases in BMD and network length with 30% peel at distal tibia & femur 5. CT found a mean post-training decrease of 24.3% in BMD and 14.4% in NL across all regions of tibia, and 29.5% and 35.5% for femur. 6. pQCT found a mean follow-up** BMD decrease of 55.9% for distal tibia, and 73.4% for distal femur. 7. CT found a mean follow-up** decrease of 48.1% in BMD, and 41.9% in NL distal tibia, and 53.6% in

Author Year; Country Score Research Design Total Sample Size	Methods	Outcome
	*Removal of voxels corresponding to 30, 45, and 60 % from the trabecular envelope; peripheral peel = removal of 60% peel from 30% peel.	BMD, 38.1% in NL & 2,9% in PVF for distal femur. 8. Loss** of BMD and architecture greatest at ultra-distal tibia and central epiphysis of femur **Follow-up of participant 1 at 2.7 years post-SCI
Wuermser et al. 2015 USA 2015 Pre-post N=9	**Population:** 9 participants (5 men, 4 women) with chronic traumatic motor complete paraplegia; age: 42 ± 8 years; TPI: 2-27 years; AIS- A or B; BMI: 22.3 ± 4.1 kg/m^2. **Treatment:** Whole-body low-magnitude vibration (Juvent Medical, Somerset, NJ, USA; model Juvent 1000) using a standing frame for 20 minutes per day, 5 days a week, and for 6 months. The vibrating plate provides a 0.3 g, 34 Hz vertical sinusoidal movement of ~50 μm. **Outcome measure:** Areal bone mineral density (aBMD; DXA, Lunar Prodigy system, GE Healthcare, Madison, WI, USA) at the proximal femur; distal tibia total trabecular and cortical volumetric BMD (vBMD; HRpQCT (XtremeCT, Scanco Medical AG Brüttisellen, Switzerland), and	1. Average use of the whole-body vibration platform: 20-60 min per day, 5x per week. 2. aBMD: no significant change at the proximal femur sites (baseline: 0.75 ± 0.20 g/cm^2; post-intervention: 0.74± 0.18 g/cm^2). However, three subjects had an increase in total hip aBMD that was greater than the minimal detectable difference. 3. vBMD and microstructure: no significant differences in either the trabecular (Tibia: trabecular thickness baseline: 0.04 ± 0.03 mm; post-intervention: 0.04 ± 0.03 mm) or cortical compartments (Tibia cortical thickness pre: 0.80 ± 0.28 mm; post-intervention: 0.78 ± 0.31 mm). No change greater than the minimal

Author Year; Country Score Research Design Total Sample Size	Methods	Outcome
	bone microstructure; bone turnover biomarkers: C-terminal telopeptide of type I collagen (CTX; Roche Cobas e411 (Roche Diagnostics, Indianapolis, IN, USA), amino-terminal pro-peptide of type I collagen (, P1NP; double-antibody radioimmunoassay, Orion Diagnostica, Espoo, Finland) and serum, sclerostin (enzyme-linked immunosorbent assay, Biomedica, Wien, Germany; distributed in USA by ALPCO, Salem, NH, USA);) and body composition measurements: total body lean mass (kg) and total body fat mass (kg) and BMI (kg/m^2). Assessed at baseline, 3 and 6 months during the intervention and 6 months after the intervention.	detectable difference was identified. 4. No significant improvement in aBMD at the proximal femur or vBMD after 6 months of intervention, or any relevant changes 6 months following the discontinuation of the low-magnitude vibration. 5. No significant change or relevant trend in bone turnover biomarkers or total or lower extremity, lean mass or fat mass over follow-up.
Melchiorri et al. 2007 Italy Pre-Post N=10	**Population:** 10 men; age: 34 ± 4 years; traumatic SCI; Level of injury: between 8th and 10th dorsal vertebra; TPI: 8 ± 3 years. **Treatment:** Vibration using handlebars and four series of maximal speed arm curls with the load being increased with each series to 5,8,10, and 15% of individual's body weight (handlebar and extra	1. Total DXA measurements corresponding to BMC and BMD showed no statistically significant differences between three-time points. Segmental analysis showed a non-significant increase in BMD for both arms.

Author Year; Country Score Research Design Total Sample Size	Methods	Outcome
	load together) at frequency of 30 Hz. Subjects exposed to vibrations for 12 weeks, 5x/week, 5min/session. **Outcome measures:** BMC and BMD by DXA (total body)	

* All data expressed as mean±SD, unless expressed otherwise.