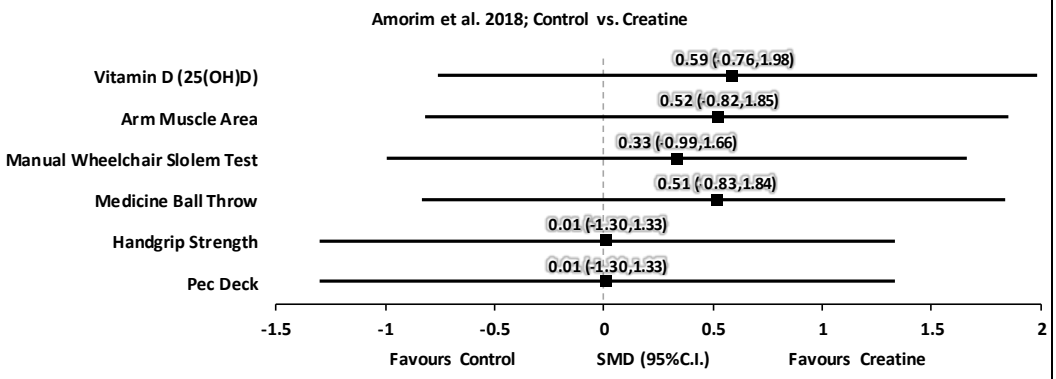
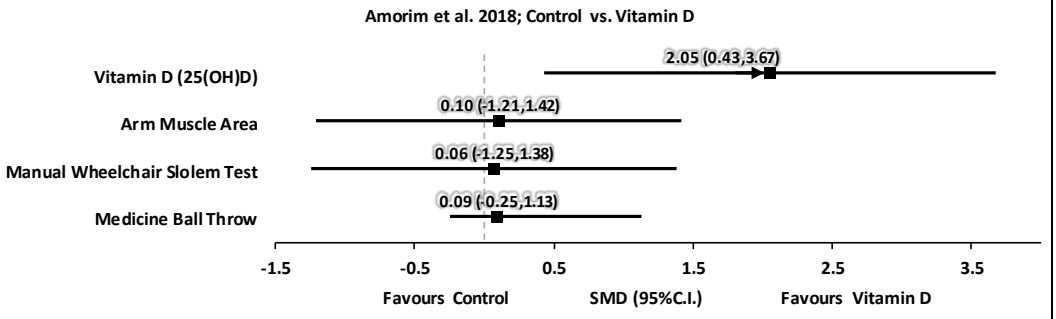
Author Year Country PEDro Score Research Design Sample Size	Methods	Outcomes
Amorim et al. 2018 Portugal RCT PEDro=9 N=14	**Population:** Mean Age=47.0±10.6 yr; Gender: males=13, females=1; Time since injury=26.1±34.2 mo; Level of injury: C=3, T=6, L=5; Severity of injury: AIS A=4, B=0, C=5, D=5. **Intervention:** Participants were randomized to creatine (3g daily), vitamin D (25000 IU per two weeks) or placebo group and completed a double-blinded eight-week progressive resistance training program. **Outcome Measures:** Amount of 25-hydroxyvitamin D (25(OH)D), Sum four skinfolds, Arm muscle area, Manual wheelchair slalom test (MWST), Medicine ball throw, Handgrip strength, Chest press, Triceps, Pec deck, Lat pulldown.	1. Over the 8-wk study, the amount of 25(OH)D improved significantly ($p<0.05$). 2. The amount of 25(OH)D improved significantly ($p<0.05$) when compared to the control group. 3. No significant improvements in any variable for the control group. 4. All variables improved significantly ($p<0.05$) over time in the creatine group except for the MWST. 5. In the vitamin D group, the correct arm muscle area, medicine ball throw, and chest press improved significantly ($p<0.05$) over time. 1. Corrected arm muscle area improved significantly ($p<0.05$) in the creatine group compared to the control group.

Effect Sizes: Forest plot of standardized mean differences (SMD ± 95%C.I.) as calculated from pre- and post-intervention data.





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	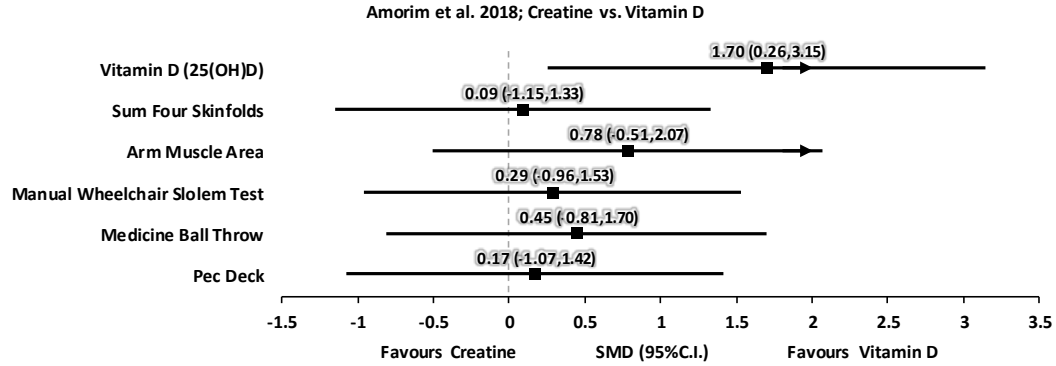	
Beal et al. 2018 USA Case-Control N=20	**Population:** Mean age=47.0±11.8 yr; Gender: males=20, females=0; Time since injury=18.9±12.4 yr; Level of injury: T3-L11; Severity of injury: AIS A=17, B=3. **Intervention:** Participants were sorted into a high vitamin D consumption group and a low vitamin D consumption group based on their vitamin D consumption prior to the beginning of the study and different body measurements were recorded based on their vitamin D consumption. **Outcome Measures:** Vitamin D intake, Calcium intake, Total caloric intake, Percentage macronutrients, Total percent fat, Region percent fat, Fat mass, Lean mass, Sitting waist circumference, Sitting abdominal circumference, and metabolic profile (Fasting glucose, Low density lipoprotein (LDL), High density lipoprotein (HDL), Total cholesterol, Triglycerides (TG), Insulin sensitivity (Si), Glucose effectiveness (Sg)).	2. Total Vitamin D intake significantly different (p=0.0001) between groups. 3. Calcium intake significantly different (p=0.0157) between groups. 4. Total caloric intake significantly different between groups (p=0.02). 5. Vitamin D intake positively related to total caloric intake (p=0.0001) and total caloric intake adjusted to body weight (p=0.0001). 6. Vitamin D intake adjusted to total dietary intake positively related to Si adjusted to body weight (p=0.004) and Si adjusted to lean mass (p=0.012). 7. Vitamin D intake adjusted to total dietary intake positively related to Sg (p=0.016) and Sg adjusted to body weight (p=0.018). 8. Percentage macronutrients not significantly different between groups (p>0.05). 9. No significant difference in total percent fat, region percent fat, fat mass, lean mass, sitting waist circumference, sitting abdominal circumference between groups (p>0.05). 10. Insulin sensitivity not significantly different between the groups (p=0.13). 11. Glucose effectiveness not significantly different between two groups (p=0.1257). 12. Glucose effectiveness still not significantly different when controlled for body weight (p=0.1337) or lean mass (p=0.2044). 13. Total cholesterol significantly different between the groups (p=0.0354). 14. No significant difference in LDL (p=0.0654) or HDL (p=0.3993) between the two groups. 15. Total cholesterol to HDL ratio not significantly different between groups (p=0.2645). 16. TG not significantly different between groups (p=0.3934).

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Bauman et al. 2005 USA Pre-post $N_{Study\ 1}$=10; $N_{Study\ 2}$=40	**Population:** *Study 1:* Mean age=53 yr; *Study 2:* Mean age=43 yr. **Intervention:** *Study 1:* All patients were given 50 µg (2000 IU) vitamin D_3 2x/wk and 1500 mg elemental calcium daily for 2 wk. *Study 2:* 10 µg (400 IU) vitamin D_3, a multivitamin with an additional 10 µg (400 IU) vitamin D_3, and 500 mg elemental calcium daily for 12 mo. **Outcome Measures:** Changes in serum 25(OH)D, calcium and parathyroid hormone (PTH), and urinary calcium.	*Study 1:* 1. After 2 weeks, serum 25(OH)D increased ($p<0.005$) but 8 of 10 subjects still had values below the normal range (<16 ng/mL). 2. Serum PTH decreased from 35 to 18 pg/mL ($p<0.05$), serum calcium was not significantly different, and urinary calcium increased from 103 to 239 mg/d (p=0.010). *Study 2:* 1. At baseline, 33 subjects were vitamin D deficient (<16 ng/mL) compared to 9 after 12 months. 2. After 6 and 12 months, serum 25(OH)D increased ($p<0.0001$). Serum PTH decreased ($p<0.005$), but serum calcium did not change.
Hummel et al. 2012 Canada Case Series N=62	**Population:** Mean age=49±12 yr; Gender: males=51 male, females=14; Time since injury: >2 yr; Cause of injury= traumatic=62, non-traumatic=0. **Intervention:** Blood draw for serum sample. **Outcome Measures**: Serum 25(OH)D and PTH.	1. 39% of the cohort had suboptimal serum 25(OH)D levels. 2. Factors associated with suboptimal vitamin D levels included having vitamin D assessed in the winter months (odds ratio (OR)=7.38, p=0.001), lack of calcium supplement (OR=7.19, p=0.003), lack of vitamin D supplement (OR=7.41, p=0.019), younger age (OR= 0.932, p=0.010), paraplegia (OR=4.22, p=0.016), and lack of bisphosphonate (OR=3.85, p=0.015). 3. Significant associations were observed between serum PTH and 25(OH)D (r=-0.304, p=0.032) and between PTH and C-telopeptide of type I collagen (CTX-I) (r=0.308, p=0.025).