

| <b>Author Year;<br/>Country<br/>Score<br/>Research<br/>Design<br/>Total Sample<br/>Size</b> | <b>Methods</b>   | <b>Outcome</b>   |
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| <a href="#">Tan et. al, 2014</a><br>USA<br>Cross-sectional<br>N = 27                        | <p><b>Population:</b> 27 men with SCI; AIS A-C; C4 or lower; age: 40.7 years; TPI: 13 years; 19 paraplegics, 8 tetraplegics, 22 motor complete and 5 motor incomplete SCI individuals.</p> <p><b>Outcome Measures:</b> 25 OH vitamin D (25(OH)D) was quantified by enzyme immunoassay (Immunodiagnostic Systems Inc., Fountain Hills, AZ).</p>                     | <p>Range of values [mean±SD]:<br/>SCI: 30.9 ± 9.8 ng/ml<br/>Normal value: &gt; 30 ng/ml<br/>Deficiency (&lt; 30 ng/ml): 55.6%<br/>MCID/LSC: CV was &lt; 10%<br/>Important association: -</p>   |
| <a href="#">Invernizzi et. al 2015</a><br>Italy<br>Case-Control Study<br>N = 43             | <p><b>Population:</b> 28 participants (23 men, 5 women) with chronic SCI; AIS A-C; C5 – T12; age: 40.5 ± 7.1 years; TPI: 90.8 ± 53.1 months; 24 paraplegic, 4 tetraplegic, 22 motor complete and 6 motor incomplete SCI individuals. 15 healthy controls (5 men, 10 women; age: 28.4 ± 4.1 years).</p> <p><b>Outcome Measures:</b> 25(OH) Vitamin D (25(OH)D).</p> | <p>Range of values [mean±SD]:<br/>SCI: 12.3 ± 6.6 ng/ml<br/>Controls: 20.5 ± 7.1 ng/ml</p> <p>Normal value: &gt; 30 ng/ml<br/>Deficiency (&lt; 30 ng/ml):<br/>SCI: 100%<br/>Controls: 80%<br/>Deficiency (&lt; 10 ng/ml):<br/>SCI: 50%<br/>Controls: 0%<br/>MCID/LSC: -<br/>Important association: 25(OH)D serum levels were also significantly higher in healthy controls compared with individuals with SCI.</p> |
| <a href="#">Doubelt et. al 2015</a><br>Canada   | <p><b>Population:</b> 34 participants (32 men, 2 women) with chronic SCI; age: 40.0 ± 10.9 years; TPI:</p>   | <p>Range of Values (min – max)<br/>SCI: 18 – 120 nmol/L*</p>   |

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| <p>Cross-sectional observational study<br/>N = 42</p>                                      | <p>12.7 ± 9.0 years; AIS A-D; C1 – T12; 27 traumatic, 7 nontraumatic; 12 paraplegic, 22 tetraplegic; 17 motor complete and 17 motor incomplete. Control group: 8 matched non-disabled individuals.</p> <p><b>Outcome Measures:</b> plasma 25-hydroxyvitamin D using ultra-high-performance liquid chromatography-tandem mass spectrometry</p>                        | <p>Controls: 50 – 115 nmol/L*</p> <p>Range of Values [mean±SD]:<br/>SCI: 69.3 ± 23.3 nmol/L*<br/>Controls: 76.5 ± 19.8 nmol/L*</p> <p>Normal value: &gt; 75 nmol/L*<br/>Deficiency SCI: (&lt;75 nmol/L*): 60% (&lt;30 nmol/L*): 10%</p> <p>MCID/LSC: CV was &lt;10%<br/>Important associations:</p> <p>*10 nmol/L = 3.145 ng/ml</p> |
| <p><a href="#">Javidan et. al. 2014</a><br/>Iran<br/>Cross-sectional study<br/>N = 148</p> | <p><b>Population:</b> 148 participants; 116 men [age: 51 years (range 14 – 73)], 32 women [age: 43 years (range: 36 – 54)] with traumatic SCI who had no previous history of endocrine disorders and were not on specific medications.</p> <p><b>Outcome Measures:</b> 25-hydroxyvitamin D [25(OH)D] was assessed by a competitive protein-binding assay</p>         | <p>Range of Values: -</p> <p>Normal value: 30 - 74 ng/ml<br/>Deficiency (&lt;30 ng/ml): 64.7%</p> <p>MCID/LSC: -<br/>Important associations: -</p>  |
| <p><a href="#">Gaspar et. al. 2014</a><br/>Brazil<br/>Cross-Sectional<br/>N = 46</p>       | <p><b>Population:</b> 29 sub-acute and chronic men with traumatic SCI; AIS A - B; T2 – T12; age: 32.7 ± 6.9 years; TPI: 5.3 years (range: 0.5 – 24). Control group: 17 non-disabled men (age: 31.9 ± 5.8 years).</p> <p><b>Outcome Measures:</b> 25-hydroxyvitamin D [25(OH)D] were measured using chemiluminescence immunoassay technology (Liaison, DiaSorin).</p> | <p>Range of values [mean±SD]:<br/>SCI: 22.2 ± 10.2 ng/ml<br/>Controls: 205.8 ± 7.3 ng/ml</p> <p>Normal value: &gt;30 ng/ml<br/>Deficiency (&lt;30 ng/ml)<br/>SCI: 44.4%<br/>Controls: 23.5%</p>   |

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|  |  | <p>MCID/LSC: intra-assay CV was 4.6%, inter-assay CV of 8.2%</p> <p>Important associations:<br/>There was a significant inverse relationship between the CTX values and the duration of injury. In the controls, the 25(OH)D level was positively correlated with the T and with the lumbar spine BMD, but these correlations were not observed in the individuals with SCI.</p> |
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\* All data expressed as mean±SD, unless expressed otherwise.