

Reviewer ID: Kyle Diab, John Zhu, Risa Fox			
Type of Outcome Measure: Waist Circumference (WC)			Total articles: 7
Author ID Year	Study Design	Setting	Population (sample size, age) and Group
Alschuler et al. 2012	Cross-sectional	Postal survey	n=488 with SCI (324M, 164F) Males: Mean age (SD) = 51.29 (13.8) Years since diagnosis mean (SD) = 15.91 (11.4) Females: Mean age (SD) = 47.49 (14.2) Years since diagnosis mean (SD) = 14.48 (11.0)
Cragg et al. 2015	Observational cross-sectional	Canadian public research institution	n=27 with SCI, 70% male Mean (SD) age = 40 (11) years Mean time since injury (SD) = 14 (10) years 59% cervical, 41% thoracic The breakdown according to AIS severity was: 52% AIS A, 22% AIS B, 19% AIS C and 7% AIS D.
Edwards et al. 2008	Cross-sectional	Community/Outpatient	n=31; 15 SCI (12M, 3F), 16 Able-Bodied (12 M, 4F) For SCI participants: traumatic, >= 1 year post-injury Mean (SD) age = 38.9 (7.9) years
Eriks-Hoogland et al. 2011	Comparative cross-sectional study	Convenience sample at outpatient clinic of spinal cord center	n=23, all male mean (SD) age = 43.3 (12) years Duration of injury mean (SD) = 14.6 (13.3) years AIS A = 22; AIS B = 1
Ravensbergen et al. 2014	Cross-sectional	Not specified	n=27 with SCI (19M, 8F) mean (SD) age = 40 (11) years Duration of injury mean (SD) = 166 (116) months AIS Grades: ASIA A = 14; ASIA B = 6; ASIA C = 5; ASIA D = 2
Willems et al. 2015	Cross-sectional	Elite wheelchair athletes from United Kingdom	n = 14; 7 walkers (non-SCI, wheelchair independent during non-sporting activities) and 7 non-walkers (motor complete SCI, daily wheelchair users). All male. Walkers: Mean (SD) age = 26 (8) years Time since injury mean (SD) = 19 (10) years Non-walkers: Mean (SD) age = 32 (7) years Time since injury mean (SD) = 12 (7) years
Zwierzchowska et al. 2014	Cross-sectional	Wheelchair rugby athletes in Poland	n=14, all male Mean age (SD) = 32.6 (5.1) years Time since injury mean (SD) = 12.5 (5.7) years
Sumrell et al. 2018	Cross-sectional	Not specified	N=22, 100% male N=14 paraplegic, N=8 tetraplegic

		Mean age: 36±10 years Legion level: C5-T11 Time since injury: 8±8 years
1. RELIABILITY		
Author ID	Internal Consistency	Test-retest, Inter-rater, Intra-rater
Edwards et al. 2008		Reproducibility (intra-rater, 2-3 repetitions): ICC (95%CI) = 0.999 (0.998-0.999)
2. VALIDITY		
Author ID	Validity	
Alschuler et al. 2012	Correlation between BMI and waist circumference: Male = 0.46 Female = 0.45 p<.0001 Presence of group differences (between variables and conditions) in BMI but not waist circumference. Suggests WC may more accurately account for changes in body composition in people with disabilities.	
Cragg et al. 2015	WC is strong predictor of CVD risk (Framingham risk score) Pearson's r=0.66, p<.05 WC is strong predictor of obesity: Pearson's r=0.82 with abdominal fat (kg) Pearson's r=0.73 with total fat (kg) Pearson's r=0.76 with abdominal fat (%) Pearson's r=0.70 with total fat (%) all p<.05	
Eriks-Hoogland et al. 2011	Criterion validity: Pearson correlation between WC and bioelectrical impedance analysis (gold standard to estimate obesity) = 0.83	
Ravensbergen et al. 2014	Pearson correlation between WC and body composition: Total body fat (g) = 0.68, p=0.0002 Total body fat (%) = 0.44, p=0.03 Abdominal fat (g) = 0.79, p<0.0001 Abdominal fat (%) = 0.59, p<0.002 Pearson correlation between WC and CVD risk factors: Insulin = 0.10, p=0.64 Fasting glucose = 0.46, p=0.03 Triglyceride = 0.46, p=0.03 Total cholesterol (TC) = 0.57, p<0.01 HDL-C = -0.11, p=0.61 LDL-C = 0.43, p=0.04 TC/HDL-C ratio = 0.56, p<0.01 120-min glucose = 0.32, p=0.10 Insulin resistance = 0.20, p=0.35 Pearson correlation with Framingham risk score = 0.55, p=0.006 AUC (ROC analysis) for WC = 0.92	
Willems et al. 2015	Correlation between WC and Dual-energy X-ray Absorptiometry (DXA): Walkers: r=0.79, p<.05	

	<p>Non-Walkers: $r=0.62$, $p>.05$</p> <p>Anthropometric measurements were used to predict body fat percentage with existing regression equations established for able-bodied persons. Body fat percentage calculated from most existing regression equations was significantly lower than that from DXA, by 2 to 9% in walkers and 8 to 14% in non-walkers.</p>
Zwierzchowska et al. 2014	<p>Differences between the means of WC<94 and WC>94 (values reported below) are statistically significant ($p<.01$)</p> <p>Differences between BMI in groups with >13.5% and <13.5% visceral fat statistically significant ($p<.01$): Vfat <13.5% (n=8) = 86.63 +/- 4.6 Vfat >13.5% (n=6) = 99.67 +/- 5</p> <p>Pearson correlation between BMI and visceral fat: Vfat <13.5% (n=8) = 0.7 Vfat >13.5% (n=6) = 0.7 Total (n=14) = 0.9</p>
Edwards et al. 2008	<p>Pearson correlation between WC and Visceral adipose tissue: Lowest rib = 0.925 Iliac crest = 0.905 Midpoint = 0.925</p> <p>All $p<.0001$</p>
Sumrell et al. 2018	<p>Low density lipoprotein, non-high-density lipoprotein and total cholesterol were positively associated with seated/supine abdominal and waist circumferences after controlling for age; $r = 0.50-0.61$, $r = 0.46-0.58$, $r = 0.52-0.58$, $P<0.05$, respectively.</p> <p>Tumor necrosis factor alpha was associated with seated/supine abdominal and waist circumferences after accounting for age; $r = 0.49-0.51$ and $r = 0.48-0.56$, $P<0.05$ respectively.</p>
3. RESPONSIVENESS	
Author ID	Responsiveness
4. FLOOR/CEILING EFFECT	
Author ID	Floor/ceiling effect
5. INTERPRETABILITY	
Author ID	Interpretability
Alschuler et al. 2012	<p>Male: WC categories (%) Low risk = 253 (77.1) High risk = 75 (22.9)</p> <p>Female: WC categories (%) Low risk = 96 (58.5) High risk = 68 (41.5)</p> <p>*Risk defined with respect to developing medical conditions, according to NIH (1998) thresholds: 102cm in men & 88cm in women</p>
Cragg et al. 2015	Mean (SD) WC = 87.4 (11.7) cm; range = 68-111

Eriks-Hoogland et al. 2011	Mean (SD) WC = 92.4 (9.8) Range = 74.4–112.0
Ravensbergen et al. 2014	Mean (SD) WC = 87.4 (11.7) Optimal cutoff = 94cm (95% confidence interval [CI], 0.72–0.99; p<0.0001) Specificity = 100% Sensitivity = 79%
Willems et al. 2015	Mean (SD) WC: Walkers = 85.5 (8.6) Non-walkers = 77.9 (7.8) Standard error of the estimate (SEE): Walkers = 4.00 Non-Walkers = 7.61
Zwierzchowska et al. 2014	WC \leq 94: n=7 mean (SD) = 85.7 (4.1) WC > 94: n=7 mean (SD) = 98.7 (5.2)
Edwards et al. 2008	Mean (SD) WC (cm) in SCI group: Lowest rib = 92.3 (14.7); range = 66.8–123.3 Midpoint = 93.2 (15.5); range = 67.0–125.7 Iliac crest = 93.6 (14.5); range = 73.8–125.4
Sumrell et al. 2018	Seated Abdominal Circumference (cm) 100.3±13.5 Seated Waist Circumference (cm) 88.8±9.3 Supine Waist Circumference (cm) 85.9±11.8 Supine Hip Circumference (cm) 97.5±10.0