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Neck Disability Index**

Availability:	Please visit this website for more information about the instrument: Neck Disability Index .
Classification:	Supplemental: Chiari I Malformation (CM)
Short Description of Instrument:	The Neck Disability Index (NDI) evaluates a patient's level of disability due to neck pain in the areas of pain intensity, personal care, lifting, reading, headaches, concentration, work, driving, sleeping and recreation.
Comments / Special Instructions:	<p>Each subsection is scored from 0–5 and the total possible score is written as a percentage. 100% signifies the greatest level of neck disability.</p> <p>For pain and disability, the NDI was the most accurate discriminator of meaningful effectiveness (area under the curve: 0.90) and also most responsive to postoperative improvement (standardized response means difference: 1.87). For general health and quality of life, the SF-12 PCS, EQ-5D, and Zung Self-Rating Depression Scale were all accurate discriminators; however, SF-12 Physical Component Scale (SF-12 PCS) and EQ-5D were most accurate. SF-12 PCS was also most responsive (Parker et al. 2013).</p>
Scoring:	<p>Scoring: 0–100%</p> <p>For each section the total possible score is 5: if the first statement is marked the section score = 0, if the last statement is marked the score is = 5. If all ten sections are completed the score is calculated as follows:</p> <p>Example:16 (total scored)</p> $50 \text{ (total possible score)} \times 100 = 32\%$ <p>If one section is missed or not applicable the score is calculated: 16 (total scored)</p> $45 \text{ (total possible score)} \times 100 = 35.5\%$ <p>Minimum Detectable Change (90% confidence): 5 points or 10 points.</p>
Rationale / Justification:	<p>For pain and disability, NDI is the most valid and responsive measure of improvement after surgery for CMI. For health-related quality of life, SF-12 PCS and EQ-5D are the most valid and responsive measures. NDI with SF-12 or EQ-5D is the most valid in patients with CMI and should be considered in cost-effectiveness studies. (Godil et al., 2013).</p> <p>Many patients with Chiari I malformation complain of disability from neck pain and surgical procedures can increase or decrease neck disability. Recording the NDI before and after surgery for Chiari I malformation will provide a standard and replicable way to quantitate the response of neck disability to different surgical procedures for Chiari I malformation.</p>

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References:	<p>Key Reference:</p> <p>Vernon H, Mior S. The Neck Disability Index: A study of reliability and validity. <i>J Manipulative Physiol Ther.</i> 1991;14:409–415.</p> <p>Additional References:</p> <p>Godil SS, Parker SL, Zuckerman SL, Mendenhall SK, McGirt MJ. Accurately measuring outcomes after surgery for adult Chiari I malformation: determining the most valid and responsive instruments. <i>Neurosurg.</i> 2013;72(5):820–827; discussion 827.</p> <p>Parker SL, Godil SS, Zuckerman SL, Mendenhall SK, Tulipan NB, McGirt MJ. Effect of symptomatic pseudomeningocele on improvement in pain, disability, and quality of life following suboccipital decompression for adult Chiari malformation type I. <i>J Neurosurg.</i> 2013;119(5):1159–1165.</p> <p>Vernon H. The Neck Disability Index: state-of-the-art, 1991-2008. <i>J Manipulative Physiol Ther.</i> 2008 Sep;31(7):491–502.</p>
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