English cross-cultural translation and validation of the NM-Score: A system for motor function classification in patients with neuromuscular diseases


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Objective.– To develop an English version of the Neuromuscular-Score (NM-Score).

Methods.– Forty-two patients aged 5- to 19-years-old with a confirmed or suspected diagnosis of congenital muscular dystrophy were enrolled. An English version of the NM-Score in each of the three domains (D1: standing and transfers; D2: axial and proximal motor function; D3: distal motor function) was developed by a 9-expert panel. Its concurrent validity was tested against criterion standards (Brooke, Motor Function Measure, Activlim, Jebsen Test, and myometry). Informant agreement between patient-reported and clinician-reported NM-Score was measured by weighted Kappa.

Results.– Significant correlation coefficients were found between NM-Score and criterion standards, the best correlations occurring with MFM D1 (r = −0.944, P < 0.0001), Activlim (r = −0.895, P < 0.0001) and hip abduction (r = −0.811, P < 0.0001). Informant agreement between clinician- and patient-reported NM-scores was excellent for D1 (k = 0.801, 95% CI 0.701–0.914) but moderate for D2 (k = 0.592, 95% CI 0.412–0.773) and D3 (k = 0.485, 95% CI 0.290–0.680). The correlation coefficients between NM-Score and criterion standards were not significantly different between clinician-reported NM-Score and patient-reported NM-score.

Discussion.– The English version is a reliable and valid instrument that can be used in clinical practice and research to describe the functional abilities of patients with NM diseases.

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Acquired adult flat foot due to isolated spring (plantar calcaneonavicular) ligament rupture. Case report and state of the art of ultrasonography

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Keyword: Spring ligament flatfoot deformity sonography

Background.– The spring ligament complex (SL) is essential for the stability of the longitudinal arch of the foot. We report ultrasonographic findings in a patient with traumatic rupture of the SL following evasion trauma.

Methods.– During football game, a 49-year-old man was tackled on his right foot and initially diagnosed with a medial ankle sprain. A flatfoot deformity, tenderness on the medial aspect of the ankle, ability for single leg tiptoe standing with partial restoration of the medial arch height were suggestive for an intact posterior tibialis tendon (PTT). Valgus translation of the heel and forefoot abduction indicated SL insufficiency. Ultrasonography revealed abnormal SL while collateral medial ligament and PTT were intact. MRI confirmed an isolated SL rupture.

Results.– Conservative treatment with orthoses failed to relieve symptoms and patient underwent surgery for SL repair and PTT augmentation. Medial longitudinal arch height was restored and remained stable.

Discussion.– Isolated SL rupture is rare, more often concomitant with PTT chronic dysfunction. Surgery may be necessary if conservative treatment fails. Status of the SL can be a significant consideration in preoperative planning. Despite anatomical complexity, ultrasound can depict an abnormal spring ligament pattern: hypoechic, thickened with internal vascularity. In some difficult cases, MRI can be necessary.

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