

SUPPLEMENTARY DIGITAL MATERIAL 6

Supplementary Table X.—Measurement properties of the included studies in other NMDs: validity.

| Articles                                    | Subtype of Walking test | NMD                        | Type of variables studied  | Type of validity | Compared to                     | Validity  |                                       | COSMIN    | Criterion quality and/or criteria rating | Hypotheses testing for construct validity |
|---|-------------------------|----------------------------|--|------------------|---------------------------------|---|---------------------------------------|-----------|--|---|
|   |                         |                            |  |                  |                                 | Results (95% CI)  |                                       |           |  |   |
| <b>Gidaro et al., 2022</b> <sup>71</sup>    | FSH and LGMD2           | NA                         | (i) Median Velocity (ii) distance walked per hour (iii) 95th centile length (iv) 95th centile velocity | Construct        | Lower limb MMT                  | (i) $\rho=0.842$ ; $P<0.05$<br>$\rho=0.333$ ; $P>0.05$<br>$\rho=0.915$ ; $P<0.05$<br>$\rho=0.866$ ; $P<0.05$  | (ii) Very good<br>(iii)<br>(iv)       | NA        | NA                                       | +   |
| <b>Iosa et al., 2007</b> <sup>67</sup>      | FSHD                    | NA (Motion analysis in CS) | velocity   | Construct        | FCS                             | $\rho = -0.51$ , $P=0.09$   |                                       | Very good | NA                                       | +   |
| <b>Aprile et al., 2013</b> <sup>24</sup>    |                         | NA (Motion analysis in CS) | (1)Velocity Step (2) length (3)Stride width  | Construct        | (i)CSS time (ii)10MWT (iii)2MWD | (1) (i) $\rho = 0.7$ , $P<0.002$<br>$\rho = 0.8$ , $P<0.0003$<br>$P<0.01$ (2)(i) $\rho=0.7$ $P<0.003$<br>(ii) $\rho=0.9$ $P<0.00001$<br>(iii) $\rho=0.6$ $P<0.002$ (3) (i) $\rho = 0.6$ , $P< 0.002$ (ii) $\rho = 0.7$ , $P<0.005$ (iii) $\rho = 0.7$ , $P<0.005$ | (ii) $\rho = 0.7$<br>(iii) $\rho=0.7$ | Very good | NA                                       | +   |
| <b>Eichinger et al., 2017</b> <sup>68</sup> |                         | 6MWT                       | 6MWD   | Construct        | (i) FCS (ii) MMT LEXT           | (i) $\rho=-0.57$ ; $p <0.0001$ (ii) $\rho=0.79$ ; $P <0.0001$   | (ii) $\rho=$                          | Very good | NA                                       | +   |
| <b>Huisinga et al., 2018</b> <sup>69</sup>  |                         | iTUG                       | (1) velocity double support (2) TUG duration, cadence, DS  | Construct        | (i) FCS (ii) MMT LEXT           | (1) (i) $\rho=-0.65$ ( $p=0.005$ ) (ii) $\rho=0.52$ ( $p=0.03$ )  | (ii) adequate                         | adequate  | NA                                       | +   |
| <b>Statland et al., 2019</b> <sup>70</sup>  |                         |                            |  | NA               | NA                              | NA  |                                       | NA        | NA                                       | NA  |
| <b>Martino et al., 2019</b> <sup>72</sup>   | HSP                     | 15x7 m walkway (CS)        | Velocity   | Construct        | SPRS                            | $\rho = 0.38$ ( $P=0.09$ )  |                                       | Very good | NA                                       | ?   |
| <b>Claeys et al., 2022</b> <sup>74</sup>    | LOPD                    | 6MWT, 10MWT and TUG        | 6MWD, 10MWT and TUG times  | NA               | NA                              | NA  |                                       | NA        | NA                                       | NA  |

|  |                      |                            |   |     |                       |   |   |           |    |    |
|--|----------------------|----------------------------|---|-----|-----------------------|---|---|-----------|----|----|
| <b>Vanherpe et al., 2020</b> <sup>73</sup>         |                      | 6MWT                       | 6MWD  |     | NA                    | NA  | NA  | NA        | NA | NA |
| <b>Jacques et al. 2018</b> <sup>75</sup>           | Muscular Dystrophies | 10MWT (CS)                 | Velocity  |     | Construct             | knee extension isometric voluntary contraction              | $\rho = 0.484, P=0.030$   | Very good | NA | ?  |
| <b>Prahm et al., 2014</b> <sup>76</sup>            | NMD                  | 6MWT                       | 6MWD  |     | Construct             | HR  | $\rho = 0.731 [0.573-0.886], P<0.001$   | Very good | NA | +  |
| <b>Andersen et al., 2016</b> <sup>45</sup>         |                      | 2MWT and 6MWT              | 2MWT velocity                                       |     | Criterion             | 6MWT velocity   | $\rho = 0.99, p=0.001$  | Very good | +  | +  |
| <b>Knak et al., 2017</b> <sup>77</sup>             |                      | (i)2MWT and (ii)6MWT       | 2MWD and 6MWD                                       | and | NA                    | NA  | NA  | NA        | NA | NA |
| <b>Takeuchi et al., 2008</b> <sup>79</sup>         | SBMA                 | 6MWT                       | 6MWD  |     | Construct             | (i)Limb Score and (ii)Norris Bulbar score and (iii)ALSFRS-R | (i) $\rho=0.632; P <0.001$ (ii) $\rho=0.510; P <0.002$ (iii) $\rho=0.557; P <0.001$   | Very good | NA | +  |
| <b>Montes et al., 2010</b> <sup>88</sup>           | SMA                  | NA (Motion analysis in CS) | (1) Velocity double support in support base (2) (3) |     | Construct             | 6MWD  | 1) first $\rho = 0.966 P<0.01$ ; last $\rho = 0.982 P<0.01$ 2) first $\rho = -0.357 p=0.145$ ; last $\rho = -0.293 p=0.238$ 3) first $\rho = -0.602 p=0.008$ ; last $\rho = -0.631 p=0.005$   | Very good | NA | +  |
| <b>Elsheikh et al., 2020</b> <sup>85</sup>         |                      | 6MWT                       | 6MWD  |     | (i) Content construct | (i) Lower limbs maximal voluntary isometric contraction     | (i)97% of participants realized the 6MWT (i) $\rho=0.83 (P<0.0001)$   | Very good | NA | +  |
| <b>Stolte et al., 2020</b> <sup>80</sup>           |                      |                            | 6MWD  |     | NA                    | NA  | NA  | NA        | NA | NA |
| <b>Rodriguez-Torres et al., 2020</b> <sup>84</sup> |                      |                            | 6MWD  |     | Construct             | 6MWD  | Model with hip extensors and abductors, knee flexors, ankle dorsiflexors and plantar flexors strength scores explained 67% of the variability observed in 6MWT (beta = 0.670, P=0.003), correlation between strength of hip abductors and knee flexors strength and 6MWD ( $\rho = 0.62, P=0.001$ ) | Very good | NA | +  |

|   |                                |       |   |  |   |                         |           |    |   |
|---|--------------------------------|-------|---|--|---|-------------------------|-----------|----|---|
| <b>Montes et al., 2014</b> <sup>87</sup>  |                                | 6MWD  | Construct   | Total leg strength measured by MMT   | $\rho=0.733$ ; $p=0.016$  | Very good               | NA        | +  |   |
| <b>Dunaway et al., 2016</b> <sup>83</sup> |                                | 6MWD  | (1)Convergent Discriminative validity of 6MWT between types 3a and 3b (3)Criterion              | (2) (1) MMT lower limbs Discriminative validity of 6MWT between types 3a and 3b (3) VO2 peak | (1) $\rho=0.676$ $p=0.002$ (2) 6MWT between types 3a and 3b disease severity was established (F=5.707; P=0.024) (3) $\rho=0.558$ ; P=0.038                      | Very good               | -         | +  |   |
| <b>Montes et al., 2017</b> <sup>89</sup>  |                                | 10MWT | (i) velocity stride length initial double support assessed by instrumented footwear (SoleSound) | (ii) (ii) validity (iii) double support assessed with GaitRite                               | (i) (i) RMSE (SD) = 1.74 (0.83) and $\rho=1.00$ (ii) RMSE (SD) = 1,83 (0,80) and $\rho=0,99$ (iii) RMSE (SD) = 0.015 (0.004) and $\rho=0.94$                    | Very good               | +         | NA |   |
| <b>Dunaway et al., 2014</b> <sup>86</sup> |                                | TUG   | TUG time  | Convergent   | (i) 10MWT 6MWT (ii) (i) $\rho=0.691$ ; $p=0.009$ (ii) $\rho=-0.514$ ; $p=0.050$ (iii) $\rho=-0.717$ ; $p=0.003$ (iv) HFMSE lower limbs $\rho=0.783$ ; $p=0.001$ | Very good               | NA        | +  |   |
| <b>Bartels et al., 2019</b> <sup>82</sup> |                                | ESWT  | ESWT time   | NA   | NA  | NA                      | NA        | ?  |   |
| <b>Bartels et al., 2020</b> <sup>81</sup> |                                |       | ESWT time   | Convergent validity  | MRC knee flexion after ESWT(P=0.011)  | MRC knee flexion= - 8.9 | Very good | NA | ? |
| <b>Montano et al., 2022</b> <sup>78</sup> | Primary mitochondrial myopathy | 6MWT  | 6MWD  | NA   | NA  | NA                      | NA        | NA |   |

ALSFRS-R: Revised Amyotrophic Lateral Sclerosis Functional Rating Scale; Borg RPE-score: Borg rating perceived exertion score; CL: Confidence Limit; CMT: Charcot Marie Tooth; CMTNS: Charcot-Marie-Tooth Neuropathy Score; CS: Comfortable speed; CT: cycle time; DM1: Dystrophy Myotonic Type 1; DM2: Dystrophy Myotonic Type 2; EWT: Endurance Walking Test; FCS: FSHD Clinical Severity Score; HR: Heart rate; HSP: Hereditary Spastic Paraplegia; ICC: Intercorrelation coefficient; LGMD2: Limb Girdle Muscular Dystrophy type 2; MMT LEXT: average lower extremity manual muscle testing score; NA: Non Applicable; NMD: Neuromuscular diseases; RSME: Root-mean-square error; SBMA: Spinal Bulbar and Muscular Amyotrophy; SD: Standard Deviation; SEM: Standard Error Measurement; SL: Stride Length; SRPS: Spastic Paraplegia Rating Scale; SWT: swing time; 6MWD: 6-minute walking distance; 6MWT: 6-minute walk test; 10MWT: 10-minute walk test.

Supplementary Table XI.—Measurement properties of the included studies in other NMDs: reliability.

| Articles                                   | Subtype of NMD       | Walking test               | Type of variables studied  | Design                   | Reliability   |           |                         |
|--|----------------------|----------------------------|--|--------------------------|---|-----------|-------------------------|
|  |                      |                            |  |                          | Results (95% CI)  | COSMIN    | Quality criteria rating |
| <b>Gidaro et al., 2022<sup>71</sup></b>    | FSH and LGMD2        | NA                         | (i) Median Velocity (ii) distance walked per hour (iii) 95th centile length (iv) 95th centile velocity | Inter-session (1 month)  | ICC > 0.9 for all variables                             | adequate  | +                       |
| <b>Iosa et al., 2007<sup>67</sup></b>      | FSHD                 | NA (Motion analysis in CS) | velocity   | NA                       | NA  | NA        | NA                      |
| <b>Aprile et al., 2013<sup>24</sup></b>    |                      | NA (Motion analysis in CS) | (1)Velocity (2) Step length (3)Stride width  | NA                       | NA  | NA        | NA                      |
| <b>Eichinger et al., 2017<sup>68</sup></b> |                      | 6MWT                       | 6MWD   | Test-retest              | ICC= 0.99 (lower confidence limit 0.98)                 | adequate  | +                       |
| <b>Huisinga et al., 2018<sup>69</sup></b>  |                      | iTUG                       | (1) velocity (2) double support  | Test-retest              | (1) ICC=0.99 (2) ICC=0.99                               | very good | +                       |
| <b>Statland et al., 2019<sup>70</sup></b>  |                      | iTUG                       | TUG duration, cadence, DS  | NA                       | NA  | NA        | NA                      |
| <b>Martino et al., 2019<sup>72</sup></b>   | HSP                  | 15x7 m walkway (CS)        | Velocity   | NA                       | NA  | NA        | NA                      |
| <b>Claeys et al., 2022<sup>74</sup></b>    | LOPD                 | 6MWT, 10MWT and TUG        | 6MWD, 10MWT and TUG times  | NA                       | NA  | NA        | NA                      |
| <b>Vanherpe et al., 2020<sup>73</sup></b>  |                      | 6MWT                       | 6MWD   | NA                       | NA  | NA        | NA                      |
| <b>Jacques et al., 2018<sup>75</sup></b>   | Muscular Dystrophies | 10MWT (CS)                 | Velocity   | NA                       | NA  | NA        | NA                      |
| <b>Prahm et al., 2014<sup>76</sup></b>     | NMD                  | 6MWT                       | 6MWD   | NA                       | NA  | NA        | NA                      |
| <b>Andersen et al., 2016<sup>45</sup></b>  |                      | 2MWT and 6MWT              | 2MWT velocity  | NA                       | NA  | NA        | NA                      |
| <b>Knak et al., 2017<sup>77</sup></b>      |                      | (i)2MWT and (ii)6MWT       | 2MWD and 6MWD  | Test-retest (1- 2 weeks) | ICC=0.99, P<0.001, 95% CI [0.98–1.00] for 2MWT and 6MWT | very good | +                       |
| <b>Takeuchi et al., 2008<sup>79</sup></b>  | SBMA                 | 6MWT                       | 6MWD   | Test-retest (1 month)    | ICC= 0.982 (P<0.001)                                    | adequate  | +                       |

|  |                                |                            |  |                             |                                 |                 |    |
|--|--------------------------------|----------------------------|--|-----------------------------|---------------------------------|-----------------|----|
| <b>Montes et al., 2010</b> <sup>88</sup>           | SMA                            | NA (Motion analysis in CS) | (1) Velocity (2) double support (3) support base   | NA                          | NA                              | NA              | NA |
| <b>Elsheikh et al., 2020</b> <sup>85</sup>         |                                | 6MWT                       | 6MWD   | Test-retest (6 weeks apart) | ICC=0.85                        | adequate        | +  |
| <b>Stolte et al., 2020</b> <sup>80</sup>           |                                |                            | 6MWD   | NA                          | NA                              | NA              | NA |
| <b>Rodriguez-Torres et al., 2020</b> <sup>84</sup> |                                |                            | 6MWD   | NA                          | NA                              | NA              | NA |
| <b>Montes et al., 2014</b> <sup>87</sup>           |                                |                            | 6MWD   | NA                          | NA                              | NA              | NA |
| <b>Dunaway et al., 2016</b> <sup>83</sup>          |                                |                            | 6MWD   | Test-retest (4 weeks apart) | ICC: 0.992; 95% CI, 0.979–0.997 | very good       | +  |
| <b>Montes et al., 2017</b> <sup>89</sup>           |                                | 10MWT                      | (i) velocity (ii) stride length (iii) initial double support assessed by instrumented footwear (SoleSound) | NA                          | NA                              | NA              | NA |
| <b>Dunaway et al., 2014</b> <sup>86</sup>          |                                | TUG                        | TUG time   | Test-retest (4 weeks apart) | ICC=0.948 [0.838–0.985]         | 95%CI very good | +  |
| <b>Bartels et al., 2019</b> <sup>82</sup>          |                                | ESWT                       | ESWT time  | NA                          | NA                              | NA              | NA |
| <b>Bartels et al., 2020</b> <sup>81</sup>          |                                |                            | ESWT time  | Test-retest (4 weeks apart) | ICC=0.91 [0.77–0.97]            | 95%CI very good | +  |
| <b>Montano et al., 2022</b> <sup>78</sup>          | Primary mitochondrial myopathy | 6MWT                       | 6MWD   | NA                          | NA                              | NA              | NA |

ALSFRS-R: Revised Amyotrophic Lateral Sclerosis Functional Rating Scale; Borg RPE-score: Borg rating perceived exertion score; CL: Confidence Limit; CMT: Charcot Marie Tooth; CMTNS: Charcot-Marie-Tooth Neuropathy Score; CS: Comfortable speed; CT: cycle time; DM1: Dystrophy Myotonic Type 1; DM2: Dystrophy Myotonic Type 2; EWT: Endurance Walking Test; FCS: FSHD Clinical Severity Score; HR: Heart rate; HSP: Hereditary Spastic Paraplegia; ICC: Intercorrelation coefficient; LGMD2: Limb Girdle Muscular Dystrophy type 2; MMT LEXT: average lower extremity manual muscle testing score; NA: Non Applicable; NMD: Neuromuscular diseases; RSME: Root-mean-square error; SBMA: Spinal Bulbar and Muscular Amyotrophy; SD: Standard Deviation; SEM: Standard Error Measurement; SL: Stride Length; SRPS: Spastic Paraplegia Rating Scale; SWT: swing time; 6MWD: 6-minute walking distance; 6MWT: 6-minute walk test; 10MWT: 10-minute walk test.

Supplementary Table XII.—Measurement properties of the included studies in other NMDs: measurement error.

| Articles                                    | Subtype of NMD       | Walking test               | Type of variables studied  | Measurement error   |           |                         |
|---|----------------------|----------------------------|--|---|-----------|-------------------------|
|   |                      |                            |  | Results (95% CI)  | COSMIN    | Quality criteria rating |
| <b>Gidaro et al., 2022</b> <sup>71</sup>    | FSH and LGMD2        | NA                         | (i) Median Velocity (ii) distance walked per hour (iii) 95th centile length (iv) 95th centile velocity | NA  | NA        | NA                      |
| <b>Iosa et al., 2007</b> <sup>67</sup>      | FSHD                 | NA (Motion analysis in CS) | velocity   | NA  | NA        | NA                      |
| <b>Aprile et al., 2013</b> <sup>24</sup>    |                      | NA (Motion analysis in CS) | (1)Velocity (2) Step length (3)Stride width  | NA  | NA        | NA                      |
| <b>Eichinger et al., 2017</b> <sup>68</sup> |                      | 6MWT                       | 6MWD   | NA  | NA        | NA                      |
| <b>Huisinga et al., 2018</b> <sup>69</sup>  |                      | iTUG                       | (1) velocity (2) double support  | NA  | NA        | NA                      |
| <b>Statland et al., 2019</b> <sup>70</sup>  |                      | TUG duration, cadence, DS  | NA   | NA  | NA        | NA                      |
| <b>Martino et al., 2019</b> <sup>72</sup>   | HSP                  | 15x7 m walkway (CS)        | Velocity   | NA  | NA        | NA                      |
| <b>Claeys et al., 2022</b> <sup>74</sup>    | LOPD                 | 6MWT, 10MWT and TUG        | 6MWD, 10MWT and TUG times  | NA  | NA        | NA                      |
| <b>Vanherpe et al., 2020</b> <sup>73</sup>  |                      | 6MWT                       | 6MWD   | NA  | NA        | NA                      |
| <b>Jacques et al., 2018</b> <sup>75</sup>   | Muscular Dystrophies | 10MWT (CS)                 | Velocity   | NA  | NA        | NA                      |
| <b>Prahm et al., 2014</b> <sup>76</sup>     | NMD                  | 6MWT                       | 6MWD   | NA  | NA        | NA                      |
| <b>Andersen et al., 2016</b> <sup>45</sup>  |                      | 2MWT and 6MWT              | 2MWT velocity  | NA  | NA        | NA                      |
| <b>Knak et al., 2017</b> <sup>77</sup>      |                      | (i)2MWT and (ii)6MWT       | 2MWD and 6MWD  | (i) SEM= 4.9 m (3.4%); MDD95= 13.7 (9.3%); (ii) SEM=14.0 m (3.4%)<br>MDD95= 38.8 m (9.3%); LoA 95% CI (i) -13.9 to +22.5 m (ii) -40.8 to+63.3 m | very good | ?                       |

|  |                                |                            |  |           |    |    |
|--|--------------------------------|----------------------------|--|-----------|----|----|
| <b>Takeuchi et al., 2008</b> <sup>79</sup>         | SBMA                           | 6MWT                       | 6MWD   | NA        | NA | NA |
| <b>Montes et al., 2010</b> <sup>88</sup>           | SMA                            | NA (Motion analysis in CS) | (1) Velocity (2) double support (3) support base   | NA        | NA | NA |
| <b>Elsheikh et al., 2020</b> <sup>85</sup>         |                                | 6MWT                       | 6MWD   | NA        | NA | NA |
| <b>Stolte et al., 2020</b> <sup>80</sup>           |                                | 6MWD                       | SEM=55.5m  | very good | ?  |    |
| <b>Rodriguez-Torres et al., 2020</b> <sup>84</sup> |                                | 6MWD                       | NA   | NA        | NA | NA |
| <b>Montes et al., 2014</b> <sup>87</sup>           |                                | 6MWD                       | NA   | NA        | NA | NA |
| <b>Dunaway et al., 2016</b> <sup>83</sup>          |                                | 6MWD                       | NA   | NA        | NA | NA |
| <b>Montes et al., 2017</b> <sup>89</sup>           |                                | 10MWT                      | (i) velocity (ii) stride length (iii) initial double support assessed by instrumented footwear (SoleSound) | NA        | NA | NA |
| <b>Dunaway et al., 2014</b> <sup>86</sup>          |                                | TUG                        | TUG time   | NA        | NA | NA |
| <b>Bartels et al., 2019</b> <sup>82</sup>          |                                | ESWT                       | ESWT time  | NA        | NA | NA |
| <b>Bartels et al., 2020</b> <sup>81</sup>          |                                | ESWT time                  | NA   | NA        | NA |    |
| <b>Montano et al., 2022</b> <sup>78</sup>          | Primary mitochondrial myopathy | 6MWT                       | 6MWD   | NA        | NA | NA |

ALSFRS-R: Revised Amyotrophic Lateral Sclerosis Functional Rating Scale; Borg RPE-score: Borg rating perceived exertion score; CL: Confidence Limit; CMT: Charcot Marie Tooth; CMTNS: Charcot-Marie-Tooth Neuropathy Score; CS: Comfortable speed; CT: cycle time; DM1: Dystrophy Myotonic Type 1; DM2: Dystrophy Myotonic Type 2; EWT: Endurance Walking Test; FCS: FSHD Clinical Severity Score; HR: Heart rate; HSP: Hereditary Spastic Paraplegia; ICC: Intercorrelation coefficient; LGMD2: Limb Girdle Muscular Dystrophy type 2; MMT LEXT: average lower extremity manual muscle testing score; NA: Non Applicable; NMD: Neuromuscular diseases; RSME: Root-mean-square error; SBMA: Spinal Bulbar and Muscular Amyotrophy; SD: Standard Deviation; SEM: Standard Error Measurement; SL: Stride Length; SRPS: Spastic Paraplegia Rating Scale; SWT: swing time; 6MWD: 6-minute walking distance; 6MWT: 6-minute walk test; 10MWT: 10-minute walk test.

Supplementary Table XIII.—Measurement properties of the included studies in other NMDs: responsiveness and feasibility.

| Articles                                    | Subtype of NMD | Walking test               | Type of variables studied   | Responsiveness  |            |                         | Feasibility |         |
|---|----------------|----------------------------|---|---|------------|-------------------------|-------------|---------|
|   |                |                            |   | Results (95% CI)  | COSMIN     | Quality criteria rating | Outcomes    | Results |
| <b>Gidaro et al., 2022</b> <sup>71</sup>    | FSH and LGMD2  | NA                         | (i) Median Velocity distance walked per hour (ii) 95th centile length (iii) 95th centile velocity | (i) change from baseline = -2% p=0.02; SRM=0.904; (ii) p=0.017 (iii) SRM = 1.254; P=0.025                     | Adequate   | +                       | NA          | NA      |
| <b>Iosa et al., 2007</b> <sup>67</sup>      | FSHD           | NA (Motion analysis in CS) | velocity  | NA  | NA         | NA                      | NA          | NA      |
| <b>Aprile et al., 2013</b> <sup>24</sup>    |                | NA (Motion analysis in CS) | (1)Velocity Step length (2) Stride width  | NA  | NA         | NA                      | NA          | NA      |
| <b>Eichinger et al., 2017</b> <sup>68</sup> |                | 6MWT                       | 6MWD  | MDC95=34.3 m  | very good  | ?                       | NA          | NA      |
| <b>Huisinga et al., 2018</b> <sup>69</sup>  |                | iTUG                       | (1) velocity double support   | NA  | NA         | NA                      | NA          | NA      |
| <b>Statland et al., 2019</b> <sup>70</sup>  |                |                            | TUG duration, cadence, DS   | TUG duration -0.6% 90%CL [-5.2, 4.1], cadence -0.2% 90%CL[-2.0, 1.6] and Double support 1.3% 90%CL[-6.7, 9.1] | inadequate | ?                       | NA          | NA      |
| <b>Martino et al. 2019</b> <sup>72</sup>    | HSP            | 15x7 m walkway (CS)        | Velocity  | NA  | NA         | NA                      | NA          | NA      |
| <b>Claeys et al., 2022</b> <sup>74</sup>    | LOPD           | 6MWT, 10MWT and TUG        | 6MWD, 10MWT and TUG times   | 6WMT: decrease of 83,8m at 24 months of follow-up (P<0,003) no difference in 10MWT and TUG (P>0,005)          | inadequate | ?                       | NA          | NA      |



|  |                      |                            |  |  |            |    |  |      |
|--|----------------------|----------------------------|--|--|------------|----|--|------|
| <b>Vanherpe et al., 2020</b> <sup>73</sup>         |                      | 6MWT                       | 6MWD   | 6MWD: significant decrease over years since onset (P=0.0002) | inadequate | ?  | NA   | NA   |
| <b>Jacques et al. 2018</b> <sup>75</sup>           | Muscular Dystrophies | 10MWT (CS)                 | Velocity   | NA   | NA         | NA | NA   | NA   |
| <b>Prahn et al., 2014</b> <sup>76</sup>            | NMD                  | 6MWT                       | 6MWD   | NA   | NA         | NA | NA   | NA   |
| <b>Andersen et al., 2016</b> <sup>45</sup>         |                      | 2MWT and 6MWT              | 2MWT velocity  | NA   | NA         | NA | NA   | NA   |
| <b>Knak et al., 2017</b> <sup>77</sup>             |                      | (i)2MWT and (ii)6MWT       | 2MWD and 6MWD  | NA   | NA         | NA | NA   | NA   |
| <b>Takeuchi et al., 2008</b> <sup>79</sup>         | SBMA                 | 6MWT                       | 6MWD   | NA   | NA         | NA | NA   | NA   |
| <b>Montes et al., 2010</b> <sup>88</sup>           | SMA                  | NA (Motion analysis in CS) | (1) Velocity (2) double support (3) support base   | NA   | NA         | NA | NA   | NA   |
| <b>Elsheikh et al., 2020</b> <sup>85</sup>         |                      | 6MWT                       | 6MWD   | NA   | NA         | NA | % of SMA people to be able to realize a 6MWT             | 97%  |
| <b>Stolte et al., 2020</b> <sup>80</sup>           |                      |                            | 6MWD   | SMA type 2 MCID=71.7m, SMA type 3 MCID=47.8m                 | very good  | +  | NA   | NA   |
| <b>Rodriguez-Torres et al., 2020</b> <sup>84</sup> |                      |                            | 6MWD   | NA   | NA         | NA | NA   | NA   |
| <b>Montes et al., 2014</b> <sup>87</sup>           |                      |                            | 6MWD   | NA   | NA         | NA | NA   | NA   |
| <b>Dunaway et al., 2016</b> <sup>83</sup>          |                      |                            | 6MWD   | MDC90=24.0   | very good  | +  | NA   | NA   |
| <b>Montes et al., 2017</b> <sup>89</sup>           |                      | 10MWT                      | (i) velocity (ii) stride length (iii) initial double support assessed by instrumented footwear (SoleSound) | NA   | NA         | NA | % of SMA people to be able to walk safely with SoleSound | 100% |
| <b>Dunaway et al., 2014</b> <sup>86</sup>          |                      | TUG                        | TUG time   | NA   | NA         | NA | NA   | NA   |

|   |                                |      |           |               |           |    |   |  |    |
|---|--------------------------------|------|-----------|---------------|-----------|----|---|--|----|
| <b>Bartels et al., 2019</b> <sup>82</sup> |                                | ESWT | ESWT time | NA            | NA        | NA | (i) Reduced time to limitation (i) 50% Yes (ii)100% Yes<br>(ii) Measurement completion (iii)100% Yes (iv) 9.2 (7.4–10) min<br>(iii) Comprehensibility (iv) and muscle fatigue 7(6-9)<br>Acceptability |  |    |
| <b>Bartels et al., 2020</b> <sup>81</sup> |                                |      | ESWT time | NA            | NA        | NA | (1)Time to limitation in SMA (1) 861, 95% CI[218–1200] (2)<br>people (Mdn (s)) (2) SMA SMA: 73.3% and Healthy controls:<br>versus Healthy Controls drop 0%<br>out (%)                                 |  |    |
| <b>Montano et al., 2022</b> <sup>78</sup> | Primary mitochondrial myopathy | 6MWT | 6MWD      | MCID = 33.3 m | very good | ?  | NA  |  | NA |

ALSFERS-R: Revised Amyotrophic Lateral Sclerosis Functional Rating Scale; Borg RPE-score: Borg rating perceived exertion score; CL: Confidence Limit; CMT: Charcot Marie Tooth; CMTNS: Charcot-Marie-Tooth Neuropathy Score; CS: Comfortable speed; CT: cycle time; DM1: Dystrophy Myotonic Type 1; DM2: Dystrophy Myotonic Type 2; EWT: Endurance Walking Test; FCS: FSHD Clinical Severity Score; HR: Heart rate; HSP: Hereditary Spastic Paraplegia; ICC: Intercorrelation coefficient; LGMD2: Limb Girdle Muscular Dystrophy type 2; MMT LEXT: average lower extremity manual muscle testing score; NA: Non Applicable; NMD: Neuromuscular diseases; RSME: Root-mean-square error; SBMA: Spinal Bulbar and Muscular Amyotrophy; SD: Standard Deviation; SEM: Standard Error Measurement; SL: Stride Length; SRPS: Spastic Paraplegia Rating Scale; SWT: swing time; 6MWD: 6-minute walking distance; 6MWT: 6-minute walk test; 10MWT: 10-minute walk test.