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| 1Citation | Description | Adaptation Time | Added weight | Belt speeds |
| SPLIT BELT |  |  |  |  |
| Sombric, C.J., Calvert, J.S. and Torres-Oviedo, G., 2019. Large propulsion demands increase locomotor adaptation at the expense of step length symmetry. *Frontiers in physiology*, *10*, p.60. | Split-belt walking on distinct slopes to alter braking and propulsion forces. +/- 8.5 degrees (higher angles listed as too strenuous)  Forces propelling the body facilitate gait changes during and after split-belt walking | 600 strides  ~10 minutes | N/A | 0.5, 1.0, 1.5 m/s  Baseline includes all three speeds  Split is slow and fast speeds with dominant leg on fast  Tied for washout includes medium only |
| Bruijn, S.M., Van Impe, A., Duysens, J. and Swinnen, S.P., 2012. Split-belt walking: adaptation differences between young and older adults. *Journal of neurophysiology*, *108*(4), pp.1149-1157. | Older adults adapted less and more slowly to split-belt walking and showed fewer aftereffects – linked to lower ability to modify relative timing in the gait cycle | 10 minutes | N/A | Baseline is 5 minutes tied belts 1 m/s  Split is 0.5 m/s and 1 m/s  Fast belt was randomly assigned  5 minutes tied |
| Vasudevan, E.V. and Bastian, A.J., 2010. Split-belt treadmill adaptation shows different functional networks for fast and slow human walking. *Journal of neurophysiology*, *103*(1), pp.183-191. | Adaptation linked to slower walking speed – suggests only partial overlap in the neural networks for fast and slow walking | 6 minutes  10 s catch trials  2 minute readaptation | N/A | 1a) Split belt: 0.7m/s and 1.4 m/s  Tied after effects tested at 0.525 to 1.575 at 0.175 m/s increments  1b) Split belt: 0.875 m/s and 1.575 m/s  Tied after effects tested at 0.7 to 1.75 at 0.175 m/s increments  1b) Split belt: 1.4 m/s and 2.1 m/s  Tied after effects tested at 0.7 to 1.75 at 0.175 m/s increments |
| Same as above – experiment 2 | Testing whether subject can store separate aftereffects for slow and fast walking | 1 minute (2 speed) baseline  10 minutes  30s catch trial  5 minute readapt  15 minute fast/slow  5 minute slow/fast | N/A | Baseline at 0.7 m/s and 1.4 m/s for 30s each  Then split at 0.7 and 1.4 m/s |
| Ogawa, T., Kawashima, N., Ogata, T. and Nakazawa, K., 2014. Predictive control of ankle stiffness at heel contact is a key element of locomotor adaptation during split-belt treadmill walking in humans. *Journal of neurophysiology*, *111*(4), pp.722-732. | Braking force shows a pattern of adaptation  Predictive feedforward control required to set ankle stiffness before impact  Passive feedback control produces reflexive propulsive force | Baseline – slow/fast/slow 2min each  10 min learning  6 min washout | N/A | Slow: 0.5 m/s  Fast: 1.0 m/s  Randomly assigned fast belt |
| Hoogkamer, W., Bruijn, S.M., Potocanac, Z., Van Calenbergh, F., Swinnen, S.P. and Duysens, J., 2015. Gait asymmetry during early split-belt walking is related to perception of belt speed difference. *Journal of neurophysiology*, *114*(3), pp.1705-1712. |  | 3 min fast  10 minute split  5 minute washout |  | Slow 0.5 m/s  Fast 1.0 m/s (assigned to nondominant leg |
| WALKING WITH WEIGHT |  |  |  |  |
| James, C.R., Atkins, L.T., Yang, H.S., Dufek, J.S. and Bates, B.T., 2015. Kinematic and ground reaction force accommodation during weighted walking. *Human movement science*, *44*, pp.327-337. | Subjects walked while carrying two weights in hands in front of body – increased COM motion and peak GRF  Different accommodation strategies  72.3 ± 16.6 kg | 0, 44.5 and 89 N  ~6% and 12% bw weights  Weighted wrist wraps |  |  |
| Birrell, S.A., Hooper, R.H. and Haslam, R.A., 2007. The effect of military load carriage on ground reaction forces. *Gait & posture*, *26*(4), pp.611-614. | Male participants. 83.2 +- 10 kg | Load carriage systems at 24,32,40 kg  ~29%,38%, 48% bw |  |  |
| Qu, X. and Yeo, J.C., 2011. Effects of load carriage and fatigue on gait characteristics. *Journal of biomechanics*, *44*(7), pp.1259-1263. | Male participants 65.4 +-8 kg  Load biomechanics before and after fatiguing activity | Back carried load 7.5 kg and 15 kg |  |  |
| Silder, A., Delp, S.L. and Besier, T., 2013. Men and women adopt similar walking mechanics and muscle activation patterns during load carriage. *Journal of biomechanics*, *46*(14), pp.2522-2528. | Men and women: weight adjustable vest (minimal change in COM)  Concluded that men and women have similar gait adaptations to carrying load | 10, 20, 30 % of body weight |  | 5 minutes of walking at preferred walking speed |
| Arellano, C.J., McReynolds, O.B. and Thomas, S.A., 2020. A low-cost method for carrying loads during human walking. *Journal of Experimental Biology*, *223*(23), p.jeb216119. | Walked at 1.25 m/s  Added 8 kg to arms (swinging or nonswinging), legs, or waist  Metabolics collected  Men and women: 74.3+-17.4 kg | 8 kg |  | 5 trials of 7 minutes at 1.25 m/s (no load, 4kg load at COM of arm no swing, 4kg load at COM of arm, 4kg at COM of leg, 8kg around waist) |
| Gaffney, C.J., Cunnington, J., Rattley, K., Wrench, E., Dyche, C. and Bampouras, T.M., 2021. Weighted vests in CrossFit increase physiological stress during walking and running without changes in spatiotemporal gait parameters. *Ergonomics*, pp.1-12. |  |  |  |  |