

Putting patients back in the driver's seat: OPTIMAL practice conditions to enhance patient performance
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Go ahead, cue your patient to do their “best Richard Simmons impersonation” rather than “pick your knee up higher”! The OPTIMAL Theory of Motor Learning proposes that attention and motivation contribute significantly to behavior and, therefore, motor learning. Evidence has shown that providing an external focus of attention can enhance motor performance and make movements more automatic than internal cues that focus on movement of a particular body part itself. OPTIMAL also uses the principles of autonomy and enhanced expectancies to leverage motivation, and therefore participation. Autonomy can be provided by offering calculated choices within a treatment session to foster a sense of empowerment. Similarly, enhancing expectations such as reminding them of how they did in a previous session or asking them to predict their ability for the current session builds self-efficacy and, coupled with past successes, leads to more future success. The purpose of this session is to discuss the supporting evidence and rationale behind OPTIMAL Theory, explore the three key principles, provide examples of how to implement them into clinical practice, and actively generate ideas that will be useful for the clinic on Monday. The presenters will also discuss application of OPTIMAL with patients with stroke, TBI, and iSCI during high-intensity gait training.

1. Discuss the evidence for OPTIMAL Theory of Motor Learning as it applies to optimizing motor performance
2. Describe OPTIMAL including the principles of external focus, autonomy support, and enhanced expectations
3. Develop strategies to implement OPTIMAL into clinical practice
4. Examine real experiences of OPTIMAL applied to patients in an advanced neurological elective course"

Abdollahipour, R., Valtr, L., & Wulf, G. (2020). Optimizing Bowling Performance. <https://doi.org/10.1123/jmld.2019-0017>

Chua, L.-K., Wulf, G., & Lewthwaite, R. (2018). Onward and upward: Optimizing motor performance. *Human Movement Science, 60*, 107–114. <https://doi.org/10.1016/j.humov.2018.05.006>

Chua, L.-K., Wulf, G., & Lewthwaite, R. (2020). Choose your words wisely: Optimizing impacts on standardized performance testing. *Gait & Posture, 79*, 210–216. <https://doi.org/10.1016/j.gaitpost.2020.05.001>

Chung, Y.-C., Lewthwaite, R., Winstein, C. J., Monterosso, J. R., & Fisher, B. E. (2020). Expectancy and affective response to challenging balance practice conditions in individuals with Parkinson's disease. *The European Journal of Neuroscience, 52*(6), 3652–3662. <https://doi.org/10.1111/ejn.14723>

Gangwani, R., Cain, A., Collins, A., & Cassidy, J. M. (2022). Leveraging Factors of Self-Efficacy and Motivation to Optimize Stroke Recovery. *Frontiers in Neurology, 13*, 823202. <https://doi.org/10.3389/fneur.2022.823202>

Lewthwaite, R., & Wulf, G. (2017). Optimizing motivation and attention for motor performance and learning. *Current Opinion in Psychology*, 16, 38–42. <https://doi.org/10.1016/j.copsy.2017.04.005>

Simpson, T., Cronin, L., Ellison, P., Carnegie, E., & Marchant, D. (2020). A test of optimal theory on young adolescents' standing long jump performance and motivation. *Human Movement Science*, 72, 102651. <https://doi.org/10.1016/j.humov.2020.102651>

Singh, H., Hockwald, A., Drake, N., Avedesian, J., Lee, S.-P., & Wulf, G. (2020). Maximal force production requires OPTIMAL conditions. *Human Movement Science*, 73, 102661. <https://doi.org/10.1016/j.humov.2020.102661>

Wulf, G., Chiviawsky, S., & Cardozo, P. L. (2014). Additive benefits of autonomy support and enhanced expectancies for motor learning. *Human Movement Science*, 37, 12–20. <https://doi.org/10.1016/j.humov.2014.06.004>

Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. *Psychonomic Bulletin & Review*, 23(5), 1382–1414. <https://doi.org/10.3758/s13423-015-0999-9>

Wulf, G., Lewthwaite, R., Cardozo, P., & Chiviawsky, S. (2018). Triple play: Additive contributions of enhanced expectancies, autonomy support, and external attentional focus to motor learning. *Quarterly Journal of Experimental Psychology* (2006), 71(4), 824–831. <https://doi.org/10.1080/17470218.2016.1276204>

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