

The role of sleep in consolidation of motor learning in young and older adults

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Motor learning is modulated off-line, with performance benefits over intervals with sleep that exceed changes observed over wake, a benefit thought to reflect sleep-dependent memory consolidation. While cognitive neuroscience has focused on sleep-dependent memory consolidation of declarative learning, less is known of the processes underlying the consolidation of procedural learning. We propose that the benefit of sleep on memories depends on the systems engaged at learning. Declarative learning, a well-understood process, is benefitted by sleep across the lifespan. Procedural learning, however, takes multiple forms and I will present evidence that the benefit of sleep on these tasks is age- and task-dependent.