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## **Eye-hand coordination strategies in older adults.**

Hand movement kinematics and eye-hand coordination are affected by aging. These age differences are exacerbated when task difficulty is increased, but the exact nature of these differences has yet to be established. We examined the performance of 12 older adults (mean age = 74) and 11 younger adults (mean age = 20) on a multi-phase prehension task. Participants had to reach for and pick up a target object with their preferred hand, place it in a tray, then reach for a second target object and place that in the same tray (baseline condition). On half the trials (stabilising condition) participants were required to hold the tray as still as possible just above the surface of the table with their non-preferred hand. Hand and eye movements were recorded. Older adults took longer to complete their overall movement but only in the stabilising condition [ $t(21) = 3.38$  ;  $p < 0.01$ ], largely due to an extended duration for the first submovement. They reached lower peak velocities and spent proportionally less time decelerating than the younger adults. Group differences were most apparent at the start of the movement and in the stabilising condition, suggesting both that older adults look more like their younger counterparts if given enough time, and that the added complexity of the stabilising task had a greater effect on the performance of the older adults than the young. Older adults adopted two different eye-hand coordination strategies, preferring to make an eye movement to the next target as soon as possible in some circumstances, or spending longer fixating the current target when accuracy requirements were high. Older adults appeared to employ an eye movement strategy that enabled them to benefit from visual feedback, presumably to aid hand movement control and improve task performance. Meeting abstract presented at VSS 2015