Falls are the leading cause of accidental death in older adults. This talk reviews a series of published studies over the past 10+ years that link vestibular thresholds to balance to falls. Specifically, data show that increasing roll tilt thresholds – which are an assay of vestibular sensory noise – correlate with increased imbalance, and that increased imbalance is correlated with falls. Unpublished data also show that roll tilt thresholds can be reduced and that this threshold reduction is accompanied by reduced sway. These findings provide hope that we may be able to improve vestibular precision to improve balance and reduce falls.