Funding lifts research on falls

Recently announced funding from the National Health and Medical Research Council will expand Griffith research on fall prevention in older people.

Associate Professor Rod Barrett, from the School of Physiotherapy and Exercise Science, said falls were the major cause of injury in the elderly, often resulting in lengthy and costly hospital stays.

“The high personal and economic cost of falls in the elderly warrants a better understanding of the factors that cause these falls. We know that the elderly are not at greatly increased risk of becoming unbalanced than younger people but they are much less able to recover their balance and avoid a fall and subsequent injury if they become unbalanced,” he said.

The project, which will involve about 250 participants, will investigate both the neuromuscular and biomechanical factors which influence balance recovery in older people.

“It’s very difficult to separate out some of the factors that could be involved. For example, which is more important, muscle strength or reaction time?”

“One of the unique aspects of this study is that it incorporates computer simulations that replicate movement so we can for example adjust muscle strength on the simulation and calculate the impact that has on balance recovery.”

The four-year study will utilise sophisticated clinical and research tools including high speed 3D motion capture, magnetic resonance imaging (MRI), ultrasound and isokinetic dynamometry.

Associate Professor Barrett said participants will also be followed longitudinally to correlate their measurements against actual falls.

“Once we understand the actual mechanisms involved in falls we can develop specific exercise-based programs to improve stability and balance recovery.”