

FALLS PREVENTION & EXERCISE

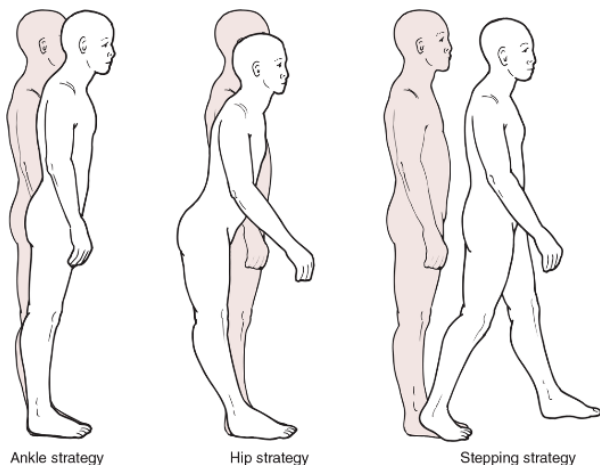
The Facts

- **Falls can be prevented**
- More than 1/3 people aged 65+ fall at least once per year
- Falls are a significant cause of potentially avoidable harm
- Main external cause of unintentional injury, disability, quality of life impairment and death in the elderly
- Estimated 20-30% falls produce injuries that result in reduced mobility and loss of independence
- Ageing and growing population means that the costs and burden associated with falls will increase over time
- No other single cause of injury costs the health system more than falls

Why do we Fall?

- Causes are varied and complex
- Result of our inability to respond to a loss of balance
- Center of gravity falls out of our base of support
- Maintaining balance requires effective communication throughout the body between the neural, sensory and musculoskeletal systems

Recovering Balance



Risk Factors

- Vision/ eyesight deterioration
- Health conditions (e.g. Parkinson's, arthritis, dementia, low blood pressure)
- Injury
- Inappropriate footwear
- Hazards around the home
- Age-related decreases in;
 - Musculoskeletal capacity
 - Sensory function
 - Neural processing
- **Physical inactivity**
- Decreased lower limb muscle strength
- Medications- especially a combination of 4 or more
- Having a fall in the last 6 months significantly increases your risk of another fall
- Gait (how we walk)
- Loss of balance
- **Osteoporosis (decreased bone density) can increase the risk of fractures and fall-related trauma**

ESSA Recommended Guidelines for Physical Activity

Frequency	Intensity	Time	Type
3-5 days / week	4- 6 RPE	150 mins / week	Aerobic
2-3 days / week		8-10 exercises/10 – 15 reps	Resistance
<i>Daily</i>	<i>Must challenge balance</i>	<i>15-30 mins or incorporate into your other exercise programs</i>	<i>Balance</i>

Balance training should include;

- Both static *and* dynamic exercises
- Increase challenge by;
- Gradually reducing base of support- double leg to single leg
- Reducing use of upper limbs for support
- Moving center of mass by leaning and reaching
- Change surface- uneven, unstable e.g. foam, balance boards
- Close eyes
- Dual tasking- changing head direction, cognitive tasks, etc.
- Other options include tai chi, yoga, dancing and hydrotherapy-based balance exercises
- *Ensure safety- initial supervision for tasks, as well as close support if needed, e.g. rails, chairs, etc.*

Exercise Interventions- the Evidence

- Strong evidence that exercise alone can prevent falls in community dwelling older people
- More specifically, group and home-based exercise programs, as well as balance-focused tai chi are most effective
- Exercise must challenge balance and be of a high dose to create significant effects
- Appropriately designed intervention programs can reduce both the rate and risk of falls
- Exercise programs aimed at reducing falls additionally appear to reduce fractures

Exercise can...

- Reduce age-related losses in muscle mass
- Develop muscle strength
- Improve gait and balance
- Enhance the state of the mind
- Improve quality of life
- Assist in maintaining independence
- Significantly reduce the likelihood of falls in daily life activities