

**A Prescription
for Fall Prevention
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Nanaimo Seniors' Village**
By Darcy O'Toole



Darcy O'Toole

- Graduated from UBC in 1992
- Community Pharmacist for 17 years
- Owner of Qualicum Medicine Centre, Memorial Compounding Medicine Centre and Nanoose Medicine Centre
- Interest in Patient Care and Education



- Long Term Care Pharmacy Services
- Assisted-Living and Multi-level Care
- Participating Pharmacist for Oceanside Falls Prevention Clinic (Fall 2009)



Medications and Falls Particularly in the Mature Adult

- Approx 1/3 community based people over 65 have 1 or more falls each year
- Increases to 60% for residents of nursing homes
- Consequences include significant morbidity, often fracture of the hip, reduced function, and even death
- Men have a worse survival rate from a hip fracture than women



- In the Elderly there are many factors associated with age-related decline that contribute towards the risk of falling including:
 - Decline in hearing, strength, vision, Mobility, musculoskeletal function
 - And environmental issues like improper footwear, loose rugs, lack of grab bars/hand rails



Many medical conditions contribute to an increased risk of falling

These include:

- Alzheimer's disease and other dementias
- Arthritis and other pain syndromes
- Cardiovascular disease
- Cerebrovascular disease
- Constipation
- Depression/anxiety/neurosis/psychosis



Many medical conditions contribute to an increased risk of falling

- Diabetes Mellitus
- Incontinence
- Osteoporosis
- Pain
- Parkinson's Disease
- Seizure Disorders
- Urinary Tract Disorders



Medications & Falls in the Mature Adult

- There are many medications that may increase the risk of a fall
- The elderly are at increased risk because adverse reactions may be more common due to changes in drug metabolism from impaired liver or kidney function



Medications & Falls in the Mature Adult

- Often on more medications and the more medications the greater the risk of falling
- Four or more medications significantly increase the risk, there are a greater number of side effects and they tend to be more intense.



Some of the agents that have been associated with fall include:

- Anticonvulsants
- Antidepressants
- Anti-psychotics/neuroleptics
- Benzodiazepines
- Some Anti-arrhythmics (procainamide, quinidine)



Some of the agents that have been associated with fall include:

- Digoxin
- Diuretics
- Narcotic Analgesics
- Non-Steroidal Anti-inflammatory Drugs (NSAIDs)
- Sedatives/Hypnotics



Medications and Falls

- At one time it was thought SSRI (Selective Serotonin Re-uptake Inhibitors) were less problematic than TCA (Tricyclic Antidepressants) - since been proven both contribute equally to the risk
- Used to be thought better to take short acting benzodiazepines vs long acting but both increase the risks



Adverse Drug Effect and the Medications that can cause them

Agitation

Antidepressants, caffeine, neuroleptics, stimulants

Arrhythmias

Antiarrhythmics



Adverse Drug Effect and the Medications that can cause them

Confusion and Cognitive Impairment

Benzodiazepines, narcotics, neuroleptics, and drugs with anticholinergic effects

Dizziness and Orthostatic Hypertension

Anticonvulsants, antidepressants, antihypertensives, benzodiazepines, narcotics, neuroleptics



Adverse Drug Effect and the Medications that can cause them

Gait abnormalities & Extrapyrarnidal reactions

Antidepressants, metoclopramide, neuroleptics

Increased Ambulation

Diuretics



Adverse Drug Effect and the Medications that can cause them

Postural Disturbances (balance problems)

Anticonvulsants, benzodiazepines,
neuroleptics

Sedation, Drowsiness

Anticonvulsants, antidepressants,
benzodiazepines, narcotics,
neuroleptics



Adverse Drug Effect and the Medications that can cause them

Syncope

Beta-blockers, nitrates, vasodilators

Visual Disturbances

neuroleptics, any drug with anticholinergic effects



Sample Patient

Diabetic patient who is depressed, has trouble sleeping and has a toothache.

Hummpphh.



Management of Medications

- Review medications and identify potential agents
- Reduce or eliminate if possible
- Manage other risk factors
- Ensure adequate intake of calcium and Vitamin D



In Conclusion

Thank you very much for the opportunity
to speak with you today.

Contact information:

Darcy O'Toole, Pharmacist/Owner
Memorial Compounding Medicine Centre
250-752-9976 cell 250-248-0834
memorial@medicinecentre.com

Qualicum Medicine Centre 250-752-9911
Nanoose Medicine Centre 250-468-9921

darcy@telus.net

