

Reference, Type	Objective	Intervention, Outcome	Results	Study limitations	Comments
<p>Lord SR, Smith ST, Menant JC. Vision and falls in older people: risk factors and intervention strategies. Clin Geriatr Med. 2010 Nov;26(4):569-81. review</p>	<p>Search through literature to find the components of vision that affect balance</p>	<p>1. Cataract surgery of one eye in intervention group(IG) and control group(CG) with reported fall rates at 6 and 12mons. 2.two groups IG with vision treatment included new glasses 3.limited use of multifocals when walking, or doing outdoor activities</p>	<p>1. Found 34% decrease in fall rates vs CG. 2. Had RR of 1.57 more falls than CG, and RR of 1.74 for fractures 3. 8% reduction in falls for subjects that participated in outside activities, and less for subjects with indoor use only</p>	<p>2. New glasses took time to get used too, or they took more risks</p>	<p>Impaired vision due to eye disease is an independent risk factor for falls and fractures. Reduced ability to detect low-contrast hazards, judge distances, perceive spatial relationships, and process moving visual info are all major risk factors for falls. Reducing multifocal usage due to their near-vision lenses that decrease contrast, depth perception, and hazard identification will reduce falls. Cataract surgery has also reduced falls.</p>
<p>Murad MH, Elamin KB, Abu Elnour NO, Clinical review: The effect of vitamin D on falls: a systematic review and meta-analysis. J Clin Endocrinol Metab. 2011 Oct;96(10):2997-3006. review</p>	<p>The aim of this systematic review is to summarize the existing evidence on vitamin D use and the risk of falls.</p>	<p>26 studies were included with Vit D, D2, or D3 supplementation occasionally with CA or MG with varying doses, mostly PO, over varying populations including elderly that are community dwelling, ambulatory elderly, elderly women, nursing home residents, etc Falls were reported.</p>	<p>Vitamin D has been shown to decrease falls when it is paired with calcium.</p>	<p>Publication bias, many studies did not consider subjects dietary sources of Vit D, does calcium reduce falls or is vit D needed</p>	<p>There is more reduction in falls for vit D deficient individuals A possible mechanism is thought to be related to improving strength, especially quadriceps.</p>
<p>Zijlstra GA, van Haastregt JC, van Rossum E, van</p>	<p>assess which interventions effectively</p>	<p>Interventions included tai chi, multi-factorial, balance only, exercise only, hip</p>	<p>Community based tai-chi, home based exercise, and</p>	<p>Many of the studies looked</p>	<p>Fear of falling might be a protective response to prevent one from participating in high</p>

<p>Eijk JT, Yardley L, Kempen GI. <u>Interventions to reduce fear of falling in community-living older people: a systematic review.</u> J Am Geriatr Soc. 2007 Apr;55(4):603-15. review</p>	<p>reduce fear of falling in community-living older people.</p>	<p>protectors, home-based exercises. FES, MFES, and FES-I were used as OM's.</p>	<p>home-based fall-related multifactorial interventions were shown to decrease fear of falling. More evidence is needed for other interventions.</p>	<p>predominantly at reducing falls, and fear of falling was a secondary measure.</p>	<p>risk activities, however if it restricts participation in activities that one could safely perform then it can lead to adverse consequences regarding social, mental, and physical. Fear of falling is important to decrease but for the individual that doesn't have a fear and continues to be risky, a reduction of fear is meaningless.</p>
<p>Cumming RG. <u>Epidemiology of medication-related falls and fractures in the elderly.</u> Drugs Aging. 1998 Jan;12(1):43-53. Review.</p>	<p>This review is concerned with medications that increase the risk of falling. It does not cover medications, such as corticosteroids, that are associated with fractures via a direct effect on bone.</p>	<p>Psychotropic drugs class includes antidepressants, hypnotics and anxiolytics, antipsychotics. Cardiovascular drug class includes anti-hypertensives, diuretics, nitrates, digoxin, calcium antagonists. Analgesics/NSAIDS class</p>	<p>Antidepressants presented as the greatest risk. Other drug classes have yet to be determined with adequate level evidence. Also, found that the more medicines a person takes the greater the risk.</p>		<p>Psychotropics lead to the biggest risk factors for falling, and thus should be limited, eliminated, or educate takers. More drugs may cause interactions that lead to falls, or they are more likely to use them incorrectly, or the greater amount of medicines will usually include a psychotropic. Thiazide diuretics appear to have a bone protective response by decreasing the amount of calcium lost in urine. Benzodiazepines increase fracture risk.</p>
<p>Gangavati A, Hajjar I, Quach L, Jones RN, Kiely DK, Gagnon P, Lipsitz LA. <u>Hypertension,</u></p>	<p>To investigate the relationships between uncontrolled and</p>	<p>With 722 elderly subjects they assessed BP in supine, then 1 and 3 minutes post standing. Orthostatic hypotension was classified separately for systolic and</p>	<p>Systolic OH at 1min post standing paired with uncontrolled hypertension were at greatest risk of</p>	<p>Fall recall recording could have a bias, or patients forget.</p>	<p>Mechanism is unknown, but believed to be related to a loss of the baroreflex with hypertension, and the shunting of blood downward leading to decrease cerebral flow that can cause</p>

<p>orthostatic hypotension, and the risk of falls in a community-dwelling elderly population: the maintenance of balance, independent living, intellect, and zest in the elderly of Boston study. J Am Geriatr Soc. 2011 Mar;59(3):383-9. Prospective</p>	<p>controlled hypertension, orthostatic hypotension (OH), and falls in participants of the Maintenance of Balance, Independent Living, Intellect, and Zest in the Elderly</p>	<p>diastolic at >20mmHg for systolic or >10mmHg for diastolic. Falls reported monthly, and fallers classified as 2 falls/year.</p>	<p>falls, while uncontrolled hypertension by itself was not a risk factor. OH by itself was also not a risk.</p>		<p>dizziness or syncope if not resolved in a timely manner.</p>
<p>Batani H, Maki BE. Assistive devices for balance and mobility: benefits, demands, and adverse consequences. Arch Phys Med Rehabil 2005 Jan;86(1):134-45.</p>	<p>To provide information on the advantages and possible disadvantages of using canes and walkers.</p>	<p>Focused on searching for studies that focus only on single point cane, or standard walker.</p>	<p>Canes and walkers can improve balance and mobility but require greater demands for strength and energy, and can lead to destabilization in certain situations</p>	<p>There needs to be more evidence on the use of devices with stair climbing and on other uneven surfaces.</p>	<p>There is a large portion of elderly that stop using their devices, others have difficulty using the devices which leads to increased risk of falls.</p>
<p>Hofmeyer MR, Alexander NB, Nyquist LV, Medell JL, Koreishi A. Floor-rise strategy training in older adults. J Am Geriatr Soc. 2002</p>	<p>To determine the effect of a 2-week (six session) training intervention to improve the ability of disabled</p>	<p>IG-had 6 45min sessions over 2 weeks that involved a PT assessing floor rise strategy and providing feedback to improve technique, and practice several times per session, as well as exercises that will help</p>	<p>IG- group had significant difference in mean floor task completion from 6 to 7.3. rise time didn't improve significantly, but difficulty and</p>	<p>Low number of subjects</p>	<p>Floor rise tasks varied from starting in different positions and using supports like end tables or chairs, or no supports at all. Most common strategy before intervention was to come to long sit then move to sidelying, after patients would roll to prone, then hands and knees, then single</p>

<p>Oct;50(10):1702-6.</p>	<p>older adults to rise from the floor.</p>	<p>CG-chair-based flexibility class led by trainer. Mean number of floor tasks completed, Timed floor rise, difficulty scale, and symptom scale</p>	<p>symptoms went down. CG-had no improvement in any</p>		<p>knee kneeling, then plantigrade, then standing. If support was used subjects would reach for support in the hands and knees position to help come to kneeling. Speed shouldn't matter seeing that hurrying might cause a misstep.</p>
<p>Reece A, Simpson JM. Preparing Older People How to Cope After a Fall. Physiotherapy. 1996 Apr;82(4):227-235. Descriptive trial</p>	<p>To compare and contrast the difference in teaching subjects the traditional way of getting up vs backward chaining in their reactions/willingness and if they could stand up.</p>	<p>Teaching group the backward chain technique vs the group that learned the traditional way. Looked at willing, refusal to try, and how many were able to stand with each technique</p>	<p>Backward chaining method improved willingness to try to learn how to get off floor, but it didn't compare the differences in styles because they decided that the backward chaining method was the best method so they thought it would be harmful if they didn't switch the other group over</p>	<p>Small sample size, lack of blinding</p>	<p>Elderly tend to avoid getting on the floor, which interferes with teaching strategies to get off the floor so the backward chain method seems to be a reliable way to increase participation with intervention. The backward chain method also provides functional exercise, which is a side benefit.</p>