

Early Detection and Prevention of Falls in Older people

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A fall

- **World Health Organization (WHO) definition:**
“An event which results in a person coming to rest inadvertently on the ground or floor or other lower level.”



Incidence of falls

- Falls are common and should not be ignored
- Risk of falls for community dwelling elders (at least for one fall/ year)
 - $\geq 30\%$ for those over the age of 65
 - $\geq 50\%$ for those over the age of 80



Falls are Multi-factorial



Risk factors – Intrinsic Physical Factors

- Age
- Falls history
- Mobility impairment
- Balance deficit
- Gait deficit
- Low body mass
- Reduced muscle strength
- Postural sway
- Frailty
- Sarcopenia

Falls with loss of consciousness

- **Seizures**
- **Syncopal episodes :**
*postural hypotension,
arrhythmias*
- **Vascular events :**
Posterior circulation
TIAs/ strokes (with
impaired consciousness)
- **Simple faints**



Risk Factors - Intrinsic

Medical and Psychological issues

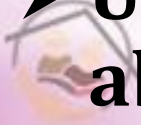
- Diabetes
- Parkinson's disease
- Stroke
- Arthritis
- CVS, Dizziness & palpitations
- Incontinence
- Neurological deficits
- Visual impairments
- Peripheral neuropathies
- Dementia, Depression, Anxiety



Risk Factors - Intrinsic

Medications

- Antihypertensive medications
- Sedatives eg. diazepam
- Antipsychotics & antidepressants
- Cognitive enhancers (i.e., cholinesterase inhibitors)
- NSAIDs
- **Use of more than 4 drugs (not necessarily above drugs)**



Risk Factors - Extrinsic

Living conditions, including various environmental factors and hazards (*Both indoors and outdoors*)

- Rugs
- Bathroom equipment
- Lighting
- Bath rails
- Clutter
- Wet surfaces
- Assistive devices
- Weather conditions
- Footwear
- Spectacles
- Walking aids



Multi-factorial Falls Risk Assessment

- Detailed falls history
- Assessments for following areas
 - Organ system impairments (CVS/CNS)
 - Gait, balance and mobility, and muscle strengths/ weakness
 - Osteoporosis risk
 - Falls risk
 - Perceived functional ability and 'fear of falling'
 - Visual impairment and other sensory impairments
 - Cognitive/ mood impairments
 - Medication review
 - Urinary incontinence
 - Home hazards



Location of falls

Home/home surroundings - 50% of all falls

- **Most** falls occur **on level surfaces** : in commonly used rooms - bedrooms, lounge and kitchen
- Some involve environmental hazard - loose rugs, slippery floor, step

Falls in nursing homes and hospitals

- Incidence : two to three times greater than in the community
- Complication rates are also considerably higher

Falls in public places

- Can involve many environmental hazards - uneven surfaces, gutters, drains, building work, cracks and humps etc.



Consequences of falls

- **Injuries** : Bruises, lacerations, bleeding, head injury, fractures
- **Death** or increasing **mortality**
- **Worsening of existing medical issues**
- **Major health risks following fall** e.g. infections, DVT, MI



Consequences of falls contd....

- **'Long lie'** ; Remaining on the ground or floor for more than one hour after a fall.
- **Fear of falling**
- **Loss of confidence and impaired independent living**
- **Depression and anxiety**
- **Repeated hospitalisations**



Evaluation - History

- Nature of the fall and circumstances** lead to it, direct cause of it
- Loss of **consciousness**
- Injuries** sustained/ other medical issues incurred as a result
- Previous falls**
- Risk factors**
- Comorbidities** – their contribution and worsening after the fall
- Medication**



Evaluation - History

- **Incontinence**
- **Foot wear**
- **Environmental hazards**
- **Osteoporosis risk**
- **Pre-morbid functional level** and how much affected now
- **Social circumstances** housing, social support, family and carer support
- **Ability to engage in rehabilitation** programmes



Evaluation - Physical Examination

- **Injuries** related to the fall
- Assess postural **blood pressure drop** for orthostatic hypotension
- Arrhythmias
- Abnormalities in **gait or balance and Reduced mobility**
- **Neuropathies** and **myopathies**
- **Vision impairments**
- Lower limb **disability**
- Use of **mobility aids** - were associated with an increased risk of falls both in the community and in institutions



Responsibilities of the Medical team

- Optimise medically
- Review medications and reduce the number to a minimum
- Refer to a physiotherapist
- Vitamin D supplementation
- Home assessment for hazards and correction
- Reviews of vision and correct them
- Comprehensive geriatric assessment
- Assessment and input from a physiotherapist and an occupational therapist



Target groups for preventing falls

- **People over the age of 50** with
 - A fall, or recurrent falls in the past year & or
 - Abnormalities of gait and/or balance & or
 - An underlying condition which can increase the risk of falls (see risk factors)
- People over 50 in contact with healthcare - ask routinely whether they have fallen in the past year
- High-risk people should be offered a **multifactorial falls risk assessment**.
- All possible contributing factors should be rectified to maximum possible.



Key Messages

- Falls are common after the age of 60.
- They may cause serious complications including death, fractures, head injuries and serious disabilities.
- It can happen due to many reasons. Some are not very obvious. So it is important to see a doctor to look into all possibilities and correct them. Unless they are corrected the risk of falls can not be improved.
- Many environmental hazards can cause falls. They are due to careless, neglected and unattended arrangements and shortcomings in the living environment.
- Majority of falls are preventable with due attention to risk factors



Key Messages

If you develop any of the following - DO NOT IGNORE!! See a doctor

- Difficulty in walking or develop balance issues
- Recent falls
- If you have fear of falling so that you don't want to walk.
- Increasingly difficult to get on with your day to day activities as you feel 'weak'
- Low in mood or unduly anxious
- If you get confused from time to time or others may say so.
- Incontinence of urine



Key Messages

- Make sure your medical illnesses are well controlled.
- Minimise the medical drugs as much as possible in consultation with a doctor
- Maintain a healthy and adequate diet
- Stay active and find productive roles in life
- Maintain healthy interactions
- Need balance and strengthening exercises for those with balance issues
- For walking difficulties— rehabilitation will help and you can also consider walking aids



Key Messages

- Keep your environment safe and suitable for you
- Get rid of
 - Moving rugs and replace with non slipping matts
 - The unnecessary clutter
 - Slippery falls
 - Objects, furniture, wires and cables blocking your living spaces
- Improve your environment
 - By thoughtful rearrangement of furniture and other items
 - Making adaptations to the toilet with railings, raised seats etc, Stairs with railings
 - May seek advice of a occupational therapist who will advise on such changes



Thank You

