**Adverse drug reactions**

ADRs are the cause of around 5% of all hospital admissions but account for up to 20% of admissions in those aged over 65. This is partly because older people receive many more prescribed drugs than younger people. *Polypharmacy* has been defined as the use of four or more drugs . This risk is compounded by age-related changes in pharmacodynamic and pharmacokinetic factors and by impaired homeostatic mechanisms, such as baroreceptor responses, plasma volume and electrolyte control.

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**Falls**

Around 30% of those over 65 years of age fall each year ,Although only 10–15% of falls result in serious injury, they are the cause of more than 90% of hip fractures in this age group, compounded by the rising prevalence of

osteoporosis

***Mechanical and recurrent falls***

Patients with recurrent falls are commonly frail, with multiple medical problems and chronic disabilities. The risk factors for falls should be considered

**•** Muscle weakness  **•** History of falls

• Gait or balance abnormality • Use of a walking aid

• Visual impairment • Arthritis

• Impaired activities of daily living • Depression

• Cognitive impairment • Age over 80 years

• Psychotropic medication

-If problems are identified with muscle strength, balance, vision or cognitive function ,the causes of these must be identified by specific investigation, and treatment commenced if appropriate --.Careful assessment of the patient’s gait may provide important clues to an underlying diagnosis

-Common pathologies identified include cerebrovascular disease, Parkinson’s disease and osteoarthritis of weight-bearing joints. Osteoporosis risk factors should also be sought and dual energy X-ray absorptiometry (DEXA) bone density scanning considered in all older patients who have recurrent falls, particularly if they have already sustained a fracture

***Prevention of falls and fractures***

Falls can be prevented by multiple risk factor intervention.

1-The most effective intervention is balance and strength training by physiotherapist.

2- If postural hypotension is present(defined as a drop in blood pressure of > 20 mmHg systolic or > 10 mmHg diastolic pressure on standing from supine), reducing or stopping hypotensive drugs may be helpful. Evidence supporting the efficacy of other interventions for postural hypotension is lacking ,but drugs, including fludrocortisone and midodrine, are sometimes used to try to improve dizziness on standing.

3-Simple interventions, such as new glasses to correct visual acuity, and podiatry, can also have a significant impact on function in those who fall.

4-If osteoporosis is diagnosed, specific drug therapy should be commenced . In patients in institutional care, calcium and vitamin D3 administration has been shown to reduce both falls and fracture rates ,through effects on both bone mineral density and neuro muscular function. They are not effective in those with osteoporosis living in the community, in whom bisphosphonates are first-line therapy.