



# Falls Prevention & Bone Health

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# Why?

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- Common
- Costly
- Causes/risk factors are multiple
- Complications
- Curable/preventable



## Common & Costly - Falls

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- $\frac{1}{3}$  65+,  $\frac{1}{2}$  80+ fall each year
- Fall related injuries - 6% NHS costs
- 200,000 admissions (6th commonest)
- Length of stay average of 18 days



# Common & Costly - Fractures

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- Major public health issue - 3 million people
- More common than breast (♀), prostate (♂) cancer
- Costs £1.7 billion/yr (87% hip fracture)
- Lifetime incidence aged 50 - ♀ 40% ♂ 13%
- Hip fracture - high rate of disability & dependency

# Causes of falls - extrinsic risks

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- Accidental - slips or trips\*



- Taking 4+ medications\*





# Causes of falls - intrinsic risks

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- Intrinsic risk factors include:
  - ❖ Age
  - ❖ Balance, walking or mobility problems\*
  - ❖ Muscle weakness\*
  - ❖ Visual impairment (poor eyesight)\*
  - ❖ Cognitive impairment (poor memory)
  - ❖ Heart and circulatory diseases\*
  - ❖ Arthritis/foot/footwear problems\*
  - ❖ Other medical conditions\*



# Complications of falls

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- Injury - minor to major NB fracture
- Long lie -
  - pressure sores
  - hypothermia (↓ temp)
  - pneumonia
  - death
- Fear of falling - up to 50%



## Assess your own risk

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Can you sit to stand without using your hands?

Can you stand for 2 minutes unsupported?

*If not you may be at risk of falling*



# Did you enjoy your trip this summer?!

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Could it be due to:

- Poor eyesight?
- Poor footwear/sloppy slippers!
- Inappropriate or damaged walking aid?
- Your environment?
- Your balance?
- Your medications?





# Osteoporosis

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- A disease characterised by low bone mass and a deterioration of the bone tissue such that the bone is fragile and at increased risk of fracture



# Fractures

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- Hip - 70,000
- Wrist - 41,000
- Vertebral/Spine - 25,000
- ~1/3 those with hip # die within 1 year
- 50% of those with hip # do not regain previous level of function
- 25% those with vertebral/spine # suffer another within 1 year



# Diagnosis & Treatment

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- Early diagnosis is important
- 70% vertebral/spine # not clinically diagnosed
- X-Rays of spine can help
- DEXA (bone density scan)



# Consequences

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- Pain
- Disability
- Fear
- Change of living accommodation
- Reduced quality of life
- Death

# Consequences



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## Cure - aims of treatment

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- Alleviate symptoms
- Prevent further bone loss
- Prevent fractures

# Cure - prevention

- Diet - calcium & vitamin D
- Weight bearing exercise
- Stop smoking
- Reduce alcohol
- Treat underlying illness
- Hip protectors??





# Cure - Medical Treatments

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- Calcium and vitamin D
- Bisphosphonates - e.g. alendronate
- Raloxifene
- Strontium
- Parathyroid hormone (Teriparatide)
- Vertebral kyphoplasty





## What can you do?

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- Seek advice from GP or other health professional if:
  - Previous fracture
  - Lost height
  - At risk of falls
- Stay active and healthy!

