Draft guidance for the management of symptomatic vertebral fragility fractures (VFF)

First presentation & point of entry to pathway	Clinical assessment	Investigations	Initiation of treatment and acute pain management	Surgical intervention (if indicated)	Follow up & point of exit from pathway

1) Pts presenting with recent, sudden onset, back pain often (but not exclusively) following only minimal trauma or even simple daily activities.

2) Pts presenting with ongoing back pain – with features in the history & examination suggestive of VFF

Key features and signs:
- Age ≥50 years
- Midline tenderness to percussion over posterior spinous process(es)
- +/- pre-existing kyphosis suggesting previous VFF

Likely points of entry via: General Practice; tier 2 MSK (MCATs) service; ED; other out-patient specialities; Imaging

For pts requiring admission, there should be a clear policy in terms of which specialty they are admitted under

Pts with <u>non symptomatic VFF</u> (e.g. VFF identified as incidental finding on imaging) please refer to **secondary fracture prevention pathway**

<u>RED FLAGS PRESENT?</u>
- pain when lying & affects sleep
- h/o cancer or recent unexplained wt. loss
- acute myelopathy or radiculopathy signs
- acute cauda equina
- fever
- s/o spinal infection in immunocompromised patient or TB

YES → *EMERGENCY* or *URGENT* referral to spinal team or cancer service as clinically indicated

NO

Laboratory investigations: FBC; U&Es; Calcium; Phosphate; Alk PO4; LFTs; TSH; Coeliac screen; Myeloma screen (serum & urine protein electrophoresis or serum free light chains); +/-vit D (in accordance with guidelines) +/-testosterone (males <75)

Assess absolute # risk using FRAX®**or QFracture® within allowed age ranges

Falls risk screening (defer if Ax compromised by acute pain)
Refer on for further Ax/mgmt as indicated & in accordance with local pathways

Consider whether **bone mineral density assessment (DXA)** is appropriate, noting its limitations in this population** **but <u>DO NOT WAIT</u> until pt has had a DXA to start treatment**

Acute pain management to render patient mobile at the earliest: (In-patients: early referral to pain team if required)
- Regular paracetamol +/- weak opioids
- PRN strong opioids if needed - beware opioid toxicity, delirium; prophylaxis for constipation
- Use pain patches if unable to tolerate oral meds
- Avoid NSAIDs & tramadol if possible
- Use functional pain assessment score e.g. FAS (use PAINAD tool in pts with dementia)
- Provide clear & prompt guidance on how to adapt movements involved in day-to-day living & exercises for posture & pain
- **Do not routinely brace** - only under exceptional circumstances

Initiate bone sparing treatment unless contraindicated in accordance with local treatment protocols, ensuring shared decision making. **Ensure pt is calcium & vit D replete** – use combined calcium & vit D preparation **or** colecalciferol as indicated. Consider IV bisphosphonate or denosumab if at immediate risk of fracture or if oral bisphosphonate unsuitable

If **unremitting pain after 48 hrs** (in spite of acute pain mgmt) that's still severely compromising ADLs & mobility…

Arrange urgent MRI (start with sagittal STIR sequence - in case pt unable to tolerate)

If confirmed vertebral body oedema then…

Symptoms improve:
- Pain management & home exercise prog.

Patient struggling with ongoing pain & reduced function > 3/12 post injury:
- Refer to MCATs to be triaged in virtual MDT (should inc pain specialist & spinal surgeon)

Make *URGENT* referral to local Spinal Unit for consideration of cement augmentation

Local Spinal Unit:
- Ensure shared decision making
- If relevant, perform cement augmentation (default to vertebroplasty) *WITHIN 72 HRS OF MDT DECISION*
- Send biopsy
- Input procedure in British Spine Registry
- Immediate mobilisation
- Provide home exercise programme

Limited criteria for kyphoplasty, must be decided by the local MDT in agreement with Regional spinal network.

Virtual follow up at 2/12 post surgery with the spinal team
- Input outcome measures in British Spine Registry

3/12 & 12/12 AFTER STARTING TREATMENT, **treatment review by identified, responsible clinician** to review tolerance of bone sparing medication & address any concerns or problems, effecting a change in treatment if necessary.

Thereafter, treatment should be reviewed annually.

Treatment 'holidays' are not appropriate if the individual is on denosumab.

**Use of femoral neck BMD in FRAX® improves fracture prediction & allows for clinical interpretation against national guidance. However, it does not allow for inclusion of lumbar spine BMD. In addition, it underestimates the predictive value of vertebral fractures, multiple previous fractures and high-dose glucocorticoids. Note that FRAX® does not include falls risk. Additionally, in assessing 10yr absolute probability of fracture, it may lead to underestimation of the short-term risk of fracture in the older old, due to the competing risk of death from other causes within the time frame.*

*** DXA is not required if the patient has had a DXA scan already within the past two years. Additionally, it should be noted that DXA is a less reliable tool for diagnosing osteoporosis & predicting future fracture risk in those with lumbar spondylosis as the BMD results for this site will be spuriously elevated. If the patient has bilateral THR in situ or spinal instrumentation in the lumbar area then a BMD measurement at that site cannot be performed.*

<u>Throughout the pathway ensure</u>: ***Shared decision making*** *between patient & clinician – understand pts values, preferences, & priorities - using relevant patient decision aids as applicable.* ***Personalisation with appropriate mechanism & timing of follow-up*** *(virtual, patient initiated etc)* ***Access to information & support at all points*** *in the pathway, to facilitate timely presentation (70% of vertebral fractures do not come to clinical attn) and ongoing, supported self-management (e.g. advice line, patient groups and societies, FAQ on website etc.)*