



Standard Treatment Workflow (STW) FRAGILITY FRACTURES ICD-10-Z87.310

WHAT ARE FRAGILITY FRACTURES

• To be suspected in fractures resulting from trivial trauma or fall from a standing height or less

• For example fracture neck of femur, forearm fracture (Colle's), vertebral fracture

WHAT TO ASK?

Postmenopausal females

Family history of fracture

Previous history of fracture

Renal stone disease

Pancreatitis

Steroid abuse or alternative medications or clinical stigma of cushing's

Premature ovarian failure (less than 40 years)

Diabetes

Chronic diarrhoea or bloating sensation

Use of antiepileptics like phenytoin etc
Cushings with hypogonadism

Chronic systemic illnesses like rheumatoid arthritis

Smoking, chronic systemic diseases, CKD, CLD, Endocrine disorders, Thyroid disorders, Hypogonadism

INVESTIGATIONS

Biochemical:

Fasting serum calcium, phosphate, alkaline phosphate and albumin (if available) hemogram myeloma-proteins in serum or urine
Fasting blood glucose PTH (parathyroid)
25 hydroxy Vitamin D, IgA tTg
Renal function tests, bone markers beta cross LAP

Bone imaging:

DXA scan osteoporosis T score-osteoporosis ≥ -2.5 severe osteoporosis= fracture or T score ≥ -3.0
X-ray of fracture site Use Z score for age less than 50 for men and premenopausal women
X-ray lumbar spine (Lateral), pelvis (AP), skull (lateral), both hands

Ultrasound abdomen, gall stones, renal stones and nephrocalcinosis, Ultrasound neck, enlarged parathyroid
Sestamibi scan for parathyroid enlargement



Fracture neck of the femur



L4 Osteoporotic fracture



Sestamibi Scan for parathyroid adenoma

HOW TO TREAT?

Resuscitate the patient if needed
Stabilize the fracture

WHEN AND WHERE TO REFER?

Refer to orthopaedician for fracture management
surgical management

Refer to endocrinologist for evaluation and treatment of osteoporosis

TREATMENT

- Daily oral calcium 1-1.5 gm/day
- Vitamin D supplementation to maintain serum 25OHD levels of 30.0-50 ng/ml
- Stop smoking alcohol

- Inj Zoledronic acid 5mg I/V infusion OR
- Inj Denosumab 60mg S/C every 6 months OR
- Inj rPTH 20 μ g S/C daily for maximum 2 years

ABBREVIATIONS

CKD: Chronic kidney disease
CLD: Chronic liver disease

rPTH: recombinant Parathyroid hormone

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES