

STANDARD TREATMENT WORKFLOW (STW)

Fragility Fractures

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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

Postmenopausal females	Family history of fracture	Previous history of fracture
Renal stone disease	Pancreatitis	Steroid abuse or alternative medications or clinical stigmata of Cushing's

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WHAT ARE FRAGILITY FRACTURES

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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
- Inj Zoledronic acid 5mg I/V infusion OR
- Vitamin D supplementation to maintain serum 25OHD levels of 30.0-50 ng/ml
- Inj Denosumab 60mg S/C every 6 months OR
- Stop smoking alcohol
- Inj rPTH 20 µg S/C daily for maximum 2 years

ABBREVIATIONS

CKD: Chronic kidney disease

rPTH: recombinant Parathyroid hormone

CLD: Chronic liver disease

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: stw.icmr.org.in for more information.
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