STANDARD TREATMENT WORKFLOW (STW)

DISTAL FEMUR FRACTURES

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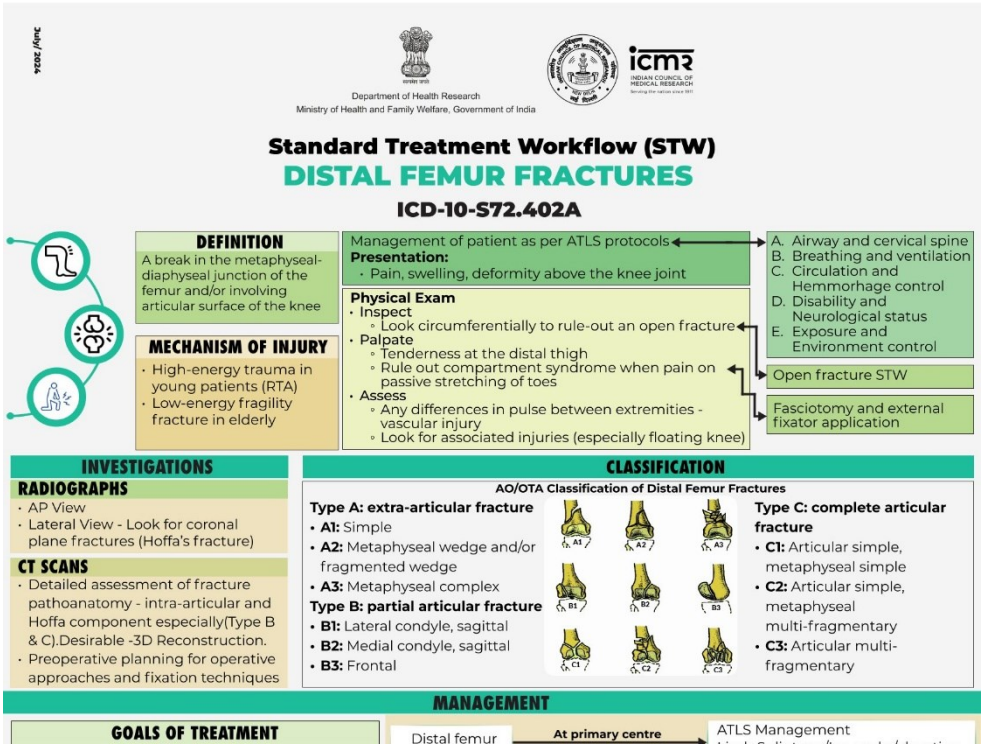

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Standard Treatment Workflow (STW)

DISTAL FEMUR FRACTURES

ICD-10-S72.402A

DEFINITION

A break in the metaphyseal-diaphyseal junction of the femur and/or involving articular surface of the knee

MECHANISM OF INJURY

- High-energy trauma in young patients (RTA)
- Low-energy fragility fracture in elderly

Management of patient as per ATLS protocols

Presentation:

- Pain, swelling, deformity above the knee joint

Physical Exam

- Inspect
  - Look circumferentially to rule-out an open fracture
- Palpate
  - Tenderness at the distal thigh
  - Rule out compartment syndrome when pain on passive stretching of toes
- Assess
  - Any differences in pulse between extremities - vascular injury
  - Look for associated injuries (especially floating knee)

A. Airway and cervical spine
B. Breathing and ventilation
C. Circulation and Hemmorhage control
D. Disability and Neurological status
E. Exposure and Environment control

Open fracture STW

Fasciotomy and external fixator application

INVESTIGATIONS

RADIOGRAPHS

- AP View
- Lateral View - Look for coronal plane fractures (Hoffa's fracture)

CT SCANS

- Detailed assessment of fracture pathoanatomy - intra-articular and Hoffa component especially(Type B & C).Desirable -3D Reconstruction.
- Preoperative planning for operative approaches and fixation techniques

CLASSIFICATION

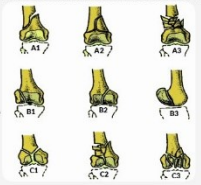
AO/OTA Classification of Distal Femur Fractures

Type A: extra-articular fracture

- **A1:** Simple
- **A2:** Metaphyseal wedge and/or fragmented wedge
- **A3:** Metaphyseal complex

Type B: partial articular fracture

- **B1:** Lateral condyle, sagittal
- **B2:** Medial condyle, sagittal
- **B3:** Frontal



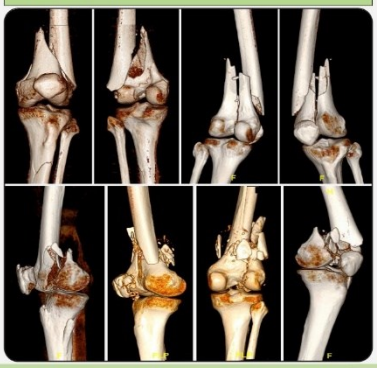
Type C: complete articular fracture

- **C1:** Articular simple, metaphyseal simple
- **C2:** Articular simple, metaphyseal multi-fragmentary
- **C3:** Articular multi-fragmentary

MANAGEMENT

GOALS OF TREATMENT

1. Restore articular congruity in intra-articular fractures
2. Reconstruction of extra-articular component
3. Length, alignment and rotation should be clinically and flouroscopically confirmed before final fixation



Distal femur fracture → **At primary centre** → ATLS Management
Limb Splintage/Ice packs/elevation
X-Ray if possible

At secondary centre

- Active bleed - sterile dressing and compression bandage
- Suspected compartment syndrome
- Open fracture- sterile dressing

Refer to secondary centre

- Stop the bleed
- Debride for open fracture
- Fasciotomy if warranted for impending compartment syndrome
- External fixator application
- Open reduction internal fixation for simple fractures

At tertiary centre

- If final fixation not possible
- Geriatric patient/Osteoporotic
- Periprosthetic fracture
- Multi-system/Vascular injury

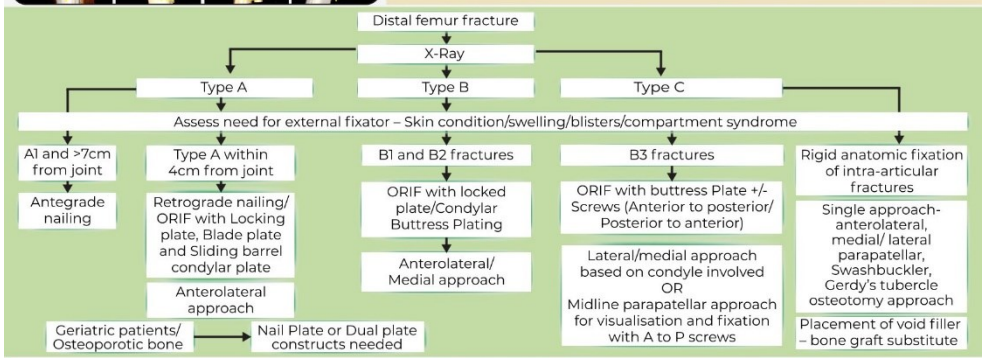
Refer to tertiary centre

- HDU/ICU management for multi-system injury
- Fasciotomy if required
- Vascular repair

- Vascular injury
- Geriatric patient/ Osteoporotic
- Periprosthetic fracture
- Multi-system/ Vascular injury

Refer to tertiary centre

Final fixation once swelling subsides/blisters resolve/patient physiologically fit



ABBREVIATIONS

AP: Antero-posterior
ATLS: Advanced Trauma Life Support
HDU: High Dependency Unit
ICU: Intensive Care Unit
ORIF: Open Reduction and Internal Fixation
OTA: Orthopaedic Trauma Association
RTA: Road Traffic Accident

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TIMELY INTERVENTION AS PER RESOURCE SETTING