

How does the OF-Score work?

Step 1

Classify the fracture (CT, MRI, X-Ray)

Step 2

Score the patients situation

Step 3

Decision making of therapy

Step 1

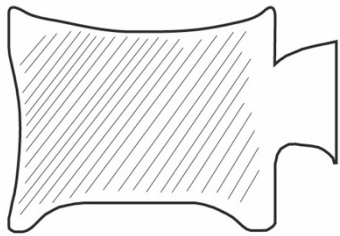
The OF-classification analyzes the type of fractures concerning:

- X-Ray
- Computertomography
- MRI

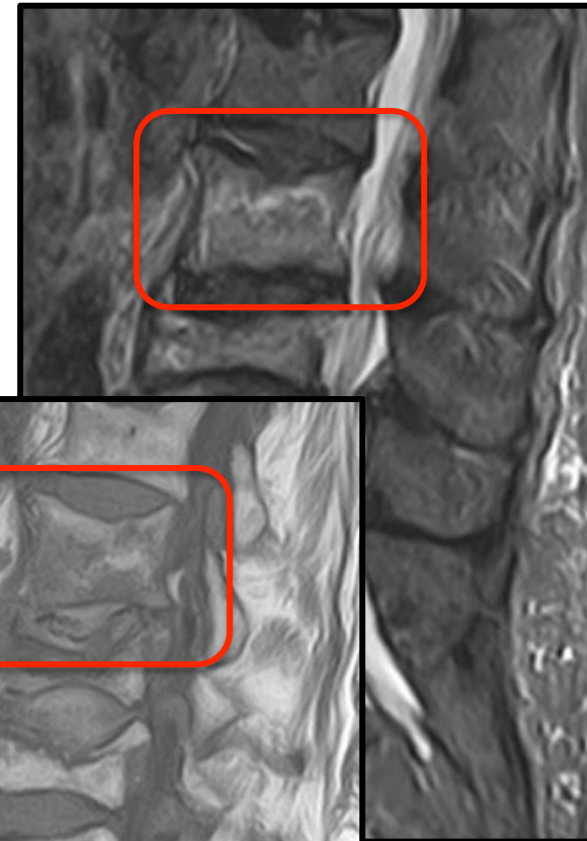
The OF-classification:

| | |
|-------------|---|
| OF 1 | No deformation (vertebral body edema in MRI-STIR) |
| OF 2 | Deformation of one endplate without or with slight posterior wall involvement (< 1/5 of vertebral height) |
| OF 3 | Deformation of one endplate with distinct posterior wall involvement (> 1/5 of vertebral height) |
| OF 4 | Deformation of both endplates with/without posterior wall involvement |
| OF 5 | Injuries with anterior or posterior tension band failure |

OF 1: No deformation (vertebral body edema in MRI-STIR)

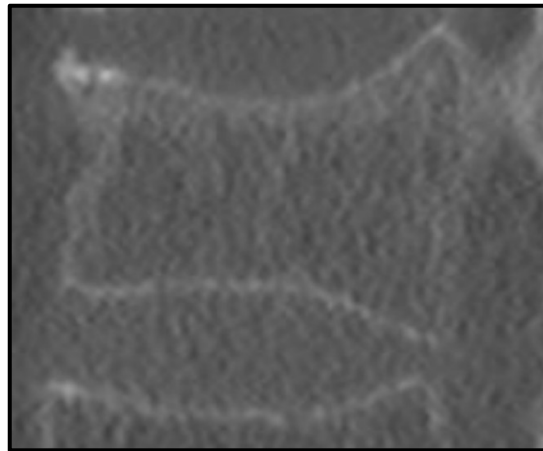
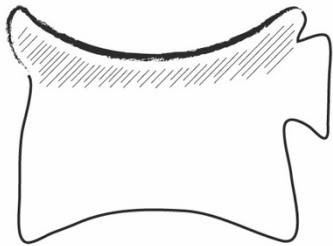


CT sag

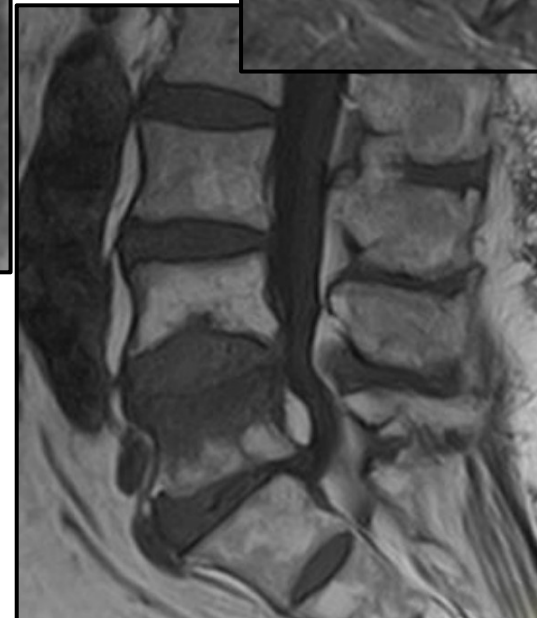


MRI
T1 and STIR

OF 2: Deformation of one endplate

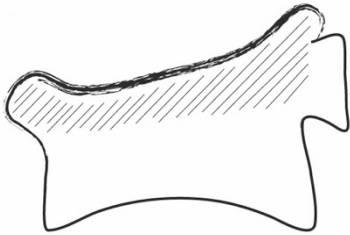


CT sag



MRI
T1 and STIR

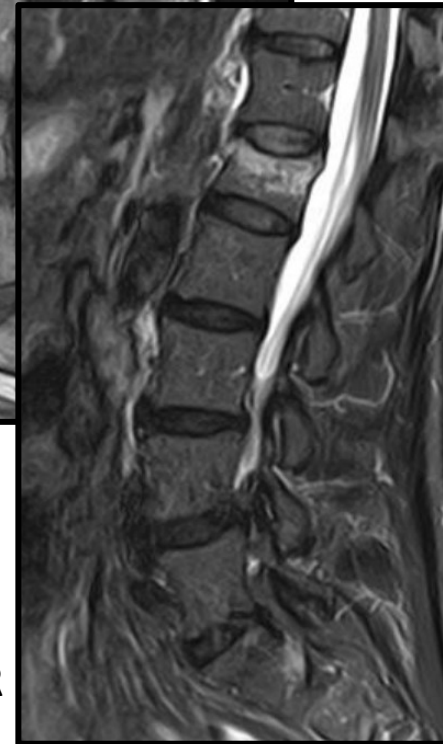
OF 3: Deformation of one endplate with distinct posterior wall involvement



X-ray

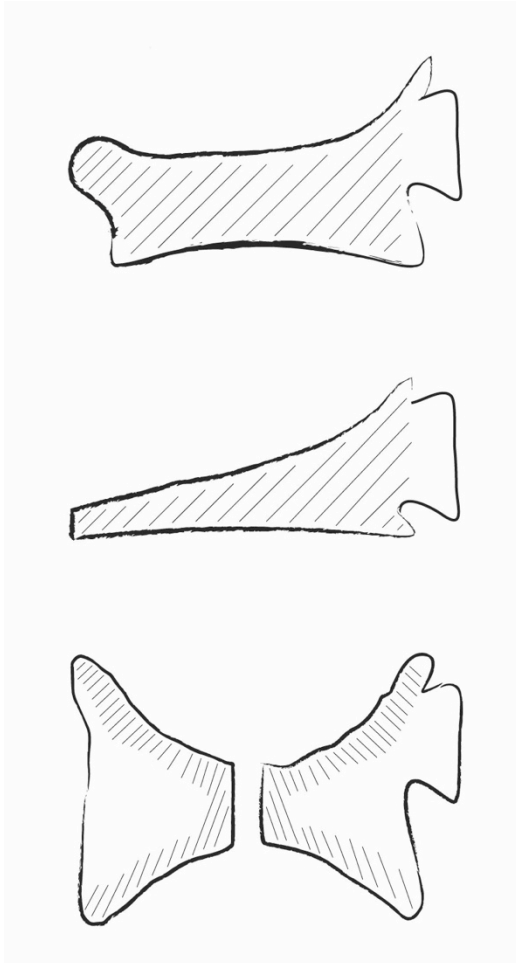


CT sag

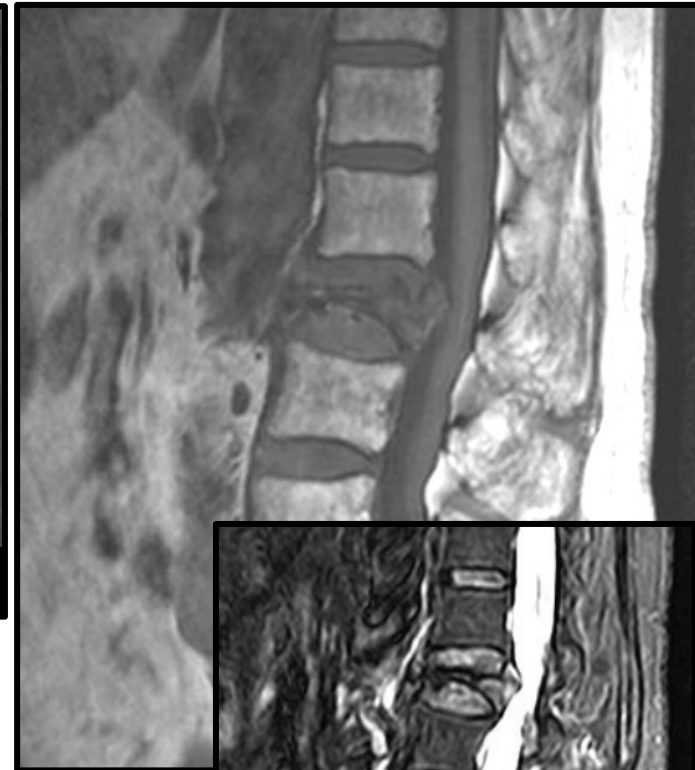


MRI:
T1 and STIR

OF 4: Deformation of both endplates with/without posterior wall involvement



CT sag

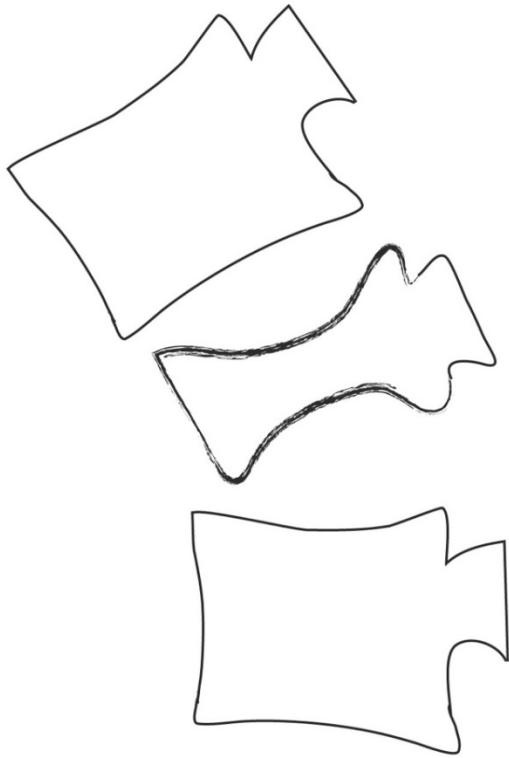


MRI:
T1 and STIR



OF 5:

Injuries with anterior or posterior tension band failure



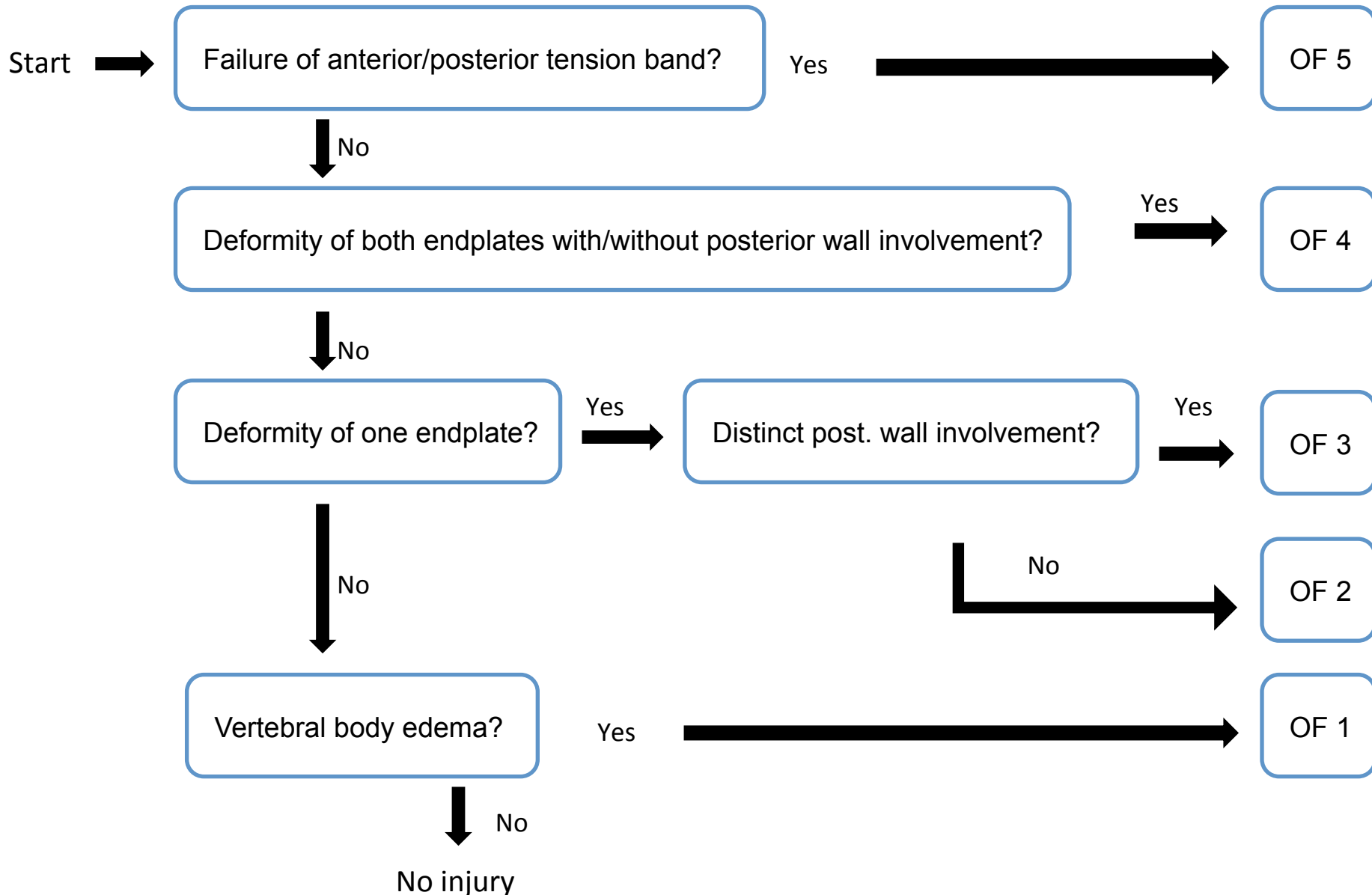
CT sag



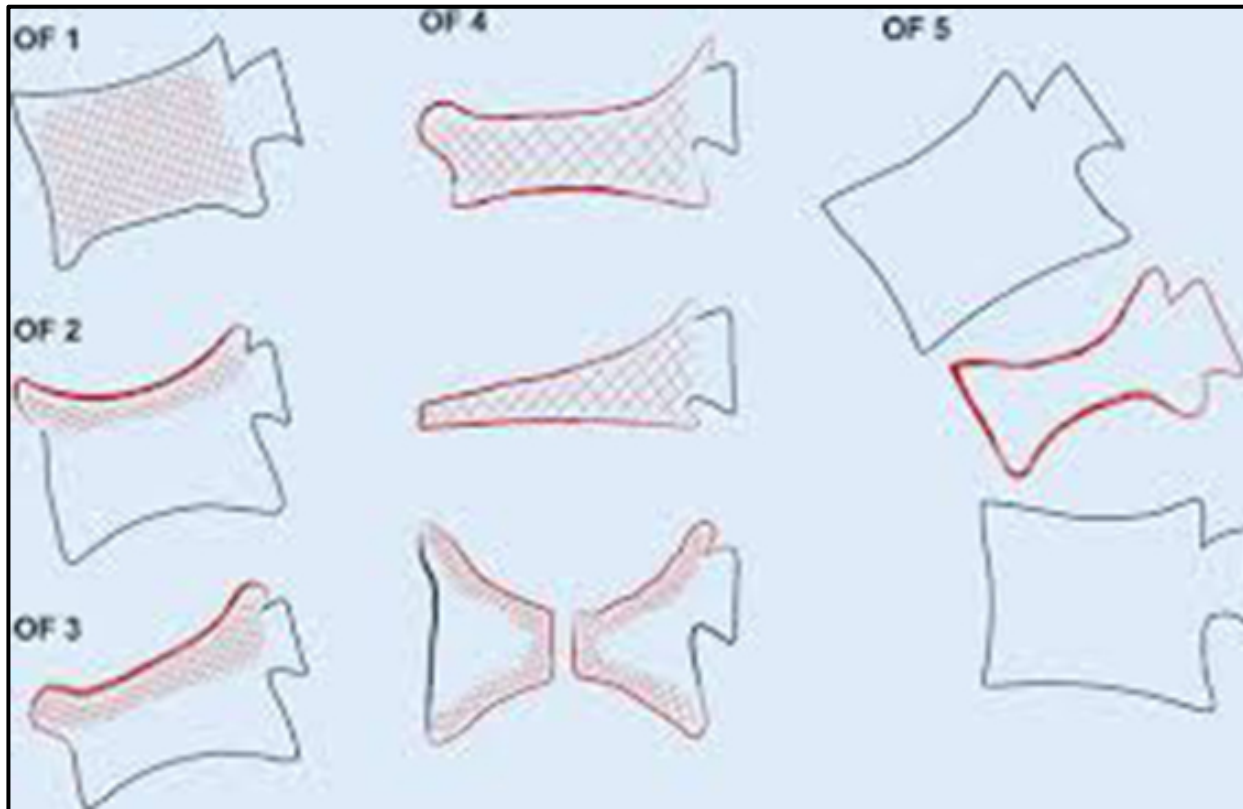
MRI: STIR

Algorithm

OF-Classification



Each classification counts 2 points:



OF 1: 2 points

OF 2: 4 points

OF 3: 6 points

OF 4: 8 points

OF 5: 10 points

You have to answer questions referring to

- Severity of Osteoporosis
- Progression of deformity
- Pain status
- Neurological symptoms (fracture related)
- Possibility of mobilisation
- Health status

- **Severity of Osteoporosis**

- Progression of deformity

- Pain status

- Neurological symptoms (fracture related)

- Possibility of mobilisation

- Health status

T-Score < -3:

or: Hounsfield-Units < 90

1 point

T-Score > -3:

0 points

Unknown

0 points

- Severity of Osteoporosis
- **Progression of deformity**
- Pain status
- Neurological symptoms (fracture related)
- Possibility of mobilisation
- Health status

Progression:

1 point

No progression:

-1 point

Unknown

0 points

- Severity of Osteoporosis
- Progression of deformity
- **Pain status**
- Neurological symptoms (fracture related)
- Possibility of mobilisation
- Health status

VAS \geq 4:

1 point

VAS $<$ 4:

0 points

Unknown

0 points

- Severity of Osteoporosis
- Progression of deformity
- Pain status
- **Neurological symptoms (fracture related)**
- Possibility of mobilisation
- Health status

Yes:

2 points

No:

0 points

Unknown

0 points

- Severity of Osteoporosis
- Progression of deformity
- Pain status
- Neurological symptoms (fracture related)
- **Possibility of mobilisation**
- Health status

Yes:

-1 point

No:

1 point

Unknown

0 points

For each Comorbidity: **-1 point**

- Severity of Osteoporosis
- Progression of deformity
- Pain status
- Neurological symptoms (fracture related)
- Possibility of mobilisation

Maximum: **-2 points**

Unknown or no comorbidities: **0 points**

- Health status
 - ASA>3
 - active anticoagulation
 - dementia
 - nursing case
 - BMI < 20

Score for therapeutic decision making in Osteoporotic Vertebral-Fractures

OF-Score

| Parameter | Grade | Points |
|--|--|----------------------------|
| Morphology (OF 1-5) | 1-5 | 2-10 |
| Severity of Osteoporosis | T-Score <-3 or qCT: HU ≤90 | 1 |
| Deformity Progression | Yes, No | 1, -1 |
| Pain (under analgesia) | VAS ≥ 4, < 4 | 1, -1 |
| Neurological symptoms (fracture related) | Yes | 2 |
| Mobilisation (under analgesia) | No, Yes | 1, -1 |
| Health Status | ASA>3, active anticoagulation, dementia, nursing case, BMI<20 | Each -1, maximum -2 |

0 points if a parameter is unknown or not determinable!

0-5 points = Cons. therapy; 6 points = Cons or surgery; >6 points = Surgery

Think about the **red** parameters:

- Osteoporosis
- **Progression of deformity**
- **Possibility of mobilization**
- **Pain status**
- Neurological symptoms
- **Comorbidities**

The red marked parameters can change!

Recommendation of therapy:

0-5 points: conservative therapy

6 points: conservative or operative therapy

> 6 points: operative therapy