



IN THE NAME OF GOD

Low Back Pain



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Job Risk Factors

Associated with *LBP*

- **Heavy Physical Work**
- **Static Work Postures**
- **Frequent Bending & Twisting**
- **Lifting, Pushing & Pulling**
- **Repetitive Work**
- **Vibration**
- **Psychological & Psychosocial Stress**
- **Smoking**

The "Red Flags" of LBP

- **Cauda Equina Syndrome**
- **Fracture**
- **Tumor**
- **Infection**

Cauda Equina Syndrome

- **Saddle Numbness**
- **Urinary Retention ,
Incontinence**
- **Severe (Progressive)
Neurologic Deficit in Leg**

Possible Fracture

- ***Major Trauma***
- ***Minor Trauma in Patients
>50 years***
- ***Chronic Steroid Use***
- ***Osteoporosis***
- ***>70 years***

Possible Tumor

- ***>50 years***
- ***<20 years***
- ***Hx of Cancer***
- ***Unexplained Weight Loss***
- ***Nocturnal Pain***

Possible Infection

- ***Recent Fever or Chills***
- ***Recent Bacterial Infection***
- ***IV Drug Use***
- ***Immune Suppression***
- ***Constitutional Symptoms***

Criteria for Lumbar Radiographs in Patients with Acute LBP

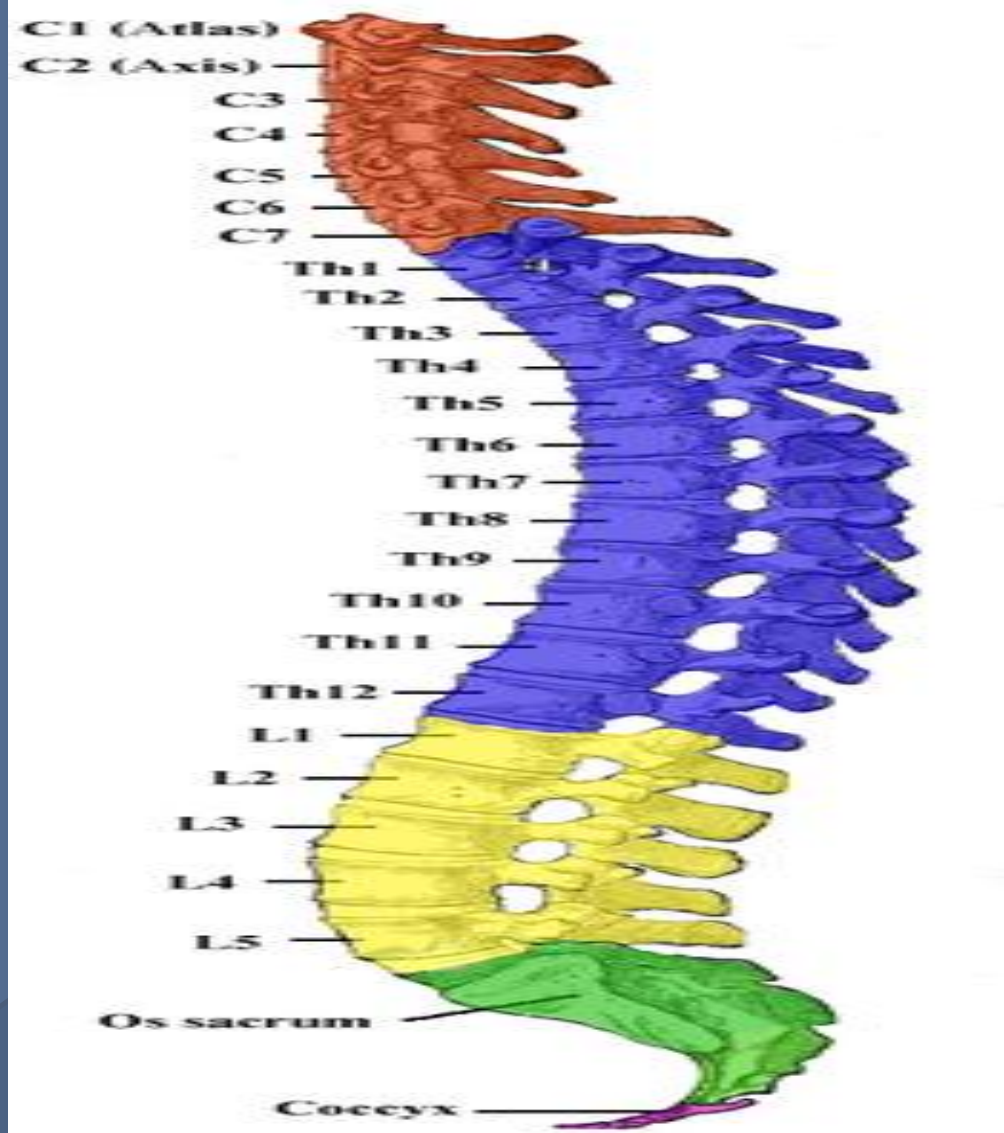
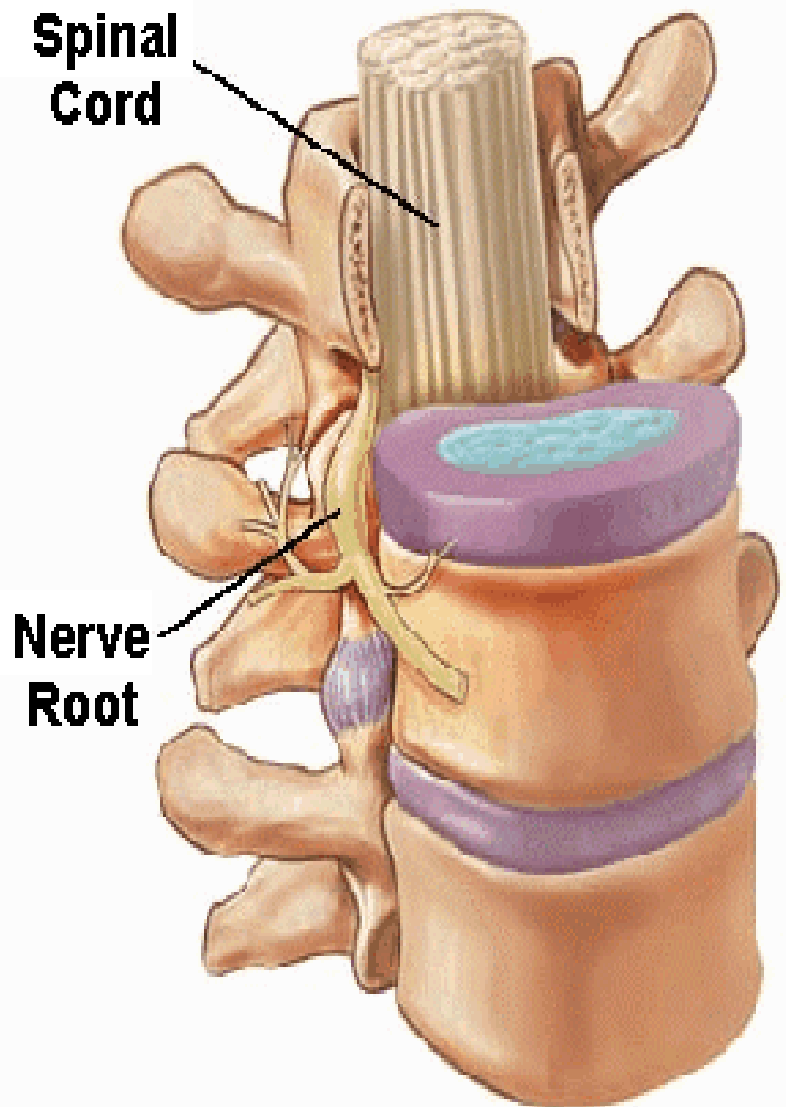
- ***Possible Fracture***
- ***Possible Tumor***
- ***Possible Infection***

Prevention of LBP

- **Job Design**
- **Job Placement**
- **Training & Education**

Lumbar Disc Herniation

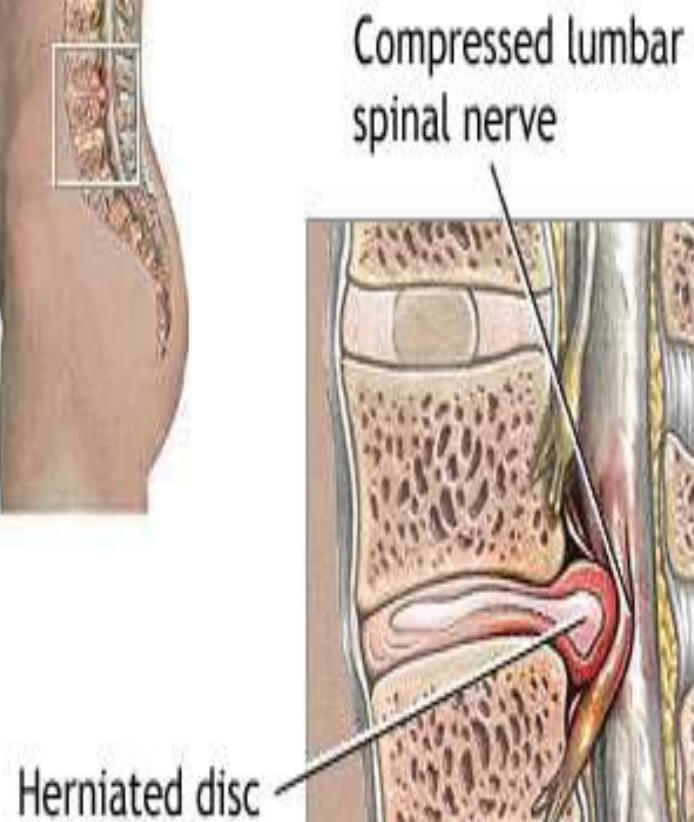
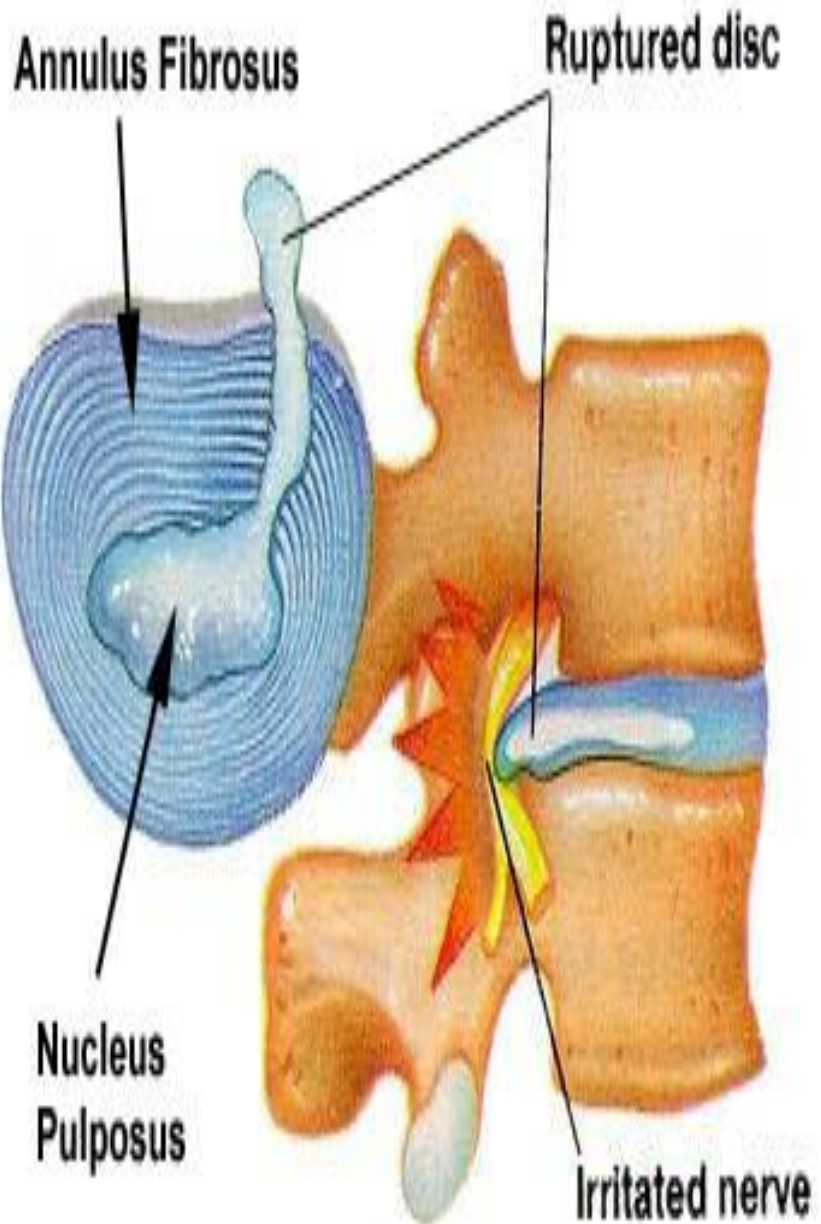
Lumbar disc herniation



Definition of disc herniation

Abnormal rupture of the soft gelatinous central portion of the disc (**nucleus pulposus**) through the surrounding outer ring (**annulus fibrosus**).

In about **95%** of all disc herniation cases, the L4-L5 or L5-S1 disc levels are involved.



Causes of lumbar disc herniation

- 1. Trauma or injury to the disc**
- 2. Disc degeneration**
- 3. Congenital predisposition**

Types of disc herniation

There are three types of disc herniation

1. Protrusion / bulge
2. Disc herniation
3. Sequestration (disc rupture)

A.



Disc Bulge (A)

B.



Herniated Disc (B)

C.



Disk Rupture (C)

Typical locations of disc herniation

Central

- It is rare condition, it will affect multiple nerve roots, patient will have back pain more than leg pain and it may cause **incontinence** of the bladder and bowel. **Urgent** surgical treatment is necessary if patient presents with neurological deficits.

Typical locations of disc herniation

Posterolateral

- Usually it is the most common location, it involve one nerve root (the lower one).

Foraminal

- It occurs in about 8-10% of all cases. It involves the exiting nerve.

Clinical manifestations of disc herniation

- If the herniated disc is:
- **Not** pressing on a nerve, you may have an ache in the low back or no symptoms at all.
- **Pressing** on a nerve, you may have pain, numbness, or weakness in the area of your body to which the nerve travels.

Clinical manifestations of disc herniation

- **Leg pain caused by a herniated disc**
- **Usually occurs in only one leg.**
- **May start suddenly or gradually.**
- **May be constant or may come and go (intermittent).**
- **May get worse ("shooting pain") when sneezing, coughing, or straining to pass stools.**

Leg pain caused by a herniated disc (cont...)

- May be **aggravated** by sitting, prolonged standing, and bending or twisting movements.
- May be **relieved** by walking, lying down, and other positions that relax the spine and decrease pressure on the damaged disc.

Clinical manifestations of disc herniation

- **Nerve-related symptoms caused by a herniated disc include:**
- Tingling ("pins-and-needles" sensation) or numbness in one leg that can begin in the buttock or behind the knee and extend to the thigh, ankle, or foot.
- Weakness in certain muscles in one or both legs.
- Pain in the front of the thigh.
- cauda equina syndrome

Diagnostic studies

- MRI is the test of choice for evaluation of disc disease. Its **multiplanar** capabilities make it suitable for visualizing far lateral disc **herniation** as well as the **paravertebral** structures.

Management of disc herniation

- The medical management traditionally involves:
- **Bed** rest and analgesics and anti-inflammatory drugs.
- **Muscle** relaxants help in some. Transcutaneous electrical nerve stimulation (TENS) helps in about 20% of patients.
- **Physical** therapy such as (exercise, relaxation, massage, and hot compressors).

Management of disc herniation

- Surgical management:

Indications for surgery include failure of acceptable pain control by nonoperative measures, progressive neurological deficit. The traditional approach to lumbar discectomy (**laminectomy**) usually under general anesthesia.

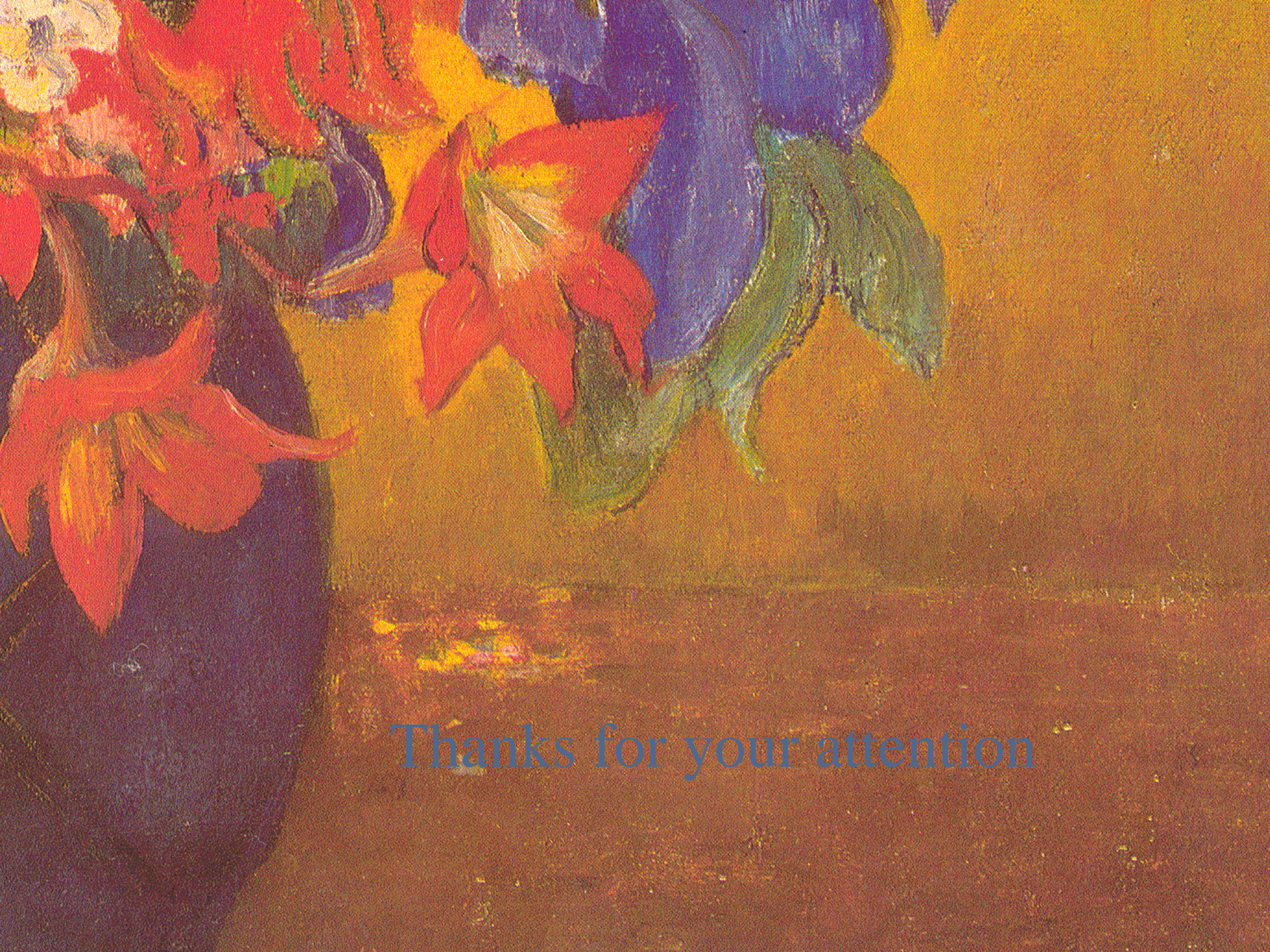
Nursing intervention

Reducing pain

- Bed rest
- Comfortable position such as semi-fowler's with moderate hip and knee flexion or side lying position.
- Progressive ambulation

Patient's education

- Exercise
- Proper position
- Avoid lifting



Thanks for your attention