

POSTURE AND PAIN

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MPT (Cardio Pulmonary)

Definition

- Posture is an attitude assumed by the body either with support during muscular inactivity or by means of the coordinated action of many muscles working to maintain stability or to form an essential basis which is being adapted constantly to the movement which is superimposed upon it

Types of Posture

1) Inactive posture

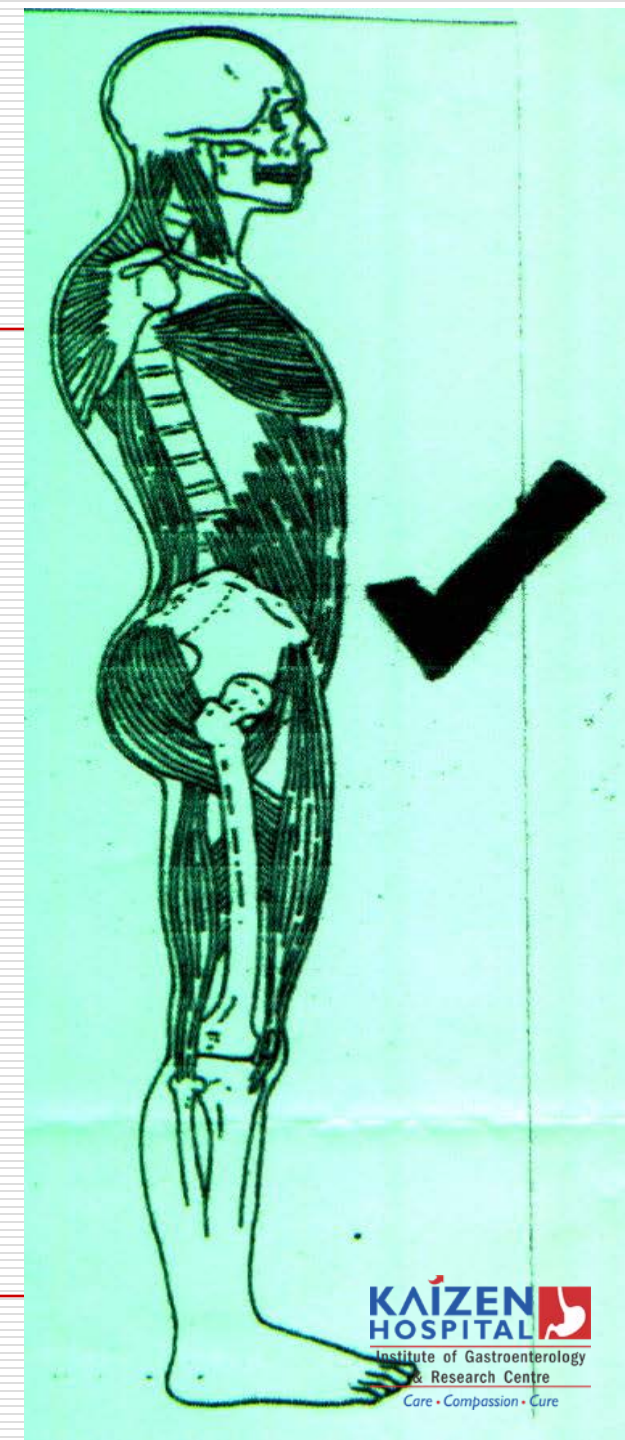
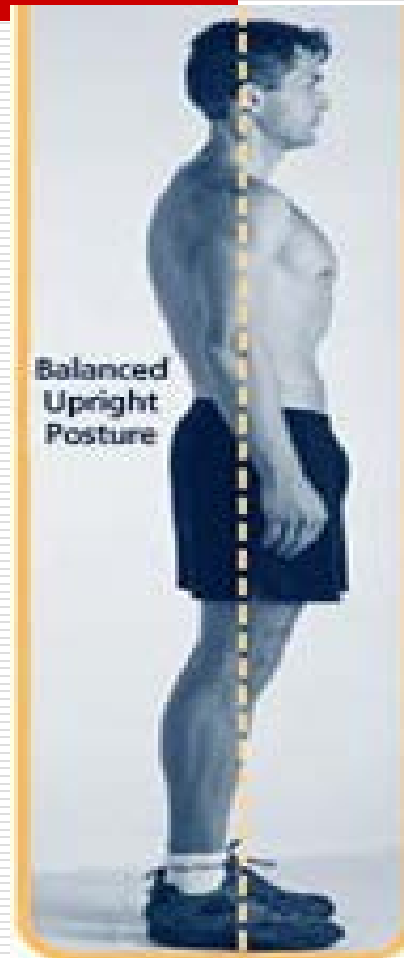
- Attitude adopted for resting or sleeping
- All essential muscular activity reduces to minimum
- Used for training general relaxation

2) Active posture

- Integrated activity or action of many muscles is required to maintain active posture
- It may be either *Static* or *Dynamic*

Pattern of Posture

1) Good posture



Pattern of Posture

1) Good posture

- When the posture fulfills the purpose for which it is used with maximum efficiency and minimum effort.
- Varies from individual to individual
- Perfect balance of one body segment over another.
- Minimum muscular effort.
- Pleasing to someone's eyes.

Pattern of Posture

1) Good posture

- Factors responsible for good posture:
 - Stable Psychological Background
 - Good Hygienic Conditions
 - Opportunity for Plenty of natural free movement

Pattern of Posture

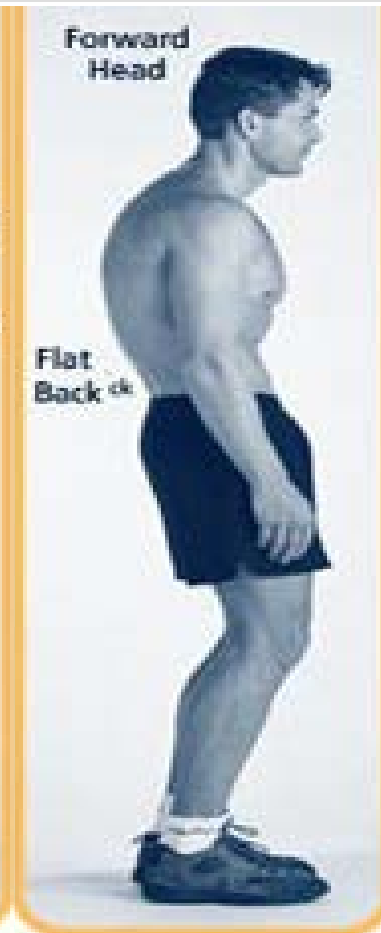
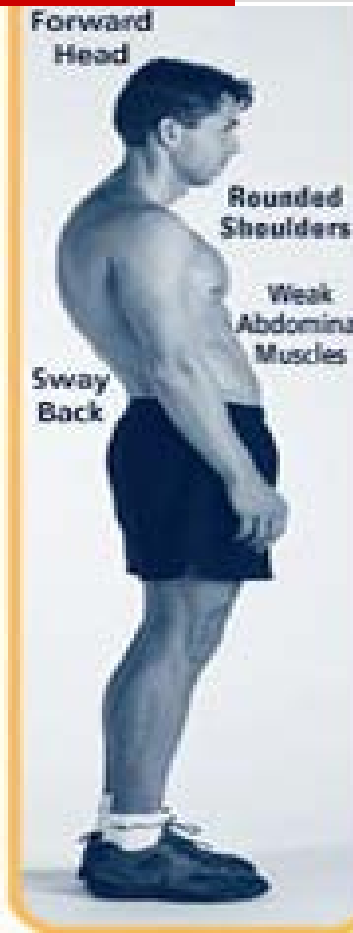
2) Poor Posture



Slump/slouch

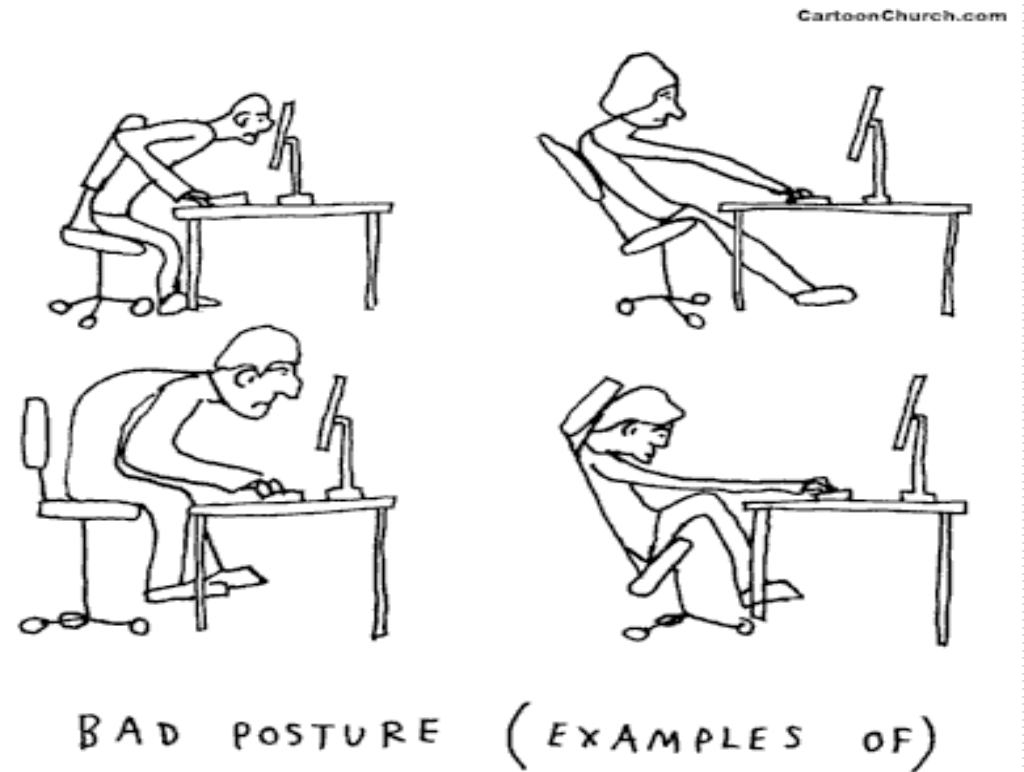


forced upright



Pattern of Posture

2) Poor Posture



Pattern of Posture

2) Poor Posture

- ❑ A posture which is inefficient, fails to serve the purpose and in it unnecessary amount of muscle effort used.
- ❑ Faulty alignment of body parts leading to additional muscle work.
- ❑ Marked increase in curves of spine which are displeasing to eyes.
- ❑ Reduces the efficiency of movement.

Pattern of Posture

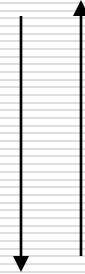
2) Poor posture

- Factors responsible for poor posture:
 - Mental attitude
 - Poor hygienic condition
 - General disability and Illness
 - Prolong fatigue
 - Local factors
 - Pain
 - Muscular weakness
 - Occupational stress
 - Sometimes there may be faulty idea of good posture

Pattern of Posture

2) Poor posture

POOR BIO-MECHANICS



PAIN

Re-education of Posture

Principle

- The cause of poor posture must be found out.
- Co-operation of patient

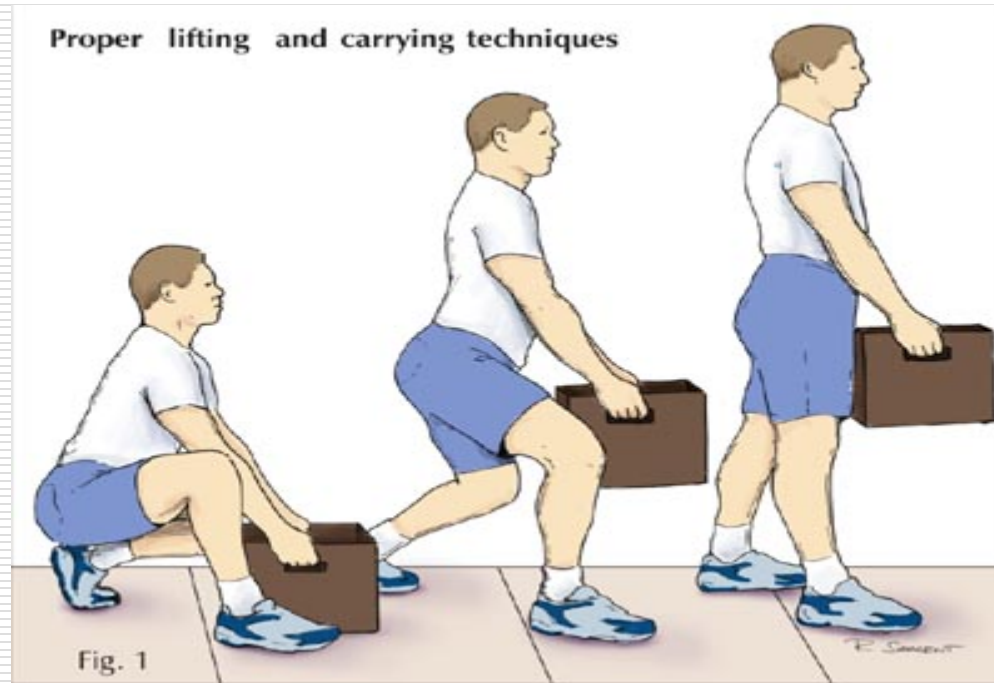
Techniques of Re-education

- General relaxation
- Treatment of pain
- Mobility
- Muscle power

Ergonomic Advices

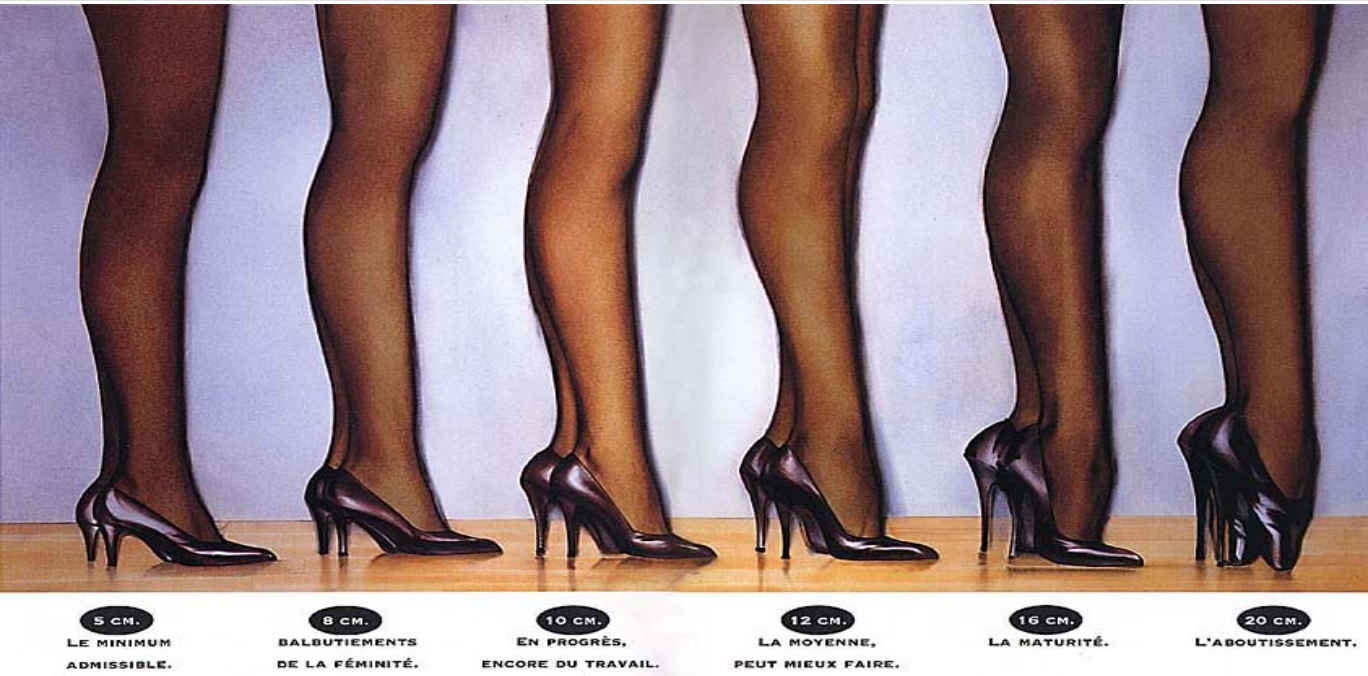
Ergonomic Advices

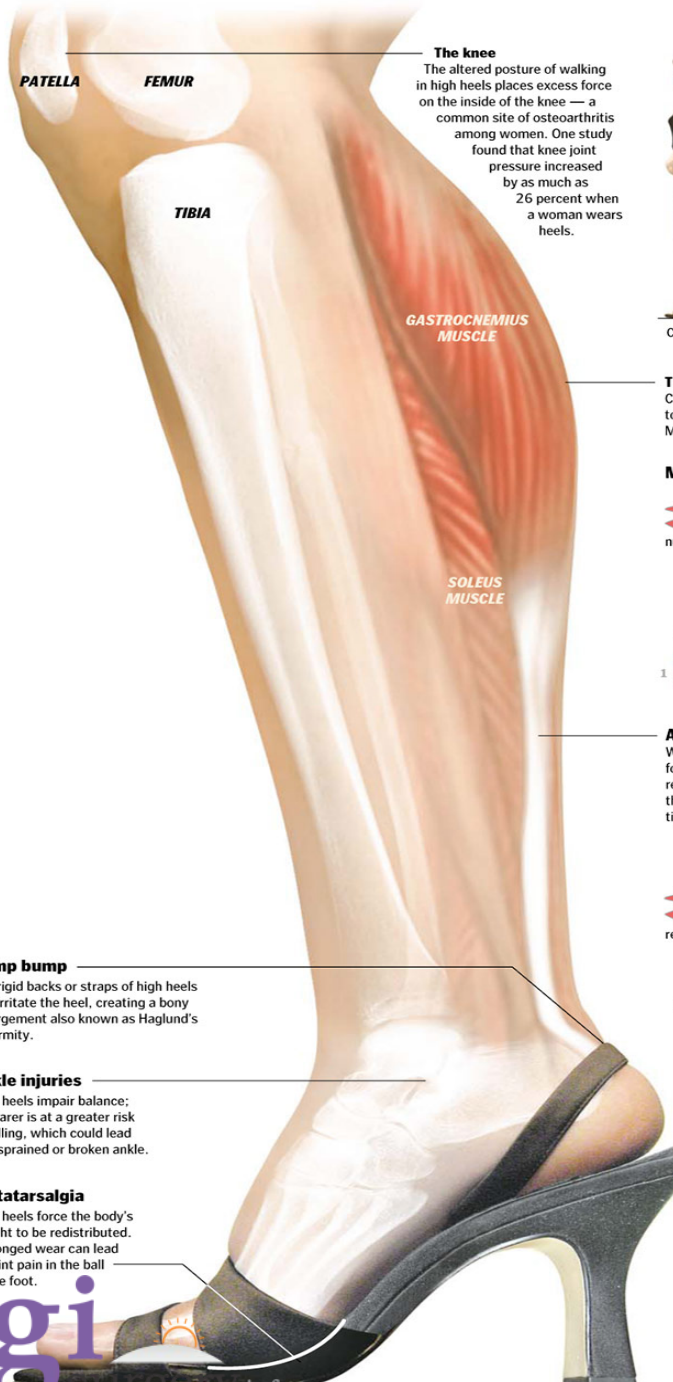
- ❑ Lifting and Carrying weight



Ergonomic Advices

- ❑ Avoid high heels





The knee
The altered posture of walking in high heels places excess force on the inside of the knee — a common site of osteoarthritis among women. One study found that knee joint pressure increased by as much as 26 percent when a woman wears heels.

Posture ▶ High heels push the center of mass in the body forward, taking the hips and spine out of alignment.

Pressure
High heels may make legs look longer, but as the heel height goes up, so does the pressure on the forefoot.

Pressure increases on forefoot when wearing:

3-inch heels	+76%
2	+57%
1	+22%

CORRECT ALTERED

The calf
Calf muscles contract and adjust to the angle of the high heels. Muscles may shorten and tighten.

TIGHTENED RELAXED

Morton's neuroma
Heel height and a narrow toebox can create a thickening of tissue around a nerve between the third and fourth toes, which can lead to pain and numbness in the toes.

1 2 3 4 5

Nerves

Achilles tendon
When the front of the foot moves down in relation to the heel, the Achilles tendon tightens up.

Tendon

The higher the heel, the shorter the tendon becomes, creating heel pain.

TIGHTENED RELAXED

Bunions
Tight-fitting shoes can cause a bony growth on the joint at the base of the big toe, which forces the big toe to angle in toward the other toes, resulting in pain.

Bony growth

1 2 3 4 5

Corn **Muscle** **Callus**

Middle joint Ball of foot

Hammertoes
A narrow toebox pushes the smaller toes into a bent position at the middle joint. Eventually, the muscles in the second, third and fourth toes become unable to straighten, even when there is no confining shoe.



Pump bump
The rigid backs or straps of high heels can irritate the heel, creating a bony enlargement also known as Haglund's deformity.

Ankle injuries
High heels impair balance; a wearer is at a greater risk of falling, which could lead to a sprained or broken ankle.

Metatarsalgia
High heels force the body's weight to be redistributed. Prolonged wear can lead to joint pain in the ball of the foot.



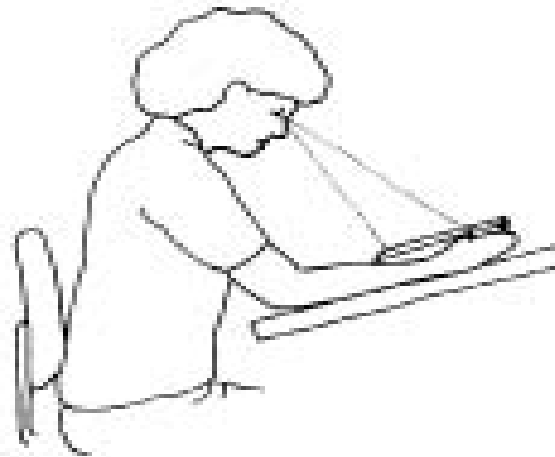
SOURCES: American Academy of Orthopaedic Surgeons, American Apparel & Footwear Association, American Orthopaedic Foot & Ankle Society, Mayo Clinic, Society of Chiropractors and Podiatrists, "Women's Shoe and Knee Osteoarthritis," by D. Casny Kerrigan, Jennifer L. Lelas, Mark E. Karvovsky, The Lancet 2001; 357: 1097-1098. GRAPHIC: Reporting by Brenna Maloney, The Washington Post

Ergonomic Advices

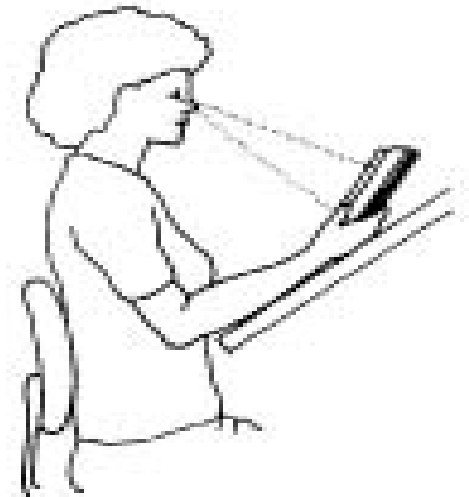
❑ Reading and Writing at desk



desk too far for reading or writing



desk at better angle for reading, good angle for writing



desk at best angle for reading

Ergonomic Advices

- ❑ Reading and Writing at desk



Ergonomic Advices

❑ Sitting in chair



Ergonomic Advices

❑ Driving cars



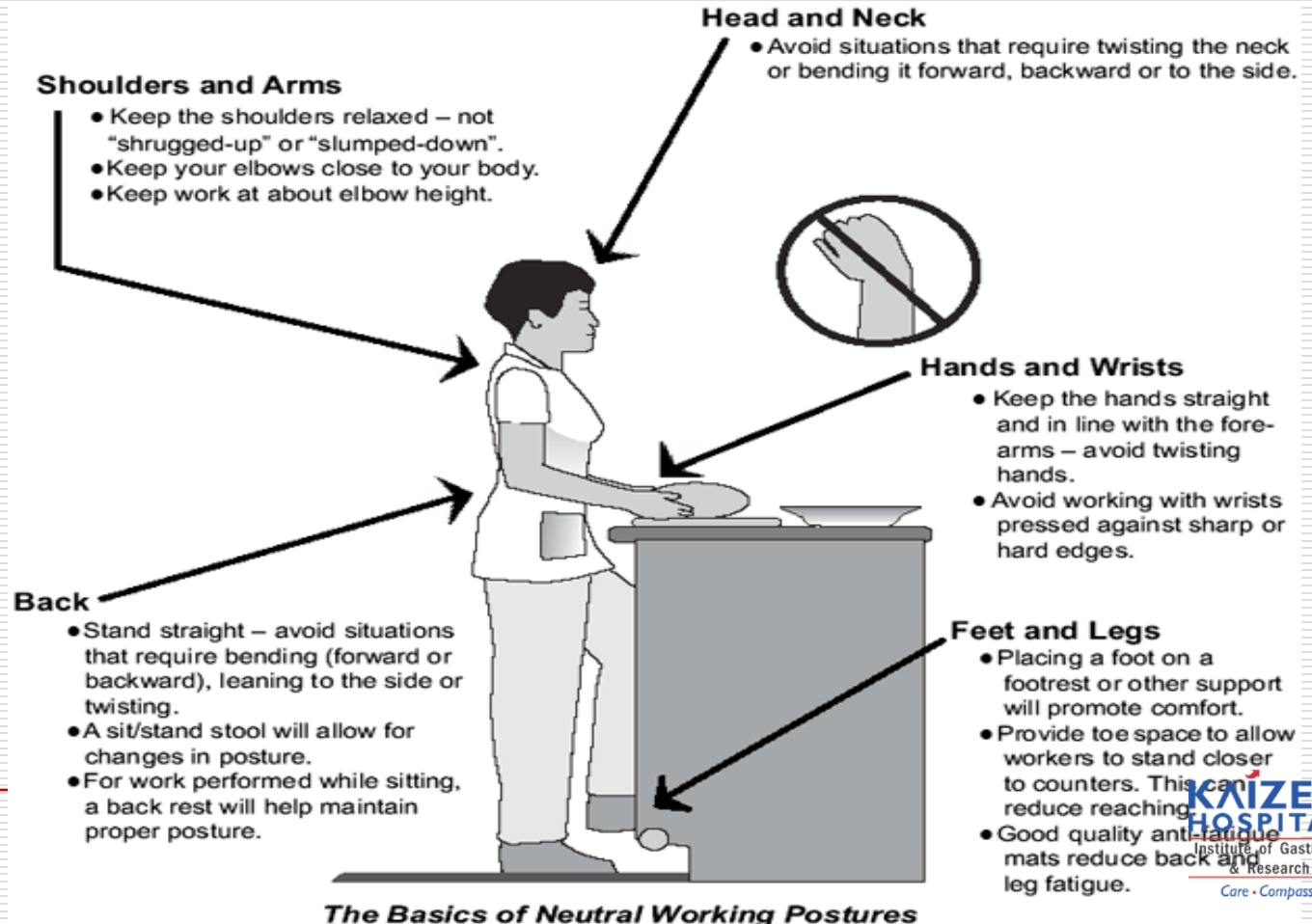
Ergonomic Advices

❑ Driving cars



Ergonomic Advices

❑ Standing for long period (transfer wt.)



Ergonomic Advices

- ❑ Daily activities habits (Cell phones)



THANK YOU