Safe Manual Handling Course

ALIDASYSTEMS

Manual Handling – Agenda

- Why?
- Duties of Employer
- Duties of Employees
- What is Manual Handling?
- The Musculoskeletal System
- Static and Dinamic Best Practice
- T.I.L.E
- Risk Assessment
- MA Techniques
- PPE
- Questions and Miscellaneous
- Written and Practical assessement

Why?
For Your Safety Statistics

- 55 people killed at work in 2011 in the Republic of Ireland.

(Farming **22**, Transport & Storage **8**, Construction **6**, Fishing **5**, Water, Waste, Sewerage **3**, Professional, Scientific & Technical Activities **2**, Manufacturing **2**, Wholesale, Retail & Motor Trade **2**, Mining & Quarrying **1**, Accommodation, & Food Service **1**. Public Adm & Defence **1**, Human Health & Social Work **1** & Arts & Entertainment **1)**

- **30%-40%** of all reported injuries to the Health & Safety Authority are as a result of improper manual handling methods.

- On the increase: In 2021, 8,279 non-fatal injuries were reported to the Authority, an increase of 8% from the 7,652 reported in 2020.

Why? It’s the Law!

- Factories Act (Weights Specified by Dept. of Labour)
- Safety Health & Welfare at work Act 2005
- Safety Health & Welfare at Work Act (General Application) Regulations Chapter 4 Regulation 68 & 69 (2007)(European1993)
- Construction Regulations 2013

Duties of the Employer

1 - Eliminate or reduce the need for Manual Handling of loads, through:

- Better organisation
- By Mechanical Means -> Should be used whenever possible
- By Adequate Training

2 - Where Manual Handling cannot be avoided each handling task must be assessed to identify:

- The risks involved
- The Solutions to be put in place
- Training if required

Duties of the Employee

- Responsible for own safety and that of others
- Co-Operate with Management
- Must follow Company Procedures
- Must not Misuse Equipment
- Must wear PPE
- Report any defects or Accidents
- Must adopt a safe attitude

What is Manual Handling

Any transporting or supporting of a load by one or more employees and which may include

Lifting

Putting down

Pushing

Pulling

Carrying or Moving a load

Which by reason of it's characteristics or unfavourable ergonomic conditions involves risk, particularly of back injury to employees

Manual **Handling** the **Problem**

One third to one quarter of all accidents reported to the HSA are due to faulty manual Handling

These injuries cause:

Physical Discomfort or pain

Financial Loss to the Employee and the organisation

Viewed with Suspicion

Did you Know?

Up to 80%

Of the Population of the Western World are or will be affected by back pain at some stage in their lifetime and this is on the increase

The Skeleton

- Axial Skeleton or Central Region

Skull, Ribs, Spine and Pelvis

Provide Support and Protection

- Appendicular Skeleton or Outer Region

Arms and Legs

Movement

Bones of the Skeleton

Irregular Bones:

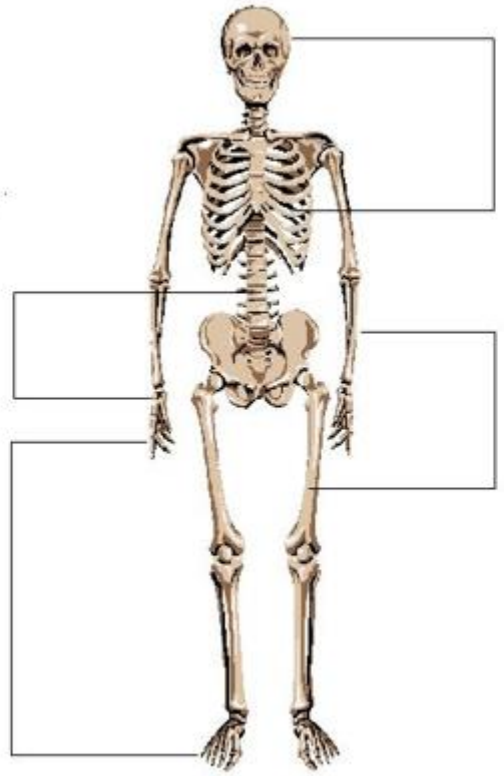
Spine

Palm

Short Bones:

Fingers &

Toes



Flat Bones:

Skull

Ribs

Long Bones:

Arm &

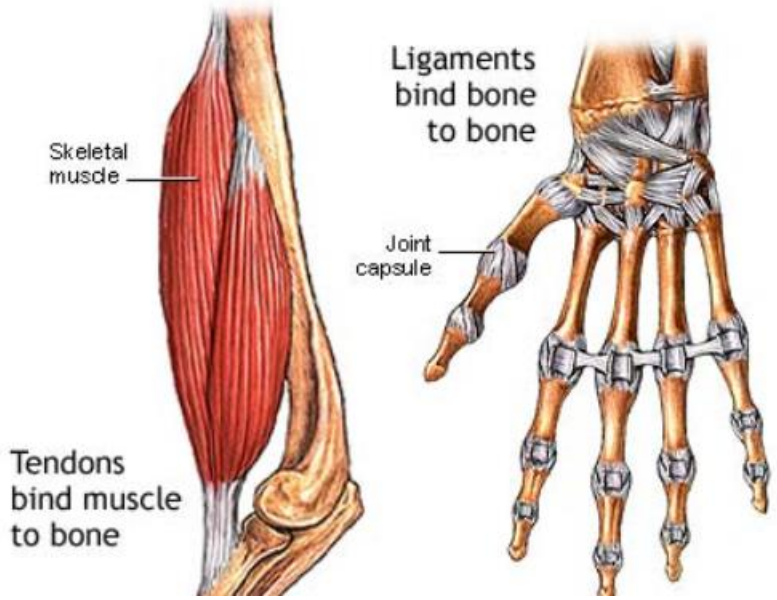
Thigh

Functions of the Skeleton

- Protection
- Support
- Movement
- Shape

What keeps the bones together and allows movements?

- **Ligament:** A tough Fibrous Structure Which Joins Bone to Bone in the spine there are Short & Long Ligaments
- **Joint:** the joining together of two bones for movement purposes
- **Cartilage:** A protective tough fibrous tissue covering the Joint Bones
- **Tendon:** Joins Muscle to Bone



Spinal Column 33 Vertebrae

At birth the spine is “C” shaped. When the baby lean to hold its head up unaided it has developed its first curvature ie the cervical.. when the toddler finally stands up it has developed the second curvature ie the Lumbar

- 7 Cervical 8% Injuries
- 12 Thoracic 2% Injuries
- 5 Lumbar 90% Injuries
- 5 Sacrum & 4 Coccyx (Fused)

Lumbar Spine

- Largest Vertebrae
- Curve backwards
- Movement Good (Except Rotation)
- Supports the weight of the upper body
- No Protection
- Holds **65%** of the Body Weight

Spinal Segment

Consists of:

Two bones

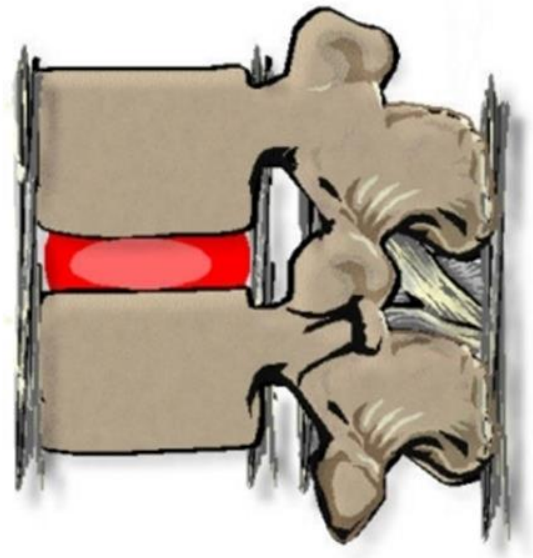
Two types of joint

Disc

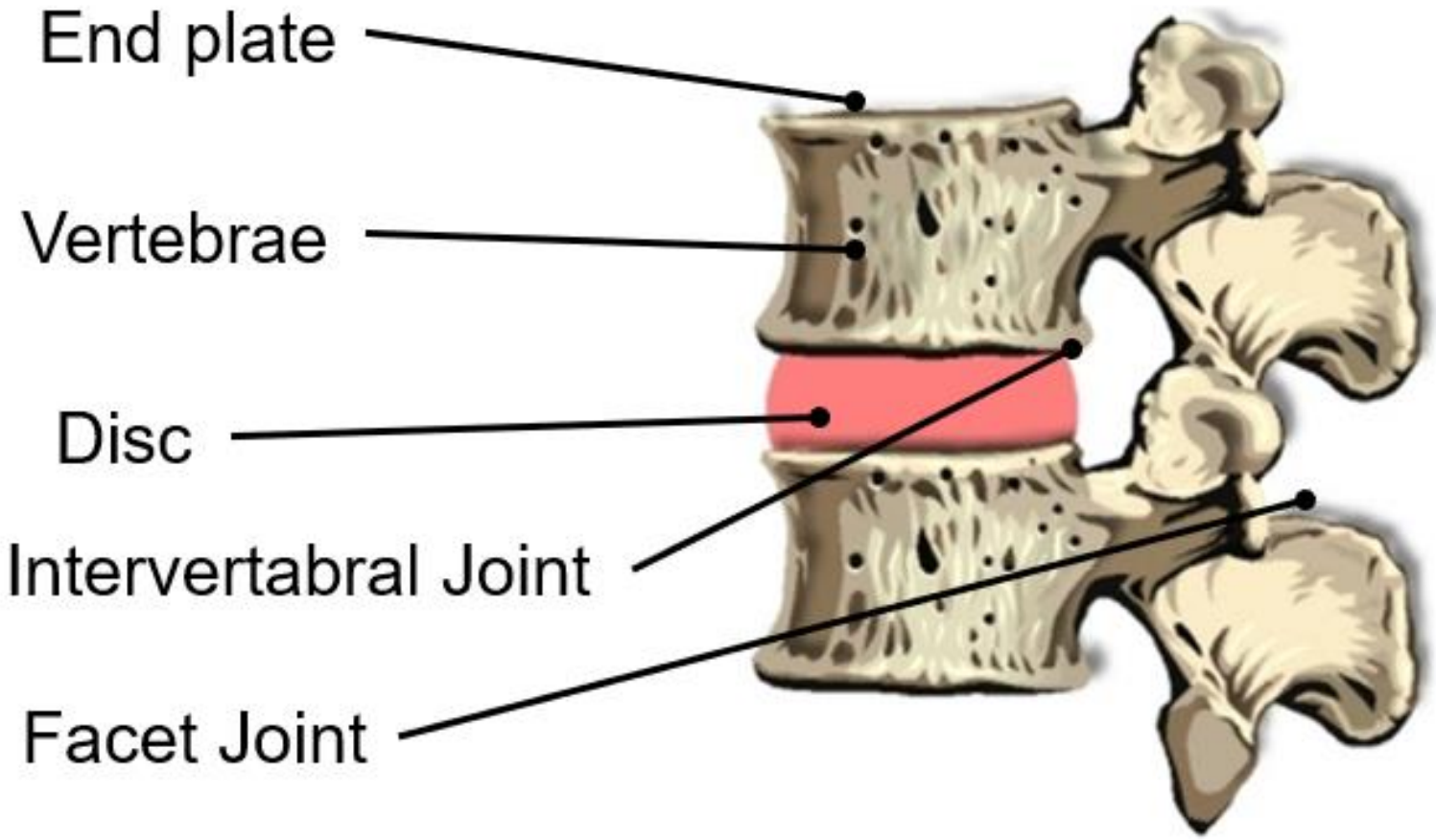
End plate

Cartilage

Ligaments



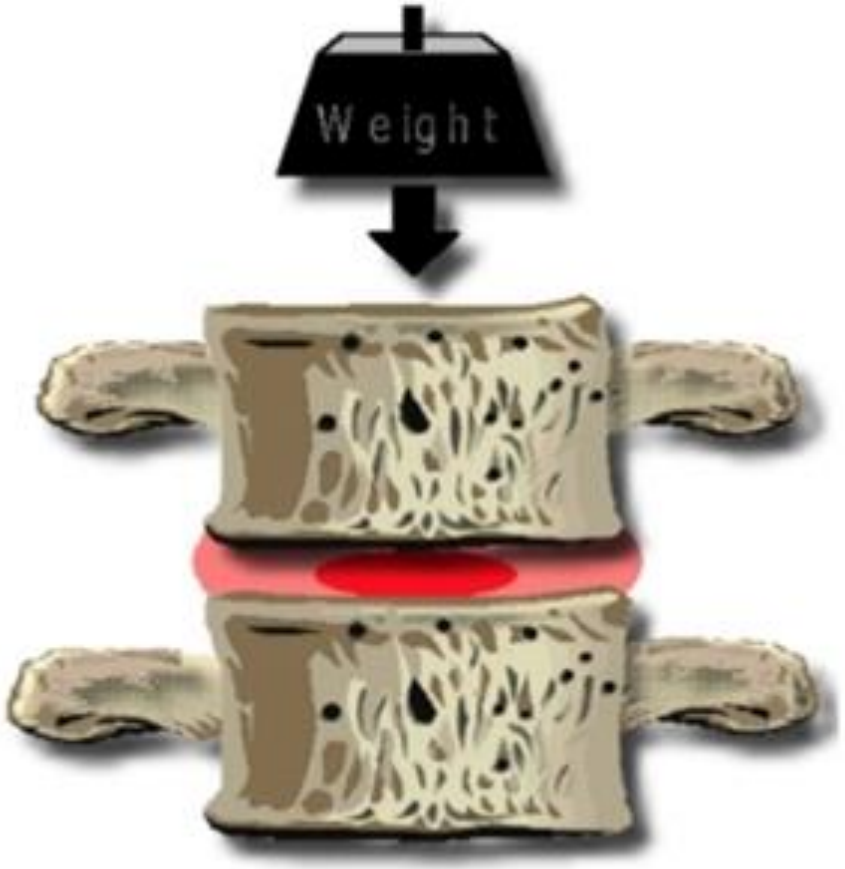
Lumbar Segment



Functions of the Intervertebral Discs

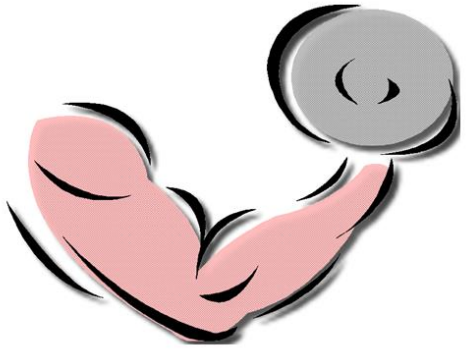
These functions are to:

- Cushion Shock
- Allow Spinal Movement
- Separate the Bones
- Allow nerves to Exit



Mussles: Funcion & Action

- Shortens by contracting, so moves the Joint
- Can only pull
- Strongest In Mid range



Bio-Mechanism of an Injury

Dynamic Work

- *Construction*
- *Warehousing*
- *Industrial 60% : 40%*

Static Work

- *Office*
- *Driving*

When?

You are **most Susceptible** to Injury When:

Early in the Shift

- Not Warmed up

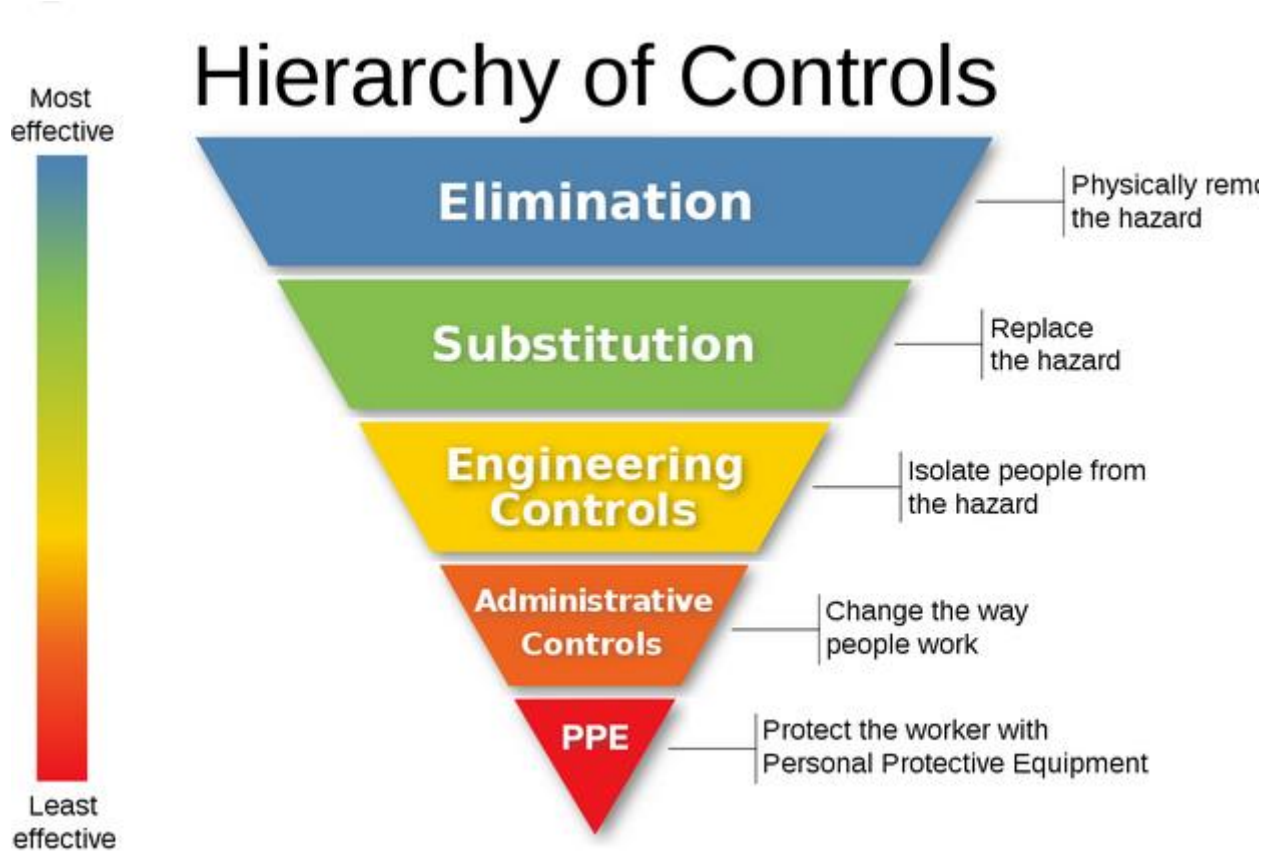
Lunchtime

- Low Glucose

End of the Day

- Tired/Distracted

Hierarchy of Hazard Controls



Mechanical Back Injury

The causes of mechanical back injury when lifting or handling

1. Poor posture
2. Poor technique
3. Failure to Assess
4. Careless Actions

Ergonomics

- Is about ensuring a good fit between people and the things that they use.
- People vary in height, weight and physical condition and their ability to handle information.
- Ergonomics uses information about:
- **Human abilities, attributes and limitations**
- Is about designing tasks, equipment and workstations to suit their use

Ergonomic **Evaluation**

TILE

Type

Individual

Load

Environment

Ergonomic Planning

- Design
- Training
- Work Hours
- Elimination
- Substitution
- Exposure

The Task

Do the tasks involve

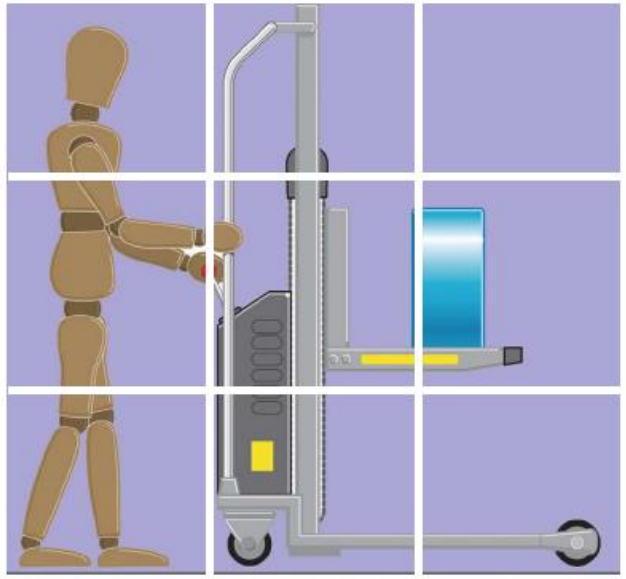
- Holding loads away from the trunk?
- Twisting
- Stooping
- Reaching Upwards
- Long carrying distances
- Strenuous pushing or pulling
- Unpredictable movement
- Repetition
- Insufficient rest / recovery
- Imposed work rate.

The **individuals** capability

- Require unusual capability?
- Hazard to those with health problems?
- Hazard to those who are pregnant?
- Need special training?
- Need special information

The Load

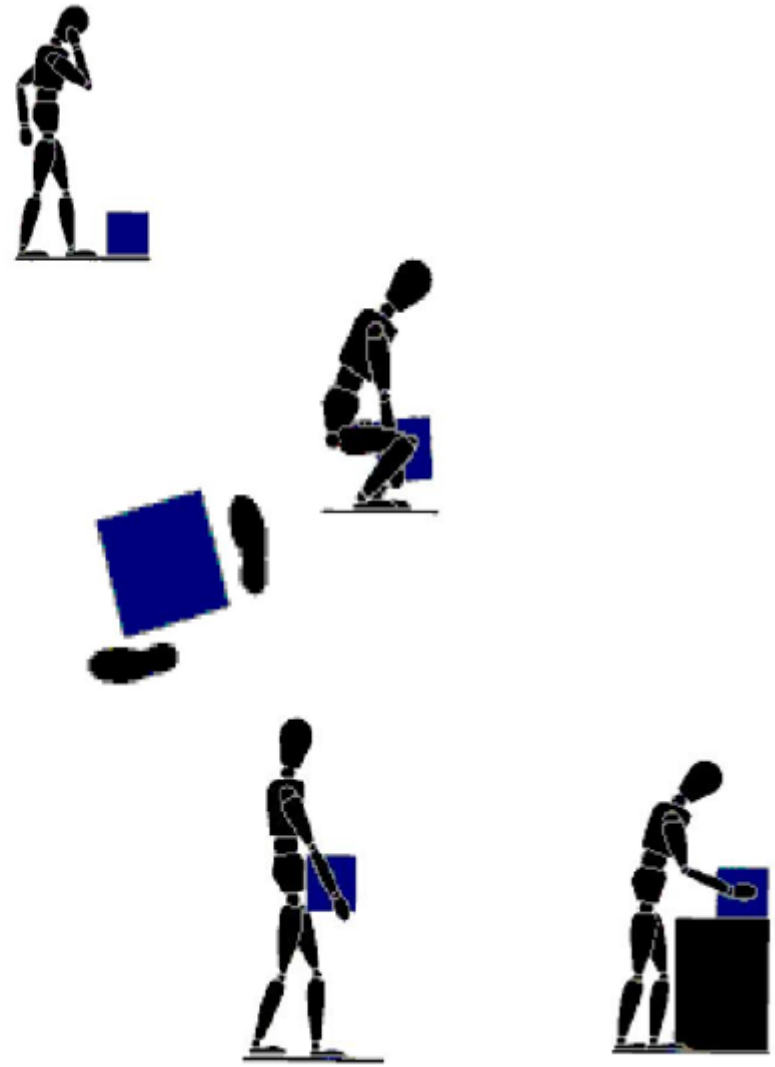
- The loads – Are they?
- Heavy
- Bulky
- Unwieldy
- Difficult to grasp
- Unstable
- Unpredictable
- Intrinsically harmful

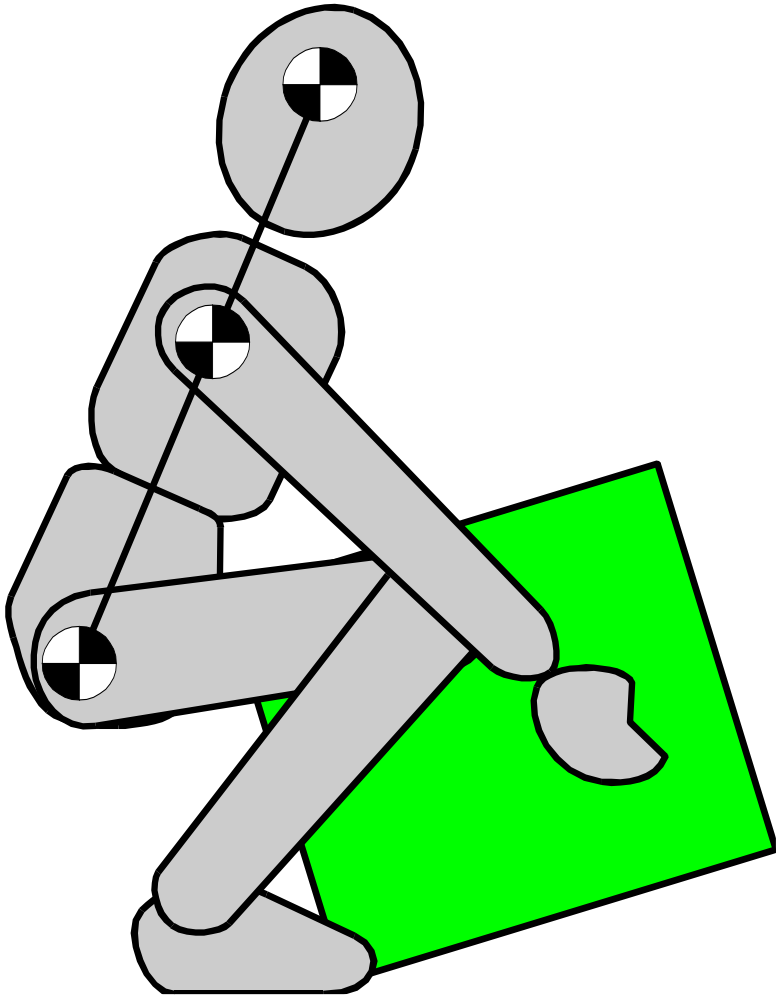


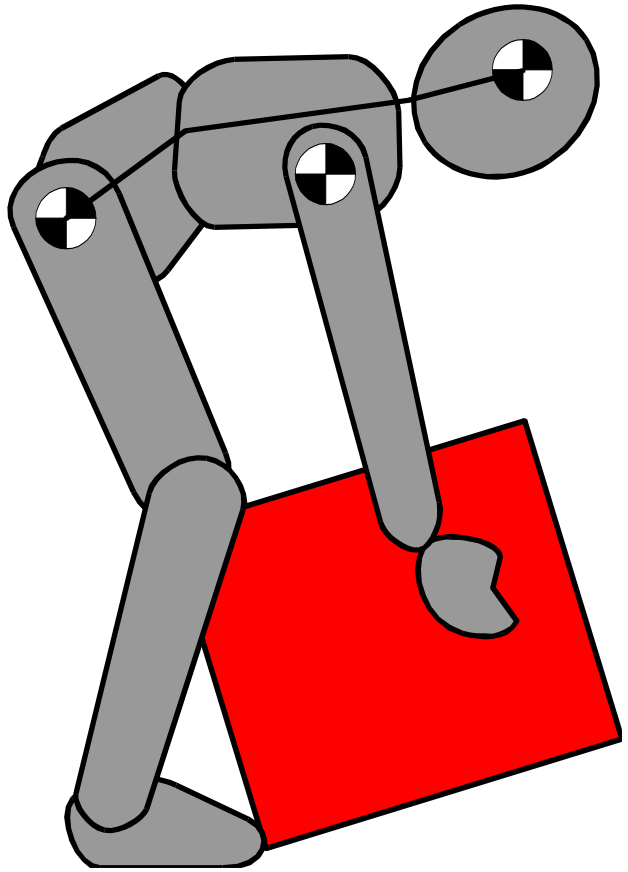
The working Environment

- Constraints on posture
- Poor Floors
- Hot /cold or humid
- Strong air movements
- Poor lighting
- Noise
- Clothing

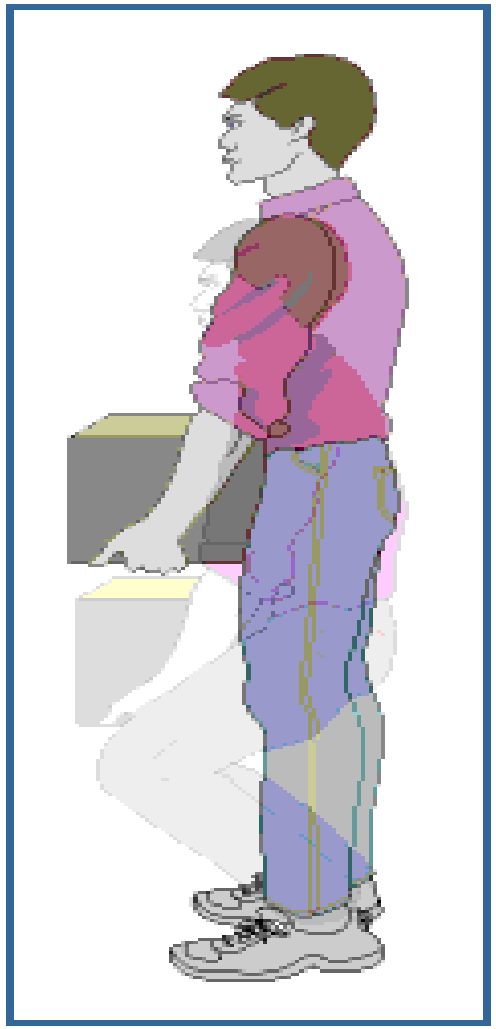
1. Assess the task area and load
2. Broad Stable Base
3. Bend the knees
4. Keep your Back Straight
5. Firm grip palm of the hand
6. Arms in line with the trunk
7. Weight close to body
8. Turn feet in direction of movement





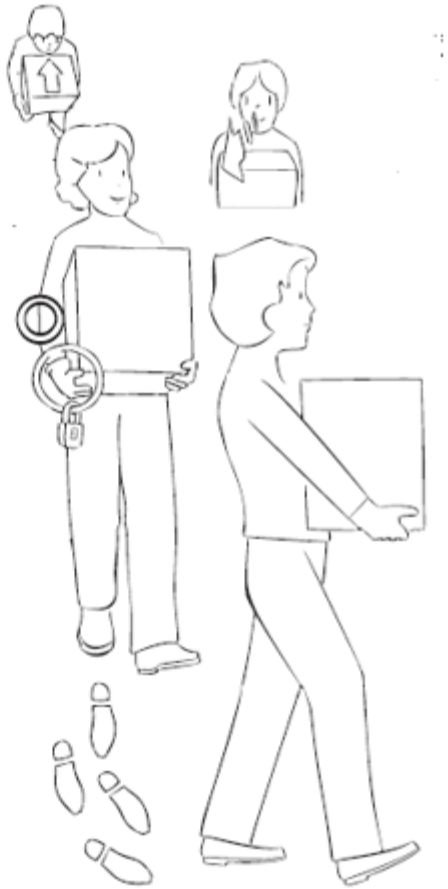


Lifting Incorrecting creates a mechanical disadvantage of 10:1



Carrying Loads....

- Load Close to your body
- Arms tucked in
- Don’t change your grip
- Don’t Twist your body
- Don’t Block your vision
- Face the spot by turning your feet and whole body



You can always break down the load to more managable weight!

Unloading.....

- Bend your Knees to lower the load
- Be Careful with your fingers and legs
- Place the load on a bench or table
- Slide the load use your body
- Ensure that the load is secure

Special lifts....

•Brace your body with the opposite arm

•Reach for the load ..bend knees ..back straight.

•Grip load firmly

•Lift with legs use free arm for balance

•Keep shoulders level

•Switch arms regularly

Team Lifts...

•Work with someone with similar build and height

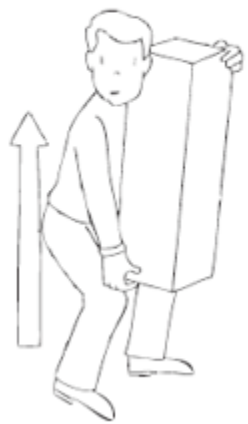
•One person calls the shots

•Lift from the hips at the same time

•Move smoothly at the same time

Awkward objects...

- Stand over the corners of the load with feet confortably apart
- Grab bottom inside and top outside corners
- If the weight is unbalanced have the heaviest part close to your body
- Bend knees, lift keeping the same grip
- Get advice if not sure



Lifting to a high place...

Try not to lift anything above your shoulders as it may put more strain on your body..

•Lighten the load if you can

•Stand on something sturdy with one foot in front of the other

Lowering from a high place

•Test the weight by pushing up on it

•Nothing on top of the load

•Stand as close as possible

•Grip firmly sliding it down your body

•Preferable a mechanical aid

Pushing and pulling

- Don't over load
- Stay close
- Get a good grip
- Keep elbows in
- Lean in direction you are pushing

Certain Objects need special handling....

Boxes and Cartons…grip opposite bottom corners keep bject close to your body

Barrels, Drums and Kegs

Roll a heavy barrel if you move it by keeping one hand on it at allo times speed

Use a mechanical aid

Any Questions?