



INDEVA

INTELLIGENT DEVICES FOR HANDLING

Industrial manipulators, lift
equipments, vacuum lifters,
lift assist devices, materials
handling solutions.

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Scaglia
1838

IDEAS IN MATERIAL HANDLING



OPEN DAY

- 10:15 Manual Handling Workshop
- 12:30 Buffet Lunch
- 1:30 Demonstration of Scaglia Equipment
- 2:45 Coffee & Farewell



ROGER PATTISON & ASSOCIATES

MANUAL HANDLING WORKSHOP





MANUAL HANDLING WORKSHOP

QUIZ

QUESTION 1:

In 2005/6, was the % of 3 day injuries caused by handling accidents

- (A) less than 25%,
- (B) between 25 & 40% or
- (C) greater than 40%

QUIZ

PLEASE SIT DOWN
IF YOU ANSWERED

A or B

QUIZ

QUESTION 2:

In 2005/6 was the number of working days lost due to handling, lifting & carrying

- (A) more than 1.5 million days
- (B) between 1 & 1.5 million days
- (C) less than 1 million?

QUIZ

PLEASE SIT DOWN
IF YOU ANSWERED

B or C

QUIZ

QUESTION 3:

The cost to society (individuals & employers) in 2005/6 is estimated to be:

- (A) Less than £1 billion
- (B) Between £1 & £4 billion, or
- (C) greater than £5 billion

QUIZ

PLEASE SIT DOWN
IF YOU ANSWERED

A or B

QUIZ

QUESTION 4:

In 2001/02, did the average sufferer have

- (A) more than 17 days off
- (B) between 10 & 17 days off
- (C) less than 10 days off

QUIZ

PLEASE SIT DOWN
IF YOU ANSWERED

B or C

QUIZ

QUESTION 5:

Who is responsible for ensuring 'safe' handling, is it

- (A) Safety Co-ordinators
- (B) Managers
- (C) Staff doing the lifting
- (D) All of the above

QUIZ

PLEASE SIT DOWN
IF YOU ANSWERED

A, B or C

PRINCIPLE CAUSES OF INJURY

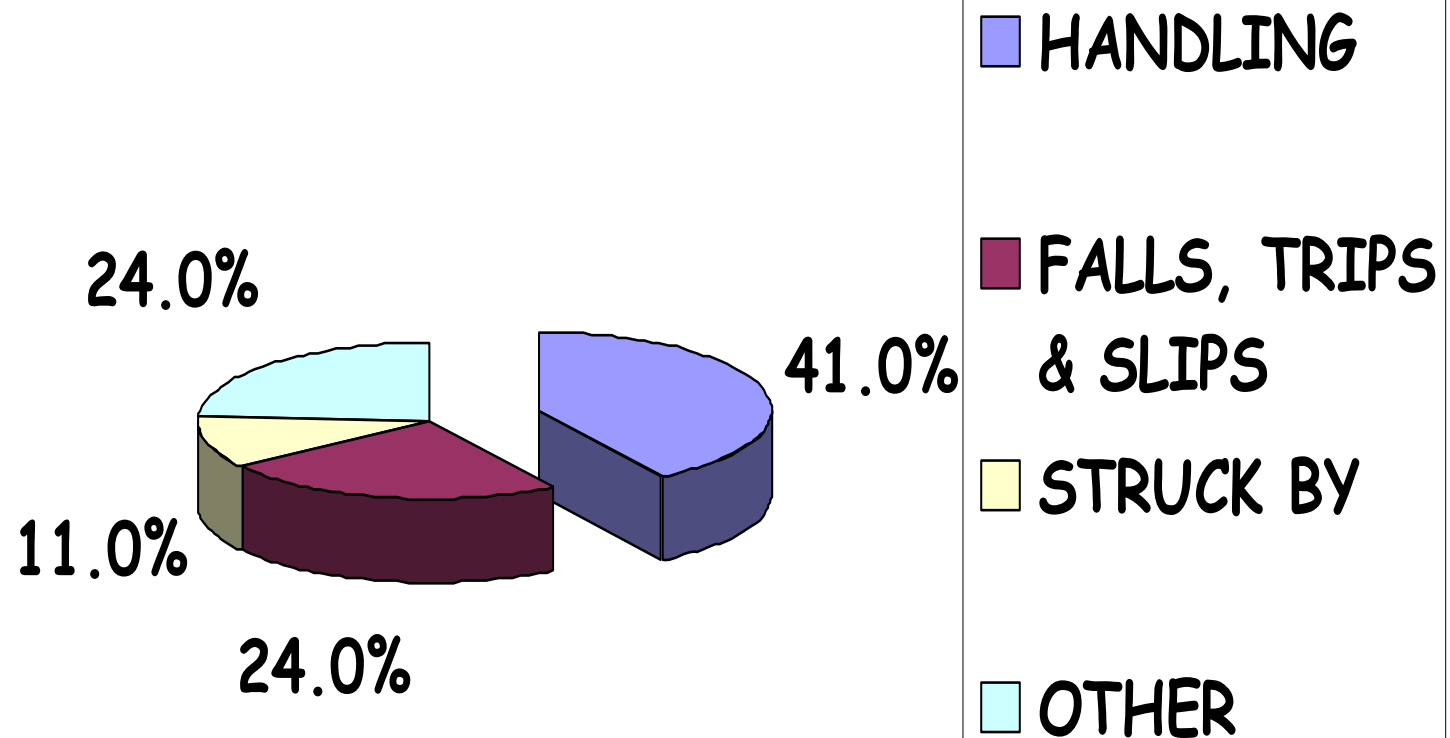
PRINCIPLE CAUSES OF INJURY

What's the problem?

- More than a two fifths of three-day injuries are caused by manual handling
- Most of the reported accidents cause back injury

QUIZ ANSWER 1

OVER 3-DAY INJURIES 2005/06



QUIZ ANSWERS 2 -5

2 - In 2005/06, 1.9 million days were lost due to handling, lifting & carrying injuries

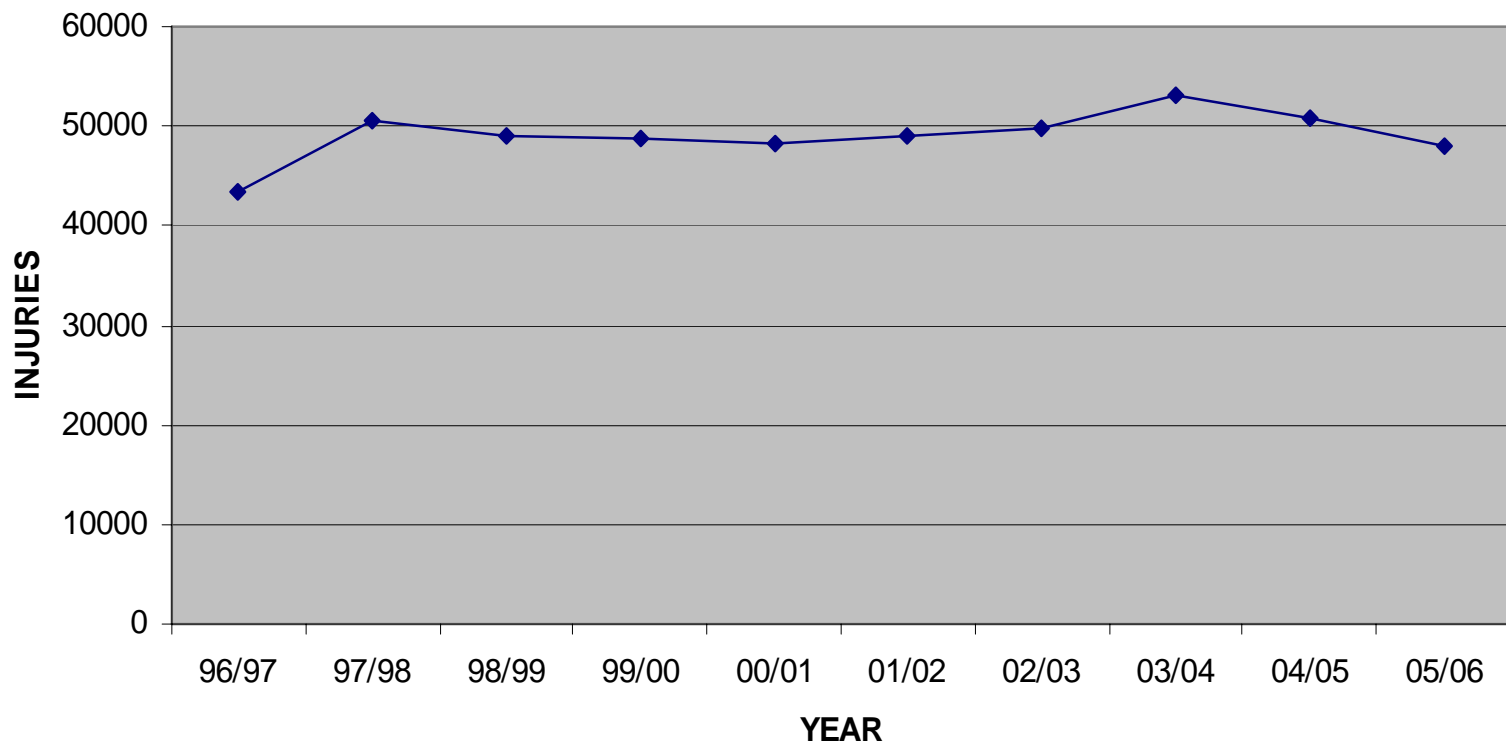
3 - The cost to society is estimated to be in excess of £5 billion

4 - The average sufferer was off more than 17 working days

5 - All staff must ensure safe handling

NUMBER OF OVER 3 DAY INJURIES HANDLING, LIFTING & CARRYING

No. OF OVER 3-DAY INJURIES WHILST HANDLING, LIFTING OR
CARRYING



WHAT SHOULD I DO ABOUT IT?

Consider

- The risks from manual handling to the health and safety of your employees.
- If there are risks, the Manual Handling Operations Regulations 1992 apply.

WHAT SHOULD I DO ABOUT IT?

Consult and involve

- consulting employees on health and safety matters is a legal requirement
- The law requires you consult with recognised safety representatives
- If there are none - consult the employees themselves

WHAT ARE MY DUTIES? (1)

The employer should:

- Avoid the need for hazardous manual handling,
- Assess the risk of injury
- Reduce the risk of injury

Employees also have duties too.

WHAT ARE MY DUTIES? (2)

Employees should:

- Follow appropriate work systems
- Use safety equipment properly
- Co-operate on H & S issues
- Help identify handling hazards
- Not put others at risk

AVOID MANUAL HANDLING

- Consider *automation*, particularly for new processes.
- Think *about mechanisation*, like the use of a lift truck.
- Beware of *new hazards* from automation or mechanisation.

KNOW YOUR LEGAL RESPONSIBILITIES



KNOW YOUR LEGAL RESPONSIBILITIES

Managers, Safety Co-ordinators and staff have to take three key steps:

AVOID - hazardous manual handling operations where reasonably practicable. Consider whether the load must be moved at all. And if it must, whether it can be moved mechanically, for example, by forklift truck.

KNOW YOUR LEGAL RESPONSIBILITIES

ASSESS - adequately any hazardous operations that cannot be avoided. An assessment should look at more than just weight of load. This means considering:

- the shape and size of the load;
- the way the task is carried out
- the working environment;
- the individual's capability

KNOW YOUR LEGAL RESPONSIBILITIES

REDUCE - the risk of injury.

- An assessment can show whether there is a problem and where the problem lies.
- That is the starting point for your improvements.

CURRENT EEC MANUAL HANDLING LEGISLATION

CURRENT EEC MANUAL HANDLING LEGISLATION

The legal requirements are covered by a number of acts of which the principle ones are:-

- Health and Safety at Work, etc Act 1974
- Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242)
- Manual Handling Operations Regulations 1992 (SI 1992 No. 2793)
- Safety Representatives & Safety Committee Regs 1977
- H & S (Consultation with Employees) Regs 96
- Disability Discrimination Act 1995 (section 6)

PRACTICAL GUIDANCE

The assessment should take into account the:

- Load
- Individual's capabilities
- Task
- Environment

LOADS - INANIMATE

Factors to be taken into account:

- weight
- size dimensions
- flexibility/rigidity
- shifting/moving weight
- stability
- available and effective grip
- inherent harmful or awkward properties
- imposed work rates

LOADS - ANIMATE

- level of dependence
- their level of comprehension and communication
- the likelihood of unpredictable behaviour
- existing medical conditions
- the presence of medical or scientific/research aids

INDIVIDUALS

The following factors should be considered:

- level of fitness and strength required
- gender
- age
- height and weight
- pregnancy
- existing health conditions
- protective clothing, equipment which could hinder the ability to handle load
- training undertaken and any required
- adherence to correct techniques & procedures.

TASK

The following factors should be considered:

- loads held away from body
- twisting
- reaching upwards, downwards or across
- distance load has to be carried
- stooping
- strenuous pushing or pulling
- static supporting of a load
- repetitive activities
- the duration of each activity.

ENVIRONMENT

The following factors should be considered:

- restricted working space
- poor lighting
- noise
- changes in floor level
- poorly maintained floor surfaces
- very hot or cold temperatures
- high humidity
- limited furniture layout alternatives.

CONTROL MEASURES

- splitting inanimate loads into smaller units
- obtaining assistance from colleagues
- knowing and accepting personal limitations
- mechanical aids
- other "animate" aids
- planning the activities

CONTROL MEASURES

- height adjustable workstations
- adequate rest and recovery periods
- introducing the right for employees to refuse to carry out manual handling activities
- drafting and implementing a manual handling policy
- comprehensive and clear training information

HOW TO CARRY OUT EFFECTIVE RISK ASSESSMENTS

CARRYING OUT EFFECTIVE RISK ASSESSMENTS

- Who should make the assessment?

CASE STUDY - BAKERY

- What is your assessment?
- What are the issues?
- How would you improve this process?

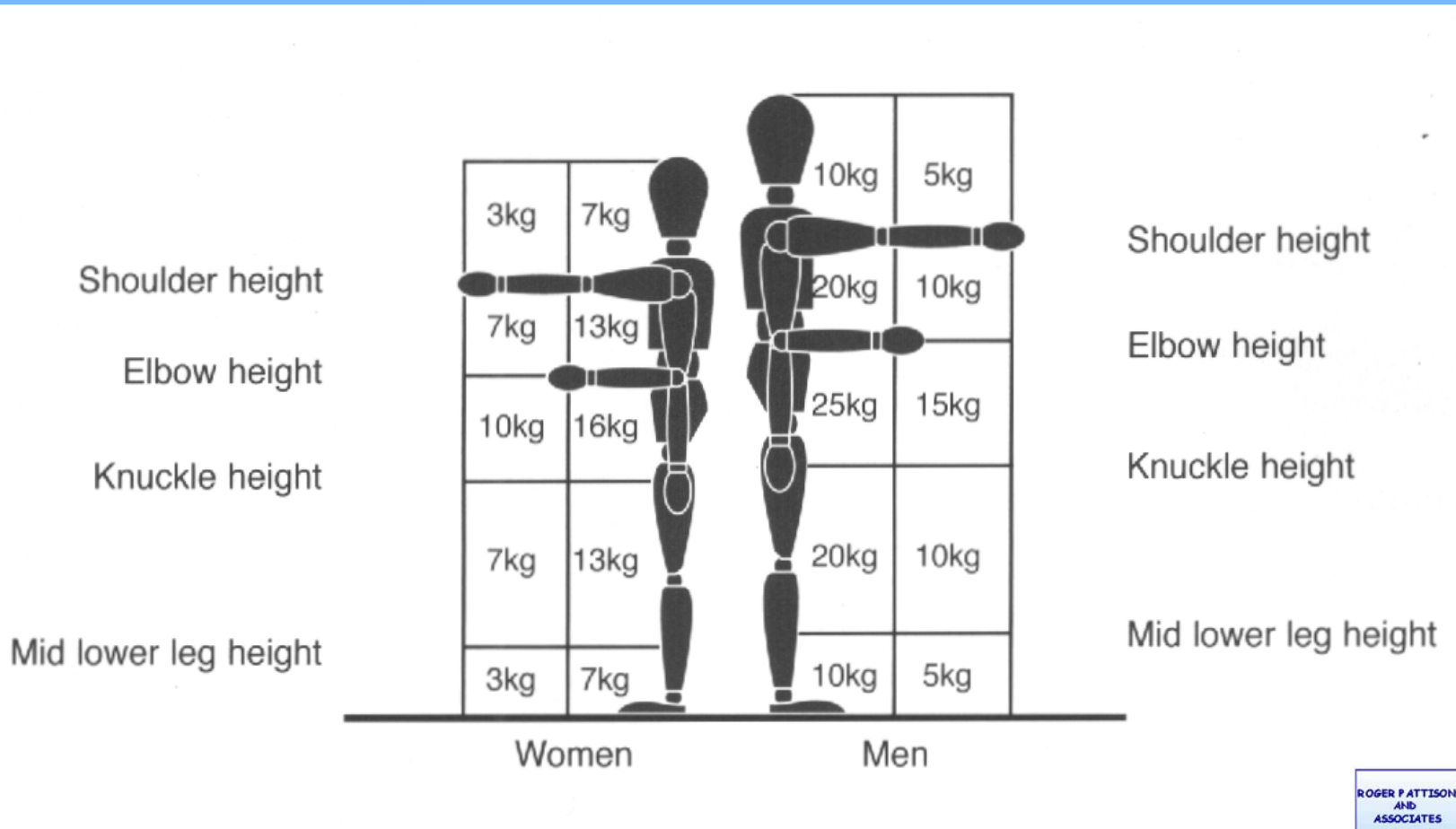
CARRYING OUT EFFECTIVE RISK ASSESSMENTS

- Who should make the assessment?
- What role can employees play in carrying out assessments?
- Do assessments need to be recorded?
- Do I have to do assessments for each individual employee and workplace?
- How should I use my assessment?

CARRYING OUT EFFECTIVE RISK ASSESSMENTS

- How far must I reduce the risk?
- Do I have to provide mechanical aids in every case?
- What about training?

GENERAL RISK ASSESSMENT GUIDELINES



TWISTING

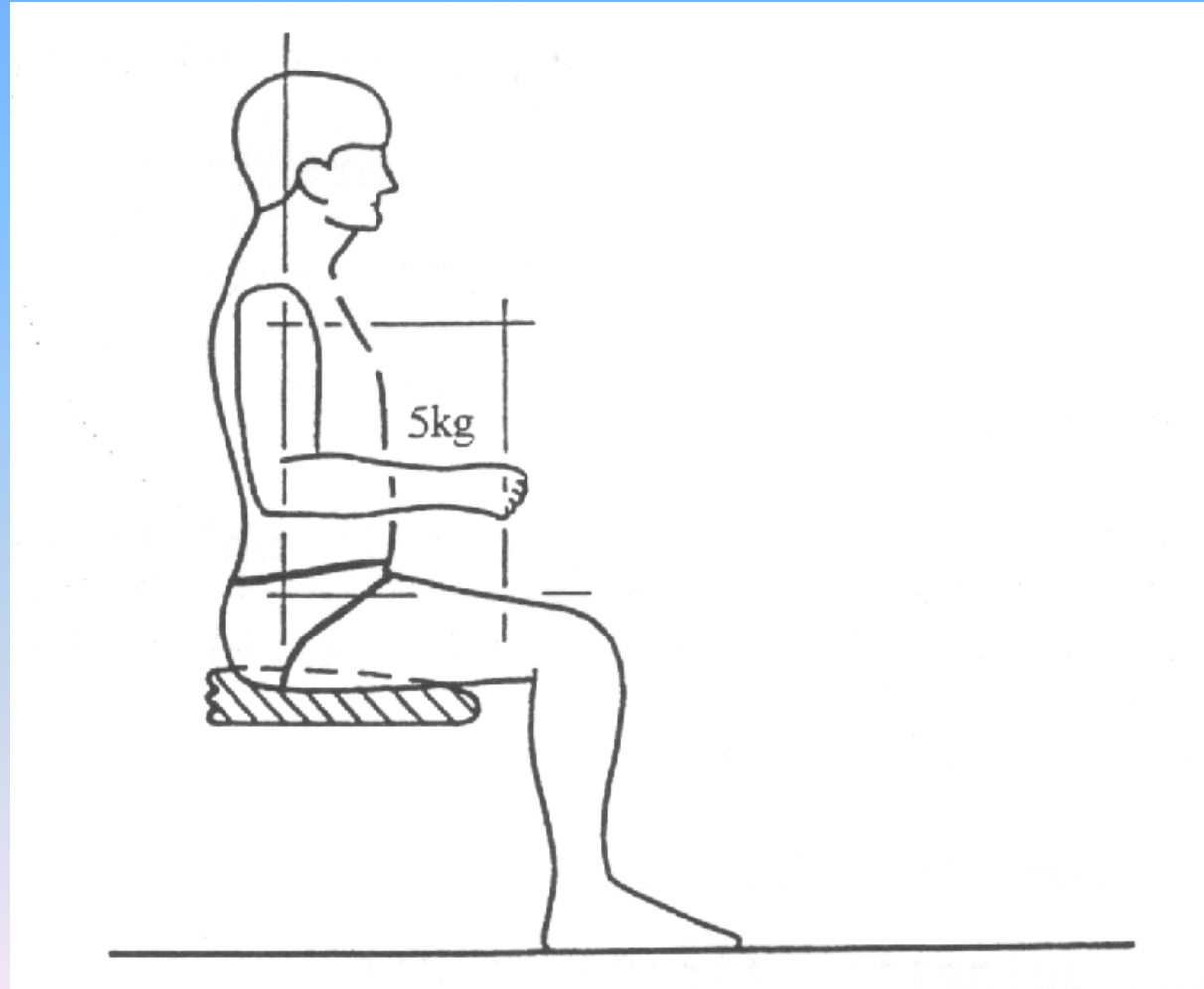
reduce the guideline weights if the lifter twists to the side during the operation

- reduce by 10% if the handler twists beyond 45 degrees
- reduce by 20% if the handler twists beyond 90 degrees.

FREQUENT LIFTING & LOWERING

- the guideline weights are for up to 30 operations per hour
- reduce the weights if the operation repeated more often
- reduce the weights by 30% if repeated 5 to 8 times a minute
- reduce by 80% if repeated more than 12 times a minute.

HANDLING WHILE SEATED?



HANDLING WHILE SEATED?

- applies only when the hands are within the box zone indicated
- loads that can be handled in safety are substantially less than can be dealt with while standing
- this activity therefore demands particular care.
- lifting loads from the floor while seated should be avoided where possible

GENERAL RISK ASSESSMENT GUIDELINES

CAN THE GUIDELINES BE EXCEEDED?

- the risk assessment guidelines are not safe limits.
- work outside the guidelines is likely to increase the risk of injury
- make the work less demanding if it's reasonably practicable to do so.

SAFE HANDLING & LIFTING OF LOADS

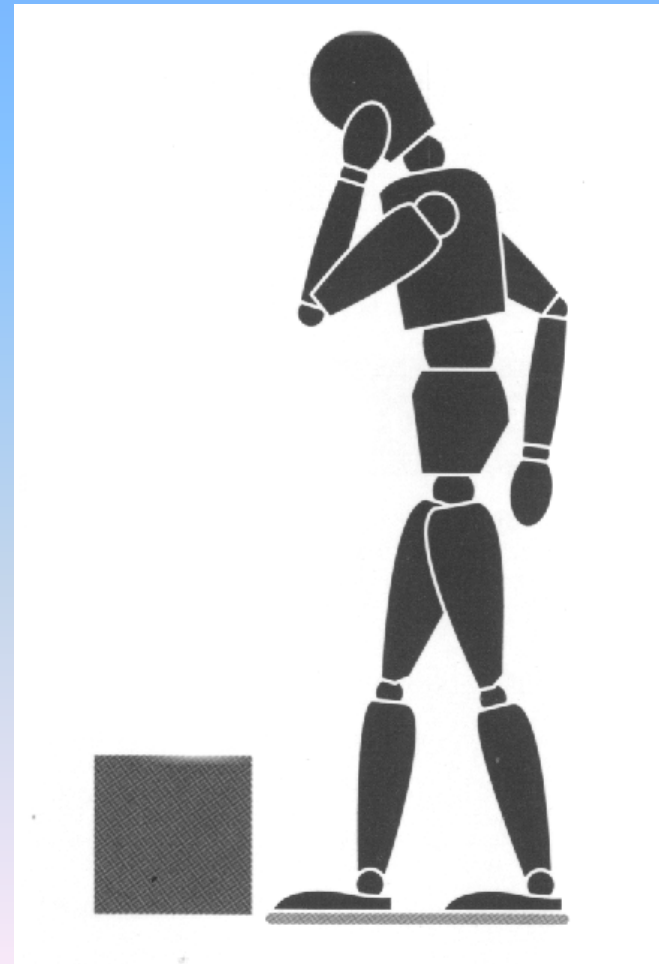
- Is the lift really necessary? - Can the lift be eliminated by using conveyors etc
- Can the load be reduced? - Is it possible to reduce the weight by using smaller boxes or packs etc
- Does the task have to be carried out manually? - Can it be done by machine, or can a lift assist be used?

LIFT ASSISTORS

- Forklift Truck
- Platform / Lift Tables
- Chain Hoists
- Overhead Cranes
- Robots
- Extra Manpower
- Balancers / Manipulators

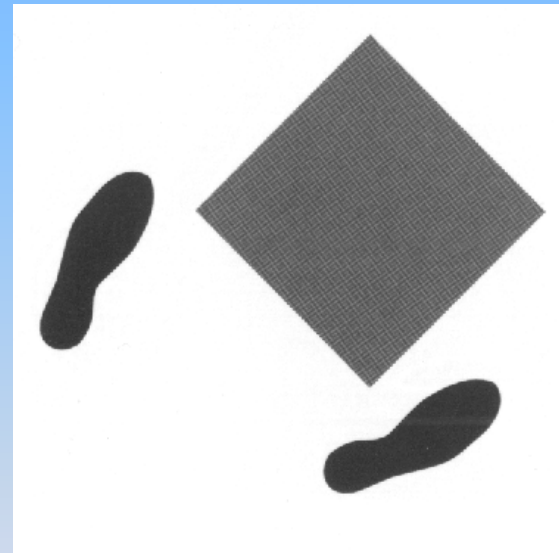
GOOD MANUAL HANDLING TECHNIQUE

Stop
and
think



GOOD MANUAL HANDLING TECHNIQUE

Position
the feet



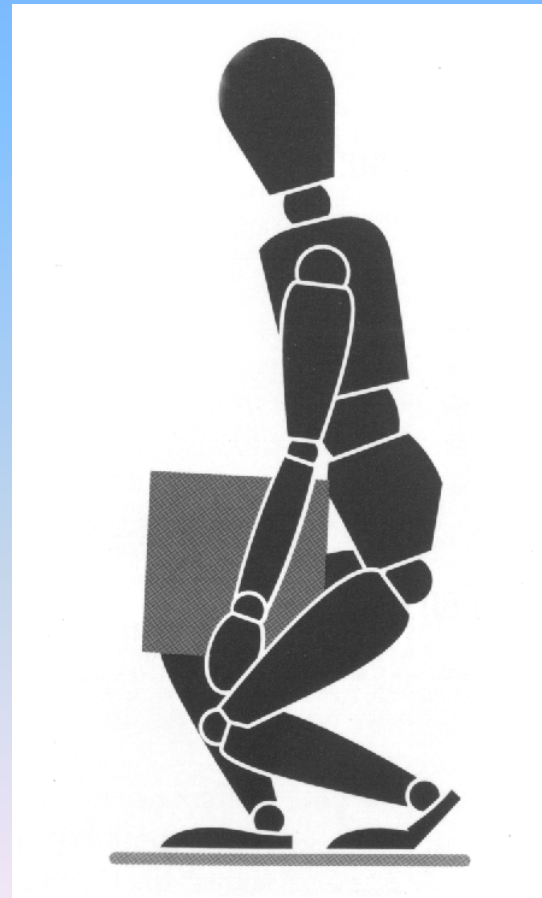
GOOD MANUAL HANDLING TECHNIQUE

Adopt a
good
posture



GOOD MANUAL HANDLING TECHNIQUE

Get a
firm
grip



GOOD MANUAL HANDLING TECHNIQUE

Keep close to
the load

GOOD MANUAL HANDLING TECHNIQUE

Don't jerk

GOOD MANUAL HANDLING TECHNIQUE

Move
the feet

GOOD MANUAL HANDLING TECHNIQUE

Put down,
then
adjust

PUSHING & PULLING

Some practical points to remember:

- *Handling devices* - Handles on barrows & trolleys - between shoulder & waist and well maintained
- *Force* - the force to move a load over a flat, level surface is at least 2% of the load
- Will be greater if conditions are not perfect
- Operators should push rather than pull when moving a load



PUSHING & PULLING

- *Slopes* - get help from other workers
- The force to move a 400 kg load up a 1 in 12 slope is over 30 kg, well above the guideline weights
- *Uneven surfaces* - Moving a load over soft or uneven surfaces requires higher forces
- Starting a load on uneven surfaces needs up to 10% of extra effort
- *Stand and pace* - To make it easier employees should keep their feet well away from the load keep to walking pace

HOW DO I KNOW IF THERE'S A RISK OF INJURY?

It's a matter of judgement in each case, but there are certain things to look out for, such as:

- people puffing and sweating
- excessive fatigue
- bad posture
- cramped work areas
- awkward or heavy loads
- a history of back troubles

Operators can often highlight which activities are unpopular, difficult or arduous.

CAN YOU BE MORE DEFINITE?

There is no such thing as a completely 'safe' manual handling operation. It's difficult to be precise. So many factors vary between jobs, workplaces and people.

The general risk assessment guidelines should help to identify when a more detailed risk assessment is necessary.

Working within the guidelines will reduce the need for a more detailed risk assessment.

PROBLEM LIFTS ANSWERS

SCENARIO 1

This is a safe lift, providing it is a straight lift, using a good technique, held close to the body with no twisting.

Note: If the frequency was increased by just 1 or 2 per minute, or the environment less than normal, then the assessment would show this as an unsafe lift.

PROBLEM LIFTS ANSWERS

SCENARIO 2

Look at the zones the weight passes through. If close then 10Kg is acceptable. If it is greater than a forearm distance away from the body, then the limit is 5Kg. In this case the frequency (over 5 per minute) would reduce the guideline limits by 30%, making the safe limits either 7Kg or 3.5 Kg. If the latter then the lift is **unsafe**.

Again any adverse environmental conditions or any twisting, would reduce even further the guideline limits.

PROBLEM LIFTS ANSWERS

SCENARIO 3

The guidelines indicate that the lowest box the weight would pass through to be 7Kg, however, when you include the frequency, this reduces the box rating by 30%, therefore the limit would be 4.9 Kg, therefore the lift is unsafe.



MANUAL HANDLING WORKSHOP