Fitting the job to the person
Ergonomics in practice

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www.hu-tech.co.uk
Ergonomic by:

- Definition
- Standards
- Design
- Practice
Ergonomic by definition:

- **Ergonomics**: application of scientific information concerning humans to the design of objects, systems and environment for human use.
- **Ergonomic design**: way of considering design options to ensure that people's capabilities and limitations are taken into account.
Ergonomic by Standards:

- BS EN ISO 9241: Ergonomic requirements for office work with visual display terminals (VDTs)
- EN ISO 6385: Ergonomic principles in the design of work systems
Ergonomic by design:

- Designed to scientific data
- Designed around the needs of the user but with the business requirements paramount
- User test/fitting trials
- Intuitive
- Inclusive
Case Study 1:

- Concept open plan but secure banking environment
- Architect, Property services, IT, shopfitters, h&s, outside suppliers
Design – architect’s concept:
Design – after input:
Design – final installation:
Case Study 2:

• Replacing passport checking workstation

• No architect, property services at each port, IT, h&s, outside suppliers
Before – box style workstations:
Works requirements:

- Security
- Workstation height - sit & stand desk
- Front Presentation
- Shrouded UV lamp
- Space for processing paperwork
- Storage space
- Signage
- Demarcation behind desks
- Communication to command centre
- Comfortable adjustable seats
Workstation design specification:

UKIS Ergonomics Desk Specification

For:
The United Kingdom Immigration Service

By

Hu-Tech Ergonomics
March 2005
Design proposals:
Mock up for user trials:
Live test situation:
Detailed 3D design for manufacture:
Installed T5:
Installed Nottingham East Midlands:
Ergonomic by practice:

Ergonomic by definition, standards, and design does not necessarily mean ergonomic by practice
Assessing the Return on Investment for Workplace Ergonomic Interventions
Summary

- Twenty nine case studies from a range of industries
- ROI from a few weeks to about 3 years
- Financial benefits through cost savings, increased productivity or quality of output
- Business case will help to promote the benefits of a proactive approach to managing MSDs
Report and case studies

Available on HSE’s website:

or via www.hu-tech.co.uk
Interventions – a variety of forms

- Design of the task
- Design of equipment, workstation
- Changes to working environment
- Re-organisation

Some interventions involved more than one of these elements
Examples of costs and savings

...Before and after...

- Sickness absence attributed to MSDs
- Productivity
- Staff turnover
- Reduced materials waste
- Quality of output

Important to be able to compare the conditions before and after the intervention
Patient transfers in theatre
Patient transfers in theatre

- Excessive reach requirement: patients can be heavy and comatose
- Manual transfer of patients = significant back and neck disorders
- Canvasses purchased – total cost £8,545
Patient transfers in theatre
Outcomes

- 64% < disorders over 4 years: 33% increase in theatre staff in same period
- Payback period 6 weeks
## Costs and benefits

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<td>ROI</td>
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Ultra fine suture manufacture
Ultra fine suture manufacture

- Awkward/extreme neck posture
- No job rotation – highly skilled operation
- 40% of staff reported ULD discomfort
Post intervention
Outcomes

• RA showed could work for 6 hrs not 4 hrs
• +ve feedback from staff
• Improved quality; productivity (33%); less waste
• Payback period 12 months
## Costs and benefits

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<td>ROI</td>
<td>12 months</td>
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Minimising MH risk for offshore equipment
Minimising MH risk for offshore equipment
Minimising MH risk for offshore equipment

- Low frequency; heavy weight; high risk
- Stoop lifting; constrained space
- 2 LTIs – 6 months & 10 days absence
Post intervention
Minimising MH risk for offshore equipment

Outcomes

• No MH LTIs since intervention (3 yrs)
• Payback period 3 months
## Costs and benefits

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Conclusions

- Ergonomic interventions can take several forms: task, equipment, environment, organisation
- Need not be expensive
- CBA can be used to support business case for interventions to reduce MSD risks
- Good record keeping is key
- It is better to avoid retrofitting by good task design & organisation from the start
Presentation recap

• What it means to fit the job to the person
• Real issues and solutions
• Demonstrated that the proper application produce cost-benefit
Thank you

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