Using the ICF as a conceptual framework to guide ergonomic intervention in occupational rehabilitation

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A broad and comprehensive approach to exploring return to work issues is provided by the International Classification of Functioning, Disability, and Health (ICF).

Take Home Messages:

Using the WHO model of identifying the broad issues that impact return to work, a comprehensive approach is undertaken.

Modified duties assist return to work, however tackling the board issues that minimise work disability is recommended in the study.

As well as being able to modify duties, teaching the person how to do the job, providing ergonomic aids, and supporting them to remain engaged in productive and meaningful work is undertaken.

This approach is not exclusive to the WHO ICF model, however the model does provide another way of looking at the many issues that impact return to work.

Summary of article:

Prevention of work injuries is the ideal, however if a work-related health problem occurs a focus on prevention of disability is important.

The authors of this Canadian paper suggest a broad and consistent approach to preventing disability is important.

The paper introduces a Word Health Organisation (WHO) practice model of occupational rehabilitation ergonomics, drawing upon the International Classification of Functioning, Disability, and Health (ICF), and linking this with ergonomic and rehabilitation principles.

In occupational health, ergonomics is predominately focussed on preventing musculoskeletal problems. The authors indicate there has not been a strong focus on use of ergonomics in return to work management.

Ergonomics is broken down into:

i. Macroergonomics

A large-scale, global approach to ergonomics that addresses policies, attitudes, and processes has been termed macroergonomics. Macroergonomics encompasses many of the workplace culture and approach issues that are recognised to be of key importance in return to work success. Macroergonomics includes workplace policies, a supportive environment, the style of communication between the employer and employee, and the overall approach to return to work management.
Microergonomics is what is typically referred to as ergonomics and focusses on the interface between the worker and their environment, such as equipment height, layout of the workstation, etc.

The World Health Organisation developed the International Classification of Functioning, Disability, and Health over a number of years and it focusses on a broad or biopsychosocial model of health. The ICF is consistent with participatory ergonomics involving the employee, the workplace, and the job. It also takes into account the environmental factors and personal factors.

The ICF approach included activity limitations and restrictions, and then emphasises the need to understand barriers and facilitators:

1. Identifying activities and limitations.
2. Identifying and understanding barriers and facilitators.
3. Identifying and evaluating ergonomic interventions and possibilities.
4. Evaluating long term health and functioning.

The figure below outlines the ICF model of occupational rehabilitation ergonomics, taken from the article.

An everyday example is cited:

Anita is a 63 year old widow working in food processing. She has worked at the same site for 27 years and has seniority in the union. She is respected by co-workers and supervisors and is a conscientious and hard worker.

She developed back pain which is the subject of a compensation claim, and notes the back pain increases with prolonged standing.

Physical restrictions are put in place to limit the duration of standing and the amount of lifting undertaken.

An ergonomic approach was taken and identified.

Restrictions of not standing for more than four hours a day, not lifting above shoulder height or below waist height, lifting up to 5kg as a maximum between waist and shoulder level, and avoiding repeated bending and twisting of the torso.

Personal factor facilitators were identified as:
1. Healthy and physically fit apart from the back problem;
2. Strong work ethic;
3. Type A personality, likes to be busy;
5. Personal factor barriers were identified as:
6. Older worker;
7. A sense of loss and unhappiness about her inability to do her usual job;
8. Reduced job satisfaction as she was away from her normal job;
9. Minimal family support, widow with a single daughter with two young sons.

Facilitators for return to work included:

1. Analgesics for pain;
2. Other remedies—applying ice;
3. Support services with compensation benefits and possibility of ergonomic modifications.

Ergonomic barriers:

1. No knowledge of proper body mechanics, pacing strategies, stretching and strengthening exercises for reducing pain and stiffness;
2. Absence of anti-fatigue matting or facilities to allow seated work.

Macroergonomic facilitators were identified:

1. Support and relationships:
2. Good support from people in authority;

3. Family doctor involved;

4. Has commenced physiotherapy and an ergonomic assistance has been undertaken.

Attitudes:

1. Peers and colleagues were positive towards Anita;

2. Those in authority were positive towards Anita.

3. Services systems and policies:

4. Employer able to modify duties and accommodate restrictions;

5. Belongs to a union who supports and represents worker as needed.

Macroergonomic barriers:

Services systems and policies:

- Supervisor indicated modified duties were appropriate, but modified duties were really no different in terms of physical demands of the normal job.

The approach to case management:

1. Anita was offered education, instruction and job coaching to improve body mechanics, postures, and to learn to use her body to perform work demands in alternate ways. She was given a sit/stand stool so she could alternate the seated and standing position, and anti-fatigue matting was extended to length of her work area.

2. It was proposed she be allowed to perform her normal job, provided she was supervised to ensure that she was following through with proper body mechanics, pacing, and avoiding twisting and bending. Although she indicated she could not change her long term habits, she in fact did well and changed the way she did the job in the long term.
3. She was therefore able to continue to work in her normal area and to do most of her normal job. Being removed and alienated from her normal job would likely have caused her significant concern and probably distress. The modifications put in place helped her in the medium to long term, as well as helping others in area to modify the way the job was being done. She was pleased to continue to work full-time, and remained engaged as a productive member of the team.

Original research:

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Link to PubMed abstract