European Module EMUTOM for Undergraduate Teaching of Occupational Medicine

Chapter 3: Fitness for work

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Objectives

Knowledge objectives

The student

- explains that every (chronic) disease may have consequences for fitness for work, depending on the disease and depending on the work context
- nominates the elements of the ICF model (International Classification of Functioning, disability and health) and the main intervention options
- clarifies elements of the ICF model in relation to (chronic) diseases
- clarifies intervention options towards a patients' behavior and work environment
- gives examples of the consequences for work of common (chronic) diseases e.g. low back pain, adjustment disorders and burnout, myocardial infarction and cancer
- explains when a pre-employment examination is applicable and useful
- explains when a preventive medical examination, aimed at fitness for work, is applicable and useful

Skills and attitude objectives:

The student

- applies the elements of the ICF model in occupational history taking and clinical reasoning
- takes an occupational history focused on consequences of (chronic) illness for fitness for work
- is able to include the consequences of a disease in the medical diagnosis
- is able to integrate the consequences of a disease in medical decision making and medical advice and in referral to e.g. an occupational physician
- is able to involve and refer to a multidisciplinary rehabilitation team
- shows to be attentive to the consequences of the health problem for the work of a patient
- has a preventive attitude when considering consequences of a disease for fitness for work

Content, structure of the chapter

Introduction Fitness for work:	Impact, positive and negative, of health on work. Work, activities, referral and prevention **(warp)**
Consequences of (chronic) illness	ICF model, adapted for **W**ork and health
Clinical reasoning and decision making Assessing fitness for work	Extending common clinical reasoning to **A**ctivities and participation, occupational history taking, integrating environment and behavior
Interventions and active support	Clinical intervention, rehabilitation and return to work, behavioral intervention and environmental interventions, if necessary **R**eferral to an occupational physician
Prevention	**P**reventive attitude, primary and secondary prevention; Pre-employment examination, preventive periodical medical examination
What every physician should ask his patient	History taking about fitness for work

Case

The 35 year-old carpenter Hopkins is not able to work since five weeks because of low back pain. He can identify the pain exactly: about 10 cm to the left of L3. The pain radiates into the buttocks. Physical examination does not reveal any abnormal findings. Hopkins has visited his general practitioner in the first week of his absence of work. She referred him to the physiotherapist who advised him to do exercises. Hopkins was dissatisfied about the exercises and he stopped after two treatments. Since then he stays in bed much of the day. Certain movements such as bending forward and getting up are painful. At work, being a carpenter, he must regularly lift more than 25 kg. His boss, with whom he can get along well, regularly contacts him. Hopkins is married and has two children of 5 and 8 years old.

Case

The patient is a 38-year old female nurse diagnosed with a cervix carcinoma. The cancerous changes are confined to the cervix with little invasion and spread to the surrounding tissues, but no metastases (stage 1 B1). The treatment is with the intent to cure and consist of surgery and adjuvant radiotherapy if indicated by the outcome of the surgery. At the time of diagnosis she worked as a nurse in a large hospital for over 10 years for 36 hours a week. Her work is physically demanding (e.g. lifting, shift work). She felt that her relationship with her supervisor and colleagues was very good.

Surgery was successful and there was no indication for further treatment. As a direct side-effect of the major surgery she suffered from lymph oedema in her legs. After 5 months the patient started with a rehabilitation program aimed at improving her physical condition and reducing the lymph oedema in her legs. Her physical condition improved, but her mental health worsened (feelings of depression). She started a phased return to work including different tasks, working hours, responsibilities and the official percentage of sick leave gradually decreased. Her work situation did show some relapses in work performance due to medical; examinations, fear of recurrence, problems with lymph oedema and due to concentration problems. After thirteen months she returned to work full-time.

Introduction

The health condition of each individual affects their fitness for work (see Chapter 1 General Introduction). In this chapter 'Fitness for work' we focus on three distinguishable topics:

3.1. consequences of (chronic) illness for the work of a patient and how to actively support return to work

3.2. fitness of an individual for a job: pre-employment examination and preventive periodical medical examination (e.g. for pilots and fire-fighters)

3.3. what every physician should ask his / her patient about fitness for work

3.1. Consequences of (chronic) illness for the work of a patient

Diagnosing the consequences of health problems of a patient for his or her work is an important issue for all doctors. Health problems may be the cause of disabilities, reduced participation and sickness absence. This impact can be evaluated from different perspectives. An employee who is ill will determine for himself whether he or she is able to work. In order to organize the work a manager will evaluate the enterprises' possibilities when an employee is on sick leave and cannot work. The general practitioner will consider the patient's circumstances at work in his/her clinical reasoning and treatment plan. The occupational physician will evaluate any problems which might impede returning to work. To what extent a long-term sick employee invokes rightly for a disability insurance will be evaluated by an insurance physician. Of the medical hospital specialists the rehabilitation physician will be the most important to deal with recovery of functioning, also in work. All these doctors use their own definitions and criteria for evaluating disability. Personal values and ethics play a role. And of course, the national contexts with their different laws and regulations are important. (see chapter one)

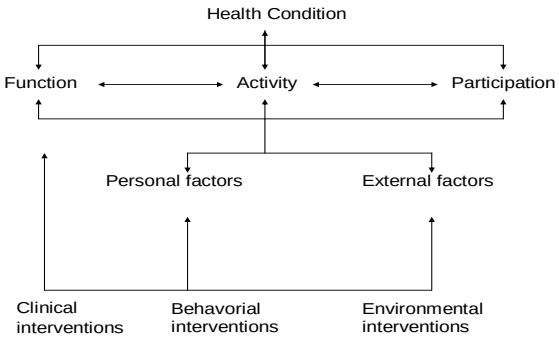
Yet it is possible to assess disability in a more objective way and to plan active interventions. The International Classification of Functioning, disability and health (ICF) provides a framework for this and also enables the communication between different medical specialties.

ICF model: International Classification of Functioning, disability and health

Assessing the consequences of a disease is a balance between the demands of work and society and the possibilities and limitations of someone with the health problem. The medical model is often contrasted with the social model. In the medical model the disability of a patient is considered to be an individual problem. In the social model should be noted that the society is jointly responsible for the functioning of people with a handicap by ensuring appropriate adjustments in the environment. That way everyone can participate fully in society. The World Health Organization WHO has developed the ICF model to assess disease in relation to the roles one can play in society. In this model it is assumed that a disease leads to a disorder defined as an abnormality in function or anatomical structure. Recovery of the disorder means recovery of the effects. Clinical interventions are primarily aimed at eliminating the disorder. A disorder can lead to limitations in activities that form the basis of human action. Interaction between these limitations and participation in social life can lead to a participation problem. Various factors such as external factors and personal factors can limit or promote the emergence of limitations in activities and participation. These factors provide a good handle for intervention.

In this ICF model absenteeism and disability are seen as a participation problem. To objectively assess the impact of a disease you should look at these various components

Figure 1: ICF model*, adjusted for work and health



Adapted ICF model with intervention options

Adapted by PBA Smits and JHAM Verbeek, Coronel Institute of Occupational Health, AMC The Netherlands. EMUTOM project.
* ICF model, International Classification of Functioning, disability and health. ICF © World Health Organization 2001

Box 1: Definitions of the elements of the adapted ICF model

Function: disorder in function and / or anatomical structure

Activity: limitations in functional capabilities and performance of daily activities

Participation: problems in participating in social activities (e.g. work)

Personal factors: e.g. education, experience, coping, motivation

External factors: factors in the environment, economic situation, workload, working conditions, social support

Clinical interventions: treatment by e.g. general practitioner or clinical specialist

Personal interventions: training, strengthen coping, motivational interventions

Environmental interventions: adapt the workplace, strengthen social support

An example may clarify the elements of the ICF model. A bus driver is absent from work because of chest pain. Upon closer inspection he has angina pectoris, leading to a disorder of cardiac function and chest pain on exertion. He is therefore limited in engaging in physical activity and less resistant to stressful work situations. His work requires him to drive a crowded bus safely, even under stressful conditions. In this, he is limited by his illness. He therefore has a problem in the area of mobility and participation in work. The term 'activity restriction' should be interpreted broadly, as this example shows. It not only means that there are limitations in the ability to perform a task but also the ability to handle situations in which a health or safety risk exists for the patients' health, but also for the safety of the passengers.

Another example: A male office manager, age 52, had a stroke, on the right. Consequences are hemiplegia left, visual neglect for the left side, fatigue and several cognitive disorders, e.g. attention, planning and processing information. He had a cognitive training, speech therapy and vocational rehabilitation for over a year. The hemiplegia is almost restored. He is independent in daily life and his language comprehension is not disturbed. But he has some difficulties with good articulation, especially when he is tired. Participation in traffic is not safe, associated with the visual neglect. His cognitive disorders are still present. He was an office manager in a large company, in one of the busiest branches and he wants to return to work as soon as possible. The rehabilitation coordinator already had contact with the general manager of the company and the occupational physician in an early phase about the job requirements. After a year, the multidisciplinary rehabilitation team comes to the conclusion that return to his former job is not a realistic option. The patient agrees. In this case, a stroke, it takes about a year to get insight in remaining functional disorders and possible activities. In consultation with the company another job has been found.

Limitations in activities not necessarily lead to a participation problem. Interaction with promoting and impeding factors in person and environment contribute eventually to the emergence of the participation problem. The motivation and the way of dealing with disability and illness (coping) play an important role. At the same time it provides opportunities for interventions to prevent a participation problem, such as adapting the demands of work or to teach someone to cope better with its limitations

The ICF model is not always easy to apply. Restrictions in activities are sometimes difficult to determine objectively, such as in the case of pain. Another problem that complicates the assessment of disability is that the risk of illness for health or safety is difficult to quantify. Moreover, with vague or nonspecific symptoms such as headache, abdominal pain or fatigue it is difficult to identify specific limitations in activities.

How to actively support rehabilitation and return to work?

Case

Mr Ackers, 45 years, is working as an inspector in the building and housing department of a municipality. He was referred by his boss to the hours of the occupational physician. He complains about annoying pain in the heel for three weeks. He is not able to work. Under load, the pain worsens. The general practitioner already referred him to a physiotherapist. Mr. Ackers himself sees no solution and does not know how to proceed. Half of his day job is office work and the other half he works outside. The relationship with his boss is not too good

What are the options for an (occupational) physician to address such a problem? The main objective of the approach is to prevent long-term disability. The possibilities can be derived from the ICF model. (See Box 2)

Box 2 Active support in rehabilitation and return to work; a roadmap

1. Diagnosis: health condition, activities and participation
    - nature and severity of the disease and disorders; clinical diagnosis
    - activities, possibilities and limitation in functioning
    - participation in (own) work possible
2. Problem inventory:
    - clinical treatment, interventions
    - illness behavior of the employee
    - problems in private area
    - problems in work and working environment, social support at work
3. Interventions:
    - focused on clinical treatment
        - own treatment by the (occupational) physician
        - information and consultation of the general practitioner / clinical specialist
        - referral to a specialized center or a multidisciplinary rehabilitation team
    - focused on employee behavior
        - discussing illness conceptions
        - teaching skills, enhance coping
        - promoting gradual return to work
    - focused on work environment and organization
        - adapting working hours and tasks
        - encouraging social support (boss, colleagues)
4. Conclusions:
    - assessment of fitness for work
    - advice to employee and employer on return to work
    - support plan aimed at participation
5. Evaluation:
    - evaluation: part time / fulltime recovered and / or returned to work

A first step is to determine the nature and severity of the health problem and whether the limitations in activities are connected with the disease. A next step is to identify problems that hinder return to work. The lack of adequate medical treatment may be such a barrier and heavy physical work or poor working conditions. The identification of such problems should lead to focused interventions. One of the most common interventions is to reduce working hours or in case of non specific back pain 'keep moving'. The result of the evaluation and counseling always includes a return to work advice, for example 'we agreed that you start Monday for fifty percent with your work, without having to do heavy packing work'.

How can we apply this on the case of Mr. Hopkins, the 35 year-old carpenter with low back pain? The most likely clinical diagnosis is non specific low back pain. And based on the case-information the most important problem seems to be inadequate illness behavior. He lies on bed and stopped his daily activities. Another problem is that he has to regularly lift heavy weights of over 25 kg which is above the norm. Interventions may include a care plan to stimulate moving, a consultation with his boss about temporary workload reduction and a more general plan to reduce the physical workload (see chapter 2) in this kind of work. In this a multidisciplinary rehabilitation team, including an ergonomist, might help.

3.2. Fitness of an individual for a job: pre-employment examination and preventive periodical medical examination

Pre-employment examination

Case

Sonja de Greef, 30 years, is applying for the position of fire-fighter. The procedure is going well. Finally, she has to go to the occupational physician for a pre-employment medical examination. She fills in some forms with questions about her medical history. She fills in that she suffers from asthma. Despite her asthma, she has participated in top-level regattas. Then a biometric examination is conducted by the medical assistant. Her physical condition is determined using a cycle ergo meter. The occupational physician discusses the questionnaires and the results of the medical investigations with Sonja. He explains to her that due to her asthma complaints, especially occurring in contact with irritants, she is not medically fit to take part in fire fighting operations. Together they reach the conclusion that the work in fire service is not suitable for Sonja.

A pre-employment examination aims at protecting the health and safety of the examined person and of third parties by assessing medical fitness for a specific job. A pre-employment examination can be regarded as a kind of screening test and should comply with matching validity criteria. Therefore it is important to know the specific medical requirements for the job. A major question is whether a medical examination can predict health risks and healthy functioning in the future. And of course a pre-employment medical examination method should be acceptable and ethical.

In the case of Sonja de Greef special medical requirements are clearly present. Medical fitness could be assessed with a valid and acceptable method that predicted the health risks for Sonja de Greef and for third parties as well.

Preventive periodical medical examination

Case

Jack Foggerty is working for more than 20 years as a fire-fighter. He is very proud of his profession. He undergoes a preventive periodical medical examination. He fills in questionnaires, gets blood tests, pulmonary function tests and an exercise test in practice and on a cycle ergo meter. He is a little bit nervous, because you never know what is coming out of such tests.

In chapter 2 we covered health surveillance of workers in jobs with specific exposures such as noise, carcinogens and asbestos to prevent possible health effects. In this chapter the topic is medical fitness

for work. In preventive periodical medical examination the aim is to periodically assess medical fitness for the job. It can be compared with a pre-employment examination.

3.3. What every physician should ask his patient about fitness for work

A physician always asks the (adult) patient:

- what is your profession or job, your education
- are you (un)employed, fulltime / part time
- do you fail at the moment due to your complaints, when did you stop working

Further questions, fitness for work

- are you limited in the performance of your work activities
- are you limited in the performance of your daily activities
- do these problems exist for a long time
- what can you still do, activities at work, at home
- do you think you resume work without support from a professional
- what's stopping you to return to work
- do you have any problem with ..(ask for a specific activity)

Summary

Remember the ***WARP*** acronym:

When consulting a patient, think about his or her personal and ***Work*** environmental factors and question them***.*** Ask the patient whether she/he experiences possibilities / disabilities in circumscriptive areas: ***Activities***. When necessary, consult or ***Refer*** to an occupational physician. Always be attentive to possible ***Preventive*** interventions.

(Chronic) ill patients may experience disabilities and reduced fitness for their work. To diagnose and treat these patients, a doctor should sufficiently become informed about the illness and the (work) environment. The ultimate goal of medical treatment is a good functioning patient.

With doctors' special emphasis on clinical interventions as well as on personal and environmental interventions it is possible to better help patients reintegrating in their work and to better help them maintaining sustainable employability.

Key words

Health condition, function, anatomical structure, activities, participation, personal factors, environmental factors, clinical interventions, behavioral interventions, environmental interventions, disability, absenteeism, rehabilitation, return to work, active support, occupational history taking, clinical reasoning, care plan, referral, prevention

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