SCOPE OF

THE WORKPLACE ASSESSMENT

IN HEALTH CARE SECTOR

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WORKPLACE ASSESSMENT

- idenfies hazards at workplace and their potential health influences
- define measures to prevent occupational injuires and diseases
- main and basic act for implementation of health protection at work and for employer's actions and obligation
- protect workers health and reduce costs for material and human damages



HEALTH CARE SECTOR

- significant employment sector
- ~ 80.000 employees
- about 3/4 women
- specific working tasks
- health risk



OCCUPATIONAL HEALTH HAZARDS IN CROATIAN ECONOMY

CROATIAN INSTITUTE OF OCCUPATIONAL HEALTH

Analysis of occupational health hazards in economic activities

Sources of data: risk assessment documents

Croatia

Health care sector

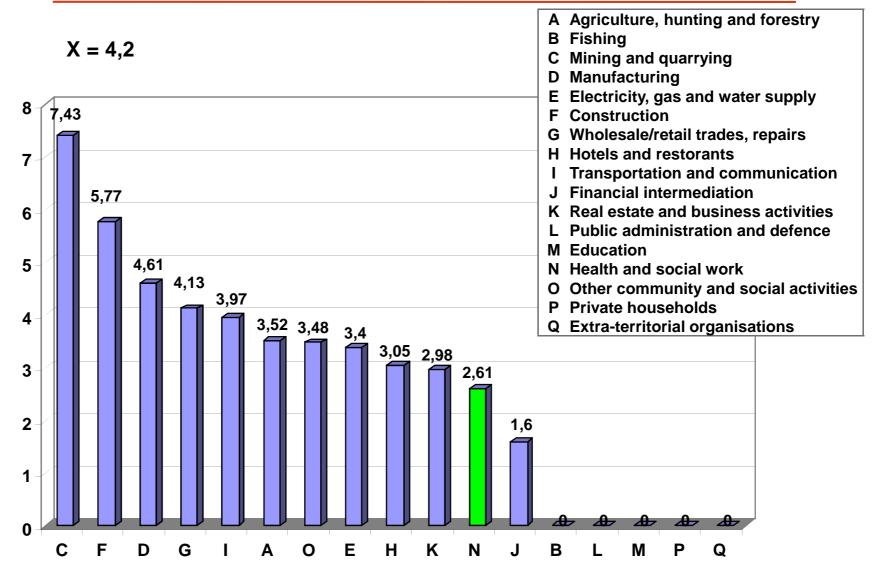
- ~ 1.400.000 employees
- 142.550 employees = 10% of working population
- all economic activities

- ~ 80 000 employees
- 12 000 employees
 - = 15% of working population
 - clinical hospital: 13 (5 055)
 - general hospital: 11 (3 803)
 - special hospital: 5 (2 588)
 - rehabilitation center: 1 (72)
 - policlinic: 1 (80)
 - first aid institution: 1 (403)





AVERAGE NUMBER OF HEALTH HAZARDS PER WORKER





OCCUPATIONAL HAZARDS

- mechanical hazards
- falling and tripping
- electric hazard
- fire and explosion
- thermal hazards

- chemicals
- biological agents
- physical agents
- statodynamic strain
- psychosocial and organizational factors



Occupational diseases

Work-related diseases





HEALTH HAZARDS RESULTING IN INJURIES

mechanical hazards

falling and tripping

electric hazards

fire and explosion

thermal hazards

Tools: manual, mechanized

Machines and equipment

Transport devices

motor vehicles: cars, trucks, tractors transport devices: forklift engineering vehicles: bulldozers, excavators, road rollers, loaders

Lifting devices

cranes, derricks

Object manipulation

Guns

Falling of persons

at the same level in depth from heights from heights over 3m

Falling of objects

Open electric circle

Other electric hazards

Explosive substances

Inflammable substances

Hot material

Cold material

Healthy Workplaces for Health Workers





HEALTH HAZARDS RESULTING IN INJURIES

Health care sector

Mechanical hazards

- sharp instruments
- needles
- 22,6%



Falling and tripping

- moving
- 26,4%









HEALTH HAZARDS RESULTING IN INJURIES

Health care sector

Electric hazard

- equipment
- 22,3%







Violent patients

• USA: ~ 40% of all attacks at workplace

• EU: 4% employees

• Croatia: ?





INJURIES AT WORK

Croatia

- number: 21.000 25.000/y
- rate/100.000 employees:

1.550 - 1.750

EU

• rate/100.000 employees: ~ 4.000

Health care sector

Croatia

- number: 1.200 1.500/y
- rate/100.000 employees:

1.600 - 2.100

• 5–8% of all injuries at work

EU

- rate/100.000 employees:
 - ~ 30% higher than average

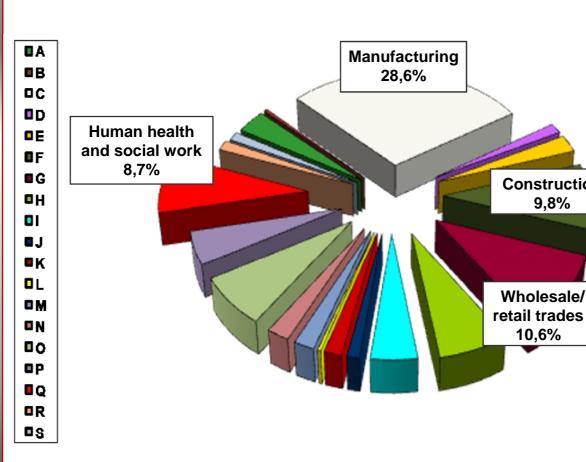


INJURIES AT WORK rate/100 000 employed/2010.

Construction

9,8%

10,6%

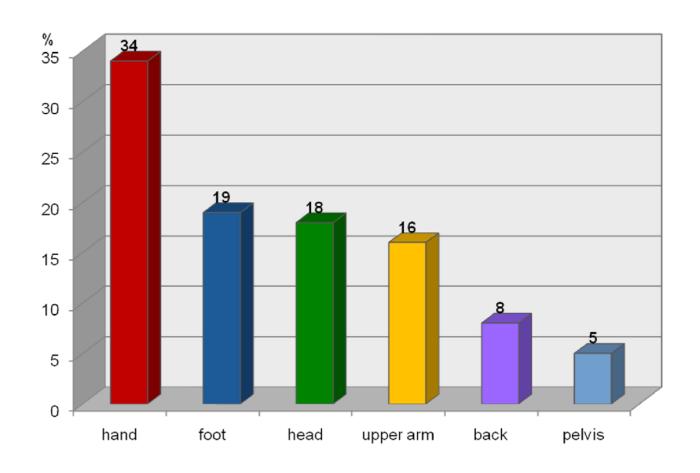


- A Agriculture, forestry and fishing
- **B** Mining and quarrying
- **C** Manufacturing
- **D** Electricity and gas supply
- E Water supply, waste management
- F Construction
- G Wholesale/retail trades, repairs
- **H** Transportation and storage
- I Accommodation and food service
- J Information and communication
- **K** Financial and insurance activities
- L Real estate activities
- M Professional and scientific activities
- N Administrative and support service
- O Public administration and defence
- P Education
- Q Human health and social work
- R Arts and entertainment
- S Other service activities
- T Private households
- **U** Extra-territorial organisations





INJURIES AT WORK IN HEALTH CARE SECTOR





OCCUPATIONAL HAZARDS

- mechanical hazards
- falling and crashing
- electric hazards
- fire and explosion
- thermal hazards

- chemicals
- biological agents
- physical agents
- statodynamic strain
- psychosocial and organizational factors

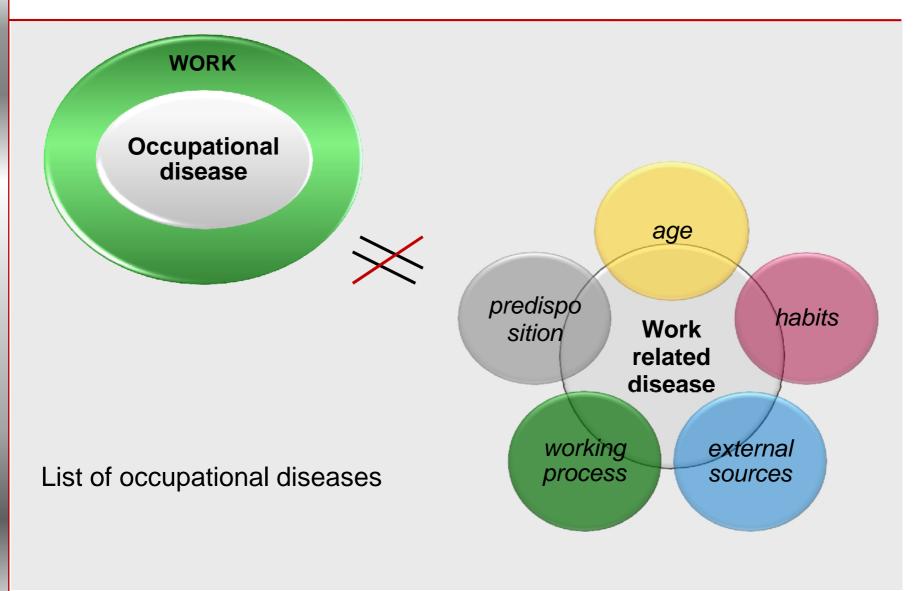


Occupational diseases

Work-related diseases



DISEASES







chemicals

biological agents

physical agents

Toxins

Corrosives

Irritants

Asphyxiants

Allergens

Fibrogens

Mutagens

Cancerogens

Teratogens

Infectious material, persons and animals

Dangerous plants and animals

Noise

Vibration

Altered atmospheric pressure

Adverse climatic conditions

lonizing radiation

Non-ionizing radiation

Insufficient lighting

Healthy Workplaces for Health Workers





statodynamic strain

Dynamic work

repetitive movements with or without force exertion rapid work activities lifting and carrying of haevy loads pushing and pulling of loads

exertion of high-intensity forces

Static work

long-time sitting or standing awkward posture kneeling, squatting work in confined space hands overhead

psychosocial and organizational factors

Unfavourable pace of work

high work intensity/normative work no control over pace/speed of work irregular time patterns

Disturbed biorhythm

shiftwork, night work over-time work

Interfering with social needs

working out of place of residence

Responsibility for people and materials

management driving

Possible uncommon events

Hard receiving of information

audio and visual signals and signs noise

insufficient lighting

Unsuitable job demands

demanding job low job decision control isolated work

monotonous tasks contact with clients

Burnout

Healthy Workplaces for Health Workers





Health care sector

Biological agents

- contact with patients, blood, body fluids
- microorganisms
- 40%





Chemicals

- anaesthetic gases
- sterilizers
- laboratory reagents
- cytotoxic drugs
- drugs
- disinfectants
- latex
- 20%







Health care sector

Physical hazards

- ionising radiation: 1,7%
- non-ionising radiation: 4,6%
- vibration













Health care sector

Statodynamic strain

- lifting and carrying
- pushing and pulling of loads
- long-time sitting or standing
- awkward posture
- repetitive movements
- Croatia: 27%
- EU: 37-47% = economy 60% = health care
- nurses
- unskilled workers
- surgeons
- dental personnel









Health care sector

Psychosocial and organizational factors

- over-time, shift and night work
- responsibility, decision making
- high expectations
- emergencies
- contact with patients
- confrontation with pain
- dealing with dying people
- violence of patients and family members

Croatia: 7%

• EU: 28% = economy

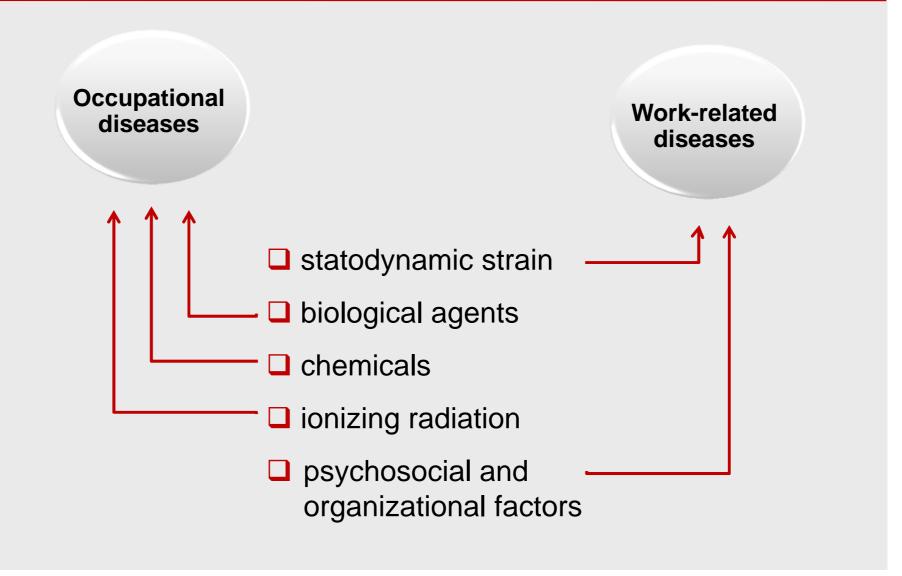
45% = health care







HEALTH RISK IN HEALTH CARE SECTOR





OCCUPATIONAL DISEASES

Croatia

- number: ~ 80 200/y
- rate/100.000 employees:

6 - 15

EU

• rate/100.000 employees: ~ 10 - 170

Health care sector

Croatia

- number: ~ 8 30/y
- rate/100.000 employees:

~ 10 - 30

• 7-14% of all OD

EU

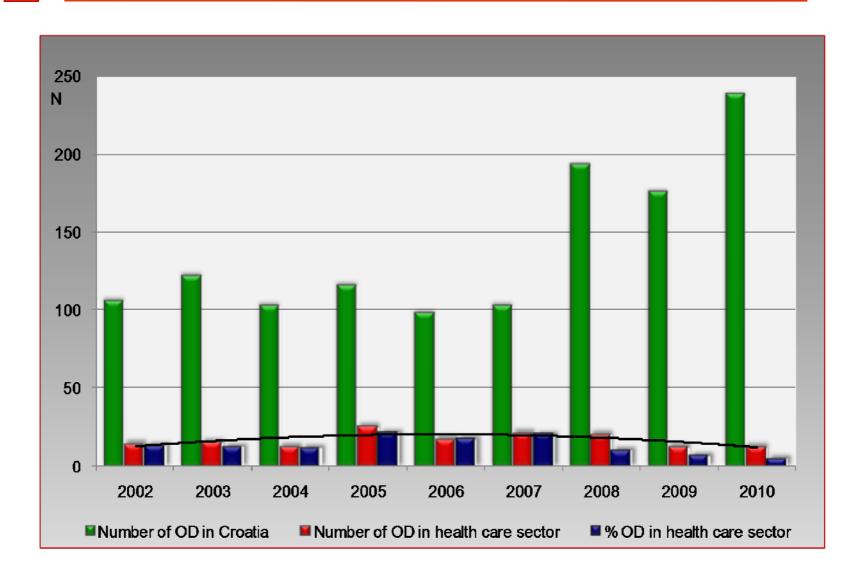
• rate/100.000 employees:

$$\sim 4 - 60$$

• 3 - 19% of all OD in particular state



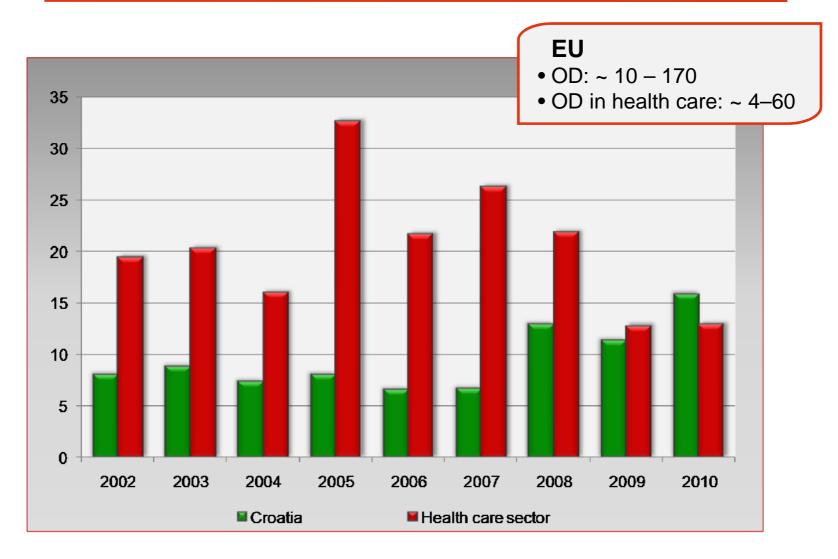
OCCUPATIONAL DISEASES





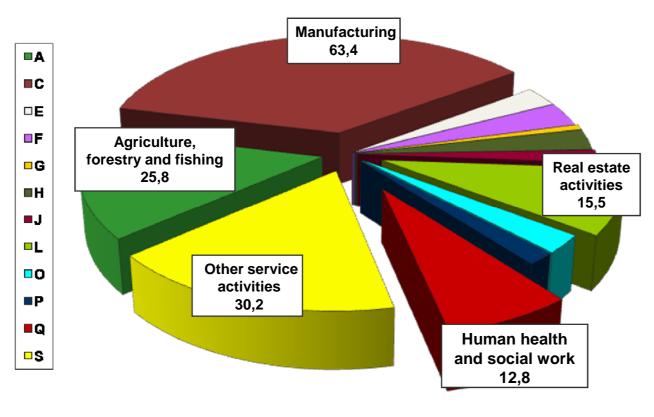
OCCUPATIONAL DISEASES

rate/100 000 employed





occupational diseases in croatia rate/100 000 employed/2010.

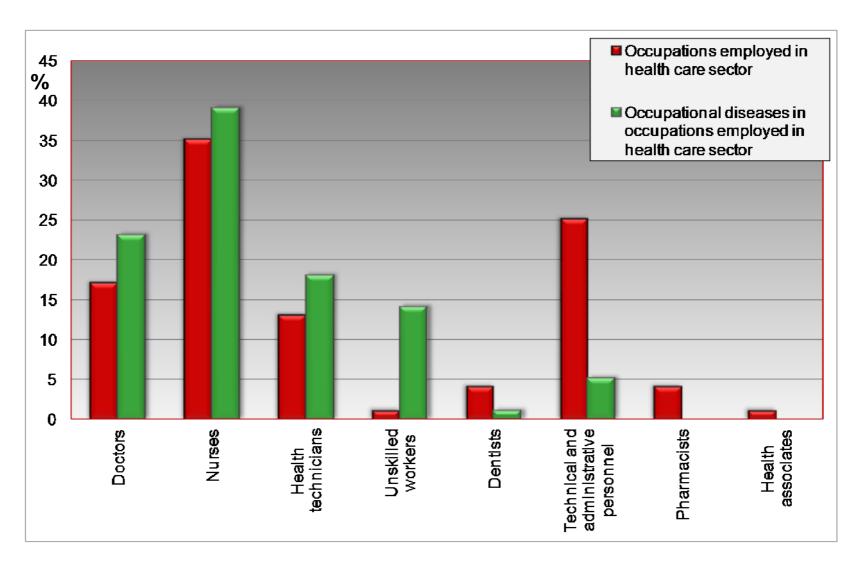


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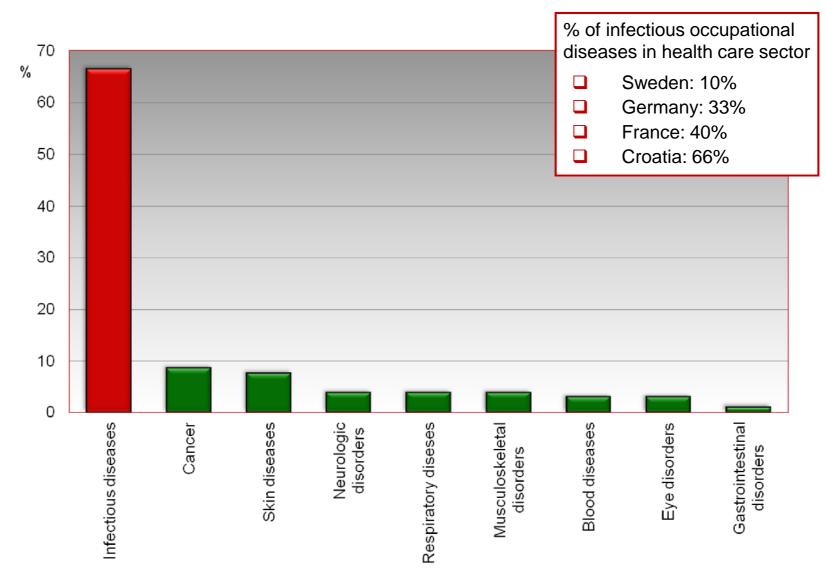
OCCUPATIONAL DISEASES IN HEALTH CARE SECTOR ACCORDING THE OCCUPATIONS - 2002.-2010.







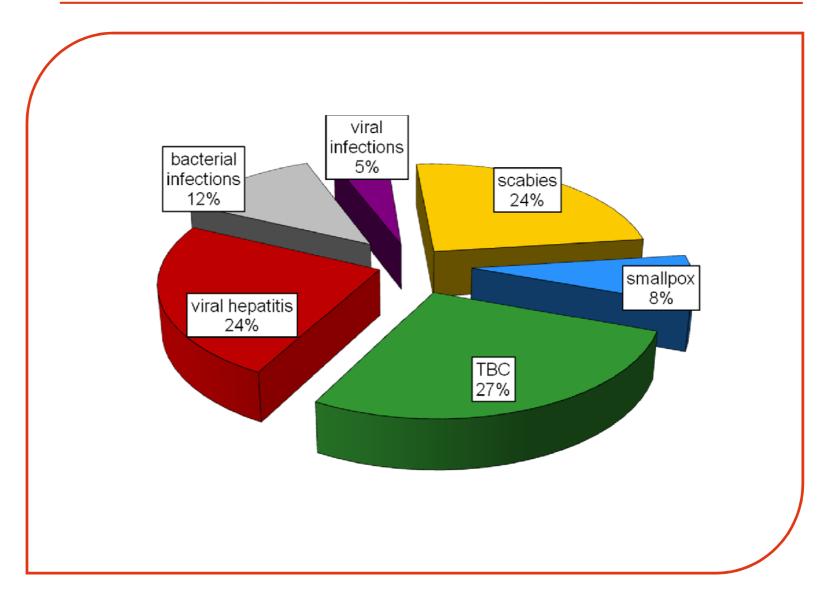
OCCUPATIONAL DISEASES IN HEALTH CARE SECTOR 2002.-2010.



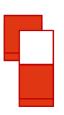




INFECTIOUS DISEASES IN HEALTH CARE SECTOR 2002.-2010.







OCCUPATIONAL DISEASES IN HEALTH CARE SECTOR 2002.-2010.

Cancer

- breast
- thyroid
- blood
- kidney
- colon



Dermatitis

- alergic
- □ iritative
- infectious
- radiodermatitis







HEALTH RISK ASSESSMENT

Health care sector

Injuries at work

- needlestick/sharp injuries/punctures
- cut, contusions, fractures

Work-related diseases

- musculoskeletal diseases
- psychosomatic disorders: stress, burnout, anxiety, irritability, depression

Occupational diseases

- infections
- cancers
- dermatitis
- cataract
- alergies
- **•** ...



RISK ASSESSMENT

Risk

= probability * severity of damage



RISK ASSESSMENT

- ◆ Croatian Institute of Occupational Health 1999.god.
- Course of continuing medical education of occupational physicians

ROLE OF THE OCCUPATIONAL MEDICINE
SPECIALIST IN HEALTH RISK ASSESSMENT AT WORK





RISK ASSESSMENT OF INJURIES AT WORK

Hazard	Source of hazard	Implemented measures	Probability	Type of injury	Severity of injury	Risk level
Mechanical hazards						
Falling and tripping						
Electric hazard						
Fire and explosion						
Thermal hazards						





RISK ASSESSMENT OF OCCUPATIONAL AND WORK-RELATED DISEASES

Hazard	Source of hazard	Implemented measures	Probability	Occupational disease	Work-related disease	Severity of disease	Risk level
Chemicals							
Dust							
Biological agents							
Noise							
Vibration							
Radiation							
Climate							
Lighting							
Physical work							
Static strain							
Psychosocial factors							
Other hazards							



CLASSIFICATION OF INJURY SEVERITY

Severity of injury	Characteristics of injury
Very light Abrasion, small bruise	No danger for life Insignificant body damage Preserved function of injuried body part Maintained work ability
Light Cut, bruise, contusion	No danger for life Light body damage Temporary limitation of function of injuried body part Short-term work disability
Medium Wound, stab, larger laceration and contusion, wrench, fractures	Potential threat for life Significant body damage Temporary significant limitation of function of injuried body part Temporary work disability
Severe Amputation, crushing, multiple injuries	Real threat for life Permanent body damage or destruction of body part Permanent work disability Mutilation
Fatal or collective accident	Death





CLASSIFICATION OF DISEASE SEVERITY

- A = disease without consequences on work ability
- **B** = disease which consequences can not significantly influence work ability
- **C** = disease which consequences can reduce work ability
- **D** = disease with permanent consequences which cause work disability, progressive disease
- **E** = disease with handicap, fatal disease



RISK QUANTIFICATION

	Severity of injury or disease						
Probability	Very light	Light	Medium	Severe	Fatal		
	A	В	C	D	Ε		
Insignificant	1	1	1	2	2		
Small	1	1	2	3	3		
Medium	1	2	3	3	4		
High	1	2	3	4	5		
Very high	2	3	4	5	5		



RISK QUANTIFICATION AND MEASURES

Risk level	Risk	Preventive measures
1	insignificant	working conditions are satisfactoryadditional measures are not needed
2	acceptable	 working hazards do not exceed allowable limits maintaining and long-term monitoring of working conditions
3	medium	 working conditions can in some persons cause disorders planning and regulary performing measures regular health surveillance
4	high	 working conditions can endanger the health performing measures in short term regular health surveillance
5	very high	 working conditions can be threat for life stop the working proccess performing the measures immediately immediate health surveillance



Thank you!

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