Il Sistema «Malprof» e le reti di rilevazione delle malattie professionali
Convegno nazionale
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Diagnostic and exposure criteria for occupational diseses, from the new ILO list to the ICD11 revision»

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Summary

- The specificity of occupational diseases (attributable to an external cause)
- The need of recognition of occupational diseases
- The lists (ILO, local, national lists)
- The new ICD11
- Conclusions

Occupational & infectious diseases

Share some common features

Specific causal agent

Well-defined populations

Specific coping strategies

Avoidable!

Occupational & infectious diseases

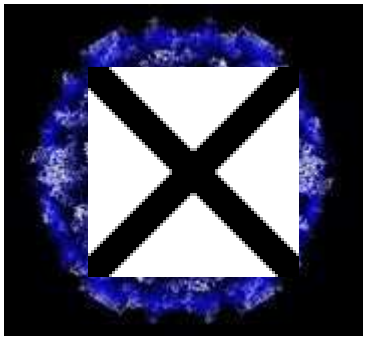
VACCINATION

Infectious disease

Specific infectious agent

PREVENTION

ERADICATION OF AGENT



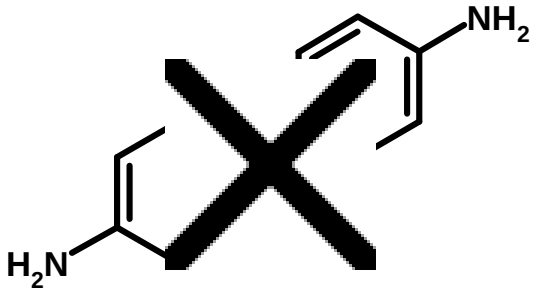
ERADICATION OF DISEASE

USE OF DPI

PREVENTION

Specific causal agent

occupational disease



USE BAN

Prevention of avoidable diseases

- **Clear definition of NOSOLOGICAL ENTITY**
- **EPIDEMIOLOGICAL DATA**
- **SHARED INFORMATION**

the ICD
INTERNATIONAL CLASSIFICATION OF DISEASES

INTERNATIONAL CLASSIFICATION OF DISEASES

Started as the

International List of Causes of Death

was adopted by

the International Statistical Institute in 1893

1948 creation of WHO
Sixth Revision of ICD
for the first time
included causes of morbidity

INTERNATIONAL CLASSIFICATION OF DISEASES

- **Now at the 10th edition (ICD-10)**
- **The next edition ICD-11 is in preparation**

Need to armonize
the effort of the entire UN-world
towards the improvement
of human health worldwide

Diagnosis > treatment > compensation

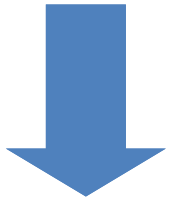
Workers affected by diseases recognized as of

OCCUPATIONAL ORIGIN

need to be compensated

should irreversible damage be caused

with loss of occupation and revenue



ILO, local, national lists

Prevention of occupational diseases

To fight occupational diseases

they need to be recognized

as individual NOSOLOGICAL ENTITIES

which link

EXPOSURE TO A SPECIFIC AGENT

to a

RECOGNIZABLE DISEASE

The International Labour Office ILO-BIT-OIT

- **Founded in 1919 – the oldest agency of the UN world**
- **Tripartite cooperation of Workers, Employers and Governments**

First diseases internationally recognized of occupational origin: → **Anthrax (1919)**

Criteria for Identification of Occupational Diseases in General

- oc*cupational diseases,* having a specific or a strong relation to occupation, generally with only one causal agent, and recognized as such
- wo*rk-related diseases*, with multiple causal agents, where factors in the work environment may play a role, together with other risk factors, in the development of such diseases, which have a complex aetiology
- di*seases affecting working populations*, without causal relationship with work but which may be aggravated by occupational hazards to health.

Criteria for Identification of Occupational Diseases in General

- There is a causal relationship with a specific agent, exposure or work process;
- they occur in connection with the work environment and/or in specific occupations;
- they occur among the groups of persons concerned with a frequency which exceeds the average incidence within the rest of the population;
- there is scientific evidence of a clearly defined pattern of disease following exposure and plausibility of cause.
- When a causal relationship has been determined between an exposure at work and a disease, the disease is considered as occupational disease.

Criteria for Identification of Occupational Diseases in General

- The diagnostic criteria for an occupational disease have two key elements:
- clinical manifestation
- exposure history (length, level, age when exposure started, gender…)

The International Labour Office ILO-BIT-OIT

•**In 1919**: the International Labour Organization (ILO) declared that **anthrax** was an occupational disease.
•**In 1925**: the first ILO List of Occupational Diseases was established by the Workmen's Compensation (Occupational Diseases) Convention (No. 18). There were **three occupational diseases** listed.
•**In 1934:** Convention No. 42 (1934) revised Convention No. 18 with a list of **ten occupational diseases**.
•**In 1964:** the International Labour Conference adopted the Employment Injury Benefits Convention (No. 121), this time with a separate schedule (**List of Occupational Diseases**) appended to the Convention, which allows for **amending the schedule** without having to adopt a new Convention (ILO 1964)

Latest ILO list of Occupational Diseases (2009-2010)

ILO list of Occupational Diseases (2009)

ILO CODE	ILO ENTRY
1.01.xx	Occupational diseases caused by chemical agents
	40 different classes or chemical agents listed
1.02.xx	Diseases caused by physical agents
	xx different classes or chemical agents listed
1.03.xx	Biological agents and infectious or parasitic diseases
	zz different classes or chemical agents listed
2.01.xx	Occupational diseases by target organ systems
	ww different classes or chemical agents listed
3.01.xx	Occupational cancer
	kk different classes or chemical agents listed

ILO list of Occupational Diseases
(approved on March 25 2010 by the ILO Governing Body)

ILO CODE	ILO ENTRY
1.01	Occupational diseases caused by chemical agents
1.01.01	Diseases caused by beryllium or its compounds
1.01.41	Diseases caused by other chemical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these chemical agents arising from work activities and the disease(s) contracted by the worker

40 + 1 by chemical agent; 6 + 1 by physical agents; 8 + 1 by biological agents;
Per organ: 11 + 1 respiratory; 3 + 1 skin; 7 + 1 musculoskeletal; 1+1 mental; 20 + 1 cancer; 1 + 1 “Other”

There is the need to add more occupational diseases to the list according to scientific evidence and to the necessity to protect working population from new work – related hazards and new and emerging diseases

Diagnostic Criteria of Occupational Diseases

Information notices on occupational diseases: a guide to diagnosis

Agent of disease

+

Circumstances for occupational exposure

=

Description of occupational disease

Diagnosis of occupational disease

Clinical features
Signs, symptoms, diagnostic tests

Occupational exposure
Occupational history, measurements, biological monitoring, records of incidents

Timing
Natural history and progress of the disease

Differential diagnosis

Additional information

Minimum intensity of exposure

Minimum duration of exposure

Maximum latent period

Minimum induction period

Diagnostic Criteria of Occupational Diseases

Acrylonitrile

Definition of causal agent

Acrylonitrile (vinyl cyanide) is at room temperature a volatile, flammable, colourless liquid with a weakly pungent odour. The vapours are explosive, with cyanide gas being produced. It may polymerize spontaneously, particularly in the presence of oxygen or visible light.

Main occupational uses and sources of exposure:
Acrylonitrile is used in the manufacture of synthetic fibres and plastic materials. The large majority is used in the production of acrylic and modacrylic textile fibres and (>50%). Other large uses include acrylonitrile-butadiene-styrene and styrene-acrylonitrile plastics, nitrile-butadiene rubber and other polymeric materials or production of acrylamide and adiponitrile.

Toxic effects

1. Acute poisoning

ILO Diagnostic Criteria of Occupational Diseases

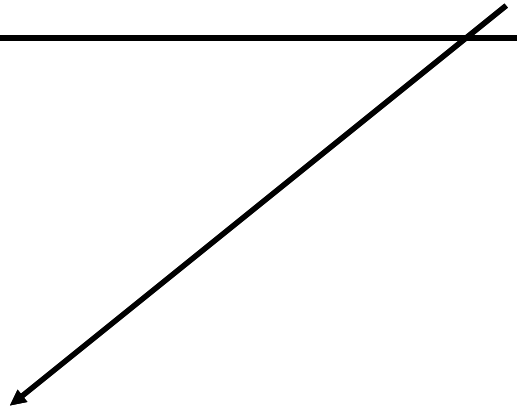
1.1.01	Diseases caused by	Beryllium or its compounds	ICD Code
General characteristics of the causal agent.	Beryllium is a metallic element ...		

Beryllium compounds for which an ICSC has been issued

Name	Synonyms	ICSC
BERYLLIUM	Glucinium	0226
BERYLLIUM OXIDE	Beryllia; Beryllium monoxide	1325
BERYLLIUM SULFATE		1351
BERYLLIUM NITRATE		1352
BERYLLIUM CARBONATE	Beryllium basic carbonate	1353

ILO Diagnostic Criteria of Occupational Diseases

1.1.01	Diseases caused by	Beryllium or its compounds	ICD Code
Occupational exposures.	Most beryllium is used in the production of copper-beryllium alloys which are used extensively in the aerospace, telecommunications, computer….. Occupational exposure is possible during extraction and metallurgy and in the production of highly specialised articles such as nuclear weapons and reactors, aircraft and space vehicle structures.		



Information needs to be upgraded:

- **as industrial uses expand or shrink**
- **As chemicals are restricted or banned**
- **As different States regulate materials or activities differently**
- **As new productions bring about new risks**

ILO Diagnostic Criteria of Occupational Diseases

Disease name.	Main health effects, diagnostic and exposure criteria.
Name of the disease and ICD code	**Chronic beryllium disease** **J 36.2**

Short description of the disease. The prevalence of beryllium *sensitization* in exposed worker populations ranges between 0.8% and 12% in various studies. The prevalence of Chronic Beryllium Disease (CBD) in similar groups is ……

Acute / Chronic/long term: CHRONIC

The diagnostic and exposure criteria include:

The dose and duration of beryllium exposure that causes adverse health effects is object of ongoing research. Sensitization and CBD can occur at levels as low as 0.02 microg/m^3 lifetime weighted exposure. This very low threshold might suggest that exposure limits are still too high-

Beryllium sensitization:

1.Evidence of a beryllium-specific immune response as indicated by

2.No evidence of granuloma on lung biopsy

Subclinical CBD:

Clinically evident CBD

Minimum duration of exposure: may occur within three months of exposure although typically many years after first exposure.

Maximum latent period:

THE LINEARIZATION OF OCCUPATIONAL DISEASES IN ICD11

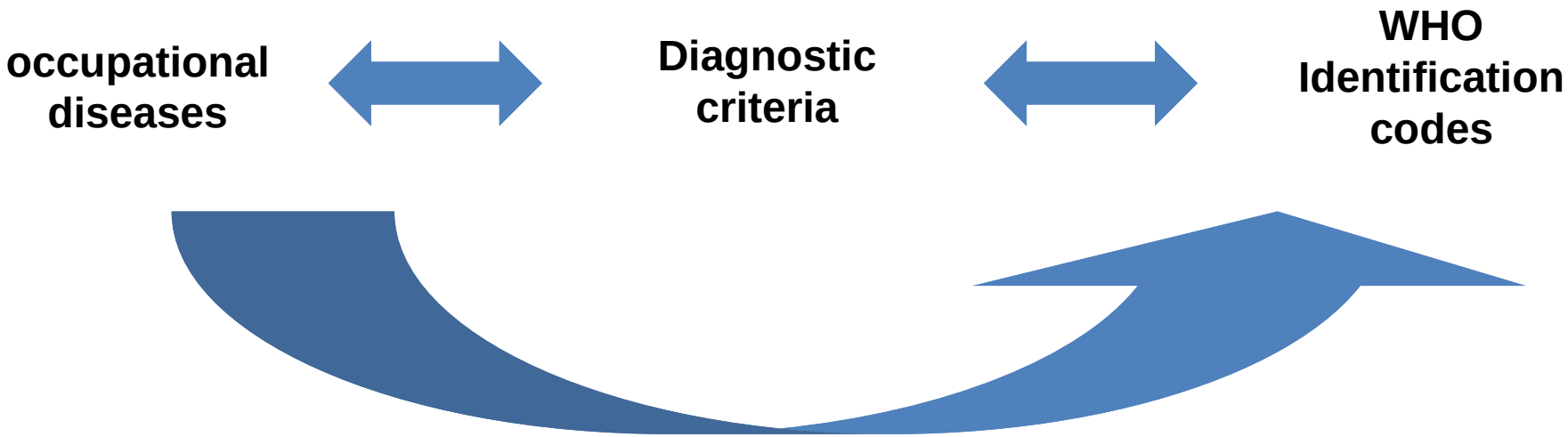
Always considered the binomial relationship exposure-disease

For each casual agent, identified the linked diseases

For each disease, identified the possible causal agents

The UN world united for the benefit of human kind

Merge of the ILO list of Occupational Diseases
with
the new edition of the WHO ICD-11



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Thank you very much for your kind attention

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