

Carrera de Especialización en Esterilización

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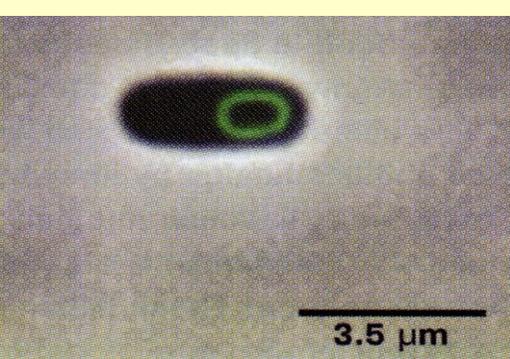
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Universidad Nacional de Rosario



Consejo Nacional de Investigaciones



SEGURIDAD OPERATIVA

**PREVENIR ACCIDENTES Y
ENFERMADADES VINCULADAS AL
TRABAJO A TRAVÉS DE LA
DISMINUCIÓN DE LOS RIESGOS**

**RIESGO: CONDICIÓN POTENCIAL O REAL
DE CAUSAR UN ACCIDENTE O
ENFERMEDAD**



International
Labour
Office
Geneva

LIST OF OCCUPATIONAL DISEASES (revised 2010)

Identification and recognition
of occupational diseases:
Criteria for incorporating diseases
in the ILO list of occupational diseases

Occupational
Safety and Health
Series

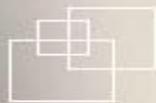
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THE **PREVENTION** OF **OCCUPATIONAL** **DISEASES**



International
Labour
Organization

**2 million
workers
killed
every
year**



**World Day for safety
and health at work**
28 April 2013


SafeWork

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Definitions of occupational diseases

According to the Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155), the term “occupational disease” covers any disease contracted as a result of an exposure to risk factors arising from work activity.

Two main elements are present in the definition of an occupational disease:

- the causal relationship between exposure in a specific working environment or work activity and a specific disease; and
- the fact that the disease occurs among a group of exposed persons with a frequency above the average morbidity of the rest of the population.

The causal relationship is established on the basis of clinical and pathological data, occupational background and job analysis, identification and evaluation of occupational risk factors and of the role of other risk factors.

Epidemiological and toxicological data are useful for determining the causal relationship between a specific occupational disease and its corresponding exposure in a specific working environment or work activity.

As a general rule, the symptoms are not sufficiently characteristic to enable an occupational disease to be diagnosed as such without the knowledge of the pathological changes engendered by the physical, chemical, biological or other factors encountered in the exercise of an occupation.

The recognition of a disease as being occupational is a specific example of clinical decision-making or applied clinical epidemiology. Deciding on the cause of a disease is not an “exact science” but rather a question of judgement based on a critical review of all the available evidence, which should include a consideration of the following:

- *Strength of association.* The greater the impact of an exposure on the occurrence or development of a disease, the stronger the likelihood of a causal relationship.
- *Consistency.* Different research reports have generally similar results and conclusions.
- *Specificity.* Exposure to a specific risk factor results in a clearly defined pattern of disease or diseases.
- *Temporality or time sequence.* The exposure of interest preceded the disease by a period of time consistent with any proposed biological mechanism.
- *Biological gradient.* The greater the level and duration of exposure, the greater the severity of diseases or their incidence.
- *Biological plausibility.* From what is known of toxicology, chemistry, physical properties or other attributes of the studied risk or hazard, it makes biological sense to suggest that exposure leads to the disease.
- *Coherence.* A general synthesis of all the evidence (e.g. human epidemiology and animal studies) leads to the conclusion that there is a cause–effect relationship in a broad sense and in terms of general common sense.
- *Interventional studies.* Sometimes, a primary preventative trial may verify whether removing a specific hazard or reducing a specific risk from the working environment or work activity eliminates the development of a specific disease or reduces its incidence.



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LIST OF OCCUPATIONAL DISEASES (revised 2010)

Definitions of occupational diseases

According to the Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155), the term “occupational disease” covers any disease contracted as a result of an exposure to risk factors arising from work activity.

1. Occupational diseases caused by exposure to agents arising from work activities

1.1. Diseases caused by chemical agents

- 1.1.1. Diseases caused by beryllium or its compounds
- 1.1.2. Diseases caused by cadmium or its compounds
- 1.1.3. Diseases caused by phosphorus or its compounds
- 1.1.4. Diseases caused by chromium or its compounds
- 1.1.5. Diseases caused by manganese or its compounds
- 1.1.6. Diseases caused by arsenic or its compounds
- 1.1.7. Diseases caused by mercury or its compounds
- 1.1.8. Diseases caused by lead or its compounds
- 1.1.9. Diseases caused by fluorine or its compounds
- 1.1.10. Diseases caused by carbon disulfide
- 1.1.11. Diseases caused by halogen derivatives of aliphatic or aromatic hydrocarbons
- 1.1.12. Diseases caused by benzene or its homologues
- 1.1.13. Diseases caused by nitro- and amino-derivatives of benzene or its homologues
- 1.1.14. Diseases caused by nitroglycerine or other nitric acid esters
- 1.1.15. Diseases caused by alcohols, glycols or ketones
- 1.1.16. Diseases caused by asphyxiants like carbon monoxide, hydrogen sulfide, hydrogen cyanide or its derivatives
- 1.1.17. Diseases caused by acrylonitrile
- 1.1.18. Diseases caused by oxides of nitrogen
- 1.1.19. Diseases caused by vanadium or its compounds
- 1.1.20. Diseases caused by antimony or its compounds
- 1.1.21. Diseases caused by hexane
- 1.1.22. Diseases caused by mineral acids
- 1.1.23. Diseases caused by pharmaceutical agents
- 1.1.24. Diseases caused by nickel or its compounds
- 1.1.25. Diseases caused by thallium or its compounds
- 1.1.26. Diseases caused by osmium or its compounds

- 1.1.27. Diseases caused by selenium or its compounds
- 1.1.28. Diseases caused by copper or its compounds
- 1.1.29. Diseases caused by platinum or its compounds
- 1.1.30. Diseases caused by tin or its compounds
- 1.1.31. Diseases caused by zinc or its compounds
- 1.1.32. Diseases caused by phosgene
- 1.1.33. Diseases caused by corneal irritants like benzoquinone
- 1.1.34. Diseases caused by ammonia
- 1.1.35. Diseases caused by isocyanates
- 1.1.36. Diseases caused by pesticides
- 1.1.37. Diseases caused by sulphur oxides
- 1.1.38. Diseases caused by organic solvents
- 1.1.39. Diseases caused by latex or latex-containing products
- 1.1.40. Diseases caused by chlorine
- 1.1.41. 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

1.2. *Diseases caused by physical agents*

- 1.2.1. Hearing impairment caused by noise
- 1.2.2. Diseases caused by vibration (disorders of muscles, tendons, bones, joints, peripheral blood vessels or peripheral nerves)
- 1.2.3. Diseases caused by compressed or decompressed air
- 1.2.4. Diseases caused by ionizing radiations
- 1.2.5. Diseases caused by optical (ultraviolet, visible light, infrared) radiations including laser
- 1.2.6. Diseases caused by exposure to extreme temperatures
- 1.2.7. Diseases caused by other physical 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 physical agents arising from work activities and the disease(s) contracted by the worker

1.3. *Biological agents and infectious or parasitic diseases*

1.3.1. Brucellosis

1.3.2. Hepatitis viruses

1.3.3. Human immunodeficiency virus (HIV)

1.3.4. Tetanus

1.3.5. Tuberculosis

1.3.6. Toxic or inflammatory syndromes associated with bacterial or fungal contaminants

1.3.7. Anthrax

1.3.8. Leptospirosis

1.3.9. Diseases caused by other biological 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 biological agents arising from work activities and the disease(s) contracted by the worker

2. Occupational diseases by target organ systems

2.1. Respiratory diseases

- 2.1.1. Pneumoconioses caused by fibrogenic mineral dust (silicosis, anthraco-silicosis, asbestosis)
- 2.1.2. Silicotuberculosis
- 2.1.3. Pneumoconioses caused by non-fibrogenic mineral dust
- 2.1.4. Siderosis
- 2.1.5. Bronchopulmonary diseases caused by hard-metal dust
- 2.1.6. Bronchopulmonary diseases caused by dust of cotton (byssinosis), flax, hemp, sisal or sugar cane (bagassosis)
- 2.1.7. Asthma caused by recognized sensitizing agents or irritants inherent to the work process
- 2.1.8. Extrinsic allergic alveolitis caused by the inhalation of organic dusts or microbially contaminated aerosols, arising from work activities
- 2.1.9. Chronic obstructive pulmonary diseases caused by inhalation of coal dust, dust from stone quarries, wood dust, dust from cereals and agricultural work, dust in animal stables, dust from textiles, and paper dust, arising from work activities
- 2.1.10. Diseases of the lung caused by aluminium
- 2.1.11. Upper airways disorders caused by recognized sensitizing agents or irritants inherent to the work process
- 2.1.12. Other respiratory diseases 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 risk factors arising from work activities and the disease(s) contracted by the worker

2.2. *Skin diseases*

- 2.2.1. Allergic contact dermatoses and contact urticaria caused by other recognized allergy-provoking agents arising from work activities not included in other items
- 2.2.2. Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items
- 2.2.3. Vitiligo caused by other recognized agents arising from work activities not included in other items
- 2.2.4. Other skin diseases caused by physical, chemical or biological agents at work not included under other items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the skin disease(s) contracted by the worker

2.3. *Musculoskeletal disorders*

- 2.3.1. Radial styloid tenosynovitis due to repetitive movements, forceful exertions and extreme postures of the wrist
- 2.3.2. Chronic tenosynovitis of hand and wrist due to repetitive movements, forceful exertions and extreme postures of the wrist
- 2.3.3. Olecranon bursitis due to prolonged pressure of the elbow region
- 2.3.4. Prepatellar bursitis due to prolonged stay in kneeling position
- 2.3.5. Epicondylitis due to repetitive forceful work
- 2.3.6. Meniscus lesions following extended periods of work in a kneeling or squatting position
- 2.3.7. Carpal tunnel syndrome due to extended periods of repetitive forceful work, work involving vibration, extreme postures of the wrist, or a combination of the three
- 2.3.8. Other musculoskeletal disorders 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 risk factors arising from work activities and the musculoskeletal disorder(s) contracted by the worker

2.4. *Mental and behavioural disorders*

2.4.1. Post-traumatic stress disorder

2.4.2. Other mental or behavioural disorders not mentioned in the preceding item where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the mental and behavioural disorder(s) contracted by the worker

3. Occupational cancer

3.1. Cancer caused by the following agents

3.1.1. Asbestos

3.1.2. Benzidine and its salts

3.1.3. Bis-chloromethyl ether (BCME)

3.1.4. Chromium VI compounds

3.1.5. Coal tars, coal tar pitches or soots

3.1.6. Beta-naphthylamine

3.1.7. Vinyl chloride

3.1.8. Benzene

3.1.9. Toxic nitro- and amino-derivatives of benzene or its homologues

3.1.10. Ionizing radiations

3.1.11. Tar, pitch, bitumen, mineral oil, anthracene, or the compounds, products or residues of these substances

3.1.12. Coke oven emissions

3.1.13. Nickel compounds

3.1.14. Wood dust

3.1.15. Arsenic and its compounds

3.1.16. Beryllium and its compounds

3.1.17. Cadmium and its compounds

3.1.18. Erionite

3.1.19. Ethylene oxide

3.1.20. Hepatitis B virus (HBV) and hepatitis C virus (HCV)

3.1.21. Cancers caused by other 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 agents arising from work activities and the cancer(s) contracted by the worker

Employer experts considered that the list would provide a good basis for prevention purposes, but not both prevention and compensation. If compensation were the objective, the list would be insufficient as no definitions and causes were given. Concern was expressed about new and emerging diseases and that mechanisms should be explored to allow for the list to be updated more regularly.

Worker experts pointed out that the list in its present form would be quite difficult to use, especially for compensation, and suggested that a database be created that linked health effects with agents and occupations. Further guidance and definitions were therefore needed.

An Employer expert considered that for the list to be applied in all countries, it should take into account different national situations and legislative frameworks, especially in the area of compensation. He said the factors and agents that caused disease had to be identified, and expressed concern at making the list longer as this would make it less flexible. Another Employer expert said that causative factors had to be defined and that

The Employer expert from France agreed about the toxicity of organic solvents. This had been accepted by the European Union and the substances were now included in Annex I of the EU list. However, he voiced concern about adding cognitive effects caused by organic solvents, as these would be quite difficult to substantiate. He warned that the

The Worker experts proposed the addition of “Diseases caused by latex or latex containing products” to the list, since it had been proven that latex caused not only skin diseases, but asthma and upper respiratory tract diseases as well. An Employer expert agreed with the addition, and said that rhinitis was also caused by latex, especially to workers in the latex industry. Experts generally supported this addition, and it was agreed.

Point 1.2.5 “Diseases due to radiofrequency radiations”. Discussion focused on the scientific basis for this point, with several Employer experts claiming that there was a lack of medical knowledge about the effects of such exposures and difficulties in diagnosis. Dr Niu said that there had in fact been a lot of support for including this point in the text in the replies to the Office’s questionnaire. With the current controversy over risks from electromagnetic fields (EMF), the Office instead proposed radiofrequency radiations for inclusion in the list as there was well-established scientific data on the effects of radiofrequency radiations on workers. Several experts mentioned the proven thermal effects of such radi-

Point 1.3.3 “Diseases caused by HIV”. There was general support for this point on the grounds that it would help to focus on the occupational aspects of HIV and hopefully strengthen prevention and protection and, where appropriate, compensation. Worker experts emphasized that health workers were not the only ones who were exposed to HIV risks, but fire and rescue workers, prison staff and others were also at risk. Dr Takala added that the Office programme on HIV/AIDS, indeed, covered a wide range of employment sectors. The text was accepted for inclusion in the list.

The Government expert from South Africa spoke strongly in favour of including malaria, because of the risks faced by game park workers and others where exposure to malaria was related to their work. However, other experts thought that it would be

extremely difficult to diagnose occupationally caused cases of malaria, especially in those countries where a large percentage of the population was already infected. Several experts spoke in favour of having malaria in the list in order to promote prevention, while others warned that the list of occupational diseases would be used for compensation purposes as well. An Employer expert said that workers should be compensated if justified, but he also agreed with other experts that it would be extremely difficult for employers to justify compensating workers with malaria in malaria-infested regions. Several experts agreed that it was a question of proving occupational, as opposed to non-occupational exposure. Nevertheless, it was felt that including malaria in the list would help to encourage preventive programmes. Malaria was therefore accepted for inclusion in the list of occupational diseases.

THE PREVENTION OF OCCUPATIONAL DISEASES

2 million
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International
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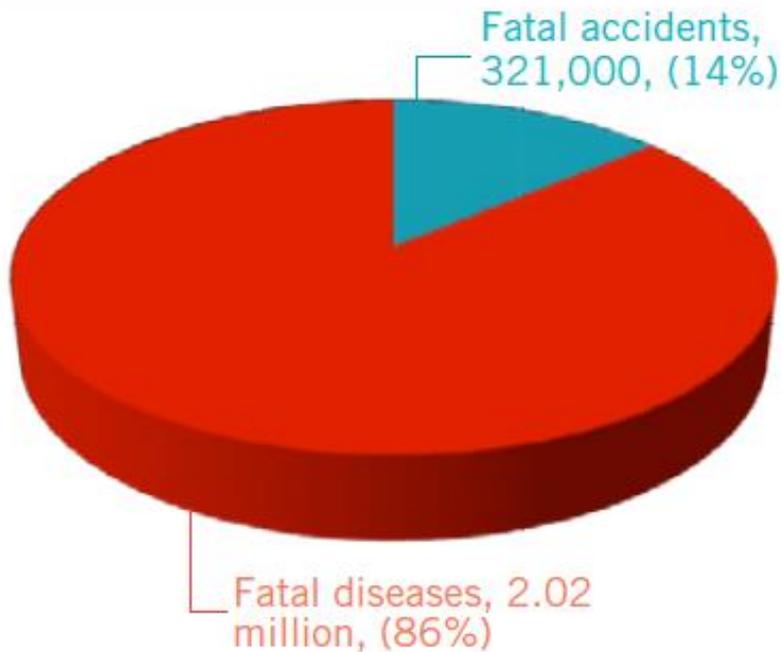
WHAT CONSTITUTES AN OCCUPATIONAL DISEASE?

An occupational disease is a disease contracted as a result of an exposure to risk factors arising from work. Recognition of the occupational origin of a disease, at the individual level, requires the establishment of a causal relationship between the disease and the exposure of the worker to certain hazardous agents at the workplace. This relationship is normally established on the basis of clinical and pathological data, occupational history (anamnesis) and job analysis, identification and evaluation of occupational hazards as well as exposure verification. When a disease is clinically diagnosed and a causal link is established, the disease is then recognized as occupational.

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THE HIDDEN EPIDEMIC: A GLOBAL PICTURE

FATAL ACCIDENTS AND DISEASES (2008)



Total number of fatalities: 2.34 million

An estimated 2.34 million people die each year from work-related accidents and diseases. Of these, the vast majority -an estimated 2.02 million- die from a wide range of work-related diseases. Of the estimated 6,300 work-related deaths that occur every day, 5,500 are caused by various types of work-related diseases. The ILO also estimates that 160 million cases of non-fatal work-related diseases occur annually.¹

The types and trends of reported diseases vary widely. For example, in 2010, China reported a total of 27,240 cases of occupational diseases, including 23,812 caused by exposure to workplace dusts.² In the same year, 22,013 cases of occupational diseases were reported in Argentina, with musculoskeletal disorders (MSDs) and respiratory diseases among the most frequent conditions.³ In 2011, Japan reported a total of 7,779 cases of occupational diseases mainly related to low-back disorders and pneumoconioses⁴ and compensated 325 cases of mental disorders.⁵ In the United Kingdom, 5,920 cases of occupational diseases were compensated

The costs of occupational and work-related diseases

Occupational diseases also impose enormous costs. They can impoverish workers and their families, reduce productivity and work capacity and dramatically increase health care expenditures. The ILO estimates that work-related accidents and diseases result in an annual 4% loss in global gross domestic product (GDP), or about US\$2.8 trillion, in direct and indirect costs of injuries and diseases.¹⁵ The cost of work-related diseases in the EU has been estimated to be at least €145 billion per year.¹⁶ The French government

Many governments and employers' and workers' organizations are placing now greater emphasis on the prevention of occupational diseases. Even so, prevention is not receiving the priority warranted by the scale and severity of the occupational disease epidemic.

A good national OSH system is critical for the effective implementation of national policies and programmes to strengthen the prevention of occupational diseases; it should include:

- laws and regulations and, where appropriate, collective agreements incorporating the prevention of occupational diseases;
- law compliance mechanisms, including effective OSH inspection systems;
- cooperation between management and workers and their representatives in the implementation of OSH measures;
- provision of occupational health services;
- adequate mechanisms for the collection and analysis of data on occupational diseases;
- OSH information and training; and
- collaboration between ministries of labour, ministries of health and social security schemes covering occupational injuries and diseases.

The role of employers and workers

The active participation of employers' and workers' organizations is essential for the development of national policies and programmes for the prevention of occupational diseases. Employers have a duty to prevent occupational diseases by taking preventive and protective measures through the assessment and control of risks at work. Managers, supervisors, OSH professionals, workers, safety and health representatives and trade unions, all have important roles to play through effective social dialogue and participation. The inclusion

In order to tackle this Decent Work deficit the ILO will continue to:

- promote the ratification and implementation of ILO Conventions related to occupational diseases;
- strengthen international alliances for the prevention of occupational diseases with other institutions, such as WHO, the International Commission on Occupational Health, the International Association of Labour Inspection and the International Social Security Association;
- support member States' efforts to strengthen their capacities for the prevention and recognition of occupational diseases; and
- encourage the exchange of good practices for the prevention of occupational diseases at national and international levels.

Prevention is key since it not only protects the lives and livelihoods of workers and their families but also contributes to ensuring economic and social development. Concerted efforts are needed at international and national