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  Occupational Diseases (FOD), now called Fedris
  (Federaal Agentschap Beroepsrisico’s)

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OCCUPATIONAL DISEASES: BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

- Occupational disease legislation originates from workplace injury legislation, which in its turn is founded on principles of common law
- Occupational disease: caused by occupational activities
- Occupational diseases legislation:

  Coordinated law of June 3rd 1970: “Laws concerning the prevention of occupational diseases and the compensation of damages arising from said diseases”
OCCUPATIONAL DISEASES:
BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

- Fund of Occupational Diseases (FOD - FBZ - FMP)
- Federal Institute of Social Security (OISZ - IPSC)
- Sterrenkundelaan 1, B-1210 St.-Joost-Ten-Node
- Workers in the private sector
  - Civil servants municipalities & provinces
  - (Civil servants regional & federal)
- January 2017:
  FBZ/FMP + FAOFAT
OCCUPATIONAL DISEASES:
BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

• Occupational diseases: some important concepts

1. List of occupational diseases (art. 30) as opposed to

2. Open Systeem/Système Ouvert (art. 30bis)
The Belgian list of Occupational diseases

https://www.fedris.be/nl/professional/lijsten-van-ziekten

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<th>Code</th>
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<td>1.1</td>
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OCCUPATIONAL DISEASES: BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

https://www.fedris.be/nl/professional/lijsten-van-ziekten

1.6 xx.xx: “Diseases caused by physical agents”
OCCUPATIONAL DISEASES: BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

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BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

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• List of occupational diseases (art. 30) as opposed to Open Systeem/Système Ouvert (art. 30bis)

• Notion of “Exposure to an occupational risk” (art. 32)
  • Exposure to a damaging agent
  • Inherently associated with occupational activities
  • Far higher than the exposure of the population in general
  • The exposure is the main cause of the disease in groups of exposed individuals
OCCUPATIONAL DISEASES: BELGIAN LEGISLATION AND THE FUND OF OCCUPATIONAL DISEASES / FEDRIS

• Occupational diseases: some important concepts

• List:
  Irrefutable legal presumption of causal relation

• Open Systeem/Système ouvert:
The disease must be a direct and determinant consequence of the occupational activities

• Compensation (in addition to basic health insurance, RIZIV/INAMI):
  • Temporary incapacity to work
  • Permanent incapacity to work
  • Medical/pharmaceutical costs (remgelden)
  • Death
  • Preventive action: stop the exposure to the damaging agent
OCCUPATIONAL DISEASE 1.601

• 1.601 “Diseases caused by ionising radiation”
• 1.601 “Ziekten veroorzaakt door ioniserende stralen”
• 1.601 “Maladies provoquées par les radiations ionisantes”

• Historically: - Skin cancers
  - Leukemia
  - Bone cancers
  (- ...)

• From may 15th 2014: Posterior subcapsular cataract (PSC) in interventionist cardiologists and assisting medical personnel
THE EYE, THE LENS AND THE DIFFERENT TYPES OF CATARACT

• The eye
THE EYE, THE LENS AND THE DIFFERENT TYPES OF CATARACT

• The lens
THE EYE, THE LENS AND THE DIFFERENT TYPES OF CATARACT

• Cataract
EPIDEMIOLOGICAL EVIDENCE FOR X-RAYS AS A CAUSE OF POSTERIOR SUBCAPSULAR CATARACT

(Based on the work of prof. Hubert Thierens from the Dpt of Basic Medical Sciences, research group Medical Physics, at the University of Ghent, presented to the Scientific Council of the FOD on May 15th 2014)

1. Atomic bomb survivors Hiroshima & Nagasaki
   - PSC and to a lesser extent cortical cataract 55 y after exposure is significantly and dose-dependently associated with exposure
   - Number of lens extractions vs radiation dose:
EPIDEMIOLOGICAL EVIDENCE FOR X-RAYS AS A CAUSE OF POSTERIOR SUBCAPSULAR CATARACT

2. Medical X-ray radiation

• Radiation for haemangioma (at 5 months) and PSC cataract > 30 y later:

  OR 1 Gy: 1.49 (p<0.05)

• Beaver Dam Eye Study (diagnostical X-ray exposure):

  PSC cataract: OR 1.45 (p<0.05) for a history of CT-scan of the head
EPIDEMIOLOGICAL EVIDENCE FOR X-RAYS AS A CAUSE OF POSTERIOR SUBCAPSULAR CATARACT

3. Chernobyl liquidators

- Cohort study of 8600 workers seen 12 to 14 years after cleaning work in Chernobyl in 1986

  PSC cataract: OR 1 Gy: 1,70 (p<0,05)

4. Astronauts

- PSC cataract: RR lensdosis >8 mSv: 5,8 (p<0,05)
- PSC cataract: OR for NASA astronauts vs ground personnel: 2,23 (p<0,05)
5. **Interventionist cardiologists and assisting personnel**

- 2 case-control studies in 2010 found a significant increase in prevalence of PSC in cardiologist and RX personnel versus the control groups.

- 1 large cohort study in the US (1983-2004) in 35700 radiologists found a RR of 3 per 1 Gy lensdosis (no distinction between the different cataract subtypes).
5. Interventionist cardiologists and assisting personnel

- O’CLOC cross-sectional study in France in 106 cardiologists vs 99 controls, published in 2013
- Nuclear and cortical cataract: no difference
- PSC cataract: OR 3.85 (p<0.05)
- Dose-dependency:  
  - <17y: OR = 1.88
  - 17-25y: OR = 3.92
  - >25y: OR = 5.94
EPIDEMIOLOGICAL EVIDENCE FOR X-RAYS AS A CAUSE OF POSTERIOR SUBCAPSULAR CATARACT

6. In summary
BIOPHYSICS OF RADIATION-INDUCED CATARACT

- DNA damage due to ionising radiation is involved in the generation of PSC: higher susceptibility to PSC of people carrying DNA repair deficient genotypes (Atm, Rad9 and Brca1 deficiencies)
DIAGNOSTICAL AND EXPOSURE CRITERIA FOR THE RECOGNITION OF POSTERIOR SUBCAPSULAR CATARACT AS AN OCCUPATIONAL DISEASE (MAY 2014)

- Posterior SubCapsular (PSC) cataract
- Interventionist cardiologists (coronary angiography and PTCA) and assisting medical personnel
- At least 10 years full-time activity
Thank you for your attention