

Welcome To

VBS-SYMPOSIUM in samenwerking met het FANC
SYMPOSIUM DU GBS en collaboration avec l'AFCN

**RADIO
protectie
protection**

voor nuclearisten
en radiotherapeuten
pour nucléaristes
et radiothérapeutes



12.03.2016

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Head of Health and Environment Department at the

FANC AFCN

RADIO protectie protection

SESSION COMMUNE GEMEENSCHAPPELIJKE SESSIE

- 08.00 Onthaal / Accueil
- 08.30 Inleiding / Introduction
Dr. P. Van der Donckt (FANC-AFCN)
- 08.35 Législation : rappels, développements récents et perspectives
Dr. S. Carbonnelle (FANC-AFCN)
- 09.00 Stralingsprotectie bij SIRT
Mevr. D. Vandendriessche
AZ St. Jan Brugge - stralingsfysicus
- 09.25 Radioiodine treatment of differentiated thyroid cancer: clinical and radiation protection aspects
Prof. F. Jamar - UCL
- 09.50 Peer review in radiation oncology: from beam output to clinical audits
Prof. Y Lievens - UGent
- 10.15 Vragen en discussie
Questions et discussion
- 10.25 Koffiepauze / Pause-café

voor nuclearisten en radiotherapeuten pour nucléaristes et radiothérapeutes

SESSIONS PARALLÈLES PARALLELE SESSIES

RADIOTHÉRAPIE RADIOTHERAPIE

- 10.50 Secondary malignancy risk in patients treated with proton versus photon radiation: a review of the data
Prof. H. Thierens
- 11.15 Le contrôle de qualité dans le programme de dépistage du cancer du sein.
M. M. Candeur (CCREF)
- 11.40 Vragen en discussie
Questions et discussion

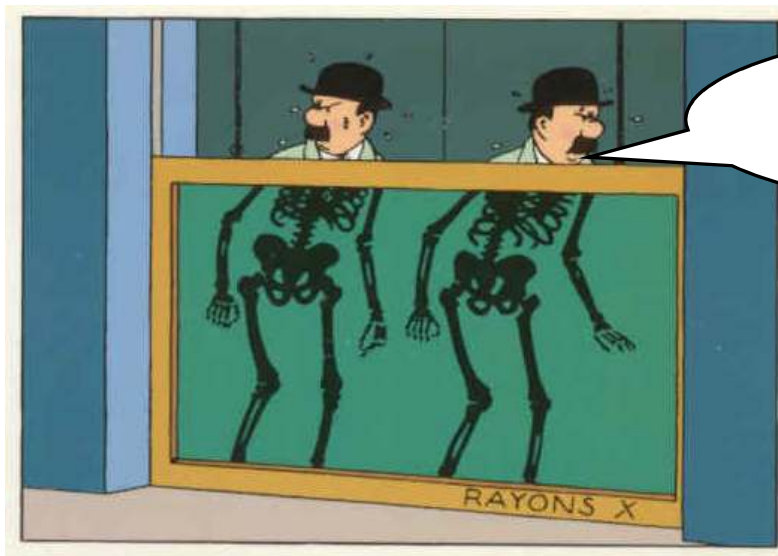
SESSIONS PARALLÈLES PARALLELE SESSIES

MÉDECINE NUCLÉAIRE NUCLEAIRE GENEESKUNDE

- 10.50 FANC registration of administered activity - State of the art
Dr. Ir. Th. Vanaudenhove (AFCN-FANC)
- 11.15 Incidentmelding in nucleaire geneeskunde
Dr. J. Rutten
- 11.40 Vragen en discussie
Questions et discussion

Mission of the AFCN-FANC

- The **F**ederal **A**gency for **N**uclear **C**ontrol (**FANC**) has the mission to protect population (**including patients**), workers, and environment against the negative effects of radiations
- **FANC** works proactively to improve radiation protection and the knowledge on effects of radiation



Justification and optimization should be one of your concern

The results of the first bad practices started to become known ...



Mihran Kassabian
Radiologist (1870-1910)



**Accidents and Injuries
in X-ray Departments**

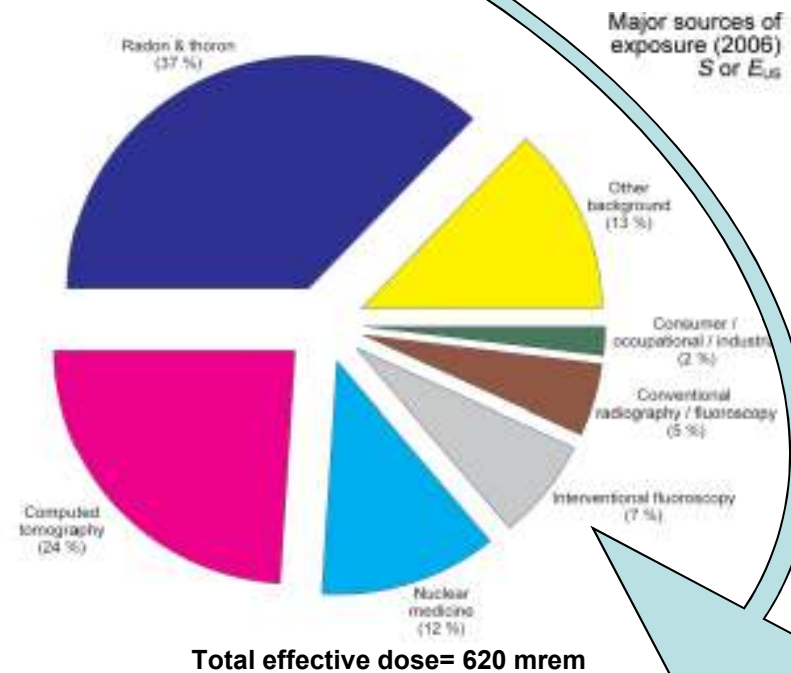
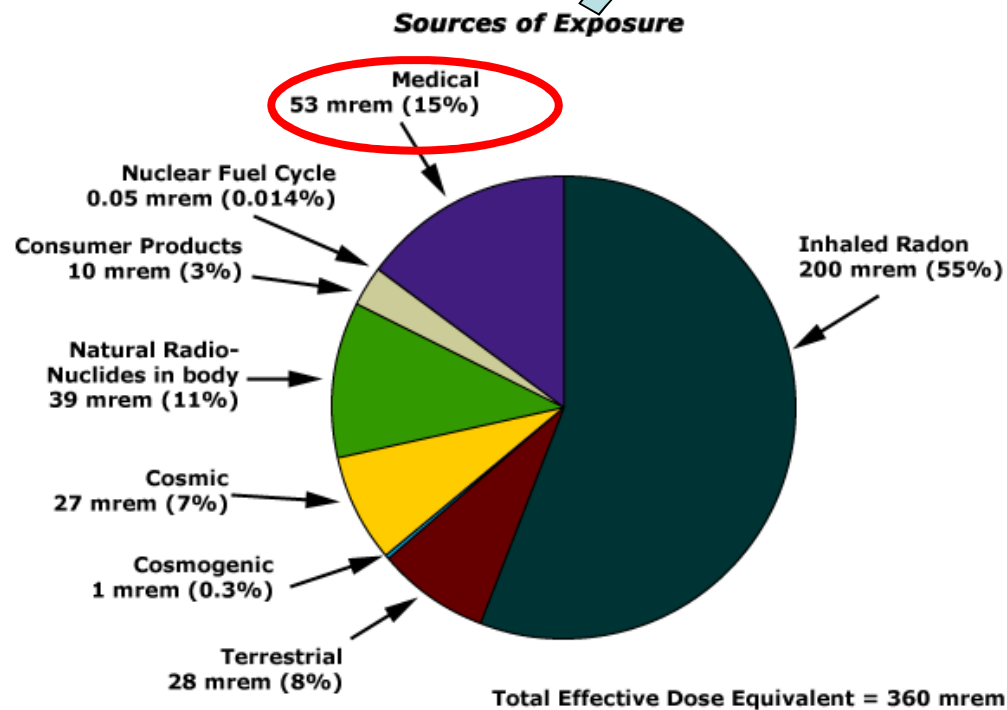
published 1925

82 Accidents

21 Accidents in X-ray Diagnostics

61 Accidents in X-ray Therapy

Average Annual Radiation Exposure 1987 vs 2006 in USA

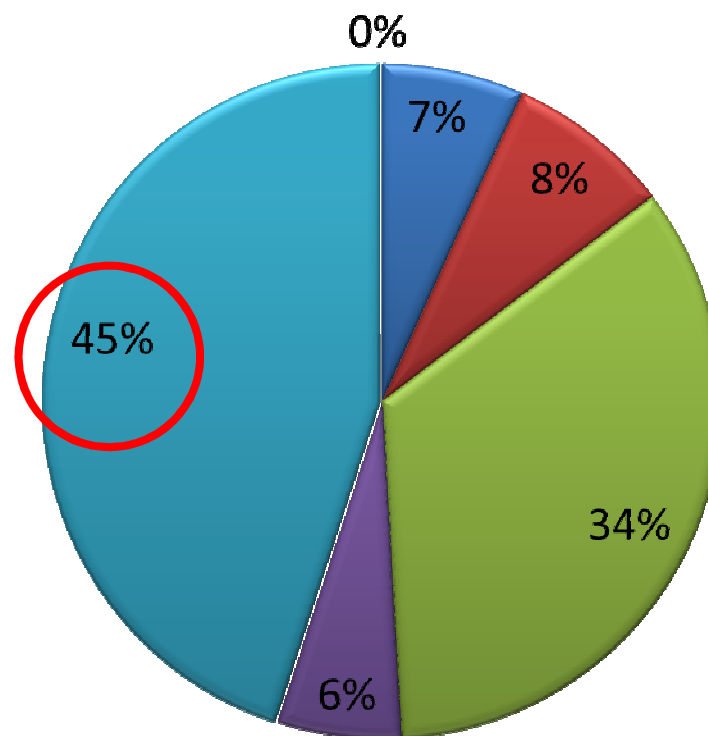


Tot.medical application: 48%

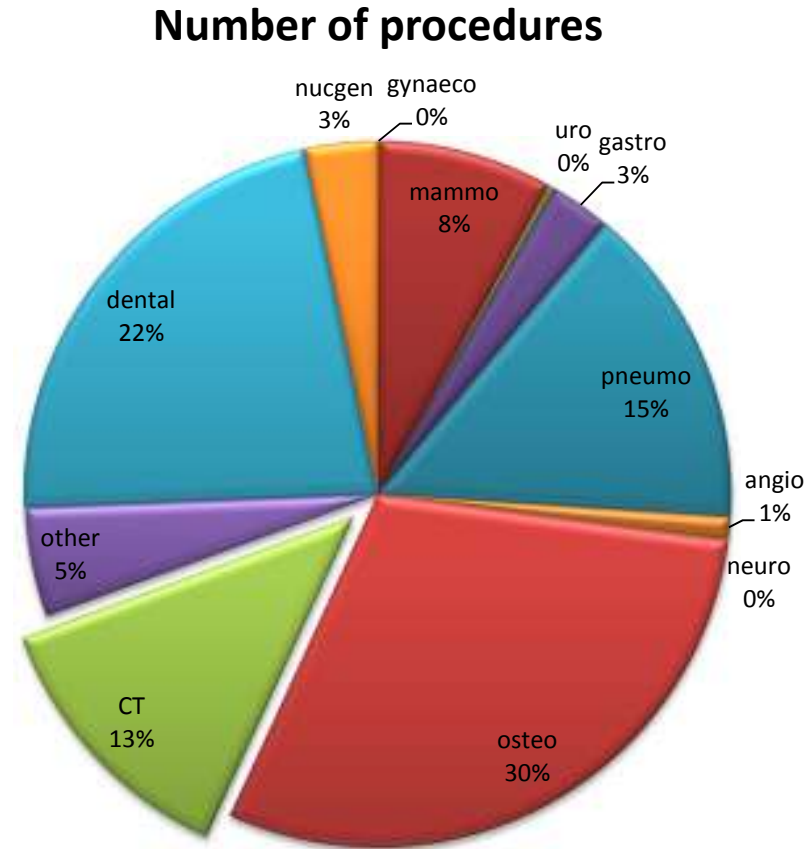
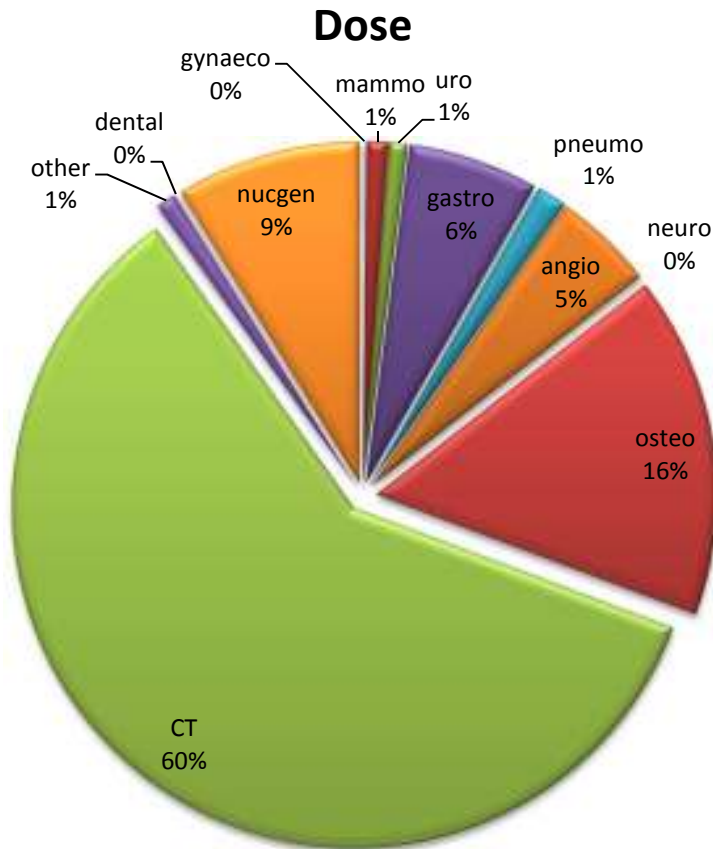
Dosisbelasting van de Belgische bevolking

De gemiddelde blootstelling aan ioniserende straling in België bedraagt **5,1 mSv per jaar**.

- **Kosmos**: 0,3 mSv/jaar
- **Aardstraling**: 0,4 mSv/jaar
- **Interne blootstelling door inhalatie van natuurlijke radionucliden**: 1,8 mSv/jaar
- **Interne blootstelling door ingestie van natuurlijke radionucliden**: 0,3 mSv/jaar
- **Medische toepassingen**: 2,3 mSv/jaar

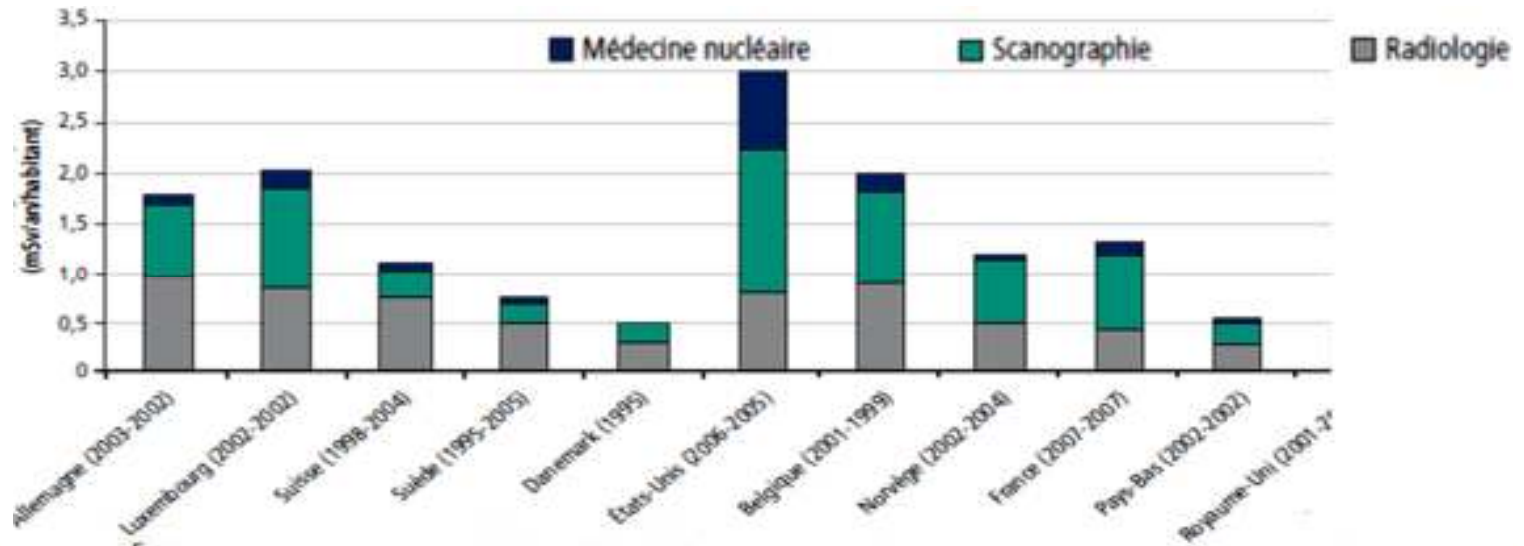


Aandeel medische blootstelling

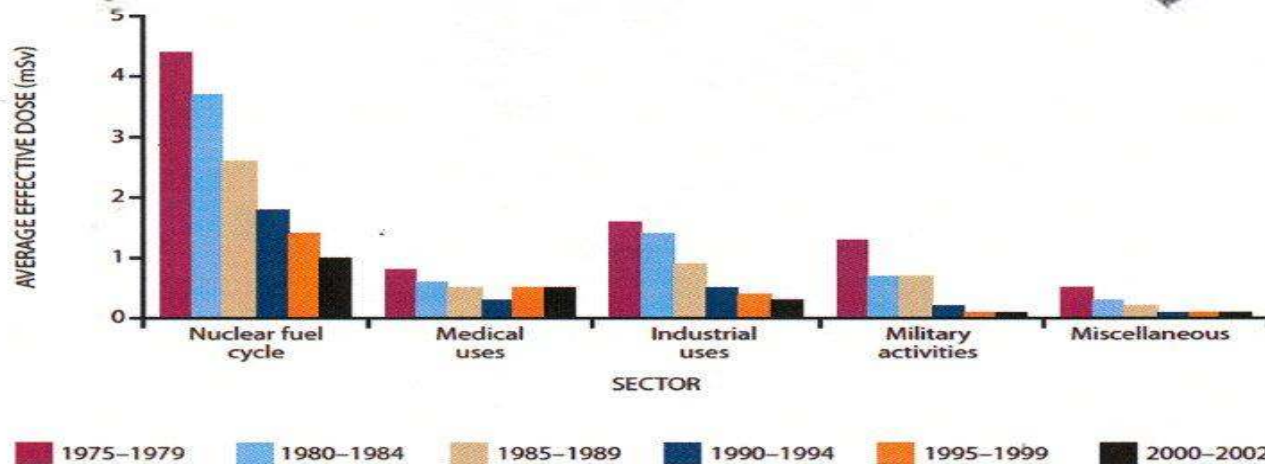


UNSCEAR data

➤ Population



➤ Workers



Comment l'Agence stimule-t-elle la culture de sûreté dans le **secteur médical** ?

- Justification & optimisation *art 19- 22, 55, 56*
- Communication ouverte *art 77, 78*
- Sensibilisation et responsabilisation *art 77, 78*
- Stimuler la culture de notification et les audits cliniques *art 58 art 63*
- Réglementation
 - Implémentation nouveaux BSS avant 02/2018
- Formation (**action du jour**) *art 15-18*

“High” doses at work

- **2010 University research center : operator** → **31,8 mSv (12 months)**
- **2011 Academic Medical Center : interventional MD** → **21,96 mSv (1 months)**
 - Academic Medical Center : radiotherapy nurse** → **23 mSv (1 months)**
 - Academic Medical Center : interventional MD** → **33,5 mSv (12 months)**
 - Academic Medical Center : interventional MD** → **53,1 mSv (4 months)**
- **2012 Academic Medical Center : NM technologist** → **22,14 mSv (12 months)**
 - Regional hospital : radiologist fingers** → **775 mSv (1 months)**
 - Academic Medical Center : interventional MD** → **38,9 mSv (12 months)**
 - Academic Medical Center : interventional MD** → **43,8 mSv (12 months)**
 - industrial : operator left hand / right hand** → **7,3 /5,5 Sv (1day)**
 - Industrial: operator (whole body)** → **360 mSv (Bio dosimetry)**

“High” doses at work 12 months

- 2013 none
- 2014 Industrial: operator (whole body) → 32 mSv (1 months)
Academic Medical Center : interventional MD → 34,4 mSv (12 months)
- 2015 Industrial xRay : operator → 32 mSv (1 months)
Regional hospital : **NM nurse (skin dose)** → 1250 mSv

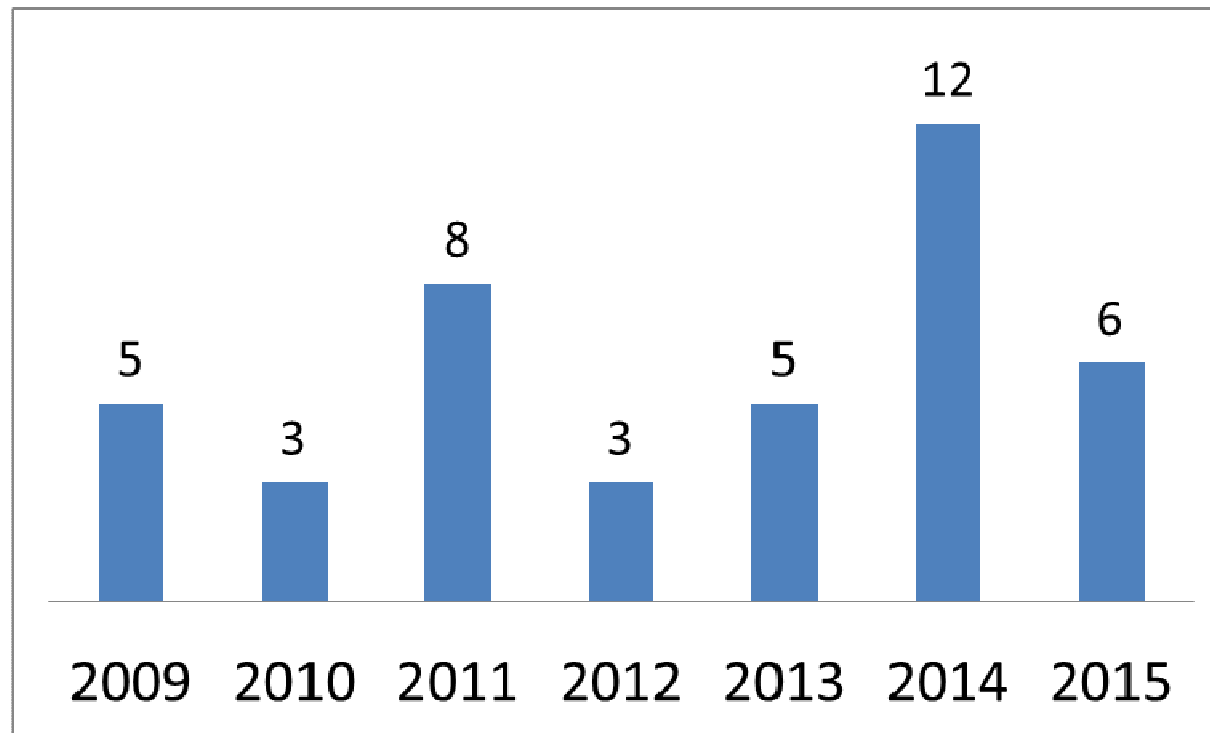
20 % NM+ RT

46 % interventional procedures

27 % industrial

7 % University lab.

Incidents in RT reported to the FANC



Rules of the game



CERTIFICATE OF ATTENDANCE

This Certificate is awarded to _____

for attendance at _____

on _____

Signature _____ Date _____