


Report FANC Working Parties Nuclear Medicine

*Marleen Vandecapelle, Tom Clarijs, Petra Willems, Karen Haest,
Patrick Smeesters, An Fremout, Patrick Van Der Donck*
Protection of Health -
Federal Agency Nuclear Control

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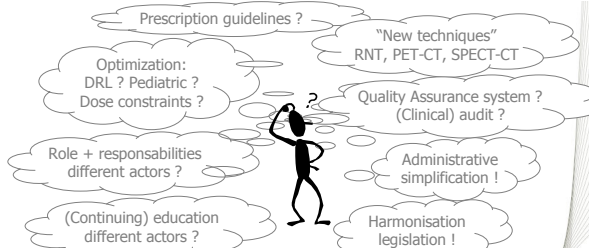


www.fanc.fgov.be/nl/page/werkgroepen-stralingsbescherming-in-de-nucleaire-geneeskunde/1291.aspx




Round table and Working Parties

CLEAR NEED FOR REVISION OF CHAPTER VI ON APPLICATION OF IONIZING RADIATION IN MEDICINE Royal Decree 20th July 2001 (ARBIS/RGPRI)




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Round table and Working Parties

- Input requested from stakeholders !
- Creation of 6 Working Parties



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WG1 QA and Clinical Audit What ?

- Euratom 97/43 "Council Directive on health protection against the dangers of ionizing radiation in relation to medical exposure"
- RD 20th July 2001 "General Regulation on the Protection of Population, Workers and Environment against the Dangers of Ionizing Radiation" (ARBIS/RGPRI)

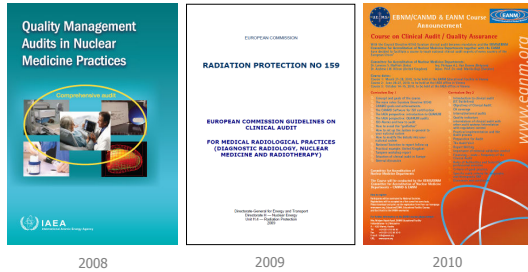
"Clinical audit : a systematic examination or review of medical

**2010: not implemented in Belgium and 2/3 of Europe !
Clear need for further guidance
to improve its implementation and
to harmonize the approaches among the Member States**

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WG1 QA and Clinical Audit



2008

2009

2010

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WG1 QA and Clinical Audit Why ?



- Radiation protection personnel
- (Radiation) protection patient
- Lower risk (near)incidents
- Proof of quality:
 - for NM community
 - for referring physicians
 - for patients
 - for management
 - to attract potential (commercial) partners

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WG1 QA and Clinical Audit

- WG1 QA and Clinical Audit
 - Basis QUANUM
 - Timing agreed
 - Collaboration ≠ competent authorities



- QUANUM
 - Essentially checklists of Y/N questions on 13 ≠ topics
 - Regulatory basis
 - Audit by peer review of multi-disciplinary teams



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WG1 QUANUM checklists



1. Strategies and policies
2. Administration and management
3. Human resources
4. Radiation, regulation and safety compliance
5. Radiation protection of the patient + his environment
6. Evaluation and assurance of the quality system
7. Quality control for imaging equipment + dose calibrator
8. Computer systems and data handling
9. Acceptance tests
10. General aspects – clinical services
11. General aspects – radionuclide therapy service
12. Hospital radiopharmacy
13. Tumor marker radioimmunoassay service

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WG1 QUANUM checklists

CHECKLIST 4: RADIATION REGULATION AND SAFETY COMPLIANCE

| No | Component | Class | Y/N | Comments/ planned action | Date achieved |
|-------|---|-------|-----|--|---------------|
| 4.1.1 | Is the department formally authorized by a recognized national authority? | A | | Required by legislation, IAEA technical document or other external standard-setting bodies. Urgent corrective action should be instituted. | |
| 4.1.2 | Do the radiation rules refer to national guidelines or cross-refer to international rules? | A | | | |
| 4.1.3 | Have all staff members signed to confirm that they have read and understood the local rules? | A | | | |
| 4.1.4 | Are all radioactive sources identified and stored appropriately? | A | | | |
| 4.1.5 | Are sealed calibration sources checked periodically, cross-accounted and checked for any leakage? | A | | | |

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WG1 Project Clinical Audits

- Final destination: external CA in all NM departments with QUANUM
- Preparation :
 - translation QUANUM into Dutch, French and German
 - regulatory basis where available (Health Care, FAMHP, FANC)
 - extracts Quality Manual and SOP's UZ Leuven (courtesy dr. K. Van Laere)
 - <http://fanc.fgov.be/nl/page/pilootstudie-klinische-audits/1316.aspx>
- Pilot study :
 - to evaluate QUANUM and make Belgian version B-QUANUM
 - 02/02/2011 : QUANUM version2 + list SOPs (dr. P. De Bondt, dr. B. Krug, dr. J. Rutten, Ph. Van Boxem, dr. K. Van Laere)
 - 07/04/2011: final feed back meeting



01/09/2010

Preparation : Pilot
by NM

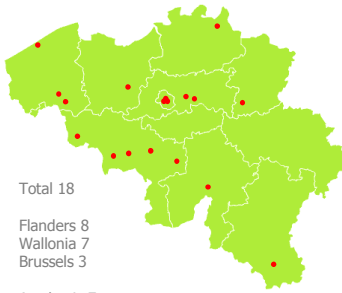
+ External CA
by NM



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WG1 Pilot Study Participants



Total 18

Flanders 8
Wallonia 7
Brussels 3

Academic 7
Non academic 11

Aalst OLV Ziekenhuis
Arlon St-Joseph
Hornu CH Hornu-Frameries
Kortrijk AZ Groeninge
Mons CHR
Oostende AV Serruys
Roeselare Stedelijk Ziekenhuis
St-Truiden St-Trudo
Tienen Stedelijk Ziekenhuis
Tournai A.I.T. Site Union
Turnhout AZ St-Elisabeth

Bruxelles Jules Bordet
Bruxelles CHU St-Pierre
Charleroi CHU de Charleroi
Jette UZ Brussel
La Louvière CHU Tivoli
Leuven UZ Gasthuisberg
Yvoir UCL Mont-Godinne

November 2010 - 01/05/2011

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WG1 Project Clinical Audits

- Auto-evaluation : 01/05/2011 - ...
 - to auto-evaluate and take corrective actions based on B-QUANUM
 - continuous process
 - within the department
- Internal clinical audit : 01/05/2012 - ...
 - 1x/year
 - by colleagues within the hospital
- External clinical audit : 01/05/2013 - ...
 - 1x/5year
 - by colleagues within Belgium

01/09/2010 01/05/2011 01/05/2012 01/05/2013


Preparation | Pilot | Auto-evaluation | + Internal CA | + External CA

01 NM | 01 NM | 01 NM | 01 NM | 01 NM

November 2010 - 01/05/2011

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WG2 Vigilance System



Notification form on line
<http://fanc.fgov.be/nl/page/formulier-voor-melding-van-een-gebeurtenis/608.aspx>
event@fanc.fgov.be

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WG3 Justification and optimization

- Justification :
 - Prescription guidelines medical imaging RIZIV/INAMI : input asked for NM
 - Difficulties in relation prescriber – nuclear physician
 - Importance of (digital) central patient file to avoid double examinations
 - Importance of (continuing) education nuclear physicians
- Optimization ALARA :
 - QC of imaging equipment + dosecalibrator edited by BVZF/SBPH (NM) + sent for approval to Belnuc + VBS/GBS
 - Survey Injected Activity to determine Diagnostic Reference Levels (DRLs) edited by BVZF/SBPH (NM) + sent for approval to Belnuc + VBS/GBS

1.1.1 Bone imaging using ^{99m}Tc phosphates (MDP, HDP, ...)

| | |
|---|--|
| Administered activity for planar imaging | |
| Administered activity for SPECT imaging | |
| Activity adjusted for patient weight, BMI, ...? | |
| (Yes/No) | |

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WG 4 Medical Radiation Physics

- Discussion on survey injected activities to determine Diagnostic Reference Levels (DRLs) (WG3)
- Quality Control protocols (BVZF/SBPH NM) (WG3)
 - Dosecalibrator, γ -camera + PET camera
 - Logbook/piece of equipment: QC + interventions
 - Role and collaboration technologist/nurse better defined
- Role/responsibilities should be legally defined
 - Dosimetry especially children (WG3) and RNT (WG5)
 - Putting imaging equipment out of service
 - Delegation of tasks to technologist/nurse
- Hybrid imaging techniques PET-CT + SPECT-CT
 - Extra education CT : proposal medical jury

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WG 5 Radionuclide therapy

- Minimum criteria for RNT sites ?
- Role/responsibilities of different actors for different therapies
- Wallet-card for RNT patients

| THERAPE | MBP | FC | RF |
|---|----------|---|----|
| [¹³¹ I]-Nai (hyperthyroïdie) | N | Periodieke verificatie naleving procedures | N |
| [¹³¹ I]-Nai (andere goedaardige aandoeningen) | N | Periodieke verificatie naleving procedures | N |
| [¹³¹ I]-Nai (schilddeslankster) | > 500mCi | Aanwezig bij indienststelling + Kamers + periodiek bezoek + Kamers + periodieke verificatie naleving procedures | N |
| [¹³¹ I]-MIBG (NE tumoren) | J | Aanwezig bij indienststelling + Kamers + periodiek bezoek + Kamers + periodieke verificatie naleving procedures | N |
| [¹¹¹ In]-Lipiodol | J | Aanwezig bij vrijgave lokalen + periodieke verificatie naleving procedures | J |
| [¹¹¹ In]-Zincin | N | Aanwezig bij eerste procedures + periodieke verificatie naleving van procedures | J |
| [¹¹¹ In]-colloid (synoviothese) | N | Periodieke verificatie naleving procedures | N |
| [¹⁷⁷ Lu]-microsferes (HCC) | J | Aanwezig bij vrijgave lokalen + periodieke verificatie naleving procedures | N |
| [¹⁷⁷ Lu]- ¹¹¹ In-L4-ideopeptide (NE tumoren) | J | Aanwezig bij vrijgave lokalen + periodieke verificatie naleving procedures | J |
| [^{113m} In]-Quadramet (skeletmetastasen) | N | Periodieke verificatie naleving procedures | N |
| = ¹⁸⁶ Re-orthofofaat (polycythemie vera) | N | Periodieke verificatie naleving procedures | N |
| [⁹⁰ Y]-SiCl ₄ (synoviothese) | N | Periodieke verificatie naleving procedures | N |
| [¹⁸⁸ Re]-colloid (synoviothese) | N | Periodieke verificatie naleving procedures | N |
| Lokale behandelingen | J | Aanwezig bij vrijgave lokalen + periodieke verificatie naleving procedures | N |
| = ¹⁸⁶ Re-colloid (synoviothese) | N | Periodieke verificatie naleving procedures | N |
| = ¹⁸⁸ Re-CEEP (aesthetisatiesen) | N | Periodieke verificatie naleving procedures | N |
| R-Strontium | J | Voorafgeteld T&U voor elke behandeling + aanwezig bij vrijgave lokalen + periodieke verificatie naleving procedures | N |
| andere P (RAD) | J | Volgens goedkeuring FC voor de eerste behandeling | J |

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WG 6 Education and administrative simplification



- ARBIS/RGPRI Auxiliaries (medical)
 - ... topics: used techniques, health effects exposure, practical rules of radiation protection, physical basics, legislation, quality management of equipment, medical exposure of children, medical population research programs, high dose techniques
 - ... non-academic higher education
 - ... 50 h theory + 10 h practical work
 - ... follow continuing education
- Reality :
 - (Basic en continuing) education technologists/nurses ???
 - Introduction of hybrid imaging techniques PET/CT + SPECT/CT
 - Introduction of PET + radionuclide therapy

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WG 6 Education and administrative simplification

- Solution ? Distance Assisted Training e-learning (IAEA) ?
 - Selected number of modules concerning radioprotection
 - Study material, practice material en evaluation modalities
 - Official demand : FANC
 - Coordinator : cooperation platform colleges
 - Basic + continuing education technologists/nurses
 - Discussions are ongoing
- ➔ Radiation protection personnel + patient! Lower risk of (near)incidents!
- Continuing education nuclear physicians :
 - RIZIV/INAMI personal accreditation system for specialists
 - FANC prolongation of personal authorisation for nuclear physicians
- ➔ 1 system by minimum accreditation points for radioprotection contacted dr. JP Léonard and dr. M. Moens



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The screenshot shows the FANC website interface. At the top, there is a navigation menu with 'Home', 'Nieuws', and 'Contact'. Below the header, there is a search bar and a 'Menu' button. The main content area is titled 'Werkgroepen Stralingsbescherming in de Nucleaire Geneeskunde' and lists several working groups with their respective dates and topics. On the right side of the page, there are several red bus icons arranged vertically. The bottom of the page features the FANC logo and contact information.

Thank You for listening !



Marleen Vandecapelle
 Federal Agency for Nuclear Control
 Ravensteinstreet 36
 1000 Brussels
marleen.vandecapelle@fanc.fgov.be
 ++32 (0)2 289 21 78
 ++32 (0)2 289 21 12
<http://www.fanc.fgov.be/>

Marleen Vandecapelle – 18/02/2017

