Summary and closing remarks of

How to inspect justification and optimization in diagnostic radiology

Summary

• Justification and optimization – two of the fundamental principles of radiation protection (ICRP)
  - To be carried out for every individual exposure (BSS)
• Regulatory bodies have an important role in promoting and ensuring that justification and optimization is properly implemented at medical imaging facilities
• Inspecting implementation of justification and optimization is an important task for regulatory bodies

Regulatory framework

• The perfect world – Lala-land
  - Truly independent regulatory body – reports directly to government – power to make legislation
  - One regulatory body – cover all sectors and areas – sufficient resources – clear regulatory framework – proper stakeholder involvement
  - Cover comprehensive range of activities – comprehensive training packet for staff - strategic plan- risk based inspections – multidisciplinary inspection team in medical use of radiation
• The real world (based on three presentations)
  - Not all are truly independent, not all cover all sectors and areas, not all have sufficient resources, not all have multidisciplinary inspections team
  - To conclude: there is potential for improvements in the regulatory frameworks across Europe

Ways to inspect - effectiveness

• Different ways to inspect across Europe
  - Measurements on equipment
  - Large county reviews (document review, interviews, observations, etc)
  - Thematic inspections like cardiology departments
  - Make use of clinical audit reports
  - Some thing between
• Different methods have different kinds of values
• Inspect QM-system based on the Plan – Do – Check – Act wheel, with emphasis on Check – Act part
• To obtain a graded approach in inspections they should be connected to risk-assessments (incl. public risk perception)
• If regulations in followed, use should be within acceptable risk (safe)

Inspections in clinical environments

• Medical exposure is different from other situations
  - Directly expose an individual by purpose
  - No dose limits/constraints (though DRLs)
• Medical exposure is complex
  - Justification in 3 levels, optimization
• Important to understand the term: doing more food than harm
  - Inspector must have some clinical understanding/practice to fully understand the big picture of medical exposure.
• Maintain credibility, position of authority, expert on regulations
• If possible, make use of advisories on inspections

Inspector competence

• Brief review of the UK-inspector training program
  - Training courses can be provided for interested inspectors – but for a fee
• Inspection workshops (Nordic) give valuable insight in different countries inspection programs and methods, area for discussions and networking
• Inspection exchange is solely positive – identify good practices to take home
• EUTEMPE-RX courses for physicists in radiology
  - Inspectors are welcomed
• Take home message
  - Arrange inspection workshops and inspector exchange among countries with no language barrier
Approaches for inspecting justification

- Crucial to know the regulatory framework on justification
- All inspectors can inspect if justification is present to some extent regardless of knowledge in radiology
  - Content of referral, referral guidelines, information to patient
- Inspect the role of the referrer, receptionist, radiographer and radiological practitioner
  - Referral, right patient, image history, guideline conformity, pregnancy
- General attitude is important and difficult to change

Approaches for inspecting optimization

- Optimization is the correct balance between dose and image quality
  - Many factors influence the process of optimization
- Huge optimization potential in radiology
- DRLs and standard doses are an efficient tool in the optimization process if the concept is fully understood and use correctly
- DRL is not a regulatory tool but a tool for optimization and benchmarking
- Inspections of cardiology departments in Norway resulted in reduces doses to patients and staff
  - Useful to evaluate inspections – inspections is an effective tool

HERCA Inspection Workshop – 2015

We hope to have provide you with a platform to
- Meet other European inspectors
- Exchange practical ideas and experiences
- Identified good inspection practice to take home
- Identify areas of improvements
- Create contact for further discussion and cooperation

Way forward

- Summarize identified good practises and challenges by the working groups
- Produce recommendations on the practical inspection of justification and optimization within diagnostic radiology
- Provide participants with a good tool-kit to implement identified good practices at home
- All presentations and results from working groups will be made available on HERCA web-page
- Please contribute to the evaluation of the workshop

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- Participants
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THANK YOU ALL!!!