Strengthening justification of medical exposure in diagnostic imaging

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Radiation protection in medical exposure

- Two radiation protection principles apply
  - Justification
  - Optimization of protection

- Hence, the relative importance of justification
  - But its level of implementation is poor

- In this presentation:
  - Justification & the new International BSS
  - IAEA initiatives to strengthen justification
Justification of medical exposures - Evolution of ICRP recommendations

1990 – ICRP 60
Should be dealt with in the same way as justification of any other practice
But adds that each procedure is subject to a separate decision

1996 – BSS 115
Based on ICRP 60

1996 – ICRP 73
A more complex approach - 3 levels
• Justification of a practice
• Generic justification of a defined procedure
• Justification of a procedure for an individual patient

2007 – ICRP 103
ICRP 73 approach is maintained – medical exposure of patients calls for a different and more detailed approach to the process of justification
– ICRP 105

2011 – New BSS
Based on ICRP 103
Putting theory into practice

- Justification Level 3 – individual patients
  - Who is responsible?
  - How can implementation be improved?

Especially in Diagnostic Imaging
Who? – Respective roles and issues

**Referring medical practitioner**
- Clinical context, medical history
- Defensive medicine

**Radiological medical practitioner**
- Knowledge about procedure – benefits, risks, limitations
- Financial conflict of interest

"Request for consultation” *versus* “instruction to perform”

Referral guidelines / criteria of appropriateness

..shall be carried out *through consultation between the radiological medical practitioner and the referring medical practitioner*, ....
Strategies for strengthening the implementation of justification (1)

- Promoting Awareness
- Devising means for effective communication about radiation risks and hence the actual need for justification
  - Patients, physicians, public

Radiation protection of patients website rpop.iaea.org

Worldwide need for promoting awareness
Strategies for strengthening the implementation of justification (2)

- **Appropriateness**
  - Joint responsibility
  - Development and use of referral guidelines or appropriateness criteria
    - Professional bodies
    - Software for referral

International collaboration in developing guidelines
- Shared review of the literature
  - Uniform methodology
- Exploring joint approaches to improve their use

- Availability of relevant information from the patient’s previous radiological procedures

**IAEA Smart Card/SmartRadTrack project**

Making the radiological procedure history available
Strategies for strengthening the implementation of justification (3)

- **Audit**
  - Reviewing the effectiveness of the referral and related processes

- New BSS – Radiological review

Critical review of the current practical application of justification (& optimization) for the radiological procedures being performed in the facility
Summary

- Strengthening justification of medical exposure in diagnostic imaging
  - New BSS
    - Improved framework
  - The 3 A’s
    - Awareness
    - Appropriateness
    - Audit

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