Role of the regulatory authority in radiation protection and safety in veterinary medicine

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Jolien Berlamont
(jolien.berlamont@fanc.fgov.be)
Health and Environment – Medical Establishments
Nuclear Inspector

FANC AFCN
Fédérale Agentschap voor Nukleaire Controle
Agence fédérale de contrôle nucléaire
www.fanc.fgov.be
RP in veterinary medicine: BSS

Application of:

1. **Fundamental Safety Principles**
   - Including general principles of radiation protection

2. **Requirements for planned exposure situations**
   (exception: medical exposures)

**FOCUS:** protection of humans and environment
Role of the regulatory body

→ Providing a **clear regulatory framework** that includes establishment of requirements / guidelines
  - facilities
  - different involved parties
→ **authorization and inspection** of facilities
→ **enforcement** of legislative and regulatory provisions
→ ...
Traditional view on RP in veterinary medicine

“For veterinary workers, occupational exposures appear to be well below the maximum permissible dose limit and the risk or probability of harmful effects is low if stringent radiation safety practices are maintained.”
Practices in veterinary medicine
Evolution
At present, which veterinary applications are being performed in your country, apart from plain X-ray exams?

- More advanced radiological techniques such as CT, interventional X-ray use: 100.0%
- Diagnostic nuclear medicine: 90.0%
- Nuclear medicine therapy (metabolic radiotherapy): 80.0%
- Other radiotherapy procedures (such as teletherapy, sealed sources therapy): 70.0%
Evolution in legislation?

in a lot of countries the legislation on veterinary applications hasn’t changed a lot in recent years
Implication to RP framework

Technologically advanced equipment/practices:
→ increased room for **error**
→ **E&T**: understanding the technology and the radiation protection
→ high dose procedures: cause **deterministic effects** (personnel and animals)
→ increasing potential for **exposure of the general public or environment** (ex. Nuclear medicine)
Implication to RP framework

Technologically advanced equipment/practices

↓

Framework needs to be adapted accordingly
Regulatory authority: challenges (1/3)

Education and knowledge is key!
- Understand the different techniques and practices
- Understand the specificity of the veterinary sector
- Get into contact with the sector
- Communication between countries is crucial
- Be proactive
Regulatory authority: challenges (2/3)

International approach:
- Differences could promote veterinary tourism
- Global approach
- Particular need for communication
- Justification!
Regulatory authority: challenges (3/3)

Status of the animal?

patient?

Animal welfare?

Consideration of other principles such as ‘animal welfare’? (cfr. the Five Freedoms)

**Freedom from hunger or thirst** by ready access to fresh water and a diet to maintain full health and vigour

**Freedom from discomfort** by providing an appropriate environment including shelter and a comfortable resting area

**Freedom from pain, injury or disease** by prevention or rapid diagnosis and treatment

**Freedom to express (most) normal behaviour** by providing sufficient space, proper facilities and company of the animal's own kind

**Freedom from fear and distress** by ensuring conditions and treatment which avoid mental suffering
International initiatives

• *IAEA Safety Report* on Radiation Protection and Safety in Veterinary Medicine
• *HERCA* WG on Veterinary Applications
• *ICRP TG107* on Advice on Radiological Protection of the Patient in Veterinary Medicine
• *ICRP TG110* on Radiological Protection for Workers and the Public in Veterinary Practice
• …
The time is now:

It is time to start recovering lost ground and reinforce the radiation protection requirements while taking into account today’s and presumable near future practice.
Thank you for your attention

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