

# Overview of ICRP Publication 153

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*Presented by*

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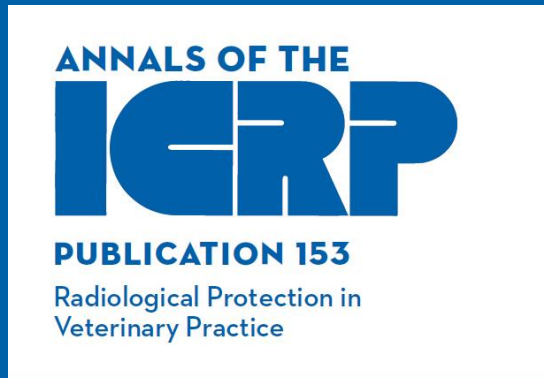


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# Radiological Protection in Veterinary Practice



1. Why this publication?
2. Introduction
3. Basic concepts of radiological protection
4. Ethics and values
5. Unique aspects of veterinary practice
6. Application of the system of radiological protection to veterinary practice
7. Summary of recommendations and considerations
  - Annex A. Roles and responsibilities
  - Annex B. Ethical issues associated with the protection of animals and the environment

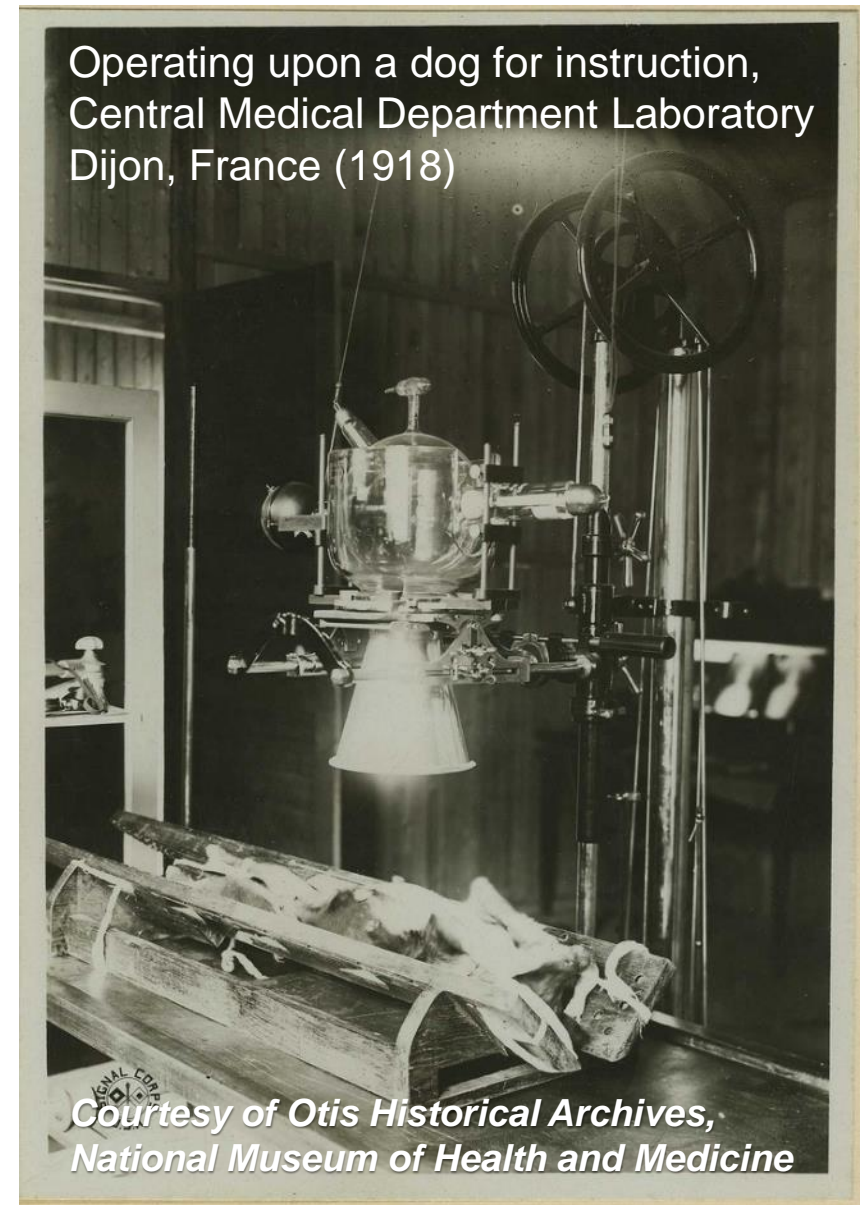
## Summary of the motivation for explicit consideration of radiological protection in veterinary practice

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# Why now?

- Veterinarians have long employed ionizing radiation; the chair of the First (1905) and Second (1906) Radiological Congresses was a veterinarian
- Early on, applying a few simple rules could sufficiently limit the risks to staff, owners/handlers, etc., and animal patients not believed to be exposed to any real risk
- Over the past several years, though, applications and availability have grown and diversified considerably

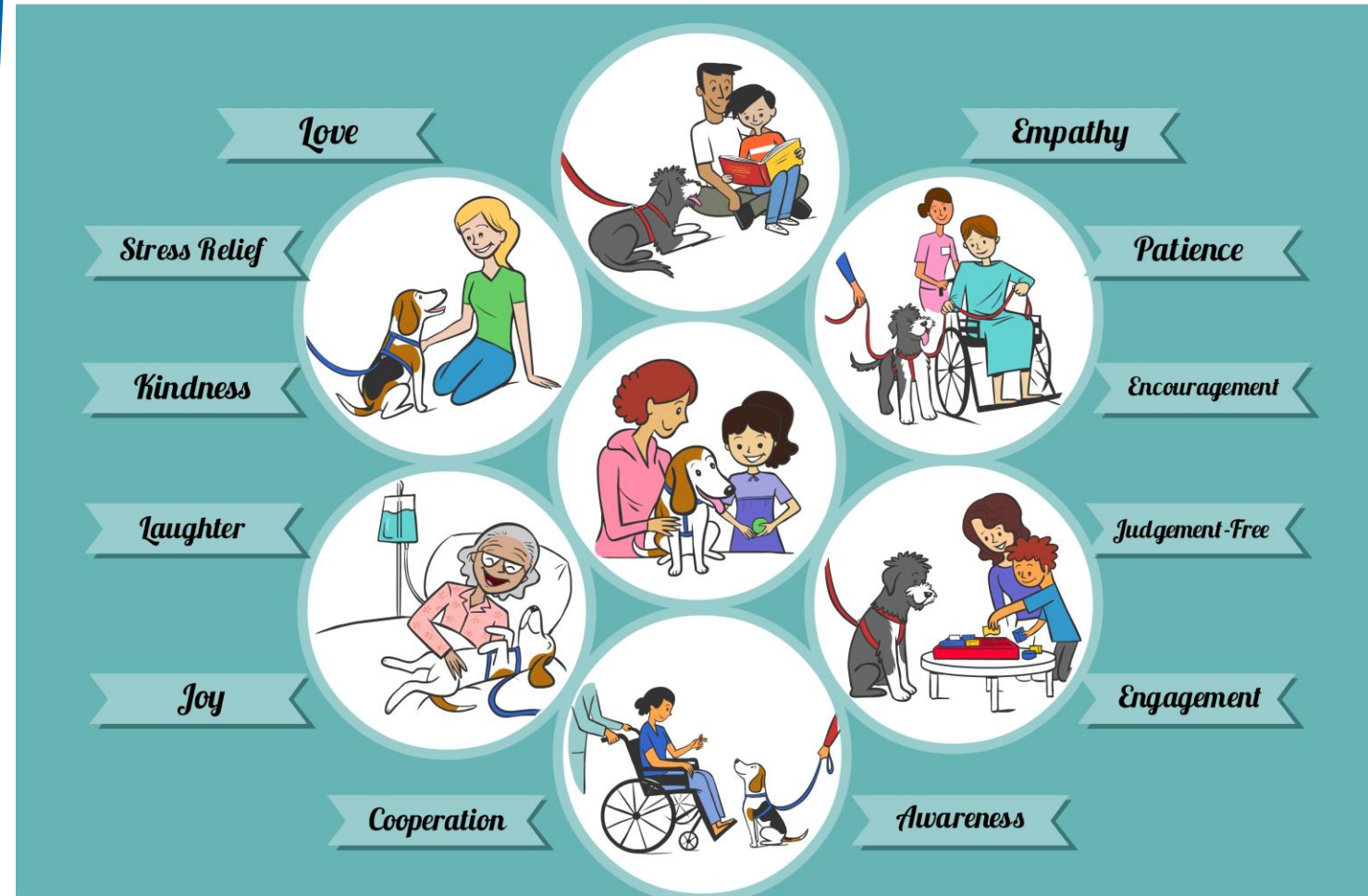


Many companion animals are considered '**part of the family**' and entitled to the best care available.

The same may be true for working animals, endangered species, exotic and sports animals

**Monetary value** may further stimulate interest in an animal's welfare

## Human Animal Interactions and the Human Animal Bond



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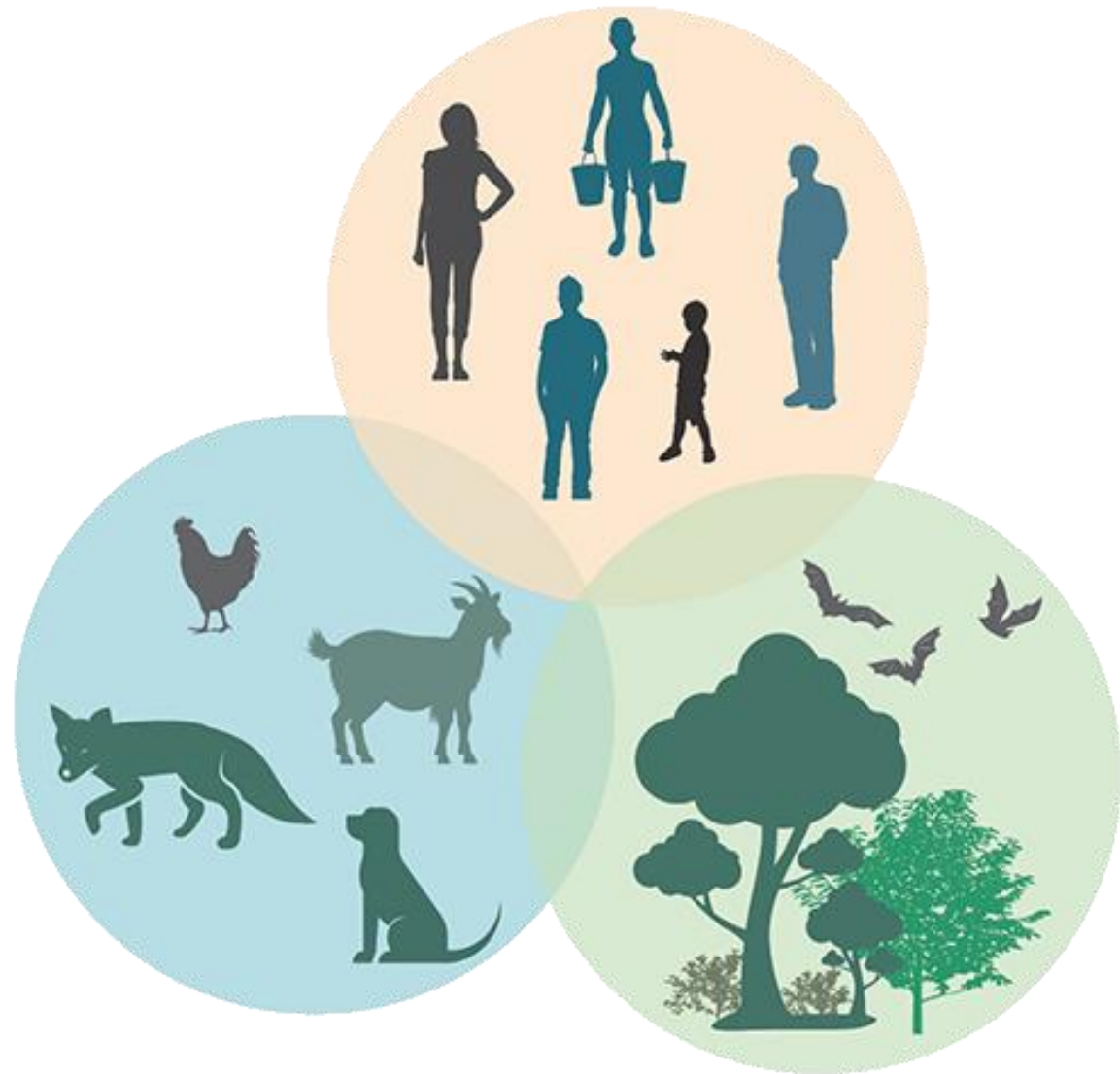
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Many companion animals are considered '**part of the family**' and entitled to the best care available.

The same may be true for working animals, endangered species, exotic and sports animals

**Monetary value** may further stimulate interest in an animal's welfare

There is also increasing awareness of the **inter-connectedness** of human, animal, and environmental health and welfare



<https://www.cdc.gov/>

**Objective and scope of the publication with elaboration on historical background and modern motivation**

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**Brief review of dosimetric quantities, the biological basis of RP, the system of RP, and practical protection strategies; intended for a wide-ranging audience**

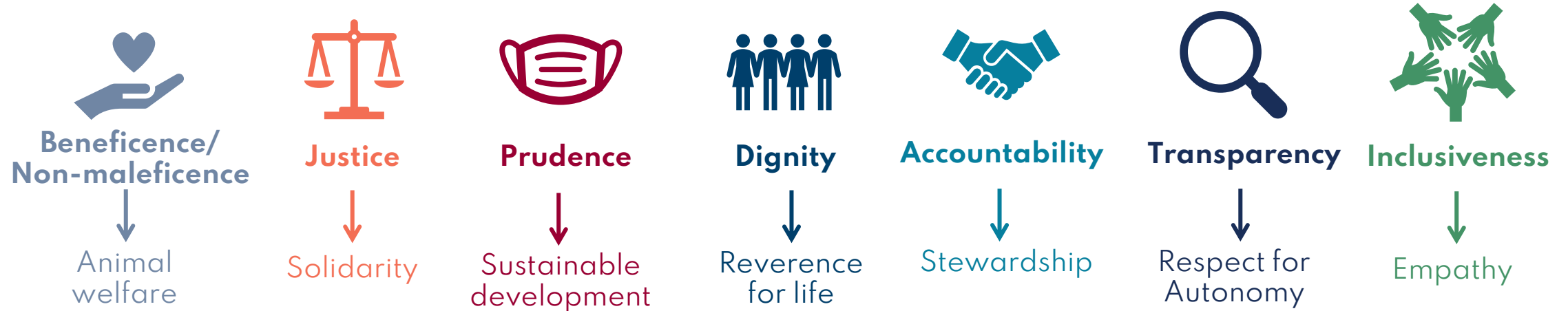
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**Review the ethical basis of the system of RP with connections to veterinary and environmental ethics**

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# Ethical Values

Core ethical and procedural values with additional interpretation



- The extension of the core and procedural values is to help clarify these values for the specific RP application
- Reflects the desire for a consistent approach among human, environmental, and veterinary aspects of RP
- Note that there are a variety of interrelationships between values; this is not a hard one-to-one link

**Similarities and differences  
between human medicine  
and veterinary practice  
highlighting unique  
veterinary challenges**

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**Discussion of justification, optimisation, and application of dose limits (in the context of animal patients as well as workers and the public)**

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# Recall...

## Exposure **categories**



Occupational: exposure received as a direct consequence of one's job



Medical: Patients, carers, research volunteers



Public: exposure that is not occupational or medical

## Exposure **situations**



Planned: planned introduction and operation of sources



Existing: already exist when a decision on control must be made



Emergency: unexpected situations requiring urgent attention

Protection of animals in the context of environmental protection addresses the **collective impact**, e.g., preservation of species and maintaining biodiversity and, as currently written, the medical exposure category appears to **apply solely to human medicine**.

# Where do animal patients fit then?

- Veterinary applications of ionising radiation are **comparable to human medical exposures**, but because this involves subjects other than humans, local governments and regulatory agencies manage exposures received in a veterinary setting in different ways.
  - However, if—from a regulatory perspective—veterinary practice is considered comparable to an industrial application, this may lead to an approach whereby the animal is considered an object, without consideration that it is a sentient living creature, or neglecting unique but necessary aspects (e.g., safety of patients under anesthesia)
- The Commission now specifies that **the system includes protection of the individual animal in special circumstances**.
  - Animal patients undergoing radiological veterinary procedures comprise one case among others including animal research subjects and pets/domestic animals in a radiological emergency (e.g., Publication 146)

## Review of key takeaways of the publication

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# Main Points (1)

- The objective of this publication is to provide an **initial set** of relevant observations, considerations, and general recommendations related to radiological protection in veterinary practice, intended for a **wide-ranging audience**.
- Radiological protection challenges specific to veterinary practice arise from the **different combinations** of personnel and members of the public who may be involved, and from **operational environments** required when dealing with animals.
- The **priority** of radiological protection in veterinary practice **is that of the humans involved**, but the **exposure of animals** should also be the object of explicit attention because, like humans, animals are subject to potential tissue reactions or stochastic effects resulting from exposure to radiation.

# Main Points (2)

- In veterinary practice, the core and procedural ethical values of the system of radiological protection are elaborated on with discussion of additional interpretations of these values, including **animal welfare, sustainable development, solidarity, reverence for life, stewardship, respect for autonomy**, and **empathy**.
- Veterinary applications of ionising radiation, and their ensuing protection challenges, are, to a large extent, **comparable to situations in human medical applications**, and could benefit from similar approaches, such as the **three levels of justification**, and **optimisation** as a process to ensure that the likelihood and magnitude of exposures and the number of individuals exposed are reasonable and appropriate for the situation at hand, considering economic, societal, and environmental factors.

**Discussion of individual and organisational functions and anticipated obligations relevant to RP in veterinary practice**

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**Elaboration on humanity's  
relationship with and  
responsibility to animals  
and the environment**

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**Thank you for your attention!**

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