## These learning outcomes are taken from the Home Office Guidance for training and continuous professional development under the Animals (Scientific Procedures) Act 1986, published October 2023

### Named Veterinary Surgeon (Module NVS)

This module provides basic guidance and information for the veterinarian at the entry Named Veterinary Surgeons (NVS) level. As applies to all veterinarians, NVS' are expected to develop and enhance their skills through continuing professional development. Other training opportunities could be developed as needed for veterinarians to complete their expertise as NVS, depending on the programme of the establishment (e.g. involvement in training/supervision/assessment; media communication on responsible use of animals in science; species-specific husbandry and veterinary care).

This module focuses on the principles of veterinary management of animal health and welfare for animals maintained, bred and/or used for scientific purposes ensuring that the NVS understands the role of the vet in the research environment according to professional obligations.

There may be elements of training that can be exempted on the basis of a gap-analysis of the individual's previous educational background and experience.

The objectives of this module are to:

- cover the basic principles of (rather than species-specific) components of a programme of veterinary care specifically in relation to the care and use of animals for research, which are:
- Movement of animals and its implications
- Animal care, health and management
- Assessment of well-being
- Recognition and alleviation of pain, suffering and distress
- Relevance of the choice of animal models
- Design of procedures and projects
- Implementation of the 3Rs
- Use of medicines

- Surgical and non-surgical interventions
- Anaesthesia and analgesia
- Euthanasia
- Occupational health and safety (zoonosis, allergies, etc.)

- consider the importance of routine veterinary visits and factors enabling the determination of an adequate frequency for the visits;
- discuss the balance between animal treatment and the need to ensure valid scientific results;
- appreciate how to identify ethical issues associated with biomedical research;
- consider the role of the vet in advising on choice of animal model and model refinement;
- discuss the role of the vet in advising on the implementation of humane end-points;
- discuss the principles of management of veterinary communications and decisions;
- review the opportunities to gather further veterinary information in Laboratory animal medicine and science.

**Learning Outcomes**

The trainees should be able to:

*Legislation*

i. Summarise the statutory duties and professional requirements of the NVS.

ii. Compare the roles, responsibilities and interactions of those working within an establishment and explain the legal composition and the role of Animal Welfare and Ethical Review Body.

iii. Explain the role of the veterinarian in directing prescription, order, storage and dispensing and disposal of medicines for animals maintained at authorised establishments and used in procedures.

iv. Describe the role of the NVS in the import and export, and transport of laboratory animals.

v. Outline legislative controls on the creation and use of Genetically Altered Animals.

*Ethics, Animal Welfare and the 3Rs*

vi. Define the 3Rs principles and provide examples of application of each to a breeding/supplier/user establishment; in particular, discuss the alleviation of pain and potentially lasting harm.

vii. Justify the importance of good animal health and welfare (with regards to the scientific outcomes and societal or moral reason) and recognise the relationship between health and welfare and scientific validity.

viii. Identify sources of information relating to ethics, animal welfare and veterinary information enabling the implementation of the 3Rs.

ix. Explain the need for a culture of care and the individual's role in contributing to this.

x. Explain how the NVS can contribute to the dissemination of information that will promote understanding of ethical issues, good animal welfare, good science and application of the 3Rs.

xi. Identify the criteria used in making a harm-benefit analysis and be able to apply them.

xii. Identify the role of the NVS in advising on choice of animal model and model refinement.

*Animal Care, Health and Management*

xiii. Relate the purposes of a routine animal house visit and how to deal with issues arising.

xiv. Outline the preparation required for routine visits.

xv. Formulate the information to be included in health records and reports to the animal care staff and others.

xvi. Summarise basic principles of disease surveillance, prevention and management in laboratory animals and the principles of health monitoring schemes, including information on relevant microorganisms infecting laboratory animals such as their classification, the potential impact on research and animal health, their zoonotic potential, their prevention, diagnosis, treatment and eradication, as well as the clinical appearance, aetiology and pathology of common laboratory animal diseases.

xvii. Outline the requirements for health screening,

xviii. Outline appropriate management and control strategies for biosecurity and disease outbreak in laboratory animals.

xix. Describe an overview of the principles of laboratory animal husbandry, outlining the main principles of cage/enclosure design and construction and the advantages and disadvantages of different types of caging system.

xx. Explain the principles relating to the choice of appropriate environmental conditions and types of environmental enrichment used for laboratory animals.

xxi. Describe the different methods by which the relevant animals are allowed to be killed, the influence different methods can have on scientific outcomes and on how to select the most appropriate method.

xxii. Outline the principles of hygiene/disinfection/sterilisation that apply to the laboratory animal facility including the parameters influencing water quality, how to check for water quality and how to interpret results.

xxiii. Demonstrate an awareness of the main hazards that may be encountered in a laboratory animal facility and the role of the NVS in minimizing the risks.

xxiv. Describe key biological characteristics and features of relevant species and recognize factors that may impact their care or use as laboratory animal.

xxv. Discuss the creation and use of genetically altered animals in research including common types of GA animals and uses in research and different ways to create and evaluate GA animals, as well as how

these are designated according to international guidelines for nomenclature.

*Anaesthesia, analgesia, surgery*

xxvi. NVS.26. Demonstrate adequate knowledge of the management of anaesthesia, analgesia and surgery in the context of animals used for scientific purposes.

xxvii. Relate the factors influencing choice of anaesthetic protocols in different situations.

xxviii. Describe the specific issues arising from experimental surgery and identify the role of the NVS in relation to experimental surgery.

*The principles of veterinary communications*

xxix. Define strategies for effective communication and explain how these promote animal welfare and good science.

xxx. Review the opportunities to gather further veterinary information in laboratory animal medicine and science.