

Approved 1999



## AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

### FELLOWSHIP GUIDELINES *Animal Reproduction (Dog and Cat)*

#### **ELIGIBILITY**

1. The candidate shall meet the eligibility prerequisites for *Fellowship Candidate Handbook*.
2. Membership of the College must be achieved prior to the Fellowship examination.
3. Membership may be in any discipline.

#### **OBJECTIVES**

To demonstrate that the candidate has sufficient training, experience, knowledge and accomplishment in Animal Reproduction (Dog and Cat) to be recognised as an authority in this field by his/her colleagues in the veterinary profession.

#### **DESCRIPTION (LEARNING OUTCOMES)**

The candidate will have sufficient training, knowledge and experience in Dog and Cat Reproduction to entitle him/her to be acknowledged by colleagues as a specialist in this area.

The award of a Fellowship in Animal Reproduction (Dog and Cat) recognises that the awardee has:-

1. A detailed knowledge of the normal anatomy , physiology, embryology and immunology of the reproductive systems and associated structures in the dog and the cat.
2. A detailed knowledge of the aetiology, pathogenesis and pathophysiology of reproductive dysfunction in the dog and cat.
3. A detailed knowledge of the diagnostic tests and procedures as these apply to the diagnosis of reproductive function and dysfunction including a

demonstrable skill in the conduct and interpretation of these procedures in the clinical situation.

4. A detailed knowledge of the treatment and prevention of reproductive dysfunction in the dog and cat including a comprehensive knowledge of the principles and application of reproductive pharmacology, therapeutics, medicine and surgery of the reproductive system and associated structures.
5. A detailed knowledge of comparative pathology of the reproductive system.
6. A detailed knowledge of systemic influences on reproductive function, systemic diseases which have implications for the reproductive system and reproductive status on the entire body.
7. A sound knowledge of reproductive diseases of the dog and cat which are exotic to Australia and New Zealand.
8. Critically evaluated the current literature and thinking in the field of dog and cat reproduction.
9. A knowledge of current concepts in reproduction of all animals and humans together with their potential application to the dog and to the cat.
10. Sound knowledge of the exotic infectious diseases of the dog and cat which could be introduced into Australia and New Zealand especially as a result of techniques used in reproduction.
11. A sound knowledge of infectious organisms which both directly and indirectly affect reproductive performance in the dog and cat.
12. An understanding of comparative reproduction in other domesticated mammalian species to the level expected of a Member of the College in Animal Reproduction.

### **SPECIFIC GUIDELINES**

The following list is intended as a guide to the breadth of the subject but should not be considered either comprehensive or an indication of the knowledge required to pass the examination.

#### **1. Anatomy of Reproduction**

Development of male and female reproductive tracts, including embryologic development, prepubertal, postpubertal and ageing changes. Anatomy and histology of the reproductive tracts with particular emphasis on the relation between structure and function.

#### **2. Reproductive Physiology**

Central control of reproduction, reproductive endocrinology, reproductive cycles, folliculogenesis, spermatogenesis, prostate physiology, gamete physiology, gamete transport, coitus, fertilisation, sex determination and

differentiation, embryonic development, implantation, placentation, pregnancy, maternal recognition of pregnancy, parturition.

Prenatal foetal physiology and adaptation for survival in the periparturient period.

Postpartum physiology, uterine involution and resumption of cyclicity. Effects of lactation on reproduction.

### 3. **Reproductive Behaviour**

Puberty and development of reproductive behaviour, coitus, libido, dominance and social factors affecting reproduction. Abnormalities of reproductive behaviour.

### 4. **Clinical examination of the reproductive system and data collection**

Physical examination and explanation of findings for the male and female reproductive tract including: breeding soundness examination, libido testing, collection and submission of samples for diagnosis of disease of the reproductive system, semen collection, handling, evaluation and analysis, diagnostic imaging and use of ancillary diagnostic aids.

### 5. **Artificial Breeding**

Artificial insemination and semen handling, oestrus detection and synchronisation, superovulation, ova and embryo recovery, ova and embryo culture, and sexing, micromanipulation, short term storage and transfer of semen ova and embryos, cryopreservation of gametes and embryos.

### 6. **Developmental Abnormalities**

Inherited abnormalities affecting reproduction, acquired and congenital defects and teratology, and reproductive pathology.

### 7. **Gestation**

Physiology, anatomy and endocrinology of pregnancy, pregnancy diagnosis, induction of abortion, disease of pregnancy, diseases of the foetus, embryonic loss and abortion, anatomy, physiology, endocrinology of parturition, disease of parturition, disease of the puerperal period, dystocia and obstetrics, post-partum physiology and diseases.

### 8. **Infertility**

Infectious, hormonal, environmental, nutritional, congenital, hereditary, management related and miscellaneous causes of infertility. Anoestrus, abnormalities of sexual behaviour, inability to complete coitus, failure of ovulation, fertilisation failure, failure to establish or carry pregnancy, and all aspects of male infertility including diseases of the accessory sex glands..

9. **Surgery of the reproductive system, including appropriate anaesthesia.**

10. **Reproductive management.**

Kennel and cattery management including breeding, nutrition, kennel health and kennel demographics, reproductive disease control and vaccination programs, record keeping, interpretation and analysis, effects of climate, season, housing and geography on reproduction and strategies to optimise reproductive efficiency.

11. **Pharmacology of the reproductive system**

Oestrus cycle manipulation, treatment of reproductive disorders, induction of oestrus, induction of parturition, induction of lactation and use of antimicrobial drugs.

12. **Contraception**

13. **Miscellaneous**

Public health implications of reproductive disease. Exotic diseases affecting the reproductive systems. Ontogeny of development of the reproductive system. Reproduction in non-domestic canids and felids. Diseases of the mammary gland only as pertinent to reproduction.

## **EXAMINATIONS**

**Refer to the Fellowship Candidate Handbook.**

## **TRAINING PROGRAMS**

**Refer to the Fellowship Candidate Handbook**

1. The candidate should be involved in patient-oriented (or herd-oriented) teaching rounds, regular teaching seminars, journal and text reviews. Clinically relevant didactic lectures and continuing education conferences should be attended where appropriate. Participation in regional, state, national and if possible international meetings is encouraged.
2. The candidate must make at least one presentation at a national or international scientific meeting.
3. The training program will provide training in canine and feline reproduction. The candidate should acquire a detailed knowledge of reproductive anatomy and physiology; the aetiology, pathogenesis and pathology of reproductive dysfunction; diagnostic tests and procedures as these apply to the diagnosis of reproductive dysfunction; the diagnosis, differential diagnoses, pathophysiology, treatment and management of reproductive dysfunction and the manipulation of normal function including all aspects of assisted reproductive technologies and artificial breeding.
4. The candidate should be actively involved in the management of clinical reproduction cases. The applicant should be experienced in diagnostic

techniques and clinical procedures, including but not limited to, physical examination, diagnostic imaging, reproductive tract surgery, endocrinology, pathology, techniques of artificial breeding.

### **TRAINING IN RELATED DISCIPLINES**

#### **Refer to the Fellowship Candidate Handbook**

Candidates for Fellowship in Dog and Cat Reproduction must spend time as stipulated by the Fellowship Candidate Handbook in any or all of the following related disciplines: medicine, surgery, anatomic pathology, clinical pathology, pharmacology, statistics and reproduction in other species.

### **EXTERNSHIPS**

#### **Refer to the Fellowship Candidate Handbook**

### **ACTIVITY LOG CATEGORIES**

#### **Refer to the Fellowship Candidate Handbook**

The Activity Log should be recorded using the Fellowship Candidate Handbook

The Activity Log Summary should be divided by technical procedure using the example in the Fellowship Candidate Handbook

### **RECOMMENDED READING LIST**

The candidate is expected to research the depth and breadth of the knowledge of the discipline. This list is intended to guide the candidate to some core references and source material. The list is not comprehensive and is not intended as an indicator of the content of the examination.

### **JOURNALS**

#### **Research**

Journal of Reproduction and Fertility

Biology of Reproduction

Endocrinology

Journal of Endocrinology

Molecular Reproduction and Development

Animal Reproduction Science

#### **Clinical Relevance**

Theriogenology

Journal of Animal Science

American Journal of Veterinary Research

Journal of the American Veterinary Medical Association

Australian Veterinary Journal

Veterinary Record

British, New Zealand, Canadian, South African Veterinary Journals

Australian Veterinary Practitioner

Journal of Small Animal Practice.

#### **Review Articles**

Compendium on Continuing Education in Veterinary Practice  
 Veterinary Medicine  
 Veterinary Clinics of North America

### **Symposia**

Proceedings of the Society for Theriogenology Annual Meeting  
 Proceedings of the University of Sydney Post Graduate Committee in Veterinary Science  
 Proceedings of the International Congress on Animal Reproduction  
 Supplements to the Journals of Reproduction and Fertility

### **TEXT BOOKS (The most recent editions of the following texts)**

#### **Canine and Feline Reproduction Texts and Chapters**

Canine and Feline Endocrinology and Reproduction (1996) E.C. Feldman, R.W. Nelson. 2nd edition.

England C.W. (1998) Allen's Fertility and Obstetrics in the Dog. 2<sup>nd</sup> edition. Blackwell Science, Oxford.

Simpson G, England G and Harvey G (1998) Manual of Small Animal Reproduction and Neonatology. British Veterinary Association, Cheltenham, UK.

Current Veterinary Therapy IX, X, XI, XII, XIII Kirk RW and Banagura JB (eds) WB Saunders Company, Philadelphia, PA

Textbook of Veterinary Internal Medicine (1999), Ettinger SJ and Feldman EC (eds), 3<sup>rd</sup> edition. W.B. Saunders & Co, Philadelphia, PA.

#### **General Reproduction Texts**

Reproduction in Farm Animals (1987) ESE Hafex (ed). 5th edition. Lea and Febiger, Philadelphia, PA.

Physiology of Reproduction (1991) Marshall

Veterinary Reproduction and Endocrinology (1989). L. E. McDonald and M H. Pineda (eds). Lea and Febiger, Philadelphia, PA.

Current Therapy in Theriogenology I and II (1980, 1986. D. A. Morrow (ed). W. B. Saunders Co. Philadelphia (III) due in 1998)

Veterinary Obstetrics and Genital Diseases (1986). S. J. Roberts, published by the author, Woodstock, Vermont.

Pathology of Domestic Animals (1985) K.V.F. Jubb, P.C. Kennedy, and N. Palmer. Academic Press Inc. London.