Management of common male reproductive disorders
Male dogs are commonly presented for either investigation of infertility or for treatment of various reproductive tract diseases. The most common conditions are those that are related to affections of the testes and the prostate while, congenital or acquired abnormalities of the scrotum, prepuce and penis are less commonly encountered.
This chapter deals with some of the commonly encountered congenital and acquired diseases that affect the male, their diagnosis, as well as current treatment options for management of these conditions.

Fertility control in dogs
Stray dog population in India is currently estimated to be 25 million and is increasing day by day with the result India gets the dubious distinction of being the “stray dogs’ paradise”. The demand for safe, effective and cost effective means of pet population control has generated interest in the development of alternatives to surgical gonadectomy.
The purpose of this chapter is to discuss the various surgical, hormonal and immunological methods that are available to prevent fertility in dogs and to outline the recent developments that may aid their design.

Clinical approach to infertility in the bitch
Normal fertility in the bitch requires ovulation of normal ova into a patent, healthy reproductive tract, insemination with normal semen near the time of ovulation, and maintenance of pregnancy for approximately 63-65 days. Infertility is often assumed when a bitch has been bred repeatedly but does not become pregnant and produce viable off-springs.
This chapter deals with various causes of conception failure in a bitch and will serve as a guide to practitioners in handling most canine infertility cases encountered in their practice.

Clinical approach to infertility in the dog
Over the past one decade, breeding dogs has become a means of livelihood for some and an excellent source of additional income for others. Under such situations, the inability to consistently sire a litter can become detrimental not only to a dog’s breeding career but also to the dog breeding industry as a whole. Such a situation becomes frustrating and costly for the breeder who has spent a great deal of time and money on producing, campaigning and advertising his stud dog.
This chapter offers a thorough systematic diagnostic approach to the infertile male thereby enabling the veterinarian to formulate a therapeutic plan and prognosis.

Biotechnology in canine reproduction-current status
Canine biotechnology is much less developed than in other species and assisted reproductive techniques in these species have been mainly limited to AI and semen cryopreservation while other techniques like IVF, IVM, ET and cloning have been limited only to research laboratories.
This chapter reviews some of the advanced reproductive technologies that are currently available for use in canine and those that have been used experimentally.
Reproductive cycle of the bitch

A lack of understanding of canine reproductive physiology and misconceptions about breeding have often resulted in failures, forcing people to seek help from veterinarians with expertise in the field of canine reproduction. Thus, a thorough understanding of the reproductive biology of this unique species is important.

This chapter on “Reproductive cycle of the bitch” would lay a strong foundation for a better understanding of the reproductive disorders dealt in the forthcoming chapters.

Artificial insemination in the dog

Artificial insemination (AI), the technique of collecting semen from a male and placing it into the reproductive tract of the female is being undertaken with increasing frequency in the recent years. Particularly for breeders with strict quarantine regulations, the possibility of getting new genetic material from the best dogs in the world has opened a new chapter in the history of dog breeding.

Vaginal exfoliative cytology

Vaginal exfoliative cytology has proved to be a useful tool for accurately monitoring the stage of estrous cycle in the bitch. In most situations, cytologic samples can be collected quickly, easily and inexpensively, with little or no discomfort to the patient. This chapter on “Vaginal exfoliative cytology” will assist a practicing veterinarian in the preparation and interpretation of vaginal smears so that it could be extensively used in management of canine breeding programmes.

Ovulation timing and breeding management in dogs

The most common problem encountered by veterinarians working in canine reproduction is the “potentially” infertile bitch. Majority of the so-called “apparently infertile” females are normal, healthy fertile bitches that have actually become victims of our mismanagement.

This chapter on “Ovulation timing and breeding management in dogs” emphasizes the errors in breeding management and describes the tools that could be utilized by veterinarians to help assist dog breeders in establishing pregnancies in their bitches.

Canine pregnancy and parturition

Many aspects of canine pregnancy are unique among veterinary domestic species and therefore an understanding of the clinical correlates of ovulation, fertilization, embryo and fetal development, and pregnancy specific changes in maternal physiology is essential when providing clinical services such as breeding management and monitoring of pregnancy. It is also important for decision making in cases of pregnancy failure, elective cesarean section and dystocia.

This chapter on “Canine pregnancy and parturition” will take you through various clinically relevant physiologic and endocrine events of pregnancy, clinical methods to diagnose pregnancy and care and management of a pregnant and whelping bitch.

Care of new born puppy

Rearing a new born puppy is not easy unless one is familiar with their normal and abnormal vital signs, their nursing care and probable disease. Owing to the physiological differences between a new born pup and an adult, it is important that the owner is made aware of these differences in order to provide optimal care.

This chapter on “Care of new born puppy” deals with puppy care from birth to six months of age.

Medical termination of pregnancy

Unwanted mating or mismating is a common clinical problem in veterinary practice which may arise because dog owners are not aware that their pet is “in heat” or the owner may be aware of estrus but has underestimated the will of a stud or bitch to encounter the opposite sex. Therefore, even the best educated and most careful owners will end up with mismating problems in their bitches.

This chapter on “Medical termination of pregnancy” provides the reader an overview of the various methods available for preventing the birth of puppies following mismating.

Canine brucellosis and transmissible venereal tumour

Canine brucellosis caused by Brucella canis is an important cause of reproductive failure in kennels. It is a contagious disease with venereal mode of transmission causing resorptions or late abortions in females, epididymitis and prostatitis in males, subsequently resulting in infertility in both sexes.

Hence, this chapter on canine brucellosis has been exclusively written to make one aware that such a disease does exist in India and could be one of the major causes for abortions, resorptions, female and male infertility. The section on Transmissible venereal tumour (TVT) deals with etiology, clinical signs, diagnosis and treatment of TVT in dogs.

Management of common pre, peri and postpartum complications in bitches

Pre partum complications are those that occur, before and during pregnancy while peri parturient complications may occur before parturition or up to several weeks after parturition. Post partum complications may occur in the period following parturition which also includes the periods of lactation and weaning.

This chapter deals with the early detection and management of some of the common pre, peri and post partum complications that one would come across in their practice which may help to save the life of the dam and pups.