VETERINARY CARE FOR PREGNANT PETS: BEST PRACTICES AND KEY CONCERNS

DIKSHA UPRETI[1], RENU SHARMA[2], SIRAJ ANSARI[3], MANISH SOLANKI[1], BHARTI RANA[4]

[1]M.V.Sc. Scholar, Division of Animal Reproduction, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, India, [2]PhD. Scholar, Division of Animal Reproduction, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, India, [3]M.V.Sc. Scholar, Division of Medicine, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, India, [4]M.V.Sc. Scholar, Division of Pathology, College of Veterinary and Animal Sciences, G.B.P.U.A.T, Pantnagar, India

Corresponding author: dikshau2025@gmail.com

DOI: https://doi.org/10.5281/zenodo.15014420

ABSTRACT

Prenatal and postpartum care are fundamental to ensuring the health and well-being of both pregnant pets and their offspring. The success of a pregnancy begins with comprehensive pre-natal care, which involves a complete health assessment, including physical exams, blood work, parasite control, and up-to-date vaccinations. Proper nutrition, with increased caloric intake and protein, is essential for fetal development, while moderate exercise helps maintain the mother's health. During pregnancy, early detection through diagnostic tools such as ultrasounds, hormonal tests, and X-rays plays a crucial role in monitoring fetal health and identifying any potential complications. The three stages of labor—preparation, active labor, and placental expulsion—require close monitoring to prevent and manage issues like dystocia, which can lead to difficult births, or retained placentas that may cause infections. Complications like pregnancy toxaemia, mastitis, and uterine infections can arise, making timely veterinary intervention essential. Postpartum care, including ensuring proper milk production and the mother's recovery, is equally important for the health of the newborns. A holistic approach that integrates prenatal diagnostics, careful monitoring during labor, and dedicated postpartum care helps ensure a successful pregnancy, safe delivery, and healthy puppies or kittens.

Keywords: Pregnancy, Fetal Health, Dystocia, Maternal, Veterinary.

I. INTRODUCTION

Pregnancy in pets, particularly in dogs and cats, requires careful monitoring and management to ensure both the health of the mother and her developing offspring. Veterinary care during pregnancy is critical not only for preventing complications but also for providing optimal prenatal care that promotes a healthy pregnancy and delivery. As with human pregnancies, the health and well-being of the mother directly influence the outcome of her pregnancy, the health of her puppies or kittens, and her ability to recover after delivery. This review article explores best practices in veterinary care for pregnant pets, including pre-natal care, diagnostics, the stages of labor, and potential complications such as dystocia (Davidson & Cain, 2023).

II. PRE-NATAL CARE FOR PREGNANT PETS

The first step in ensuring a successful pregnancy in pets is proper pre-natal care. This includes evaluating the overall health of the

mother, providing appropriate nutrition, and implementing preventive health measures.

Health Assessment

Before breeding, a complete veterinary examination should be performed to ensure the mother is healthy enough to carry a pregnancy. This may include:

Physical Examination

To check for underlying health issues like heart disease, diabetes, or infections that could complicate pregnancy.

Blood Work

To assess organ function (kidneys, liver, thyroid), check for infections, and ensure that vaccination histories are up-to-date.

Parasite Control

A fecal examination and appropriate deworming should be carried out to prevent gastrointestinal parasites, which can harm the mother and her developing offspring.

Vaccination

Ensure the pet is up-to-date on vaccinations, as certain diseases can lead to complications during pregnancy. However, vaccination should be avoided in the first trimester to reduce the risk of vaccine-induced complications (Smith, 2011).

Nutrition

Proper nutrition plays a crucial role in the health of the mother and the developing puppies or kittens. For pregnant pets:

Increased Caloric Intake

Pregnant animals require more calories, but the need is not as significant in the early stages. In the last trimester, caloric intake should increase by 20-25%. Specialized pregnancy or growth formulations of pet food are often recommended.

Protein and Fat

High-quality protein is essential for fetal development, and increased fat content helps meet the elevated energy needs of the pregnant pet.

Supplements

Depending on the specific needs of the mother, supplements (such as folic acid and DHA) may be recommended, but these should be given under veterinary guidance. Over-supplementation can lead to complications (Management of Pregnant and Neonatal Dogs, Cats, and Exotic Pets, 2012).

Exercise and Activity

Exercise should be moderate during pregnancy. Excessive exercise can put stress on the mother, while inadequate exercise can lead to obesity, which increases the risk of complications like dystocia (difficult birth). Activities should be adapted to the pet's physical condition and be closely monitored.

III. DIAGNOSTICS DURING PREGNANCY

Early detection of pregnancy and regular monitoring throughout gestation are essential to identify potential issues early and ensure the pregnancy is progressing normally.

Pregnancy Diagnosis

There are several ways to confirm pregnancy in pets:

Ultrasound

An ultrasound is the most reliable and non-invasive method of detecting pregnancy in pets, usually performed around 25-30 days after mating. It can also be used to check for fetal heartbeats, the number of embryos, and any potential developmental issues.

Hormonal Tests

In dogs, measuring levels of the hormone relaxin (a protein produced during pregnancy) in the blood can confirm pregnancy as early as 21-24 days post-conception.

X-ray

X-rays can be used later in pregnancy (around 45 days) to determine the number of puppies or kittens, but are not generally used for pregnancy confirmation early on (Kim et al., 2007).

Monitoring Fetal Health

Ultrasound

In addition to confirming pregnancy, ultrasound can help monitor fetal health and development. It can identify issues like fetal death, developmental abnormalities, or insufficient amniotic fluid, which could indicate complications.

Fetal Movement

By 7-8 weeks of pregnancy, the veterinarian can assess fetal movement, which is a sign of fetal health.

Heart Rate Monitoring

A fetal heart rate check can help assess the health of individual fetuses. Slow heart rates may indicate fetal distress or hypoxia.

Routine Veterinary Check-ups

Frequent check-ups (every 2-3 weeks) in the latter stages of pregnancy are important for ensuring the health of both the mother and her puppies or kittens. The veterinarian will monitor for signs of complications such as infection, dehydration, or weight loss, and may recommend further diagnostics (blood tests, urine tests, or cultures) if there are concerns (Can Pets and Pregnancy Go Together, n.d.).

IV. STAGES OF LABOR AND DELIVERY

The stages of labour are a critical time when immediate veterinary intervention may be necessary. A typical pregnancy for dogs and cats lasts about 58-68 days, with dogs generally delivering between 63-65 days after ovulation, and cats about 63-65 days after mating.

Stage 1: Preparation for Labor

Behavioural Changes

In the first stage, the mother may become restless, begin nesting, or seek out a quiet, dark place to give birth. She may also exhibit a drop in body temperature (below 99°F or 37.2°C) 12-24 hours before labor begins.

Cervical Dilation

The cervix gradually dilates, and uterine contractions begin. The mother may show signs of discomfort, including panting and pacing.

Veterinary Monitoring

During this stage, it is important to monitor for signs of abnormal behaviour or distress that could indicate a complication such as uterine infection (pyometra) or obstruction (Concannon, 2000).

Stage 2: Active Labor and Delivery

Pushing and Expulsion of Puppies/Kittens

Stage 2 is characterized by active labor, where the mother will start pushing to deliver the puppies or kittens. Each animal should be delivered within 15-30 minutes of the previous one. A healthy litter will typically be born with each animal emerging within a reasonable time frame.

Signs of Complications

If the mother is pushing for more than 30 minutes without producing a puppy/kitten, or if there is a delay between births lasting longer than 2 hours, veterinary assistance may be needed. Prolonged labor can be a sign of dystocia (Fusi & Veronesi, 2022).

Stage 3: Delivery of the Placenta

Placental Expulsion

Following each birth, the placenta is expelled. Each fetus has a corresponding placenta, and the mother may eat the placental material. This is normal unless it interferes with her ability to nurse or if excessive placental material remains in the uterus, which could lead to infection.

Veterinary Attention

The veterinarian may need to monitor the number of placentas expelled to ensure all are delivered, as retained placentas can cause infection or toxicity (Arnold Arluke, 2002).

V. COMPLICATIONS IN PREGNANCY AND LABOR

Despite best efforts, complications can arise during pregnancy and labor that require veterinary intervention. Early recognition and prompt care are essential for preventing long-term health consequences for the mother and her offspring.

Dystocia (Difficult Birth)

Dystocia is one of the most common complications in pregnant pets, particularly in brachycephalic (short-faced) breeds like Bulldogs, Persian cats, and some toy breeds. Common causes of dystocia include:

Pelvic Obstruction

A narrow birth canal or oversized puppies/kittens can lead to a blockage.

Weak Contractions

Insufficient uterine contractions can prevent the passage of foetuses.

Fetal Malposition

Fetal malpresentation (e.g., breach or transverse presentation) can prevent the safe passage of the offspring.

Uterine Inertia

This is a condition where the uterus fails to contract effectively, often requiring medical intervention or a caesarean section (*VetFolio*, n.d.).

Veterinarians may assist in the birth process by manually repositioning the puppies/kittens, administering oxytocin to stimulate contractions, or, in severe cases, performing a caesarean section (C-section) if the birth cannot proceed safely.

Pregnancy Toxaemia (Eclampsia)

Pregnancy toxaemia is a serious metabolic disorder that can affect pregnant pets, particularly those carrying multiple puppies or kittens. It is caused by the body's inability to meet the increased nutritional demands of pregnancy and can lead to low blood sugar (hypoglycaemia), seizures, and organ failure if left untreated.

Other Concerns

Mastitis

Infection of the mammary glands, which can occur postpartum, can cause pain, swelling, and fever.

Retained Placenta

Failure to expel all placental material can result in uterine infection or sepsis.

Infections

Bacterial infections, such as pyometra, can cause miscarriage, premature birth, or infection in the offspring (Root Kustritz, 2005).

VI. POSTPARTUM CARE

Postpartum care is just as critical as prenatal care. Monitoring the health of the mother and ensuring that she is producing enough milk for her puppies or kittens is key.

Milk Production and Nursing

Milk Letdown

Ensuring the mother can nurse her litter is essential for the puppies or kittens' health. If the mother is not producing enough milk, lactation support via supplementation or tube feeding may be required.

Monitoring the Health of the Litter

Check for signs of malnutrition or dehydration in the puppies or kittens. Weak or lethargic newborns should be immediately examined by a veterinarian.

Recovery of the Mother

Postpartum Examination

The mother should be examined for signs of complications such as mastitis, uterine infections, or eclampsia.

Nutritional Support

The mother's nutrition should be monitored closely to support lactation, and appropriate foods should be provided (*Postpartum Care in Dogs and Cats - Management and Nutrition*, n.d.).

VII. CONCLUSION

Veterinary care during pregnancy is essential for ensuring the health and safety of both the mother and her offspring. In conclusion, successful pregnancy management in pets requires a comprehensive approach that includes diligent prenatal care, accurate diagnostics, careful monitoring during labour, and attentive postpartum support. From the initial health assessments and nutrition management to the timely detection of complications like dystocia or pregnancy toxaemia, each step is crucial for ensuring the well-being of both the mother and her offspring. Veterinary intervention plays a key role in preventing and addressing potential health issues, helping to safeguard the pregnancy and support a smooth delivery. By recognizing the signs of potential complications early, pet owners and veterinarians can work together to ensure the best possible outcome for both the mother and her puppies or kittens. Postpartum care, including ensuring proper lactation and monitoring for any health complications, is equally vital for the recovery of the mother and the optimal development of the litter. By integrating these essential care practices, pet owners can greatly enhance the chances of a healthy, successful pregnancy and the long-

term health of both the mother and her puppies.

VIII. REFERENCES

Arnold Arluke, P. (2002). WSAVA 2002 Congress. *VIN.com*. https://www.vin.com/apputil/content/defaultadv1.aspx?meta=&pId=11147&id=3846292

Can Pets and Pregnancy Go Together? | The Pursuit | University of Michigan School of Public Health | Pregnancy | Child Health | Maternal Health | Infectious Disease | Health Informatics | Health for Women | Vaccines. (n.d.). Sph.umich.edu. https://sph.umich.edu/pursuit/2019posts/pets-and-pregnancy-012419.html

Concannon, P. W. (2000, January 1). *Canine Pregnancy: Predicting Parturition and Timing Events of Gestation*. https://www.researchgate.net/publication/237260118_Canine_Pregnancy_Predicting_Parturition_and_Timing_Events_of_Gestation

Davidson, A. P., & Cain, J. W. (2023). Canine Pregnancy, Eutocia, and Dystocia. *Veterinary Clinics of North America-Small Animal Practice*, *53*(5), 1099–1121. https://doi.org/10.1016/j.cvsm.2023.05.004

Fusi, J., & Veronesi, MC. (2022). Canine parturition: what is known about the hormonal setting? *Domestic Animal Endocrinology*, *78*, 106687. https://doi.org/10.1016/j.domaniend.2021.106687

Kim, Y., Travis, A. J., & Meyers-Wallen, V. N. (2007). Parturition prediction and timing of canine pregnancy. *Theriogenology*, *68*(8), 1177–1182. https://doi.org/10.1016/j.theriogenology.2007.08.018

Management of Pregnant and Neonatal Dogs, Cats, and Exotic Pets. (2012). In *Wiley eBooks*. Wiley. https://doi.org/10.1002/9781118997215

Postpartum Care in Dogs and Cats - Management and Nutrition. (n.d.). MSD Veterinary Manual. https://www.msdvetmanual.com/management-and-nutrition/management-of-reproduction-dogs-and-cats/postpartum-care-in-dogs-and-cats

Root Kustritz, M. V. (2005). Pregnancy diagnosis and abnormalities of pregnancy in the dog. *Theriogenology*, *64*(3), 755–765. https://doi.org/10.1016/j.theriogenology.2005.05.024

Smith, F. O. (2011). Prenatal Care of the Bitch and Queen. *Small Animal Pediatrics*, 1–10. https://doi.org/10.1016/b978-1-4160-4889-3.00001-2

VetFolio. (n.d.). Www.vetfolio.com. https://www.vetfolio.com/learn/article/canine-dystocia-medical-and-surgical-management

Cite this article:

Diksha Upreti, Renu Sharma, Siraj Ansari, Manish Solanki, Bharti Rana. (2025). Veterinary care for pregnant pets: best practices and key concerns. Vet Farm Frontier, 02(02), 74–78. https://doi.org/10.5281/zenodo.15014420