

## Oviduct and uterine pathology

If a bitch is bred with quality semen at the appropriate time based on progesterone testing, and is not pregnant based on ultrasound at 4 weeks post-ovulation, **AND** nothing in her history or on physical examination suggests a cause for her infertility, a surgical breeding at her next cycle or surgically obtained uterine cultures and biopsies should be considered. This is recommended only **IF** the breeder is committed to achieving a pregnancy. The procedures are invasive, require general anesthesia and cannot be combined. Surgical breeding may lead to a pregnancy. Surgical biopsy may provide a prognosis and diagnosis. If surgical breeding with good semen and good timing is unsuccessful, surgical biopsy at the end of diestrus should be done to determine the cause. The decision is made by the client in consultation with the veterinarian and is influenced by the age of the bitch, availability of high quality but replenishable semen, previous attempts to breed, and the way that the client makes decisions.

There are no practical procedures for detecting or treating oviduct patency in dogs. Scar tissue or inflammation may obstruct the oviduct, preventing fertilization and passage of the fertilized ova into the uterus. Endometritis, inflammation of the uterus, does not allow for implantation and fetal development. Cystic endometrial hyperplasia, if advanced enough, does not allow adequate surface area for implantation and fetal development to occur. Although these conditions can be diagnosed by uterine biopsy, the changes cannot be reversed with treatments available at this time.

Sometimes the biopsy results are only helpful for prognosis. The endometrial changes may be so severe that pregnancy is impossible and the best option is to stop trying. Sometimes the changes are reversible, and sometimes the prognosis is good because there is no pathology.

Uterine biopsy for histopathology and culture (aerobic, anaerobic, and mycoplasma/ureaplasma) can provide invaluable information. Infectious endometritis is a treatable cause of infertility. Some bitches have become pregnant on the subsequent estrous cycle using appropriately selected antibiotics.

Uterine biopsy should **NOT** be attempted at the same time as a surgical breeding because of the associated inflammation. If a metropathy is suspected or confirmed at c-section, uterine biopsy, molecular pathology, and culture with histopathology and placental histopathology can be a useful service to offer the client.

The ideal time for uterine biopsies is near the time the bitch would whelp, 60 days after ovulation, if she is pregnant. This is the time of maximal progesterone influence, which should produce the greatest pathological changes in the uterus.

