ESTROUS TIMING FOR ARTIFICIAL INSEMINATION

The procedure we use for timing the bitch for artificial insemination relies on serum progesterone. If the bitch shows the average length of estrus and is proven, we normally wait until the 6th or 7th day of estrus (day one being the first appearance of red vaginal discharge) to start the progesterone testing. If the bitch's progesterone is still at baseline (less than 1.8 ng), we skip a day to do the next blood draw. Once the bitch rises to 2.0 ng, daily serum progesterone is run until the level rises to 5.0 ng. After the level reaches at or close to 5.0 ng, we run another test the next day to confirm the rise indicating ovulation, this should be at least 3 ng in a 24 hour period. The most accurate test for progesterone is the numeric level report. We do not recommend the in-house color tests, because the interpretation of results may not be very accurate. Once we can determine ovulation date, we plan the breeding(s) as follows:

If vaginal inseminations are used, usually two AI's are performed. The first AI we do two days following the point when the progesterone is at 5.0 ng, then the second AI four days following the point where the level is at 5.0 ng.

If Transcervical insemination is used, the timing will be determined by the type of semen that will be used. For Frozen semen, we would recommend two TCI procedures, one on day 3 post ovulation and a follow up on day 4 post ovulation. If only one TCI is being done, we would shoot for 3½ days post ovulation if possible. If fresh chilled or fresh semen is being used, we would recommend the same timing of 3 and 4 days post ovulation, however, the procedure can be started on day 2 post ovulation since the semen will live longer than frozen would. If only one TCI is planned, we would recommend day 3 post ovulation.

If surgical insemination is used, the AI is done 72 hours, or on the third day, following the rise to 5.0 ng. Make sure to confirm ovulation, testing past 5.0 ng to see the rise indicating ovulation.

(If the progesterone is above 5.0 ng when the first test is performed, the breeding should be done when the bitch is at 20+ nanograms, plus or minus 3-4 ng. If you miss the window at 5.0 nanograms, then you would hope to catch her at between 9 and 12 nanograms the day prior to breeding. The progesterone level should be within the prime breeding time. Typically, after ovulation, the progesterone level will rise at 3+ ng per day or more. Levels of the high 20’s or even 30 on the day of insemination is not uncommon.)
SURGICAL INSEMINATION

The following protocol is used by ICSB associated veterinarians. The veterinarians with whom we work usually start with a preanesthetic, followed by gas anesthesia during the surgical phase of this procedure. Once the bitch is anesthetized, the general procedure used is as follows:

After sterilizing the abdominal area, a midline incision is made just below the umbilicus; the uterus is located and brought to the surface. The insemination is performed using a 2 inch, 22 gauge indwelling catheter. Usually, 2.0 ml of thawed semen is injected, using one of the two following procedures:

Just anterior to the bifurcation of the uterine horns, the catheter is inserted into each horn, discharging one half of the semen. Once the catheter is in place, the trocar is removed. Move the cannula back and forth to be sure the cannula is in the lumen of the horn. If it won't slide easily, then it may not be in the lumen. Another approach is to insert the catheter into the body of the uterus close to the bifurcation and inject all the semen at this one site. The posterior portion of the uterine body should be gently constricted so the semen will be forced anteriorly toward the oviducts. Once the semen is discharged into either the uterus or uterine horns, the catheter is removed. Any bleeding can usually be stopped by gentle pressure at the catheter insertion site. Antibiotic solution can be sprayed on the uterus and around the incision, if desired. The uterus is then placed back in the abdominal cavity, then normal closure performed.

Occasionally, due to the high hormone levels in the bitch at the time of surgery, this will result in slow blood clotting/healing, so it is recommended that the bitch owner be apprised of the possibility of a serous discharge at the incision site may require further veterinary care.

Generally if a bitch is under 6 years of age and has no history of reproductive issues, we recommend the Transcervical insemination (TCI). If a bitch is over 6 years of age, or has history of short cycles, missed breedings, hormonal inconsistencies, then we would recommend the surgical Implant.

Advantages of TCI procedure:
No surgery
No anesthetic
Fast
No healing time post procedure
Able to do multiple procedures
No suture reactions

Advantages of Surgical implant:
Able to see and feel tissue, uterus, ovaries, etc.
Good for bitches with abnormal anatomy - cervix not easy to catheterize