

# CANINE REPRODUCTION

## INTRODUCTION

Artificial Insemination (AI) with Canine Semen has many advantages over a natural mating, and here at Bomaderry Veterinary Hospital (BVH) we are able to perform all forms of AI.

AI allows you to :

- Use Fresh, Chilled or Frozen semen.
- Use Semen without the Stud dog being physically present, for instance, if the dog is from far away, or even overseas.
- Diversify and improve your genetic breeding lines.
- Improve the Semen quality with an Extender if the original sample is of poor quality or concentration.
- Most importantly AI places the Semen in a better anatomical place in the Bitch's reproductive tract.

When we perform AI the three most important determinants of success are the Timing of Insemination, the Quality of the Semen, and the site of Semen Deposition.

## TIMING OF INSEMINATION

We have an In-House Progesterone assay machine which gives us a 15 minute, turn-around time on samples, 7days a week.

This allows us to accurately monitor your Bitches Progesterone levels and so predict the best time to perform an AI.

It also allows you to then know accurately when she will whelp.

Progesterone testing can also be done during pregnancy if there is a worry of pregnancy loss.

We also routinely use Prog testing to choose the best time for a Caesarian.

## **SEMEN QUALITY**

We use an I-Sperm machine in the Hospital to check the quality of the Stud Dog's Semen. The machine reports and records the Concentration, Motility and Progression of the Sperm in the collected sample.

You can see all of this on the I-Pad screen at the time of collection.

We recommend that you get a Stud Dog checked before the time of AI in case he isn't producing well, so as to allow you to change to another dog if necessary.

Pre Checking the Stud Dog also helps Dogs that haven't been used for some time, by getting rid of a "Rusty Load", and allowing newer fresh sperm to come through.

**Fresh semen** has the best and longest viability and can survive upto 6-7days in the Bitch's reproductive tract.

**Chilled Semen** is able to survive upto 4days from collection by use of an Extender, which allows you to use Semen from a Stud dog that is hundreds of km's away.

**Frozen Semen** can be stored in our Liquid Nitrogen tank at -190°C indefinitely but once thawed will only be viable for less than 24hrs, so timing and semen quality is crucial.

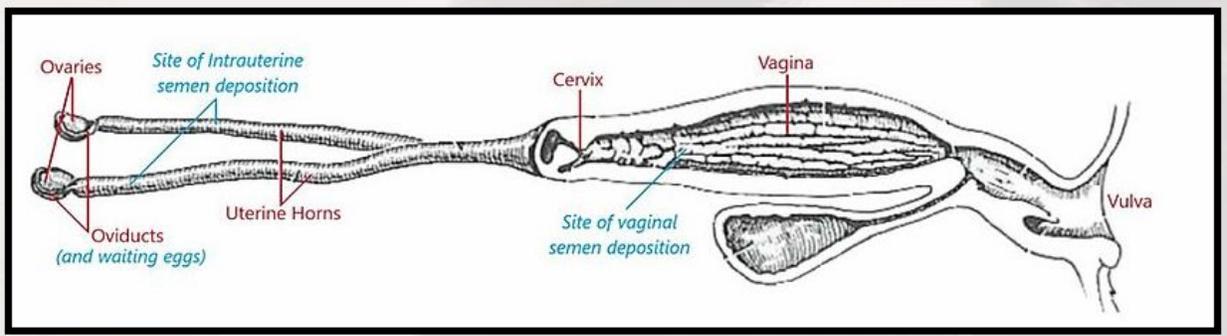
## **SITE OF SEMEN DEPOSITION**

### **Vaginal Insemination**

In most cases, we use special STIP catheters to place the Semen high into the Bitch's Vagina.

We can also use a Catheter Shunt to facilitate this, which has the advantage of mimicking the swelling of the Stud Dog's penis inside the Bitch's Vagina, and thus stimulating vaginal contractions to help push the Semen towards the Bitch's eggs.

Vaginal Insemination is non-invasive, quick and easy, and thus cheap, and it gives very acceptable results when using high-quality Semen.



**Uterine Insemination**

When samples are poor or very expensive we use direct insemination into the Uterus so as to maximise the chance of pregnancy.

**TransCervical Insemination (TCI)** is our preferred method.

TCI involves the deposition of the semen directly into the Uterus using a specially designed Endoscope which allows visualisation of the Bitch's Cervix.



A catheter is then passed through the Cervical opening, and into the Uterus. Again the Catheter Shunt stimulates contractions which help to move sperm to the eggs.



The alternative technique for Intra-Uterine transfer is by **Surgical AI**, whereby the Bitch is given a full General Anaesthesia and Open Laparotomy to allow AI.

We only do this when using Frozen Semen of poor quality and TCI has not been successful. In this case, the Semen must be used immediately and a Vaginal AI would not succeed, so Surgical AI is a last resort option.

It is now banned for ethical reasons in many European countries.

### **ADVANTAGES OF TCI**

- TCI is done on conscious dogs
- NO Anaesthesia - TCI does not need surgery
- NON-Invasive - TCI is quick - the Bitch walks out of the room within 5-20minutes
- TCI is low stress - the Bitch's are in Standing Heat so readily accept the procedure
- TCI is adaptable - Fresh, Chilled or Frozen all work well. - TCI is the ideal insemination site
- Sperm is deposited directly into the Uterus
- TCI is repeatable - if using poor quality Semen we can repeat the TCI on consecutive days
- TCI is cheaper than a Surgical AI both in Dollar \$\$ and in terms of time & stress.