

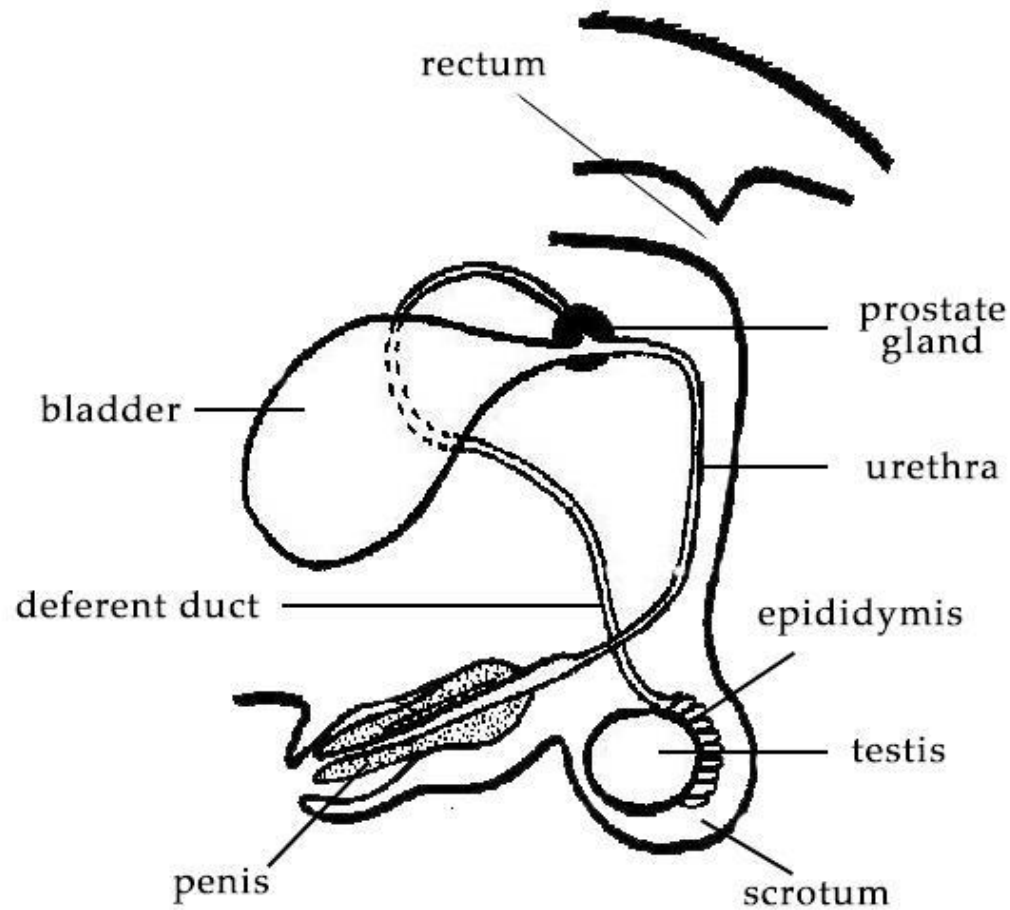
Artificial Insemination

Insemination of dogs

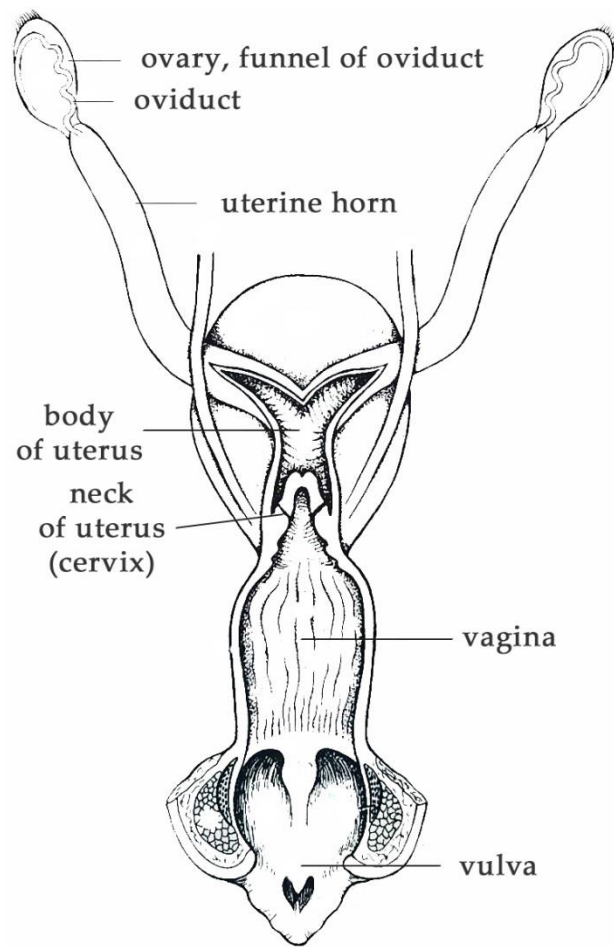




Anatomy of genitals of dogs - Male's genitals

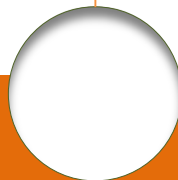


Anatomy of genitals of dogs - Female's genitals



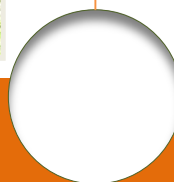
Conditions for success of artificial insemination

1. **Quality of sperm**
2. **Female fertility, health condition**
3. **Insemination carried out in optimal heat season**
4. **Place of sperm insertion and insemination technique**
5. **Taking care of female after intervention**



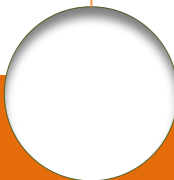
Timing of insemination

- Sperm vitality in female genital tract
 - natural: 2 up to 6 days
 - chilled: 1 up to 3 days
 - frozen: 12 up to 24 hours



Timing of insemination

- Insemination with frozen semen - at the end of the 2nd day or at the beginning of the 3rd day after ovulation
- Oocytes are capable of fertilization 72 - 200 hours after ovulation (closure of cervix - barrier is overcome using intrauterine insertion)
- According to number of ovulating follicles – corpus luteum - progesterone usually over 20 - 25 ng/ml



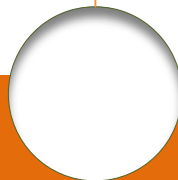
Artificial insemination

- **Insertion of semen**
 - vagina
 - uterus :body, horns
 - oviduct
- **Natural vs. chilled vs. frozen semen**



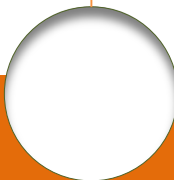
Artificial insemination

- The closer to the place of fertilization the sperm insertion is the less sperms we need
- Insemination dose (ID)
 - uteral artificial insemination - min. 100 mil. morfologically normal and after defrosting mobile sperms
 - vaginal artificial insemination - min. 200 mil. normal and mobile sperms
- Cubic capacity of ID depends on the place of semen insertion
 - vagina - 2 to 5 ml
 - uterus max. 2 ml
 - oviduct - 0.02 ml



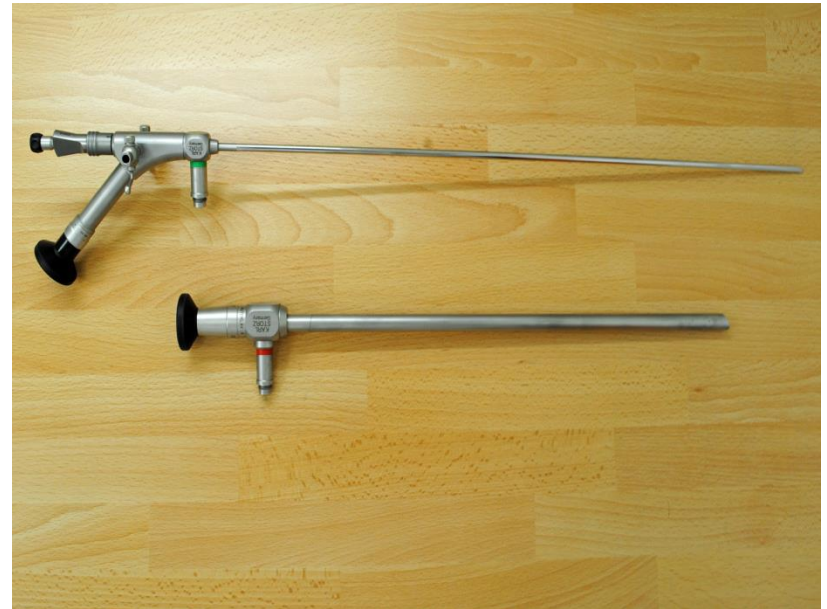
Vaginal insemination - success

- Is lower than at natural fertilization
- Reason:
 - probably the differences in the place of insertion
 - differences in stimulation of contractions of female genital tract
 - differences in cubic capacity and quality of sperm
- At natural fertilization penis and bulbus of penis prevent reverse discharge of a big amount of semen
- Tying up stimulates contractions of vagina, uterus and oviduct – due to suction of semen at artificial insemination this mechanism is reduced or completely missing



Intrauterine insemination of female

- Worse quality of insemination dose
- Frozen ejaculate
- Repeated failure in female fertilization

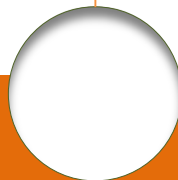


Sonographic pictures



TYPE OF SPERM	PREGNANCY (%)		NUMBER OF PUPPIES	
	Insemination into vagina	Insemination into uterus	Insemination into vagina	Insemination into uterus
Fresh	47.8	65.2	5.8 ± 2.8	6.5 ± 2.5
Chilled	45.1	65.6	5.8 ± 3.0	6.4 ± 3.2
Frozen	34.6	52.0	4.7 ± 2.6	5.0 ± 3.2

C. Linde-Forsberg (www.ivis.org)



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