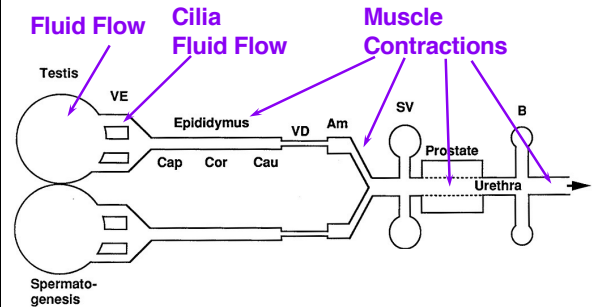


Animal Science 434

Gamete Transport

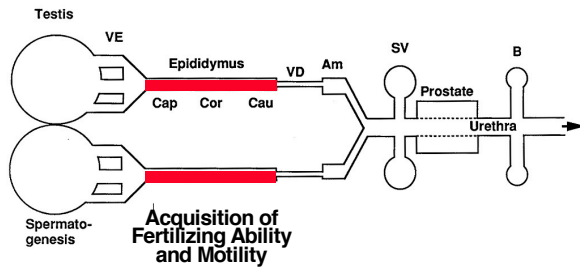
1

Sperm Transport in the Male Tract



2

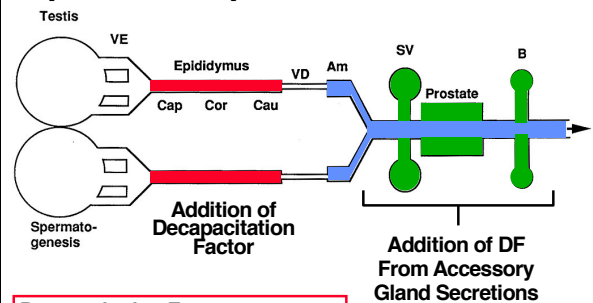
Sperm Transport in the Male Tract



- No protein synthetic ability
- addition or loss of plasma membrane proteins and lipids
- redistribution of proteins and lipids within sperm
- changes in lipid diffusion coefficients

3

Sperm Transport in the Male Tract



- Decapacitation Factor
- protein, glycolipid and/or lipid
- stabilizes the plasma membrane

4

Site of Ejaculation

Site of ejaculation	Semen Characteristics	Species
Vagina	slight coagulation of ejaculate	human, rabbit
vagina	semen with high sperm concentration	cattle, sheep
uterus	voluminous, distention of cervix	horse
cervix, uterus	voluminous, retention of penis during copulation	dog, pig
uterus	vagina plug	rodents

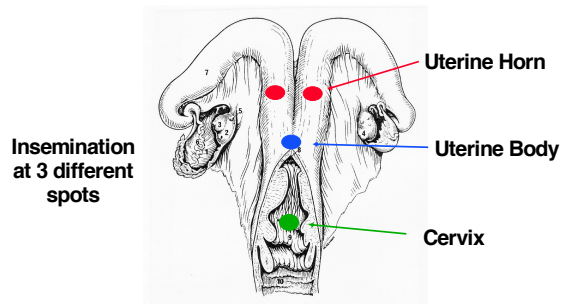
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Sperm Loss From Female Tract

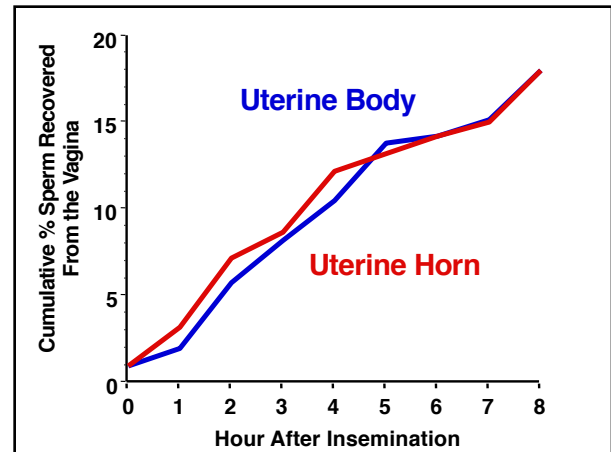
- retrograde flow
- phagocytosis by neutrophils

6

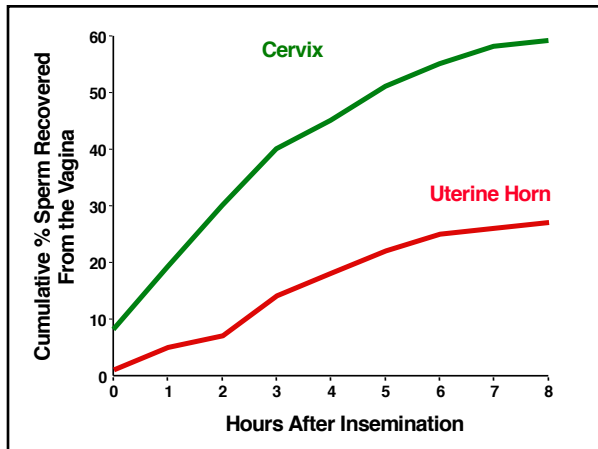
Experiment on Retrograde Flow in the Cow



7



8

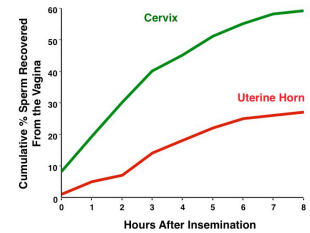


9

Assume 10 million inseminated

Uterine Horn at 8 hr
= 25% loss or 75%
retained = 7.5
million sperm
retained

Cervix at 8 hr = 60%
loss or 40% retained
= 4 million sperm
retained



10

Evolutionary Strategies for Dealing With Retrograde Flow of Semen

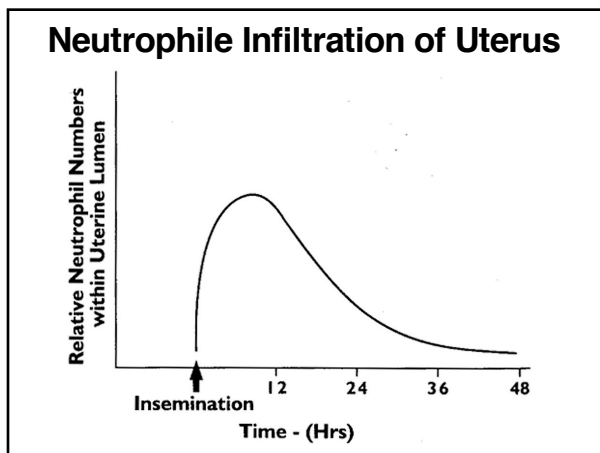
- coagulation of semen or a plug
- concentrated semen
- semen deposited in uterus

11

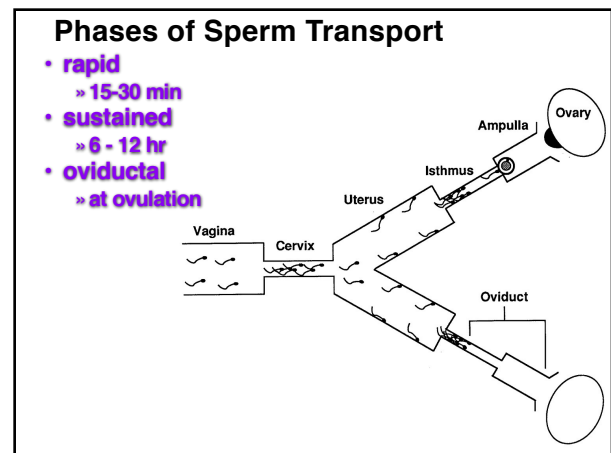
Sperm Loss From Female Tract

- retrograde flow
- phagocytosis by neutrophils

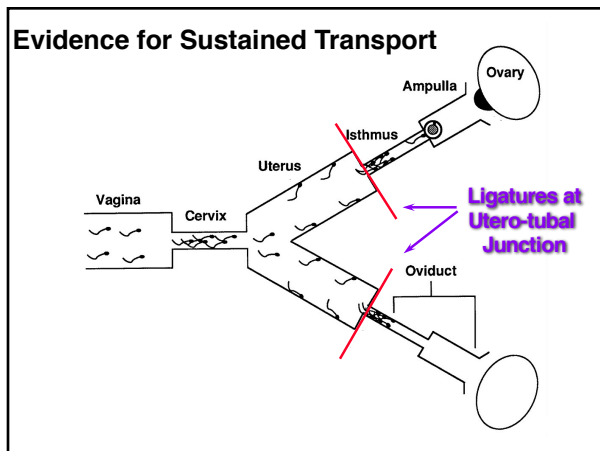
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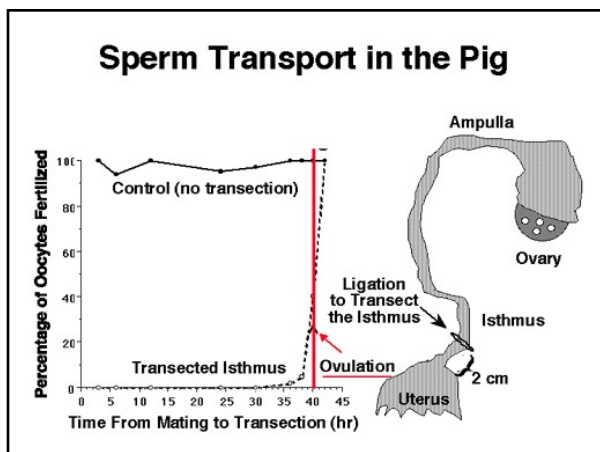
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Effect of Oviduct Transection on Fertilization in Heifers

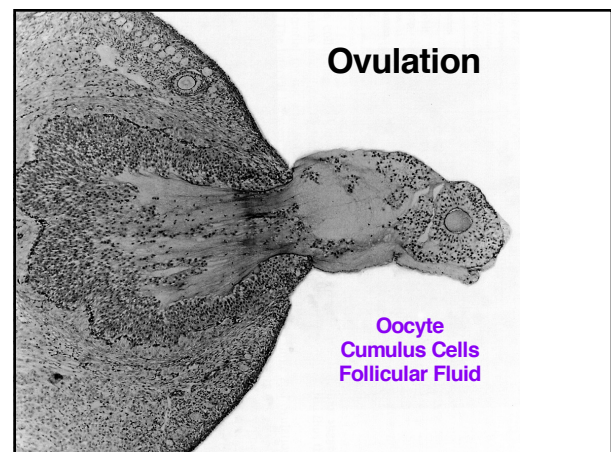
Interval from mating* to transection of UTJ	Oocytes Fertilized
6	0%
8	50%
12	83%

* Mating was done at the start of estrus.

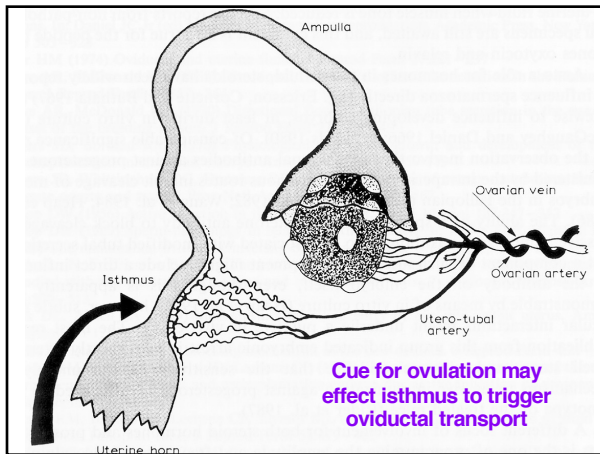
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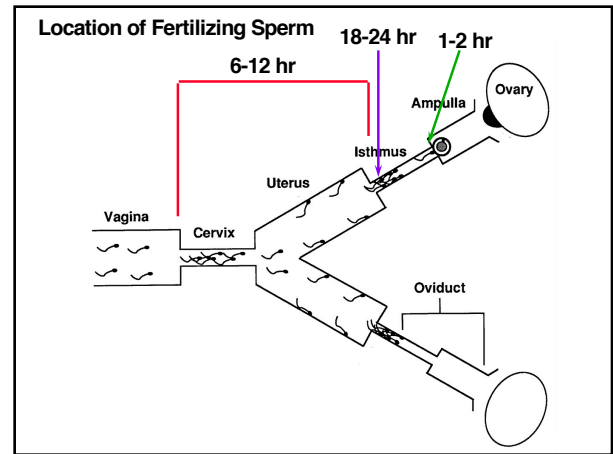
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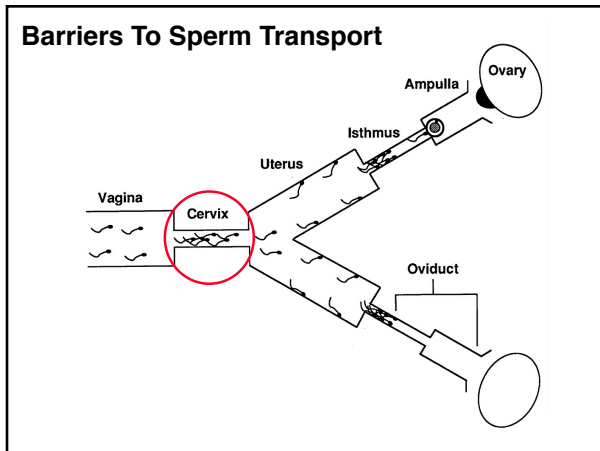
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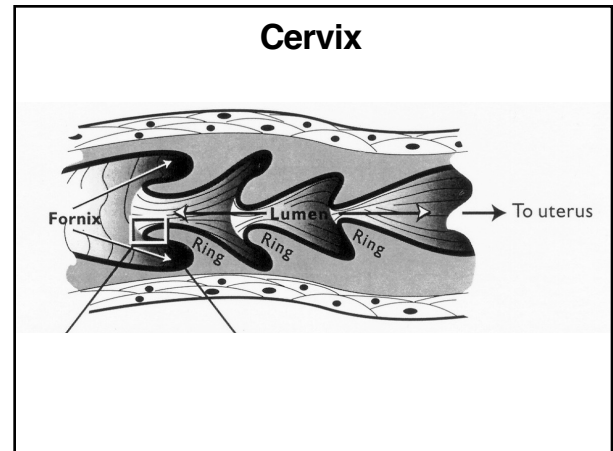
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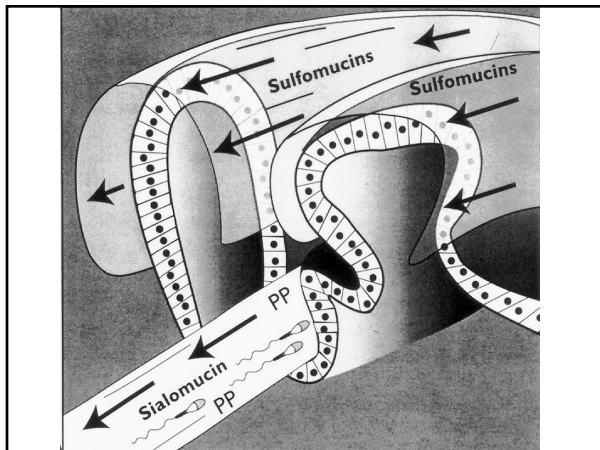
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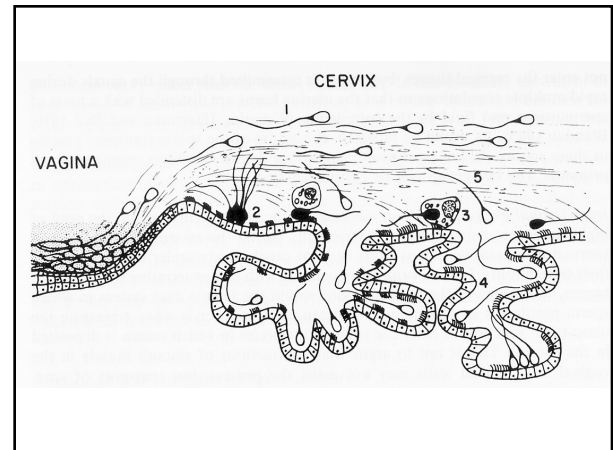
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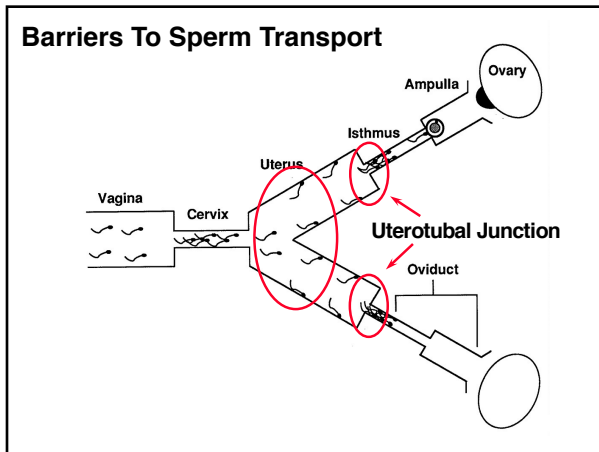
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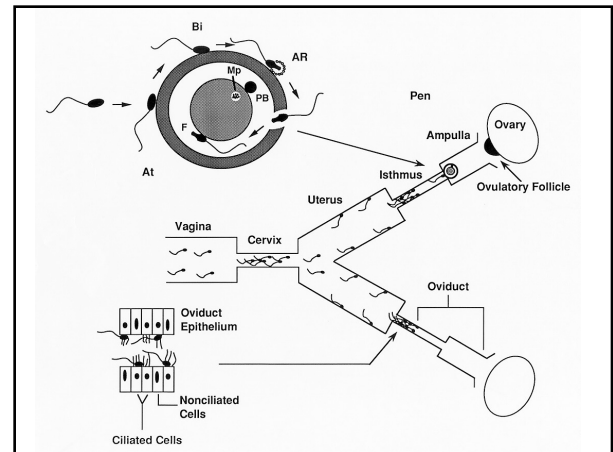
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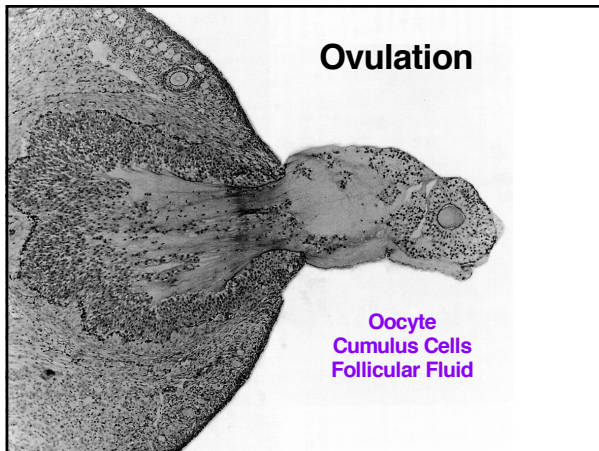
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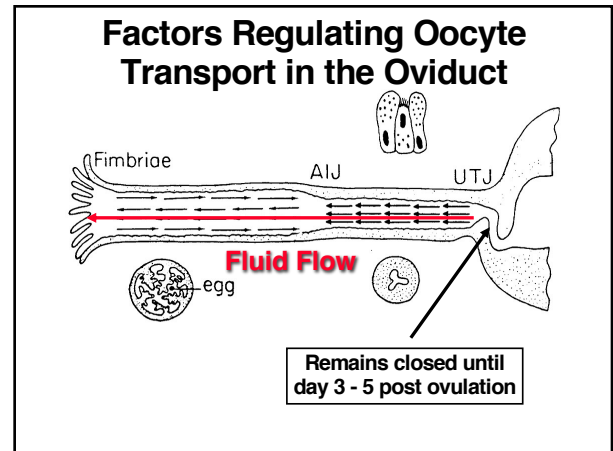
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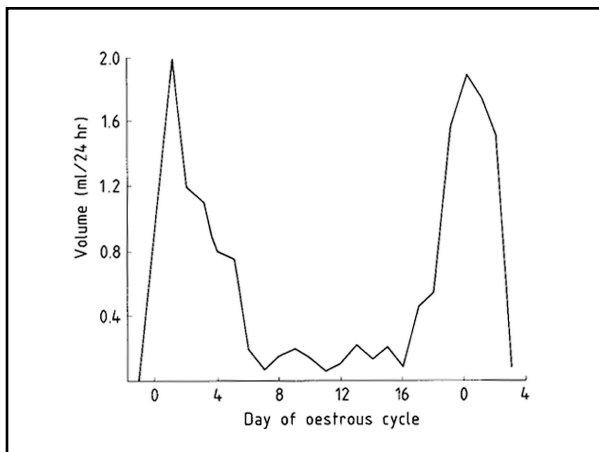
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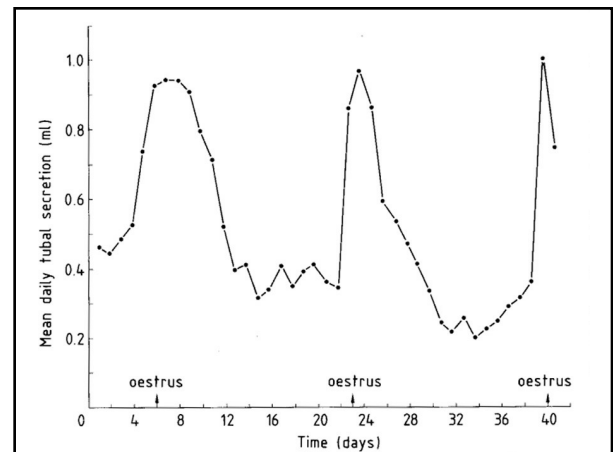
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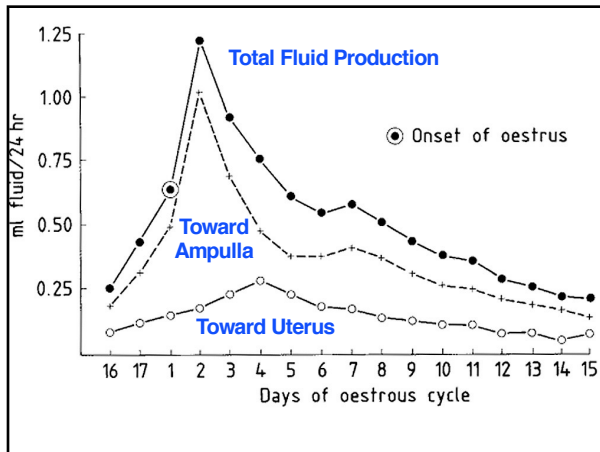
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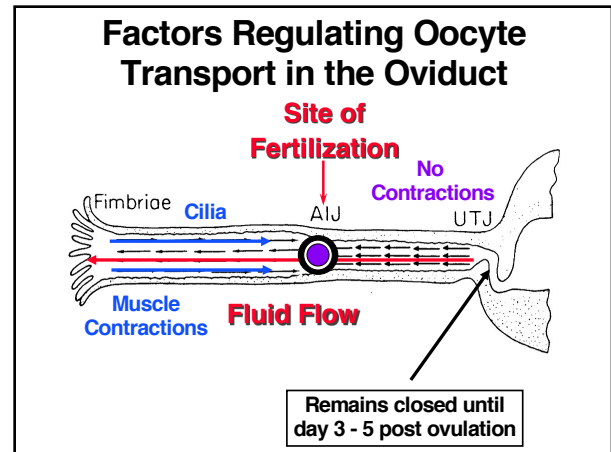
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Now view the video podcast entitled

View Video on Ovulation and Oocyte Transport

Found at:

http://www.ansci.wisc.edu/jjp1/ansci_repro/lec/lec_16_gamete_tran/ovulation_oocyte_trans.html

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