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PHARMACOLOGY

At coitus, human sperm are deposited into the anterior vagina, where, to avoid vaginal acid and immune

responses, they quickly contact cervical mucus and enter the cervix. Cervical mucus filters out sperm with poor

morphology and motility and as such only a minority of ejaculated sperm actually enter the cervix. In the uterus,

muscular contractions may enhance passage of sperm through the uterine cavity. A few thousand sperm swim

through the uterotubal junctions to reach the Fallopian tubes (uterine tubes, oviducts) where sperm are stored in a

reservoir, or at least maintained in a fertile state, by interacting with endosalpingeal (oviductal) epithelium. As the

time of ovulation approaches, sperm become capacitated and hyperactivated, which enables them to proceed

towards the tubal ampulla. Sperm may be guided to the oocyte by a combination of thermotaxis and chemotaxis.

Motility hyperactivation assists sperm in penetrating mucus in the tubes and the cumulus oophorus and zona

pellucida of the oocyte, so that they may finally fuse with the oocyte plasma membrane. Knowledge of the biology

of sperm transport can inspire improvements in artificial insemination, IVF, the diagnosis of infertility and the

development of contraceptives