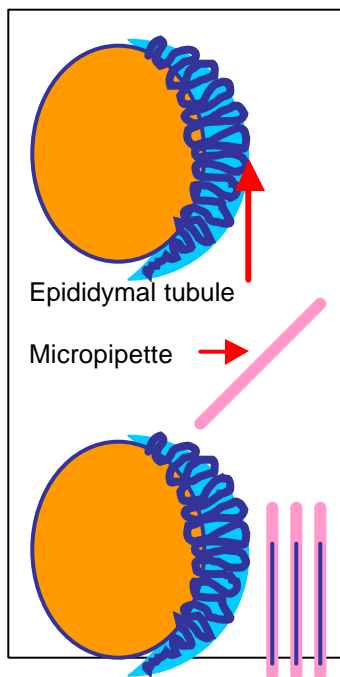


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MESA



MESA or microsurgical epididymal sperm extraction refers to a surgical procedure designed to extract sperm directly from the epididymis for use in an IVF cycle. MESA is most often performed in individuals with no sperm in their ejaculate due to a blockage in the epididymis or vas deferens. The blockage might have resulted from previous hernia repair or vasectomy; from epididymitis or orchitis; or from a condition known as congenital absence of the vas deferens in which a portion of the male reproductive tube is missing.

In the procedure, dilated epididymal tubules are exposed with the assistance of the operating microscope. Several tubules are selected and then punctured with specially designed micropipettes attached to an aspiration device. Each micropipette will hold approximately 20 million sperm. Therefore, approximately 100 to 150 million sperm can be collected and cryopreserved from one aspiration attempt. These pipettes are cryopreserved for later use in an IVF/ICSI cycle.

The advantages of the microsurgical epididymal sperm aspiration compared to a percutaneous biopsy are 1) large numbers of sperm obviate the need for future sperm retrieval techniques, (2) less injury to the epididymis and testis, and (3) better quality specimens for cryopreservation.

Sperm retrieved from a MESA procedure are used in a procedure called ICSI or intracytoplasmic sperm injection. The sperm can be fresh or frozen. In a fresh cycle, eggs from the female partner are retrieved on the morning of the MESA procedure. The sperm retrieved in MESA are then injected directly into the mature eggs within approximately six hours of retrieval. Any remaining sperm are cryopreserved for a later cycle if necessary.

In a frozen cycle, the frozen sperm are thawed the morning of the female partner's retrieval, and then injected into her mature eggs within six hours of thaw. At most centers, fresh or frozen sperm extracted in a MESA procedure have equivalent fertilization rates.

Follow-up after MESA includes an office visit at one month to check the incisions, hormone studies at three and six months, and a scrotal sonogram at six months to check that the testes have healed.