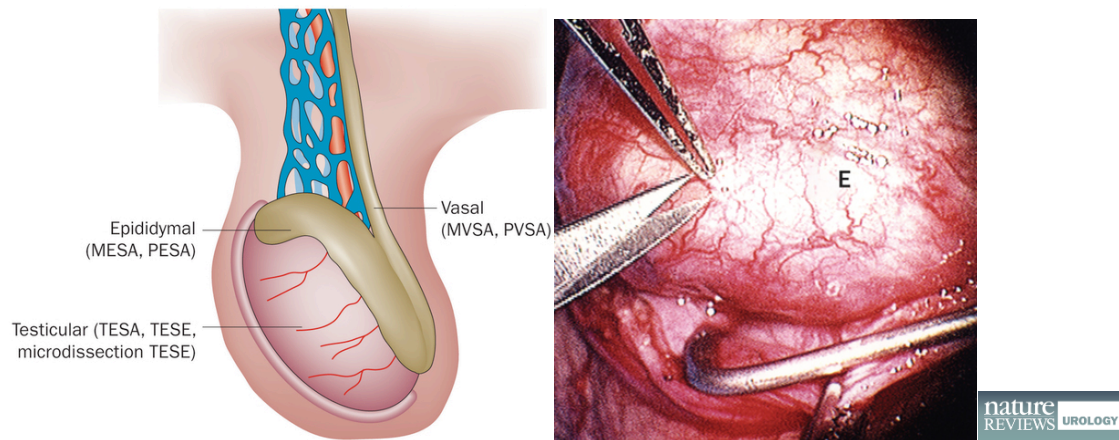




MICROSURGICAL EPIDIDYMAL SPERM ASPIRATION (MESA)

Microscopic epididymal sperm aspiration (MESA) is a technique for the procurement of sperm from the epididymis of men in whom transport of sperm from the testicle to the ejaculate is not possible because the drainage (ductal) system is absent or is not subject to reconstruction. This problem most commonly occurs in men with vasal agenesis, a condition in which the vas deferens or drainage system of the testicle fails to develop prior to birth. The obstructive problem, however, also may be acquired, such as vasectomy and vaso-epididymal obstruction from inflammation and /or infection. Epididymal and vasal obstruction may be amenable to reconstructive surgery.



When reconstruction is not possible or not desired by the couple, MESA is carried out. During MESA, sperm are directly aspirated from a single, isolated epididymal tubule until 10–20 million are obtained. The entire procedure is performed through an operating microscope. When the aspiration is completed, the epididymal tubule is closed with multiple microscopic sutures and the scrotum is closed in a routine surgical fashion. The recovery period is approximately 24 hours. Sperm, which have been aspirated, are specially processed and prepared for insemination with the wife's eggs. The procedure is routinely performed in advance of the IVF with intracytoplasmic sperm injection (ICSI) cycle so that the couple can be assured adequate sperm are extracted and available on the day of oocyte retrieval. Recent data indicate that there are no differences between fertilization and pregnancy rates when frozen rather than fresh sperm are utilized.

While the husband is being evaluated prior to the actual aspiration of sperm, the female partner is usually prepared for IVF and ICSI. The success of pregnancy from this procedure is reported to be 45%–50% in selected IVF centers. It is a complex process, requiring significant manipulation of the human gametes (eggs and sperm), but one which offers a previously sterile couple the chance of establishing a pregnancy using their own genetic material.