



Vasectomy: The Other, Better Method of Permanent Contraception

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Objectives: To Understand Evidence Based Principals to...

- Review basics of vasectomy service implementation
- Understand "no scalpel" vasectomy technique
- Discuss management of uncomplicated vasectomies



Background: Why is this Important?

- Similar probability of pregnancy
- Tubal ligation ↑ complications
- OR versus outpatient clinic
- Tubal ligation more \$\$\$
 - BTL \$1300; Vas \$500
 - Estimated annual savings - \$266 million procedures, \$13 million post-op management

Relatively higher use of female sterilization among Blacks and Latinos means:

- Minority women exposed to more health risks
- Higher cost of care



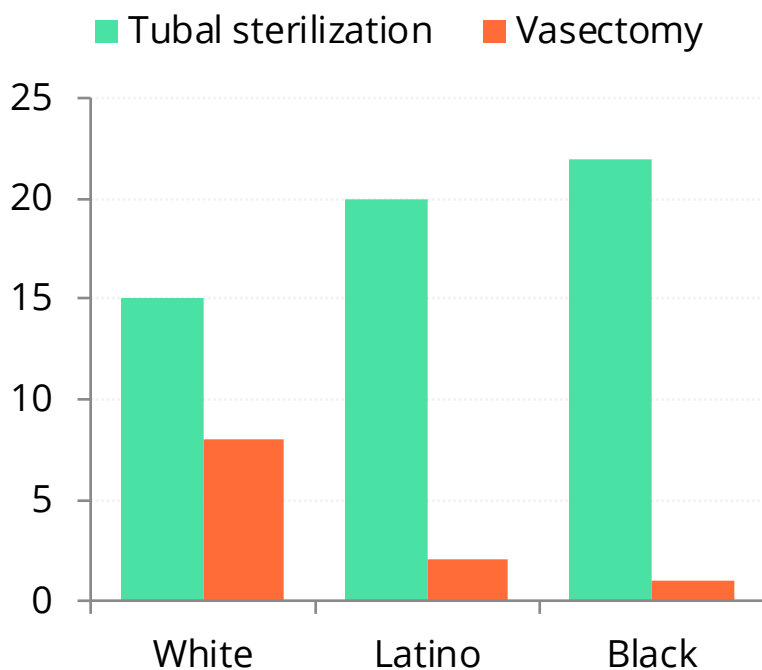
Why is female sterilization more common?

- Provider influence
- Market/insurance factors
- **Patient preference**
 - Knowledge
 - Contraceptive responsibility
 - Historical context

No studies focused on racial differences in sterilization which include male and female perspectives.

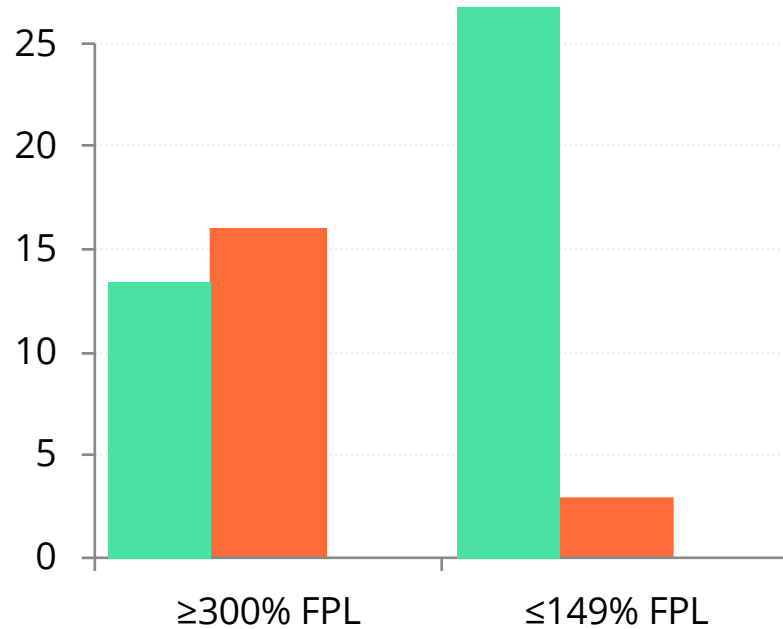
Disparities in Vasectomy Use

Race-based differences¹



1. Anderson, et al. Contraception, 2012.

Income-based differences²



2. National Survey of Family Growth, 2006-2008



Pre-Procedural Issues

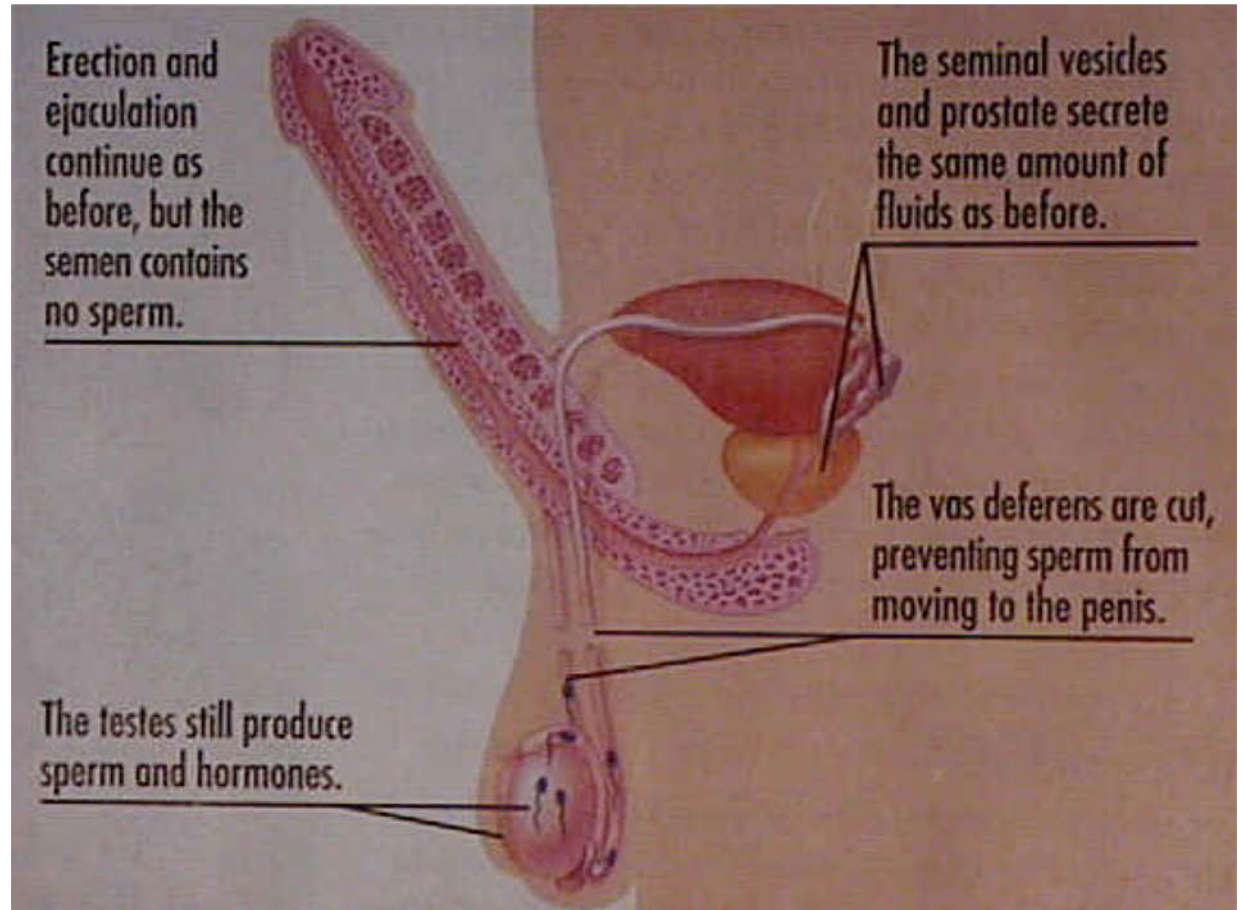


Pre-Procedure Visit

- Explain procedure, risks, and failure rate
- Perform focused history and physical exam
- Have patient sign consent form
- Review of pre- and post-operative instructions
- Billing: code as Contraceptive Counseling
- Offer Rxs:
 - Ativan 1 mg po #2
 - Hydrocodone 5 mg #10

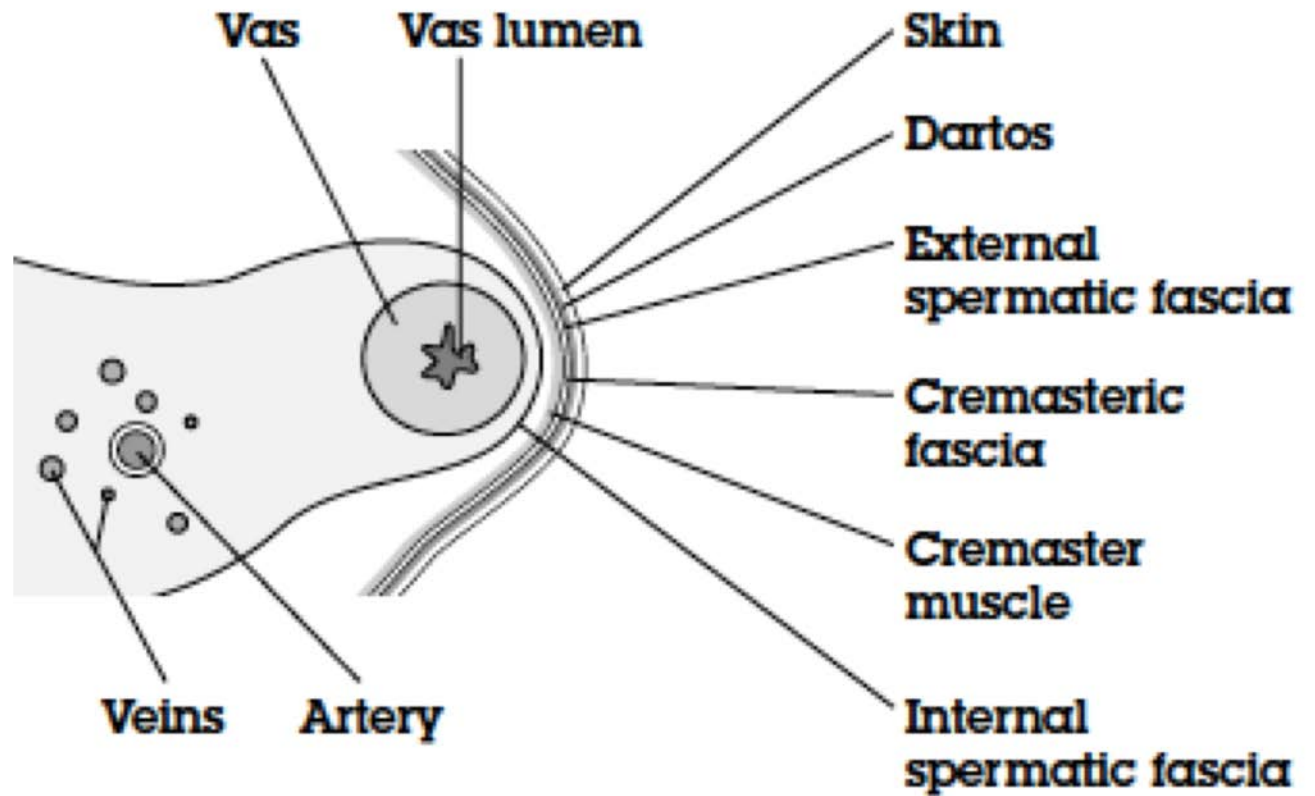


Anatomy





Vasal Anatomy





Informed Consent - Risks

- Bleeding (hematoma)
- Infection (wound, epididymitis, prostatitis)
- Pain
- Swelling
- Sperm granuloma
- Adhesions
- Hydrocele
- Pregnancy
- Regret



Precautions

- Active local or systemic infection
- Prior scrotal injury
- Coagulation disorders
- Diabetes
- Inability to palpate and elevate both vas
- Desire for possible future reversal
- Hydrocele, varicocele, hernia, cryptorchidism or mass
- Inappropriate reasons for wanting vasectomy (stress, sexual dysfunction, marital problems)



This is a Permanent and Non-Reversible Procedure

- Number of children
- Current relationship situation
- Current method of contraception
- Desire for more children if life situation changed (divorce, remarriage, death of a child or partner)



History

- Social history
 - Marital status, number of children, life situation, motives
- PMH
 - Bleeding disorders, chronic disease
 - Genital surgery, trauma, pain, STDs
- Medications
 - NSAIDs, aspirin, coumadin
- Allergies
 - Anesthetic agents, analgesics



Physical Exam

- GU
 - Testicular size, masses, location
 - Vas deferens bilaterally
 - Hernia, varicocele, hydrocele, STDs



History of No-Scalpel Vasectomy

- Developed by Dr. Li Shunqiang in Sichuan Province in 1974
- 1985 EngenderHealth's team travels to China
- International training of high-volume vasectomists
- 1987 Thailand King's Birthday Vasectomy Festival

NSV at the King's Birthday Vasectomy Festival

	NSV (n=680)	Incisional Vas (n=523)
Infection (%)	0.2	1.3
Hematoma (%)	0.3	1.7
Complications (%)	0.4	3.1
Procedures performed/day	57	33

NSV vs. Incisional

	OR for NSV outcome
Bleeding	OR 0.49 (0.27-0.89)
Hematoma	OR 0.23 (0.15-0.36)
Pain	OR 0.75 (0.61-0.93)
Infection	OR 0.21 (0.06-0.78)

Cook et al. Scalpel versus no-scalpel incision for vasectomy. Cochrane Review, 2014

fpe





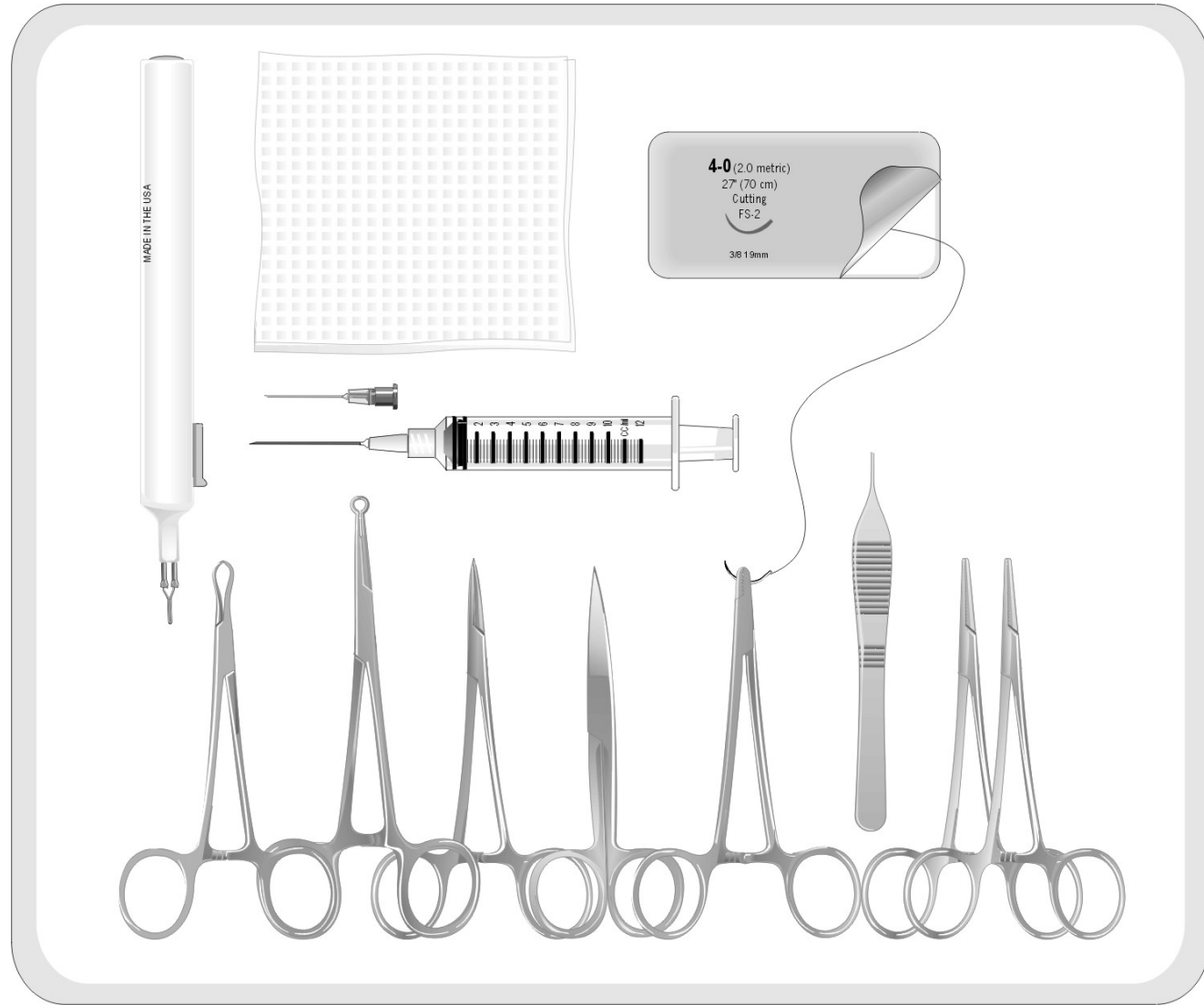
Pre-operative instructions

- Offer lorazepam 1 mg PO 20 minutes prior prn anxiety
 - Consent must be signed prior to taking ativan!
- Someone else to drive patient to and from clinic
- Bring athletic supporter or supportive underwear, wear sweat pants for comfort
- No aspirin for 7 days prior
- Remind patient that vasectomy does not produce immediate sterility



Pre-procedural preparation

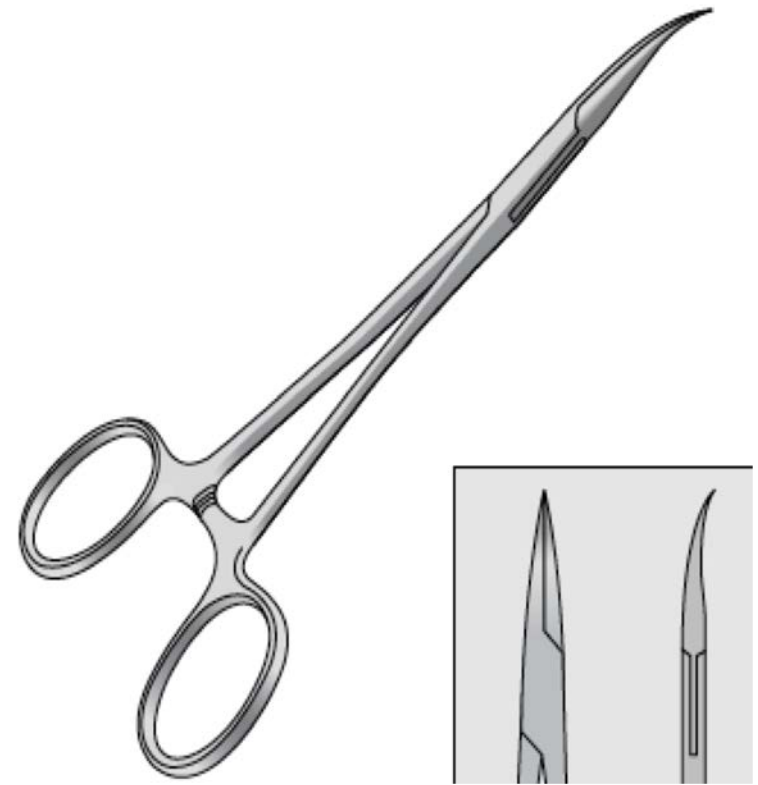
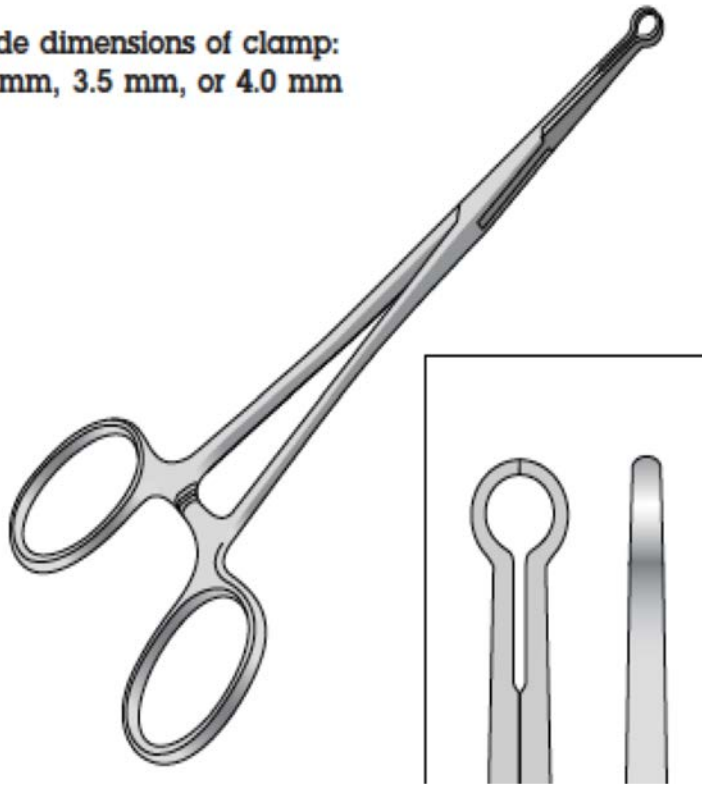
- Encourage patient to bring music
- Warm all solutions (betadine, saline)
- Place warm pack on scrotum while patient lying supine to relax cremaster muscles
- Dry shave of scrotum if needed
- Fasten penis out of the field



NSV: 2 Crucial Instruments

Ringed Clamp & Dissecting Forceps

Inside dimensions of clamp:
3.0 mm, 3.5 mm, or 4.0 mm



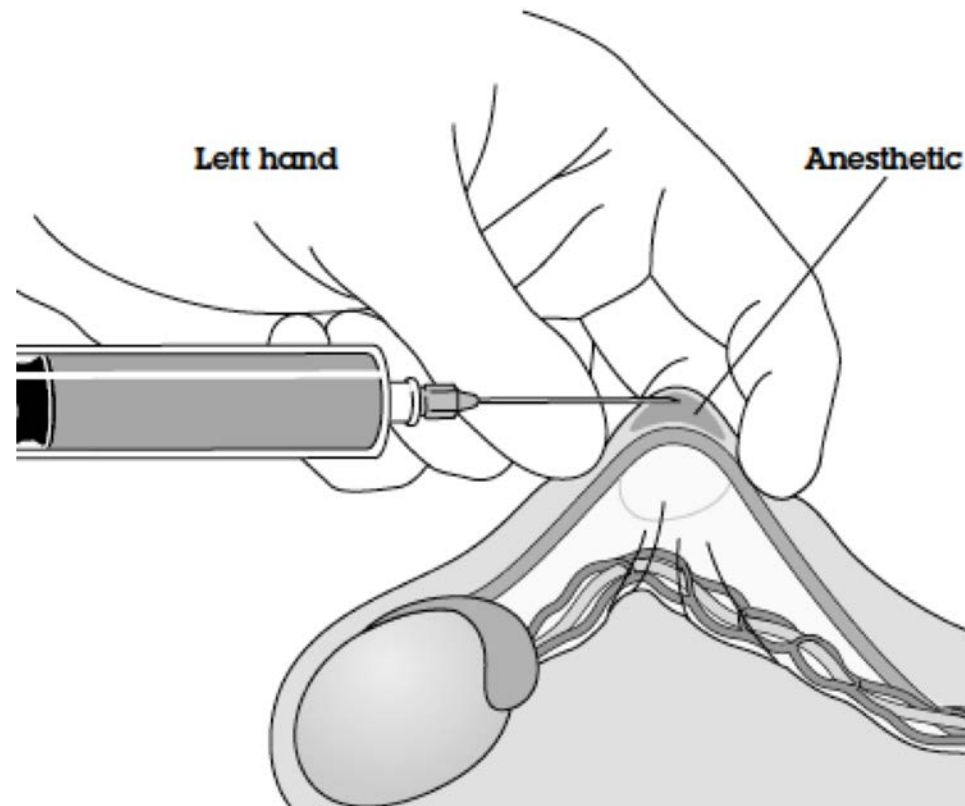


Ahh, Anesthesia

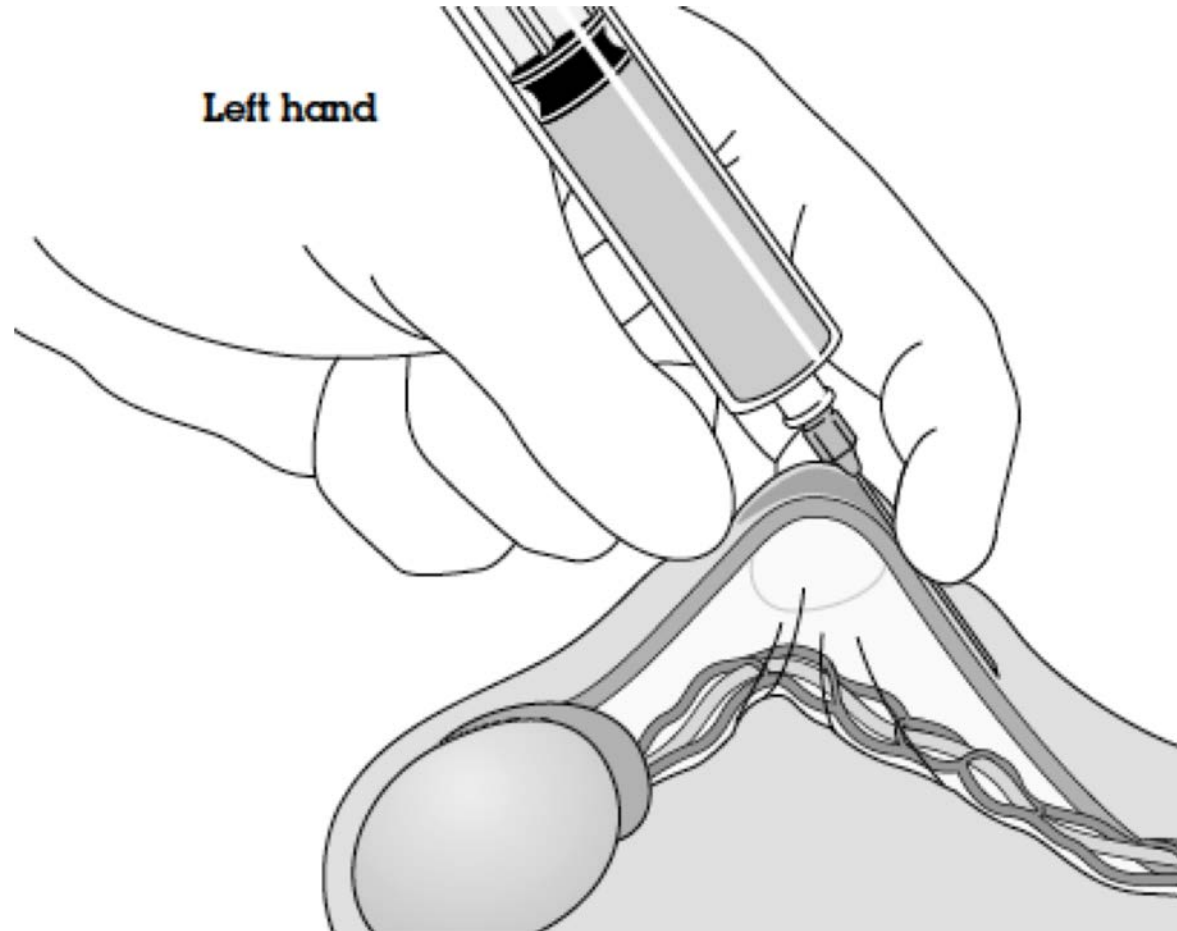
- Vasal Block
- 10 cc syringe 5-8 cc of 1% lidocaine without epi
- 0.5 cc at median raphe
- 2-3 cc in external spermatic sheath 2-3 cm proximal to the vasectomy site
- Regional block with minimal edema



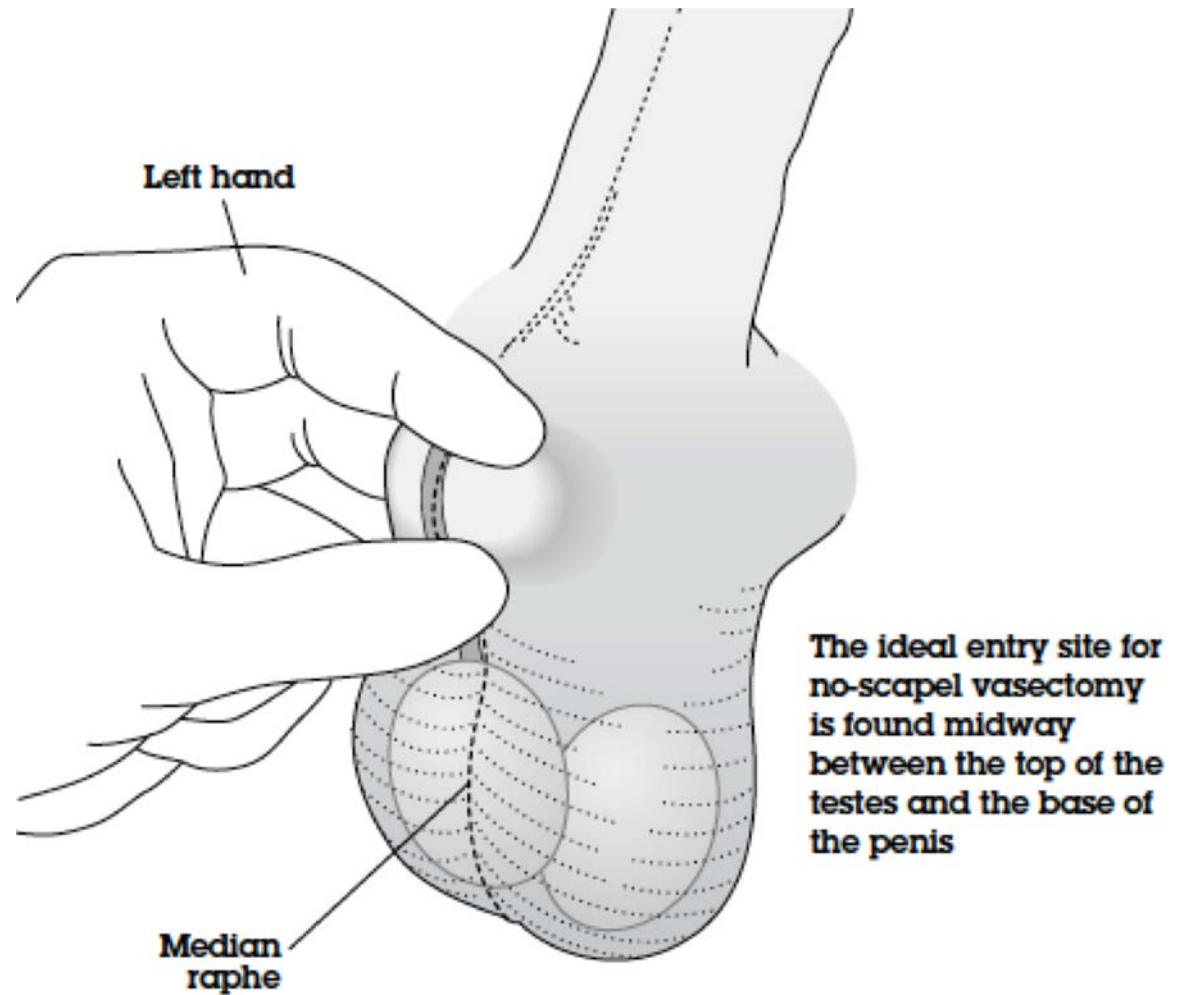
Vasal Block: Skin Wheal 0.5 cc 1% lido



Deep Injection: 2-3 cc Each Vas



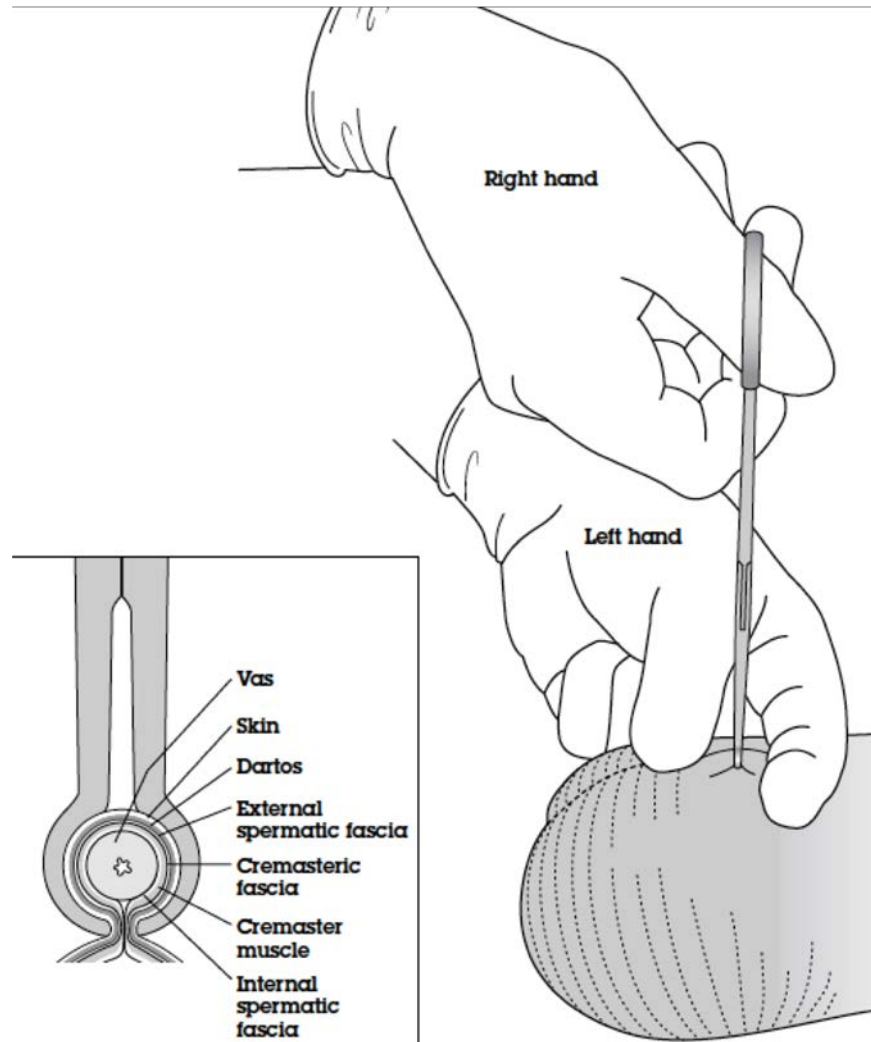
3 Finger Technique



3 Finger Technique

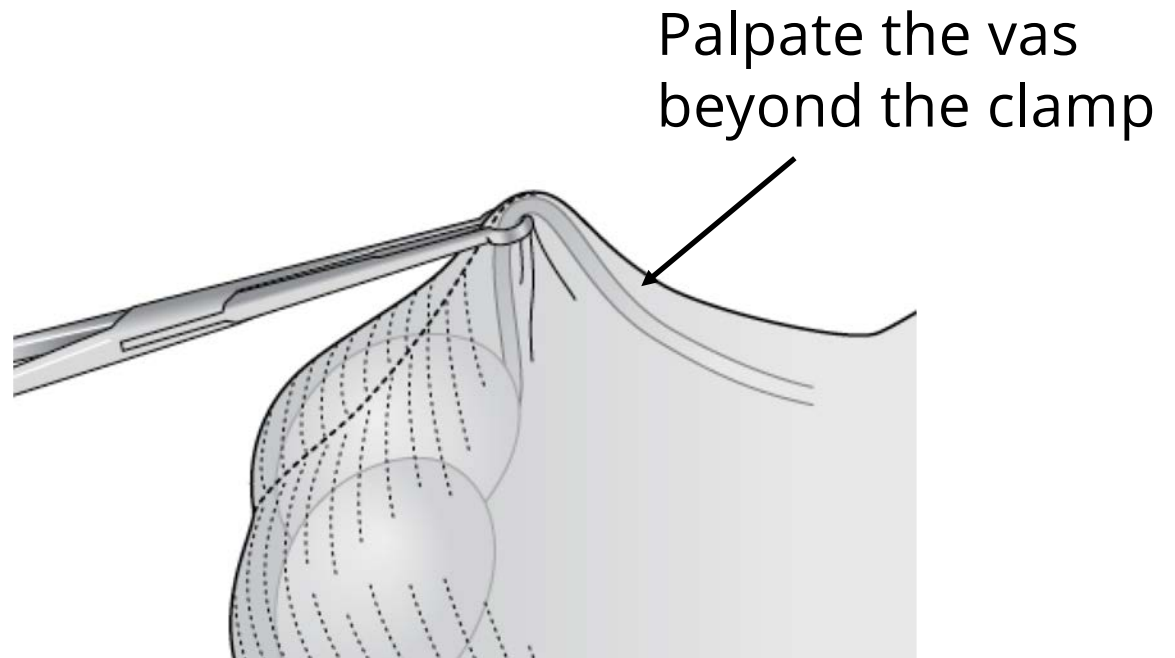


http://www.cornellurology.com/infertility/no_needle.shtml

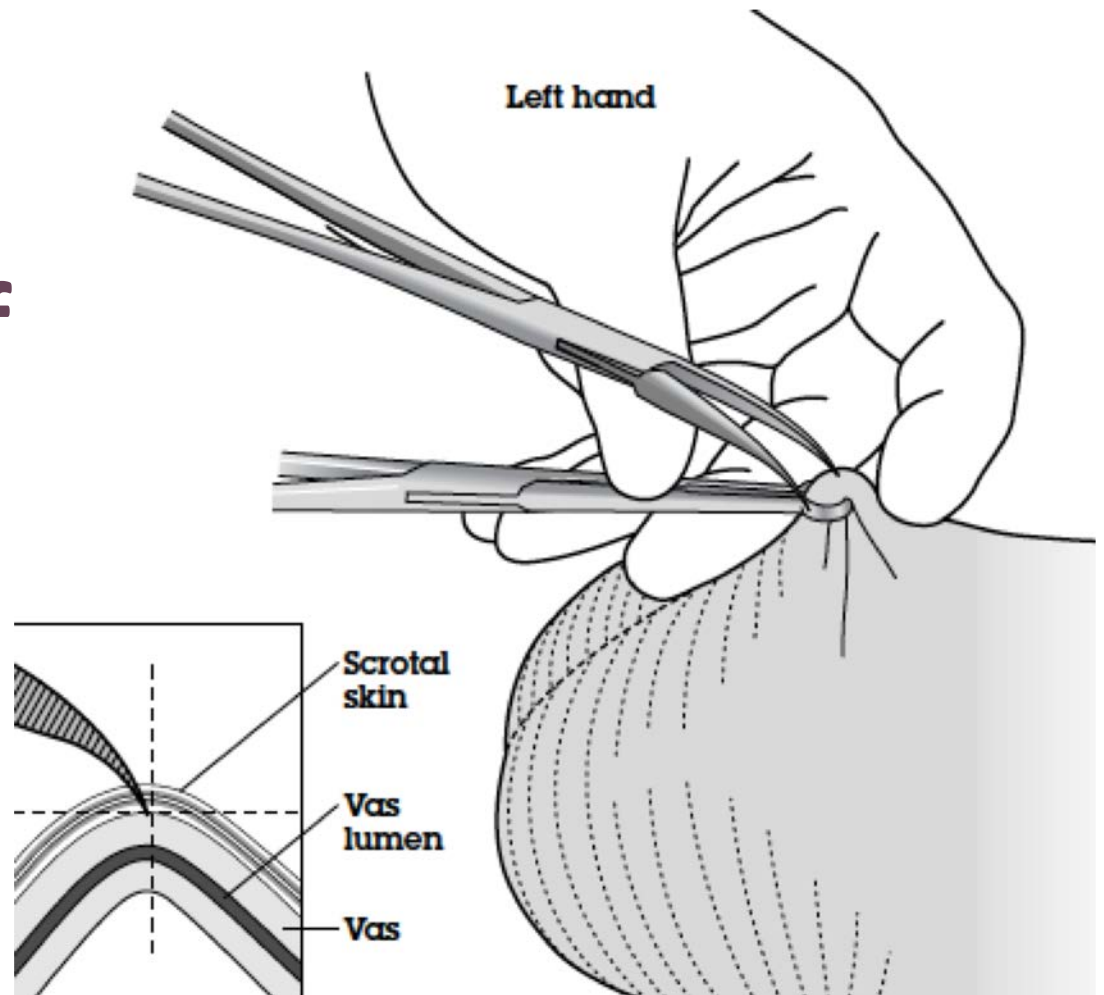


Switch Hands, Lower the Clamp, Elevate the Vas

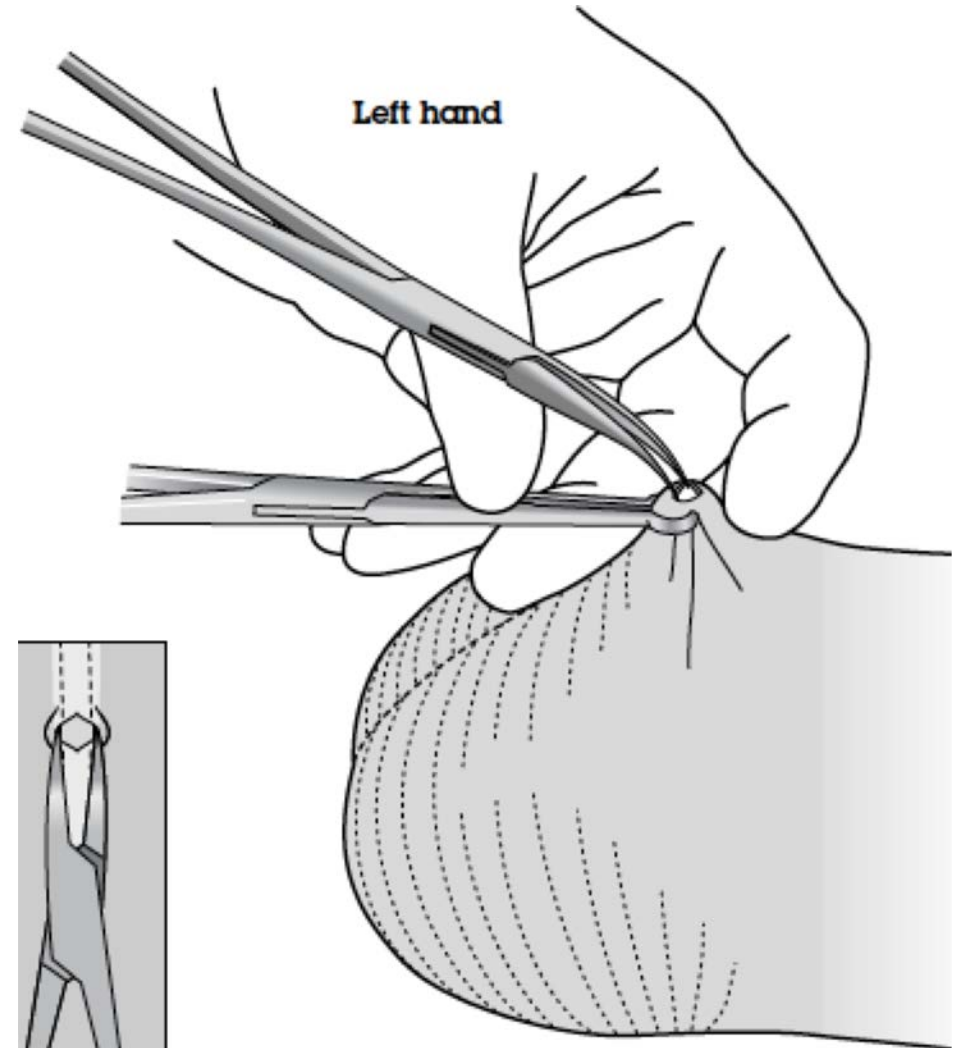
Switch clamp
to left hand



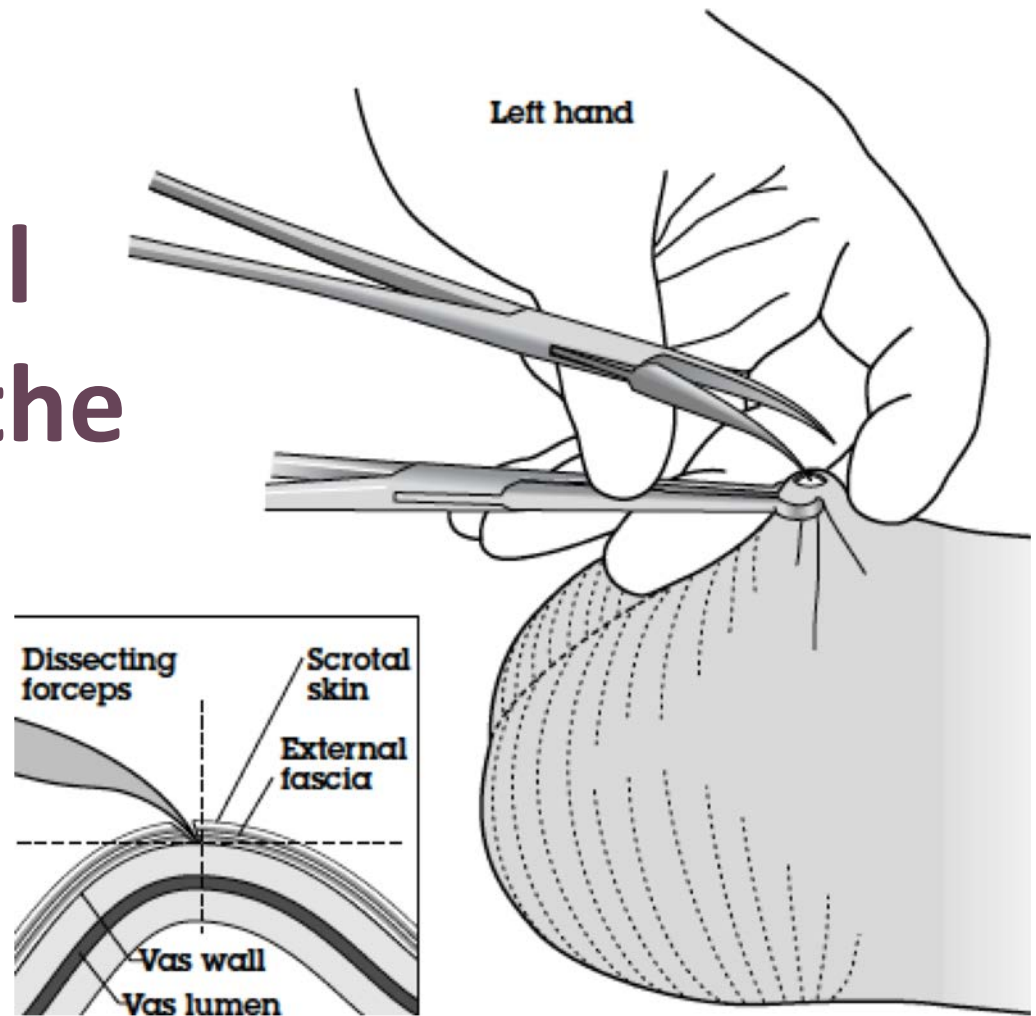
Quick Pierce of Scrotum



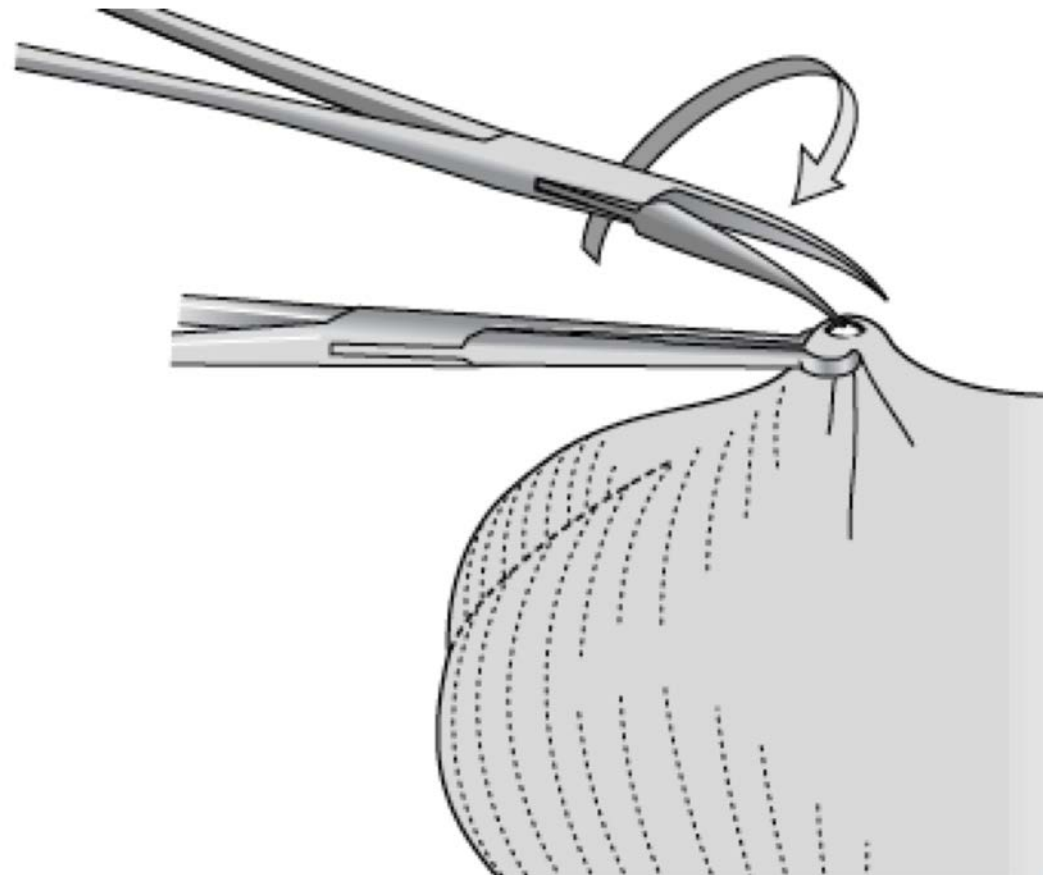
Blunt Dissection Down to Vas



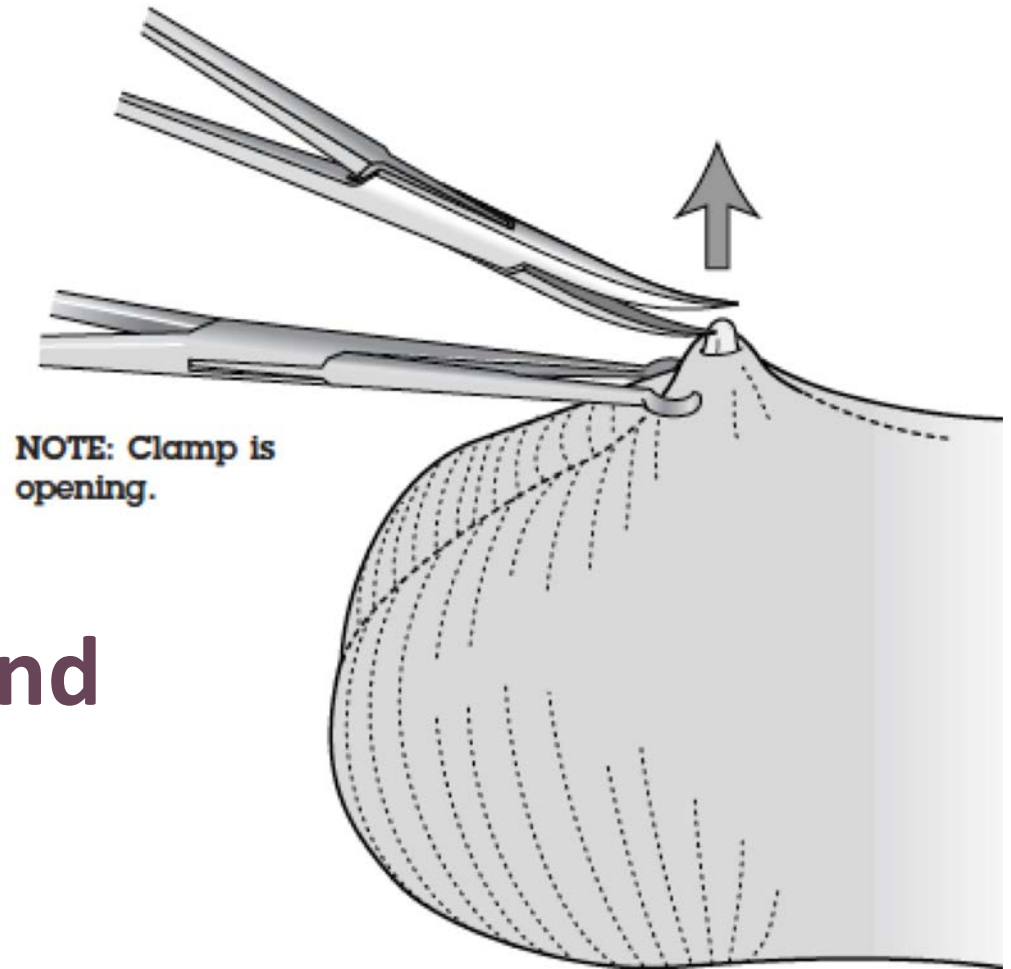
Use the Lateral Blade to Pierce the Vas



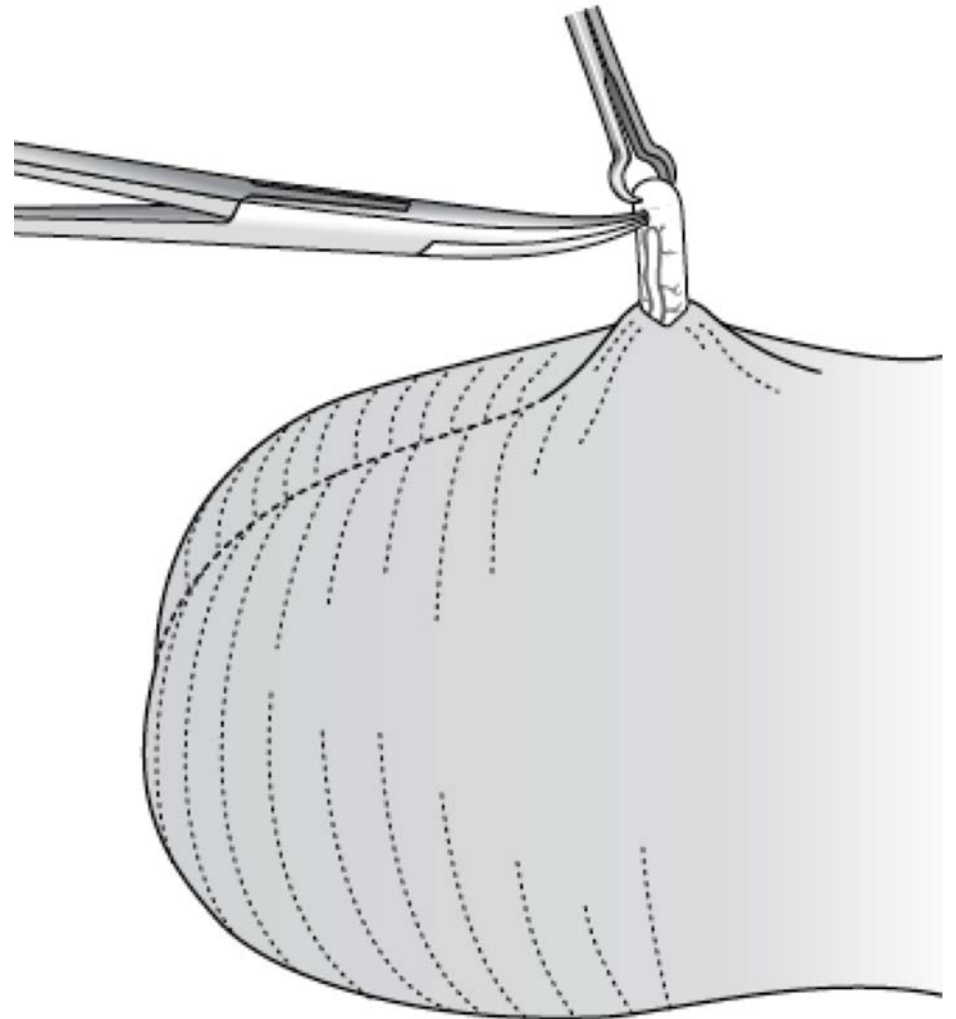
Pierce the Vas & Rotate



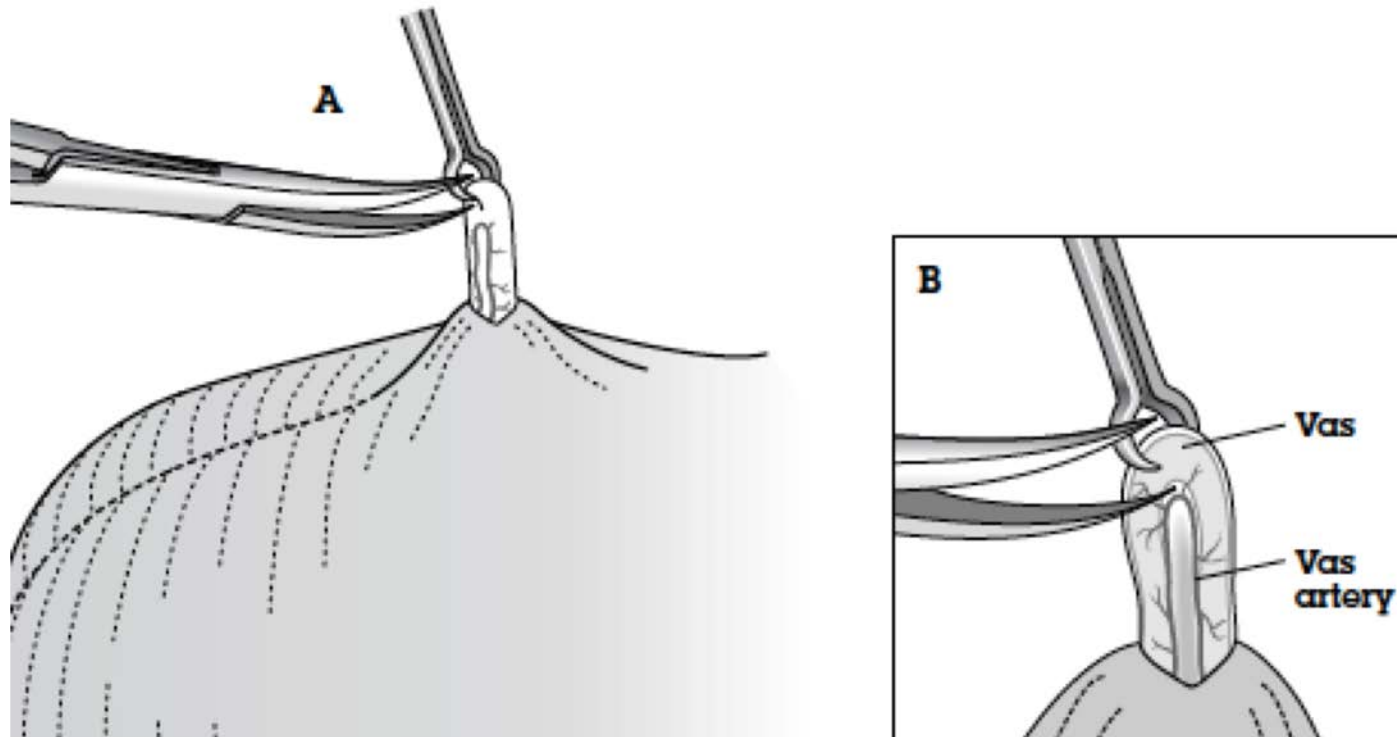
Elevate the Vas and Release Clamp



Grasp Partial Thickness of Vas

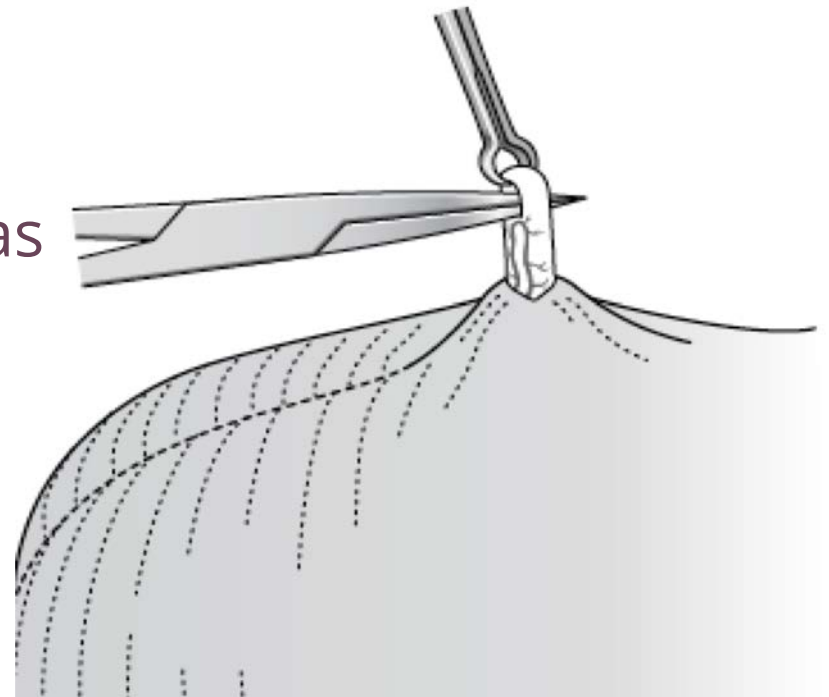


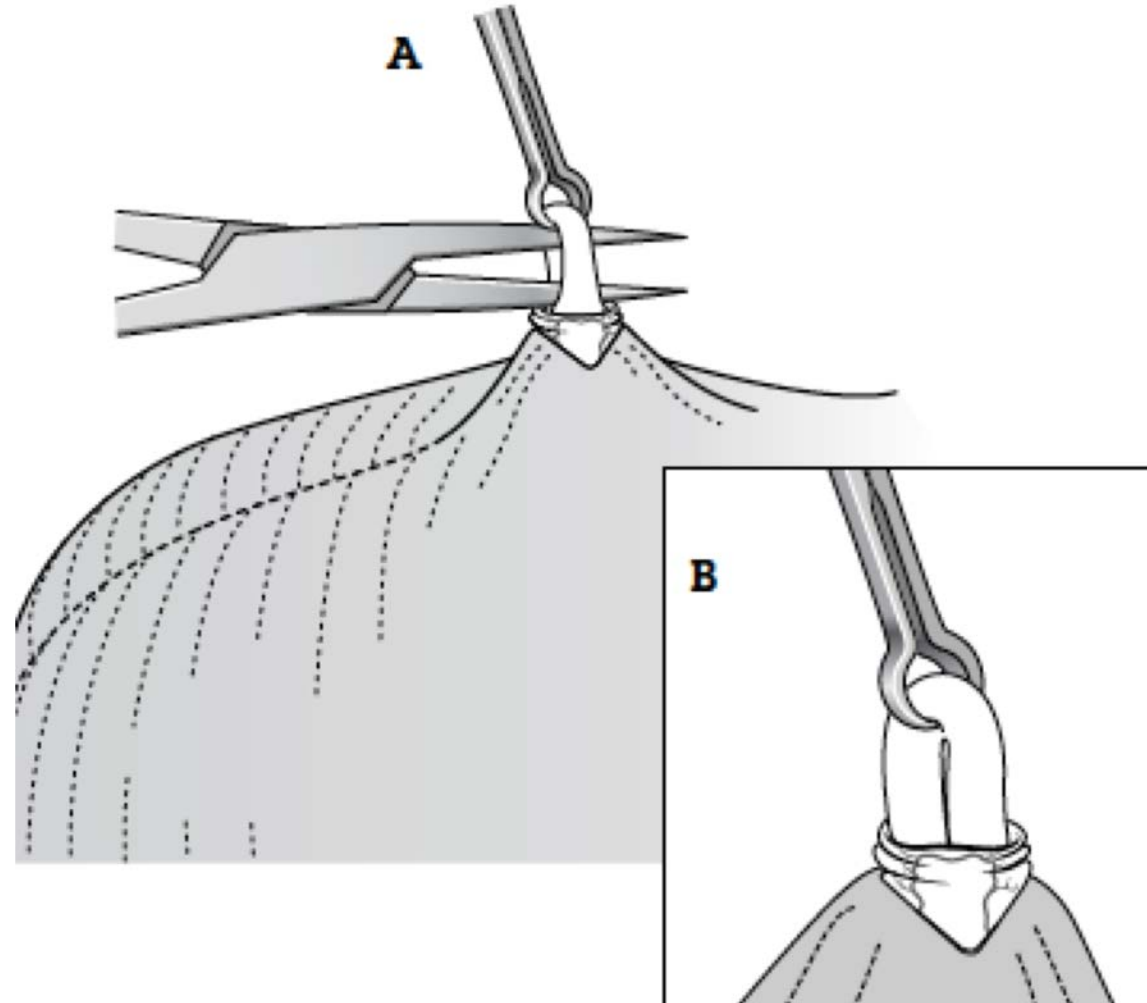
Puncture the Vas Sheath Just Below the Vas



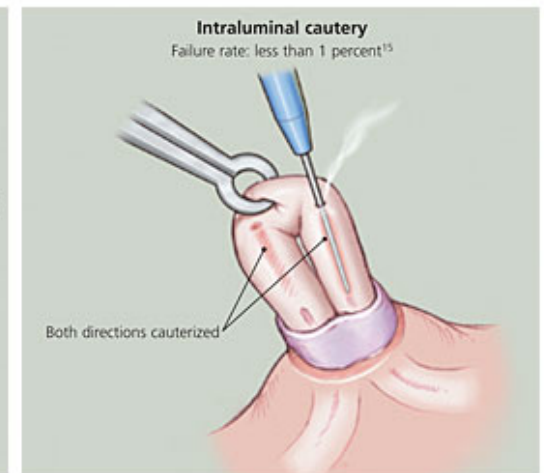
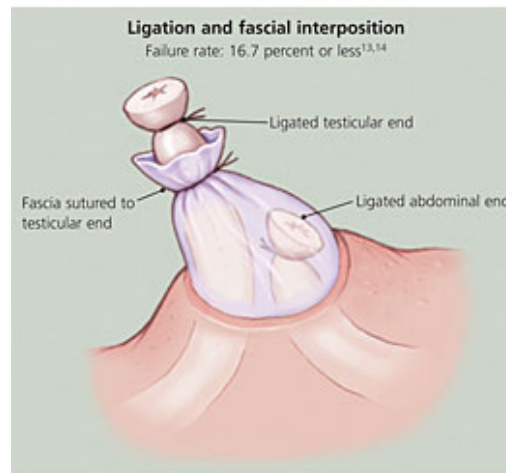
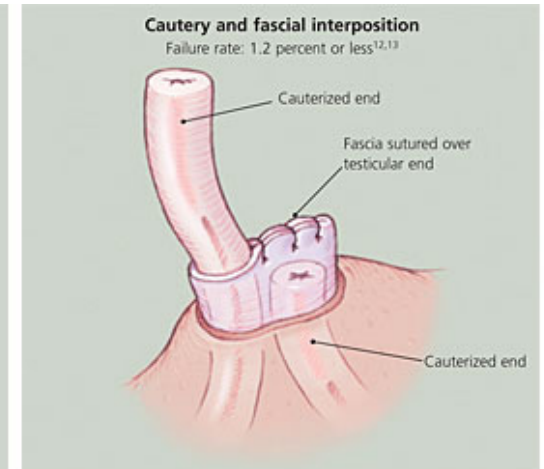
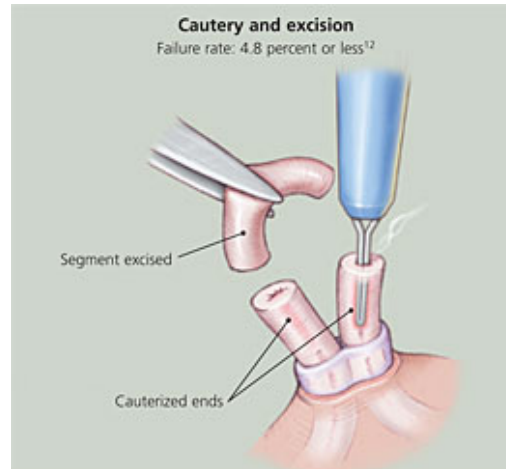
Bluntly Dissect Vas Sheath in Longitudinal Motion

- Expose at least 1 cm of the vas
- Clamp or cauterize bleeders



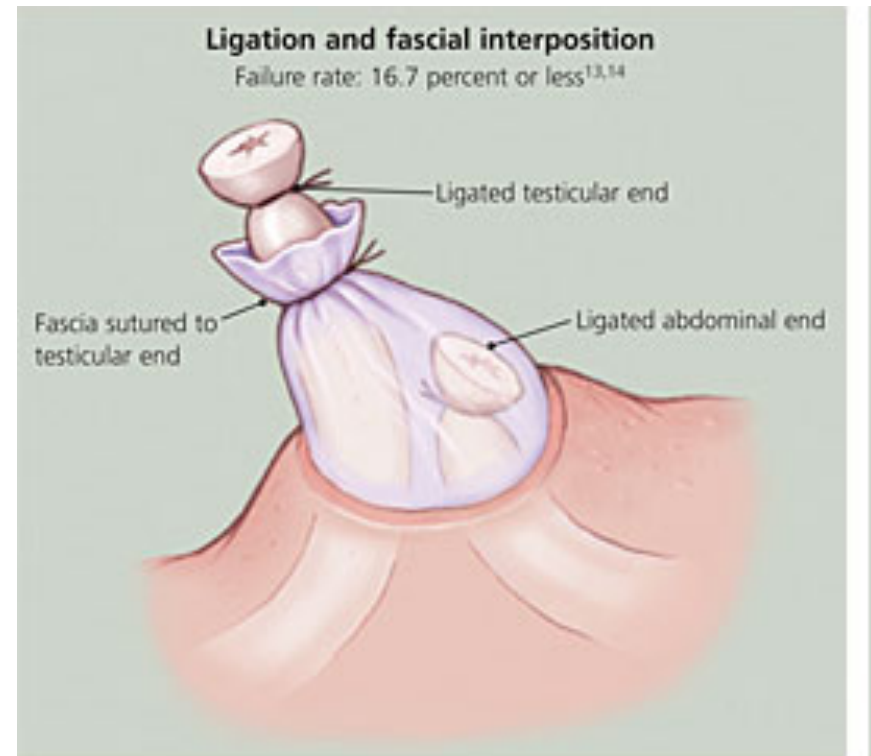
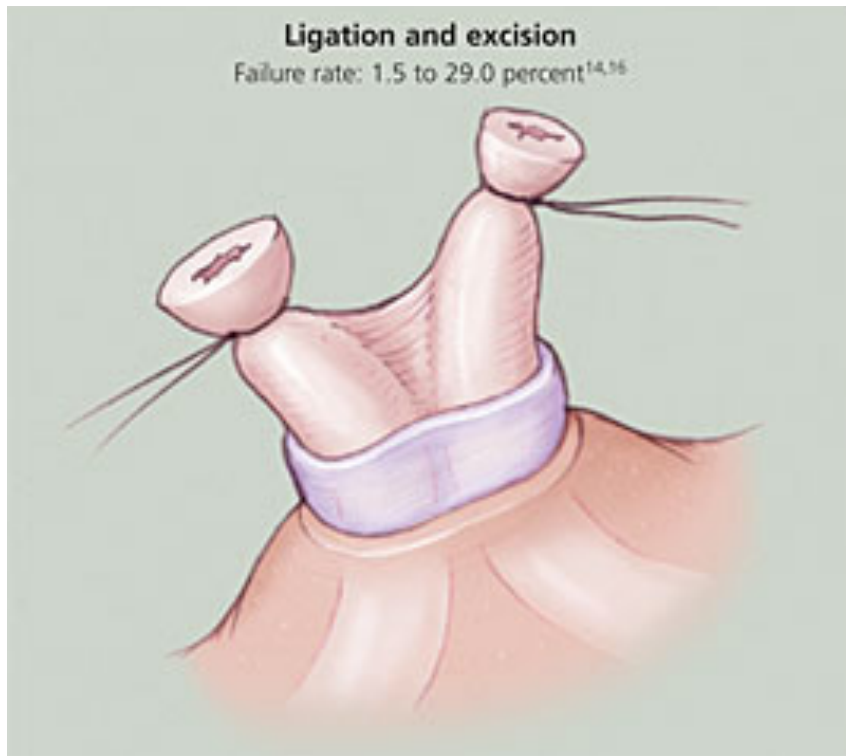


Occlusion Techniques



Dassow and Bennett. AFP (2006): 74: 2069-2074

Occlusion Techniques Associated with HIGHER failure rates



Dassow and Bennett. AFP (2006): 74: 2069-2074



Post Procedure Instructions

- Ice pack on scrotum for 4 hours post procedure
- Plan ~24 hours of rest with minimal activity
- OK to shower/bathe day after procedure
- Resume everyday activities 2-3 days post procedure
- Avoid sex and strenuous activity for 7 days
- Remind patient about PVSA!



Potential Complications

- Hematoma 2.6%
- Postvasectomy pain syndrome 1-6%

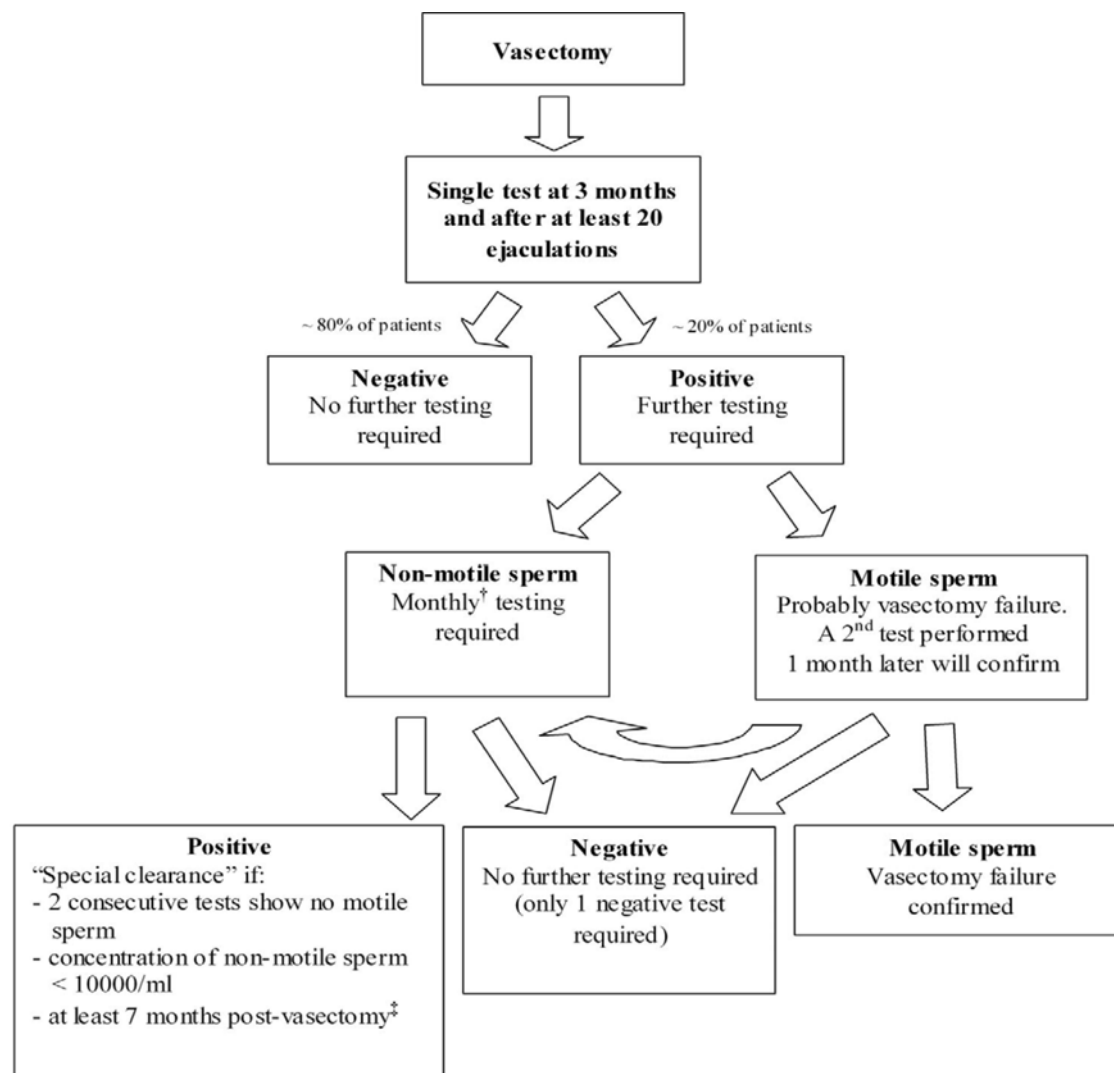


How Little is Enough?

The Evidence for Post Vas Testing

- Systematic review of 56 studies
- 80% will achieve azoospermia after 3 months and 20 ejaculations
- 1.4% demonstrate persistent non-motile sperm
- AUA states patients may stop using other forms of contraception when semen specimen shows azoospermia or rare non-motile sperm

Post Vas Semen Analysis (PVSA) Protocol





Conclusions

- Vasectomy is effective as, yet less costly and safer than, tubal sterilization
- There are race- and income-based differences in vasectomy use
- NSV is office-based and has a low complication rate
- Patients need a PVSA around 3 months post-vas to confirm azoospermia; 20% will require further followup





Questions and Comments

Thank you

FAMILY PLANNING ELEVATED | myFPE.ORG
FACEBOOK.COM/FPEUT | TWITTER.COM/FPEUTAH



fpe

Extra

Occlusion RCT



Vs.



7 sites

NSV approach

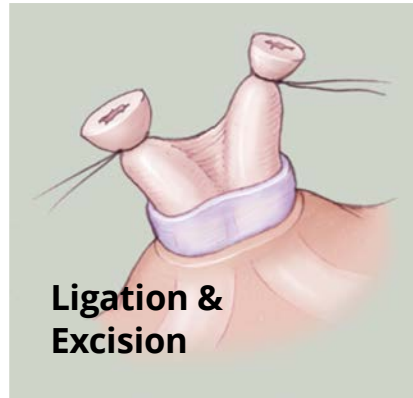
Randomized to ligation and excision +/- FI

Semen Analysis 2 weeks after, then Q 4 weeks up to 34 weeks

Primary outcome = time to azoospermia

Sokal et al. Vasectomy by ligation and excision, with or without fascial interposition: a randomized controlled trial BMC Med 2004.31;2:6

Occlusion RCT



Vs.



	L & E	L&E + FI
n	416	410
Failure @ 34 wks	53 (12.7%)	24 (5.9%)*
Surgical time	11.7 min	14.3 min*
Adverse events	62 (14.7%)	74 (17.7%)
Pregnancies	2	2

p <0.0001

p <0.0001

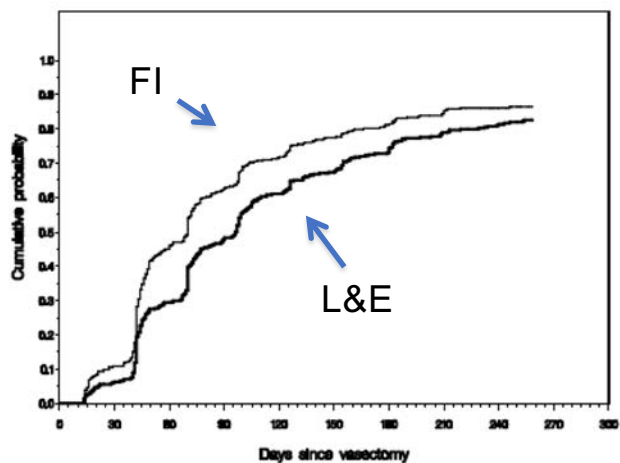
P=0.23

Sokal et al. BMC Med 2004.31;2:6

RCT of L&E +/- FI

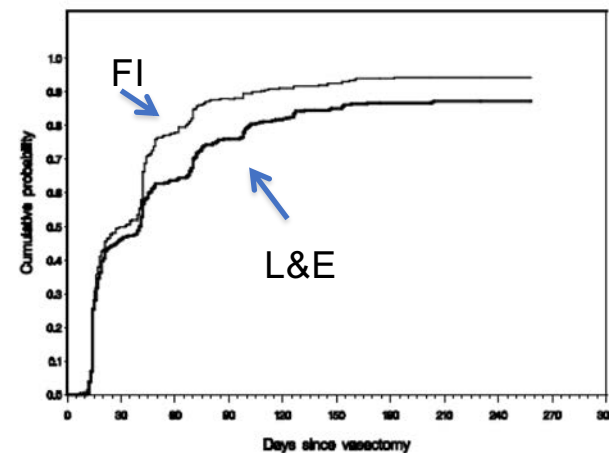
Time to Azoospermia

A. Azoospermia



Time to severe oligospermia (<100,000 sperm/ml)

B. Severe oligozoospermia



L&E had a longer time to azoospermia (HR 1.35, p,0.0001)

-mean time 14 vs. 10 weeks

L&E had a longer time to severe oligospermia (HR 1.32,

p,0.0001) -mean time 6 vs. 4 weeks