

Vasectomy for the Non-Vasectomist

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FMF 2014



Conflicts of Interests

- I perform vasectomy
 - 25 000+ vasectomies performed since 1986
- I had research contracts related to vasectomy
 - FHI360/EngenderHealth
 - Contravac (SpermCheck Vasectomy®)
- I was involved in the development of Clinical Practice Guidelines on vasectomy
 - American Urological Association (AUA)
 - European Association of Urology (EAU)
 - Faculty of Sexual and Reproductive Healthcare (UK)

Objectives

At the end of the session you will be able to:

1. Correctly inform men - and women- seeking contraception about male sterilization
2. Identify surgical consultants offering evidence-based vasectomy services
3. Interpret results of post vasectomy semen analysis
4. Manage common complications after vasectomy

Mark



- 35 years-old
- Married since 8 years
- Wife 32 years-old
- 3 children
- Youngest 4 month-old
- Using condoms

- He wants a vasectomy

- *What do you tell him ?*

The Preoperative Consultation

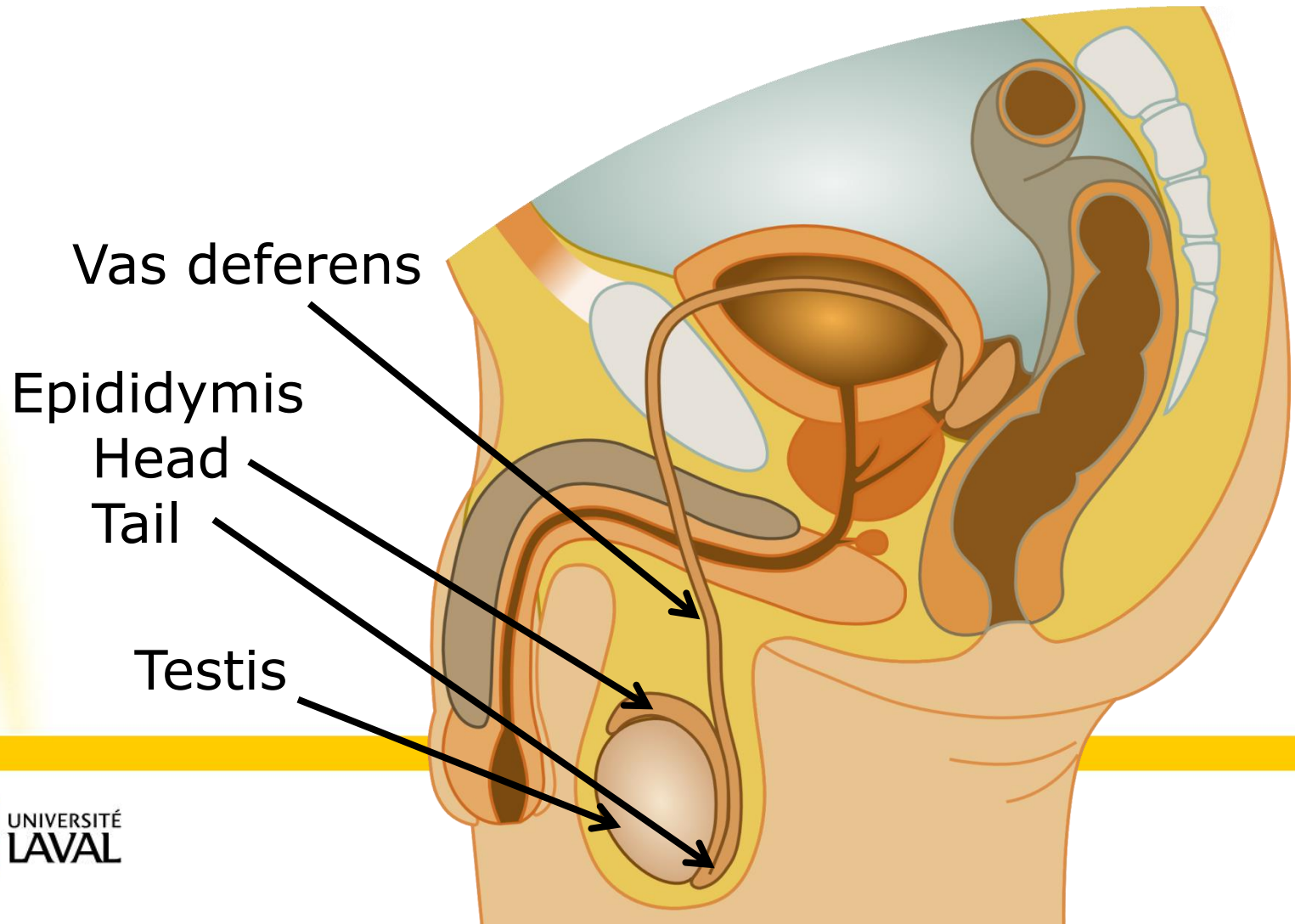
- **Permanent** form of contraception
 - Alternatives
 - Vasectomy reversal/sperm retrieval with in vitro fertilization
- **No immediate** sterility
 - Post-vasectomy semen analysis (pvsa)
- **Not 100% reliable**
 - Repeat vasectomy $\leq 1\%$
 - Risk of pregnancy: 1 in 2,000 (0.05%)
- Surgical **complications**: 1-2%
- Chronic scrotal **pain**: 1-2%

Mark



- *Do you examine him?*

Pre-Vasectomy Exam



Mark



- He understands the pros and cons
- Vasectomy is his preferred option
- *Whom do you refer him to?*

Your Ideal Surgical Consultant !

- No pain
- No stitches
- No complications
- No failures

Your Ideal Surgical Consultant !



Your Ideal Surgical Consultant !



Vasectomy 101

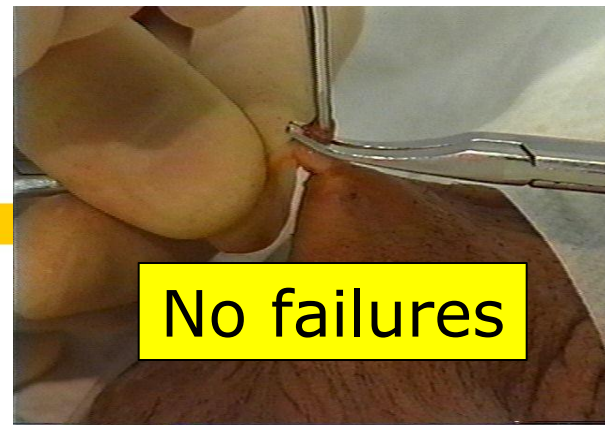
- **Step 1: Anaesthesia**



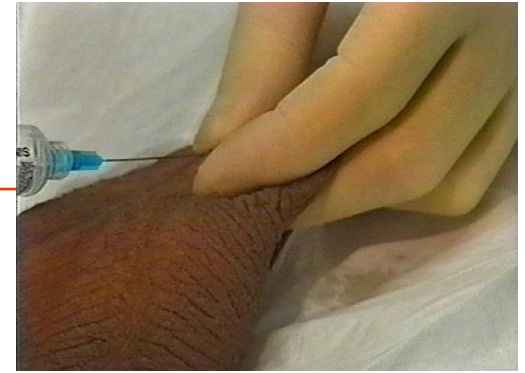
- **Step 2: Vas Isolation**



- **Step 3: Vas Occlusion**



Step 1. Anaesthesia



- **Local**

AUA 2012 Expert opinion/EAU 2012 principle

- Pain can be minimized with:
 - mini-needle (#30)
 - jet gun

The Mini-Needle Technique

- 30 gauge needle 1"
- 3 cc syringe
- 2 cc lidocaine
- 0.5 cc injected in and around the vas at the level of the intended surgical site



Sexual Function/Infertility

Minimizing Pain During Vasectomy: The Mini-Needle Anesthetic Technique

Grace Shih, Merlin Njoya, Marylène Lessard and Michel Labrecque*

From the Department of Family and Community Medicine, University of California-San Francisco (GS), San Francisco, California, and Research Centre of the Centre Hospitalier Universitaire de Québec (MN, ML) and Department of Family and Emergency Medicine, Laval University, Québec City (ML), Québec, Canada

Purpose: We describe pain scores for a modified anesthesia technique for no-scalpel vasectomy using a 1-inch 30 gauge mini-needle.

Materials and Methods: A prospective study was performed in 277 patients who received anesthesia using a 3 cc syringe filled with approximately 2 cc 2% lidocaine without epinephrine and a 1-inch 30 gauge needle. Local anesthesia was given directly to the vas at the expected surgical site on each side.

Results: Mean \pm SD pain intensity score on the 10 cm visual analog scale was 1.5 ± 1.6 (95% CI 1.3–1.7) during the anesthesia and 0.6 ± 1.0 (95% CI 0.5–0.7) during the procedure. Patients experienced less pain during anesthesia and the procedure than they expected before vasectomy (average 3.1 ± 1.8 , 95% CI 2.8–3.3).

Conclusions: The mini-needle technique provides excellent anesthesia for no-scalpel vasectomy. It compares favorably to the standard vasal block and other anesthetic alternatives with the additional benefit of minimal equipment and less anesthesia.

Key Words: testis; vasectomy; anesthesia, local; pain; pain measurement

Abbreviations and Acronyms

EMLA = eutectic mixture of local anesthetics

NSV = no-scalpel vasectomy

SCB = spermatic cord block

VAS = visual analog scale

VDS = visual descriptive scale

Submitted for publication September 6, 2009.
Study received hospital medical director approval.

Supplementary material for this article can be obtained at www.vasectomy.net/table_anesthesia.doc.

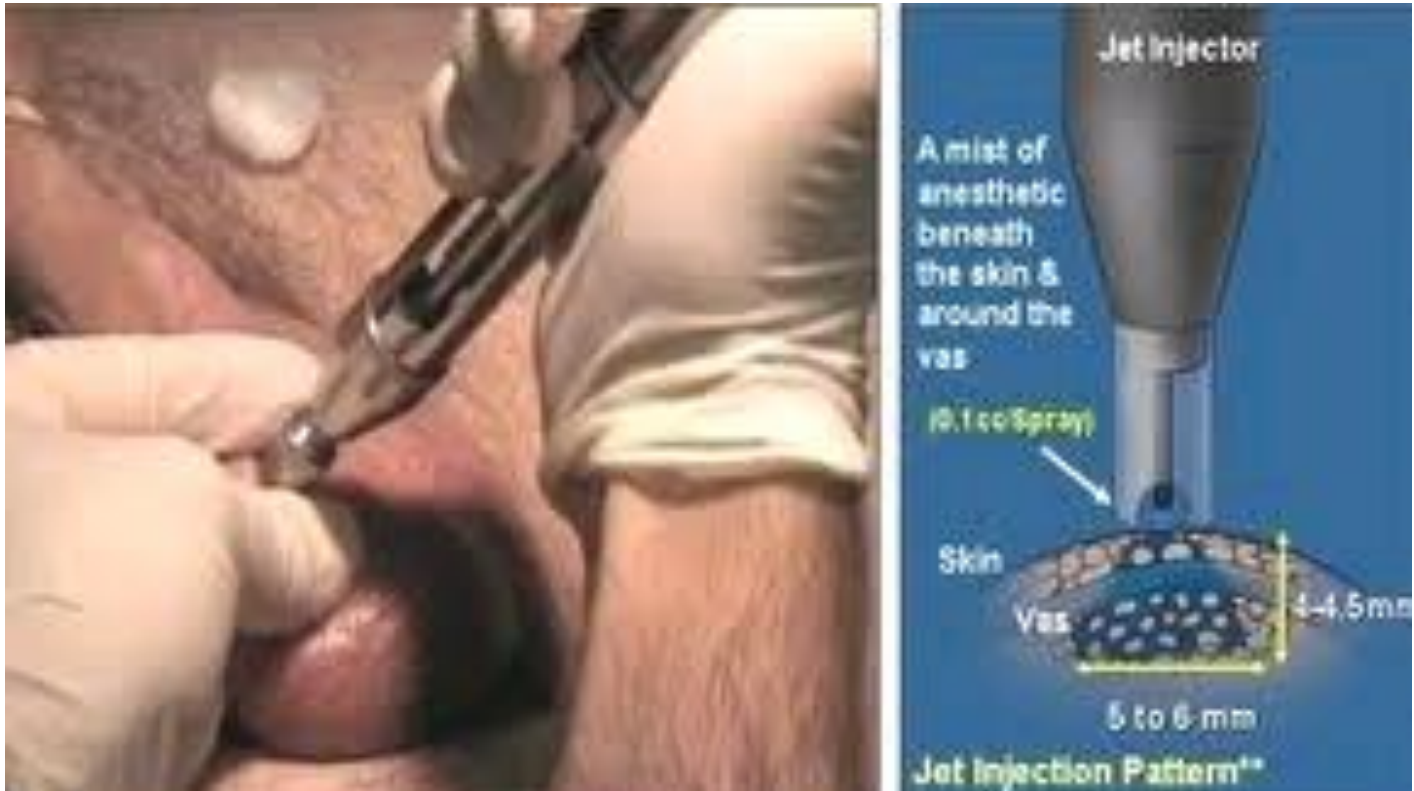
* Correspondence: Hôpital Saint-François d'Assise 106-726, 10 rue de l'Espérance, Québec, Canada, G1L 3L5 telephone: 418-525-4444 ext. 52413; FAX: 418-525-4194; e-mail: michel.labrecque@mfa.ulaval.ca.

Shih et al, J Urol 2010

The Jet Gun Technique (No Needle)



The Jet Gun Technique (No Needle)



A Good Marketing Tool!



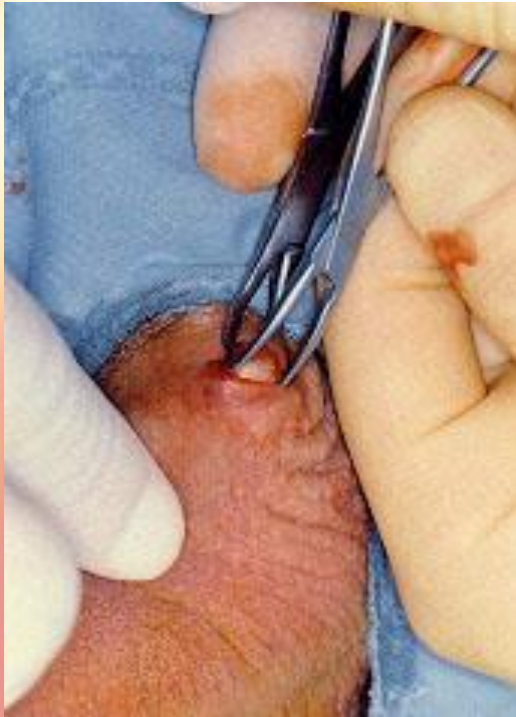
Pain According to the Anaesthesia Technique

Technique	Mean Pain on 10		
	Expected	Anesthesia	Vasectomy
Vasal Nerve Block			
<i>White 2007</i>		2.1	1.9
Local (#27)			
<i>Aggarwal 2009</i>		3.3	2.7
Mini-needle (#30)			
<i>Shih 2010</i>	3.1	1.5	0.6
No Needle			
<i>Weiss 2005</i>		1.7	0.7
<i>White 2007</i>		1.6	1.7
<i>Aggarwal 2009</i>		2.2	2.1

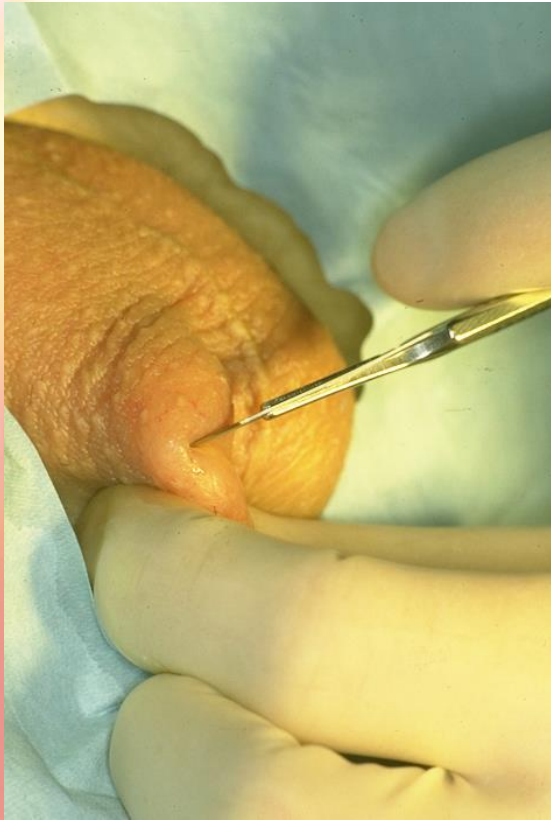
Step 2. Vas Isolation



The "Classic" Technique



The "Classic" Technique



Recommended Vas Isolation Technique

- Minimally Invasive Vasectomy (MIV) technique
AUA 2012 Standard (Evidence Strength Grade B)
 - Small (<10 mm) opening (s)
 - No skin sutures
 - Minimal dissection of the vas and perivasal tissues

This is not an MIV!

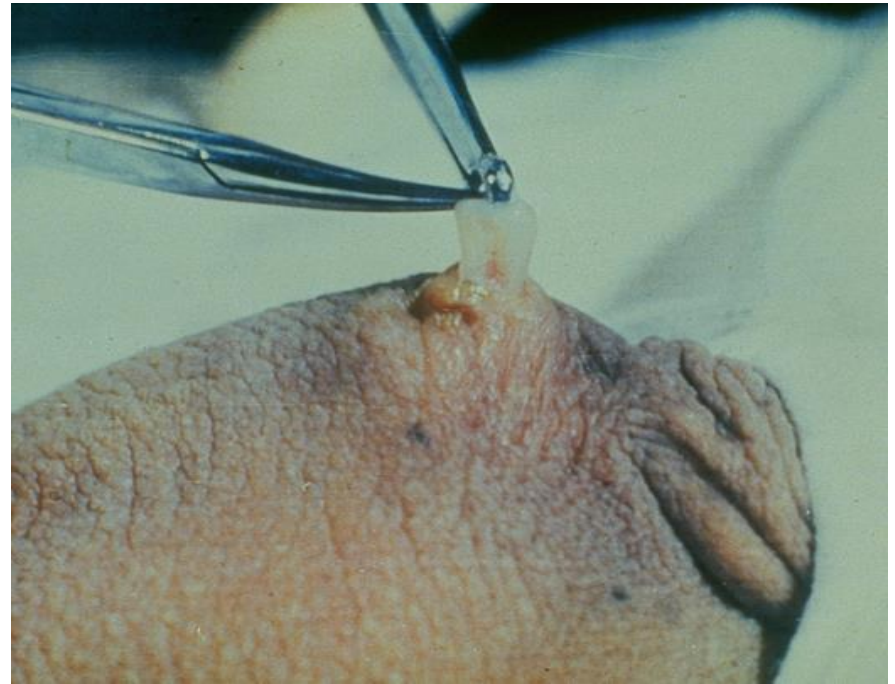
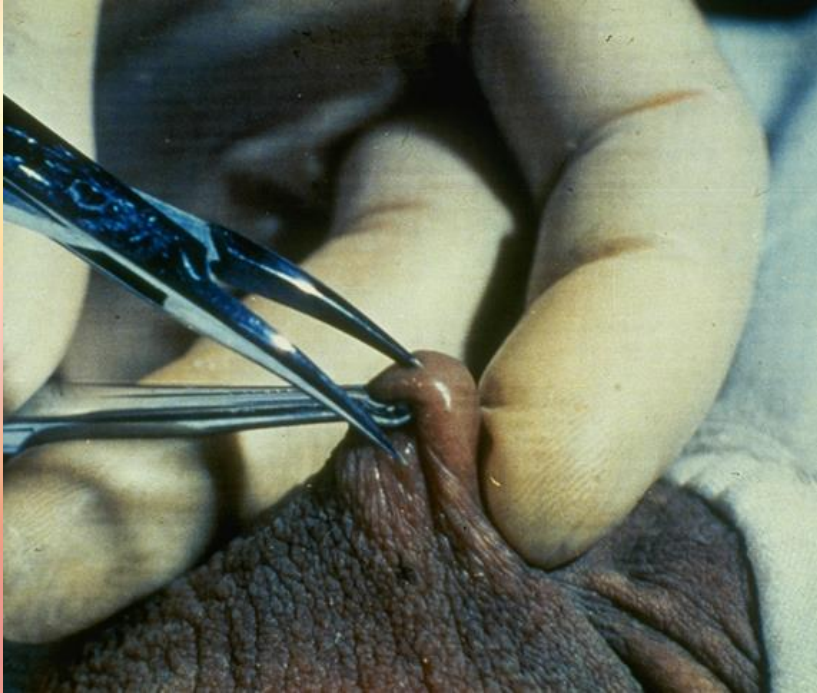


Recommended Vas Isolation Technique

- Minimally Invasive Vasectomy (MIV) technique
AUA 2012 Standard (Evidence Strength Grade B)
 - Small (<10 mm) opening (s)
 - No skin sutures
 - Minimal dissection of the vas and perivasal tissues
- No-scalpel vasectomy (NSV) is the best studied MIV

NSV and MIV are vas isolation techniques, not "vasectomies"

The No Scalpel Technique



Surgical Complication Rates Classic Technique vs. NSV

Authors	Hematoma (%)		Infections (%)	
	C	NSV	C	NSV
Sokal 99	12.2	1.8	1.5	0.2
Christensen 02	15.9	9.5	11.4	7.1
Nirapathpongpron 90	1.7	0.3	1.3	0.2

All $p < 0.05$

No prophylactic antibiotics
AUA 2012 Recommendation (Grade C)

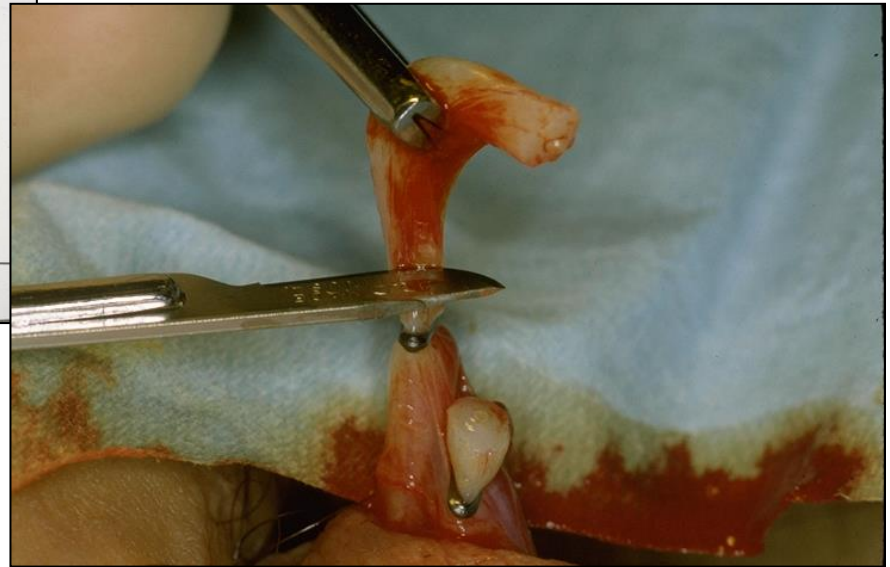
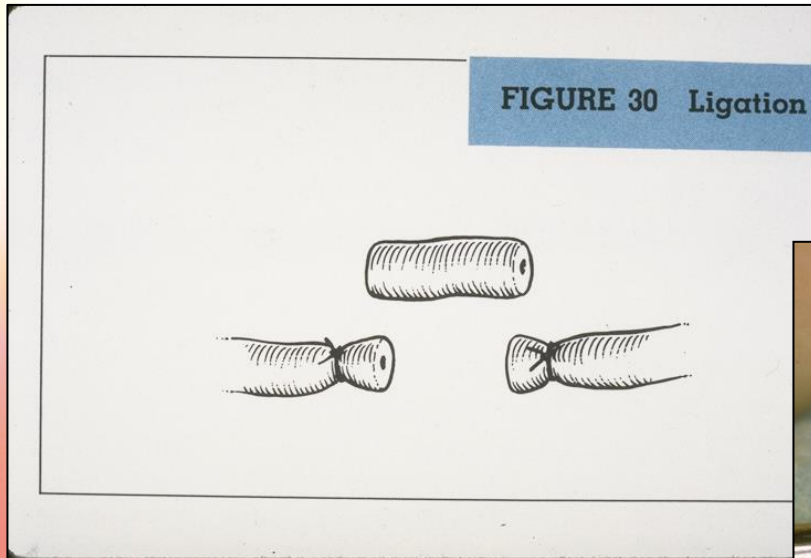
Step 3. Vas Occlusion



The Most Common Vasectomy Occlusion Techniques

- Ligature
 - Suture material
 - Metal clips
- Excision
- Fascial interposition (FI)
- Intraluminal (mucosal) cautery

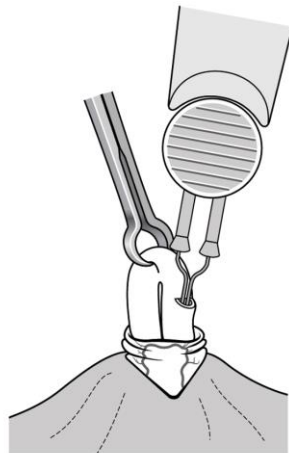
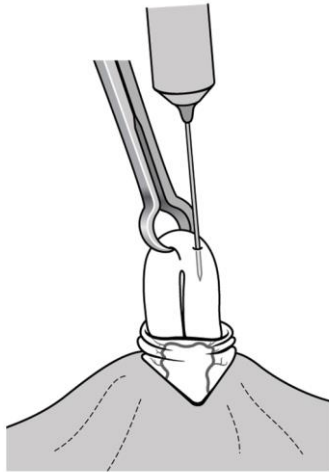
The "Classic" Occlusion Technique...



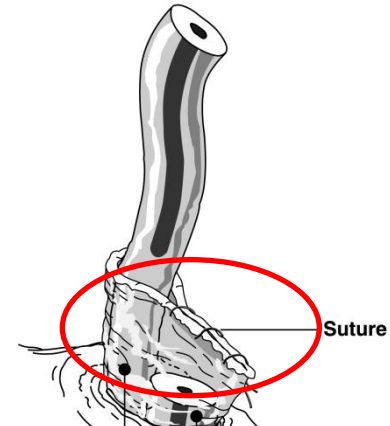
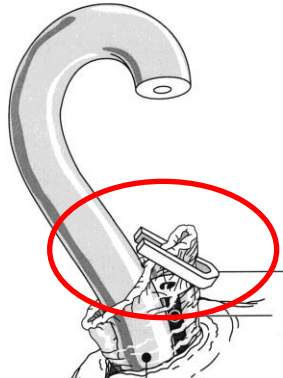
Histologic examination of the excised vas... not required

AUA 2012 Expert Opinion

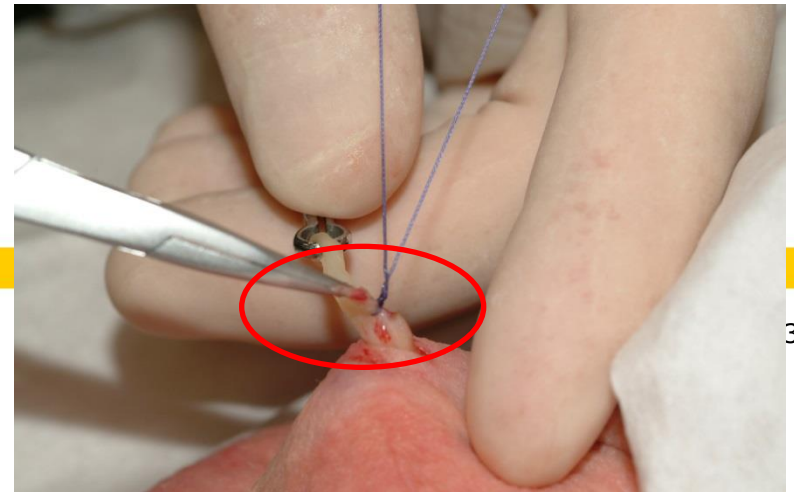
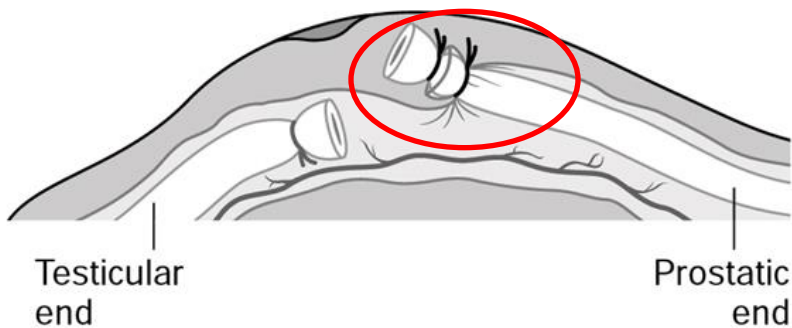
Cautery



Fascial Interposition (FI)



Half of the vasectomies performed in USA
Barone et al, J urol 2006



EAU 2012 Recommendation (1a A)

- Cautery (thermal or electrocautery) and FI

...no vasectomy technique has been shown to be superior in terms of prevention of late recanalisation and spontaneous pregnancy
EAU 2012 2a

AUA Recommendation (Grade C)

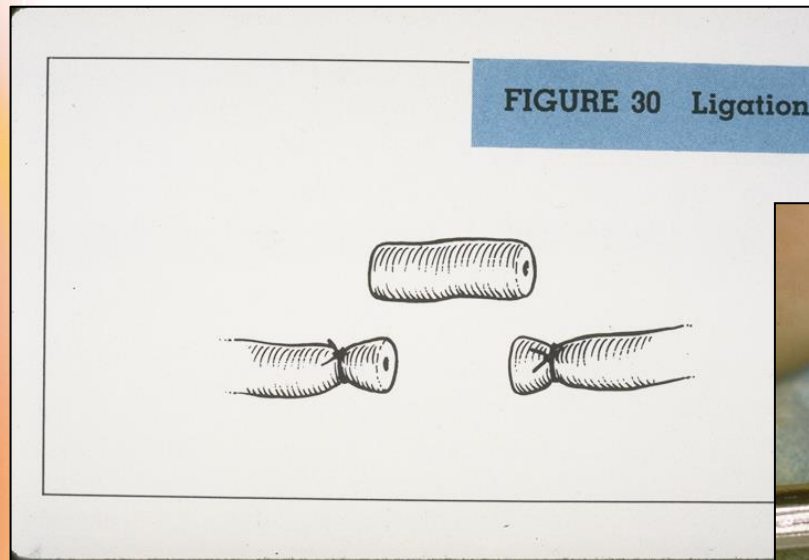
- Mucosal cautery (MC) **with** or **without** fascial interposition (FI)
 - No ligatures or clips applied on the vas
 - **with FI** if testicular end left **open**
- Non-divisional method of extended electrocautery (**Marie Stopes International** technique).

... occlusive failure rates ... consistently <1%
in large numbers of patients across studies
conducted by different surgeons...

The "Classic" Occlusion Technique...

if ... personal training and/or experience indicate...
consistently satisfactory results ...

AUA 2012 Option (Grade C)



LE Is Not Effective!

- Occlusive Failure Rates

- Mexico: **8%**

Cortes et al Contraception 1997

- Canada: **8%**

Labrecque et al J Urol 2002

- Mexico: **12%**

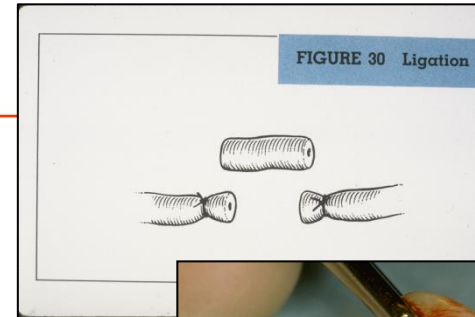
Barone et al J Urol 2003

- Colombia: **29%**

De los Rios Andrologia 2003

- Seven Countries Worldwide: **13%**

Sokal et al BMC Medicine 2004



LE Is Not Effective!

- Contraceptive Failure Rates

- India: **3% - 5%**

Mrhida 1979

- Nepal: **4%** after 3 years

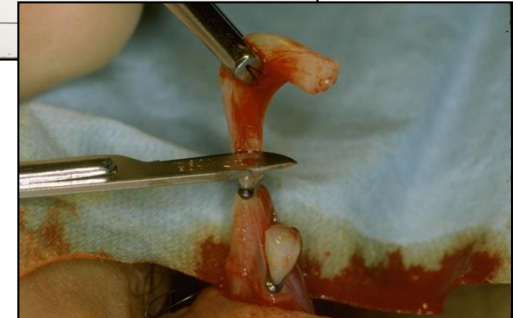
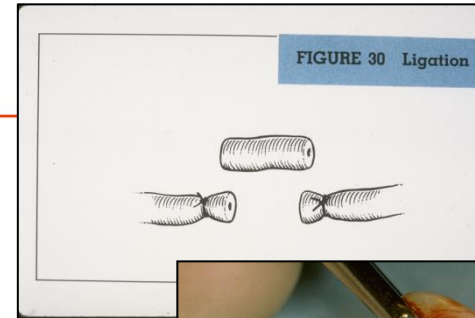
Nazerli et al Contraception 2003

- Vietnam: **4%** after 5 years

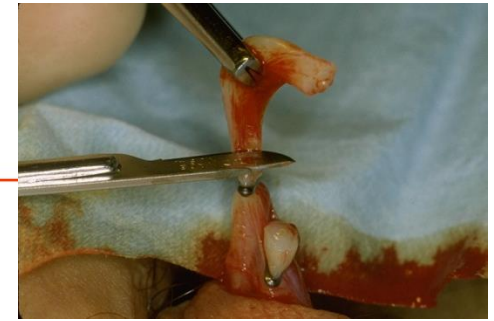
Hieu et al Int J Gynaecol Obstet 2003

- China: **9%** after 10 years

Wang Contraception 2002



Result of a Late Recanalisation 17 Years After Vasectomy With Ligation and Excision



Step 3. Vas Occlusion – In Summary

- Occlusion technique is crucial to achieve contraceptive and occlusive success
- Combining cauterization and FI is associated with the lowest risk of recanalization and occlusive failure
- Simple ligation and excision as an option ???

Your Ideal Surgical Consultant !

- No pain



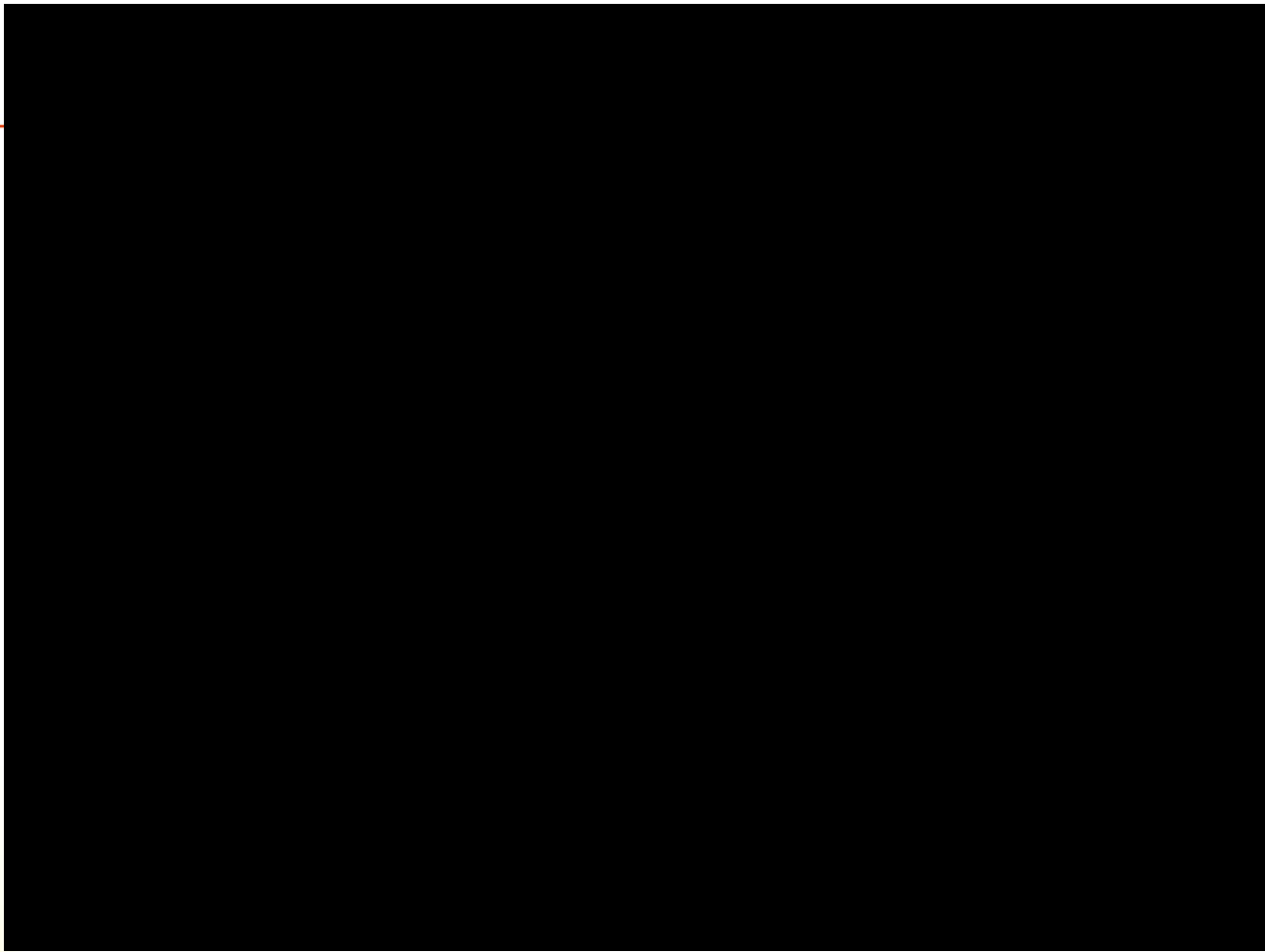
- No stitches

- No complications



- No failures





Mark



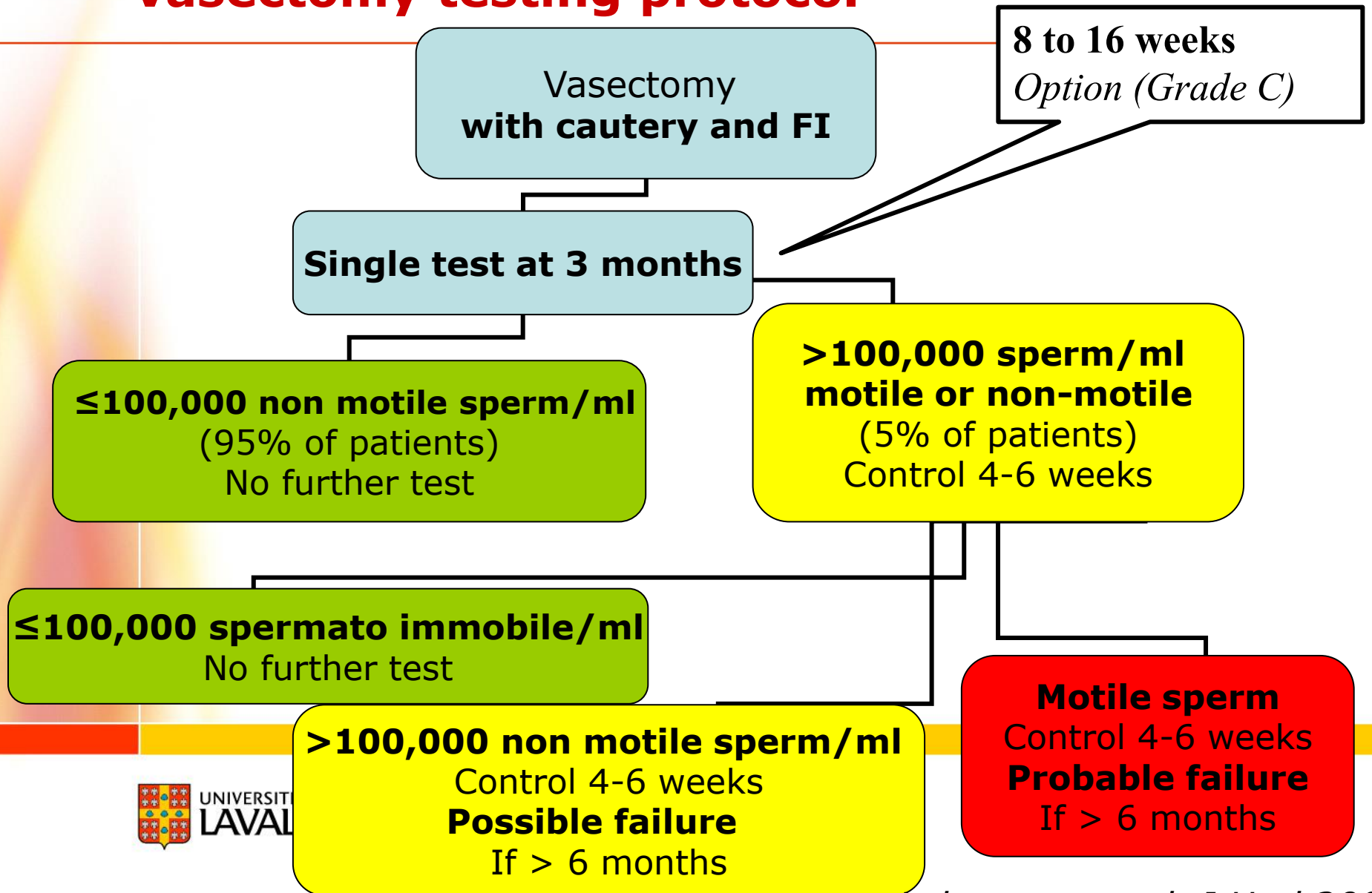
- He had an NSV with cautery and FI
- *When should he have his first post-vasectomy semen analysis (pvsa)?*

Mark



- He had an NSV with cautery and FI
- *When should he have his first post-vasectomy semen analysis (pvsa)?*
- First pvsa at 12 weeks
- 100,000 non-motile sperm/ml
- *What do you do?*

Evidence based flow chart of post-vasectomy testing protocol



Your Ideal Surgical Consultant !

- No pain



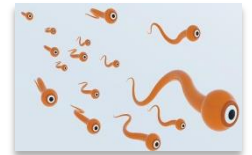
- No stitches
- No complications



- No failures



- **No delayed and unneeded PVSAs**



Mark

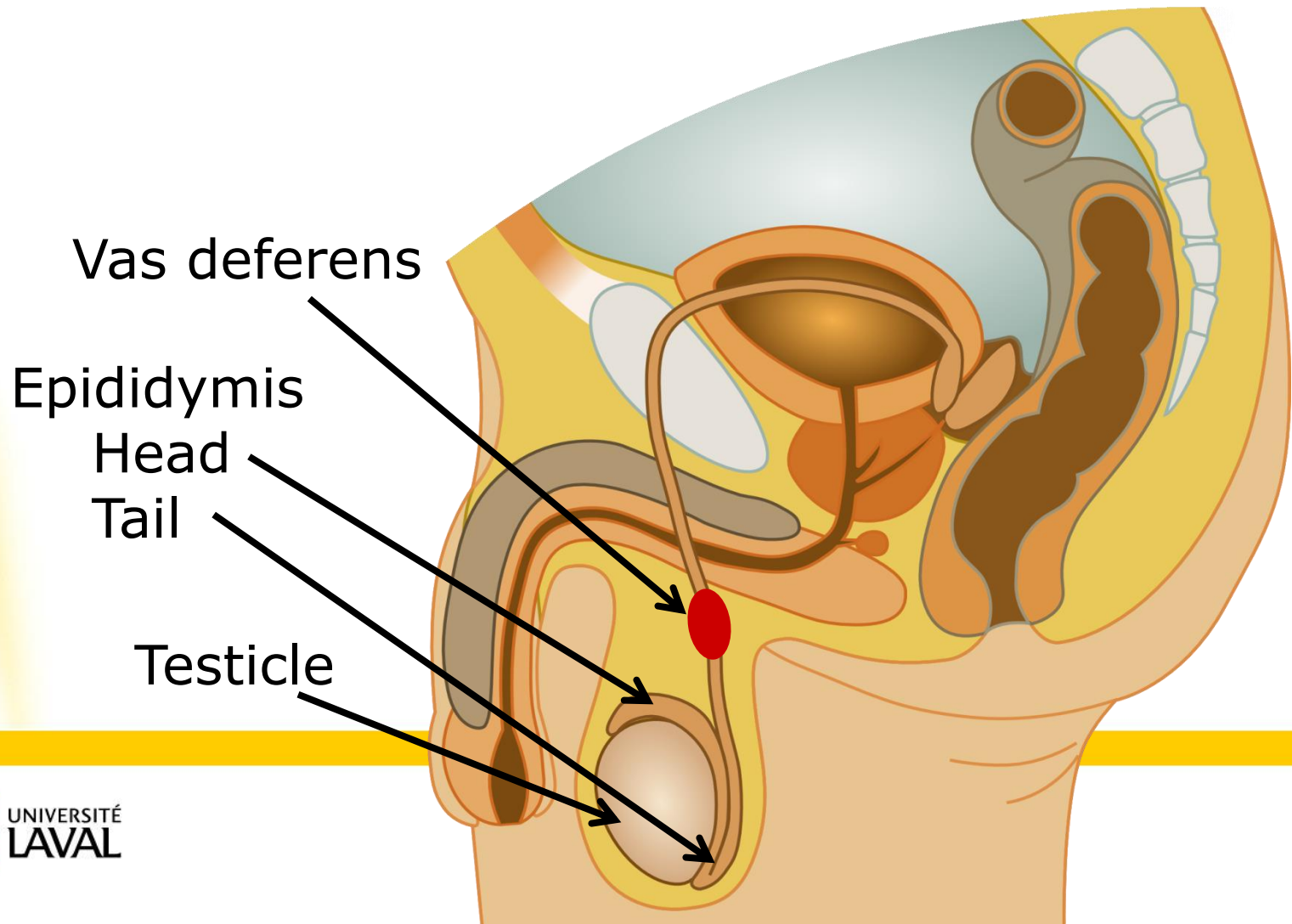


- 4 days after vasectomy
- Still pain on both sides
- No fever



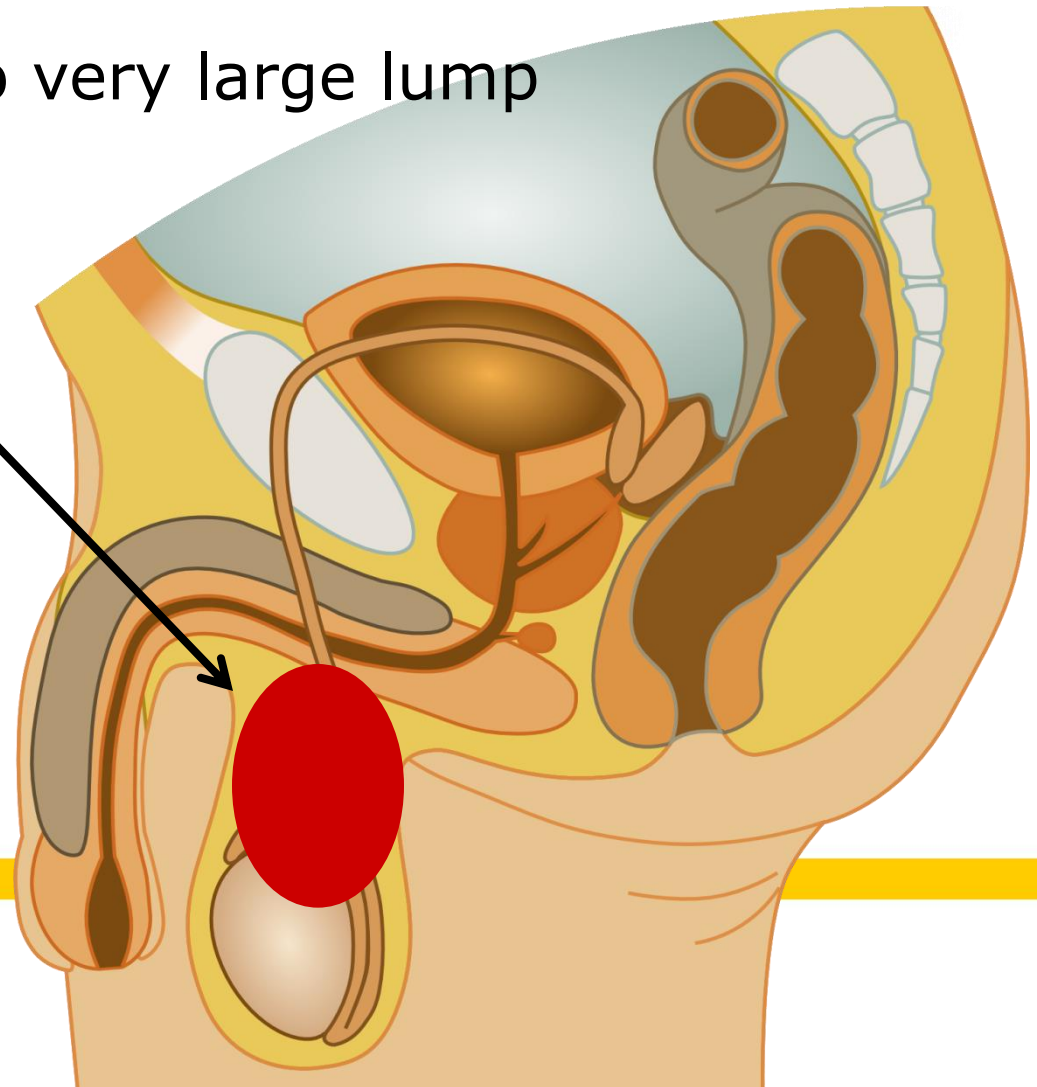
- *Possible Dx's?*
- *What do you do?*

Normal Early Post-Vasectomy Exam



Hematoma

- Large (> 3 cm) to very large lump
- Pain
- Scrotal bruising



Hematoma

- Very early, very large : urologist
- Observation
- Explanations (takes weeks to months to disappear)
- Pain relief
- Scrotal support/Ice/Rest
- Close follow-up for infection
- Inform your surgical consultant!

Mark



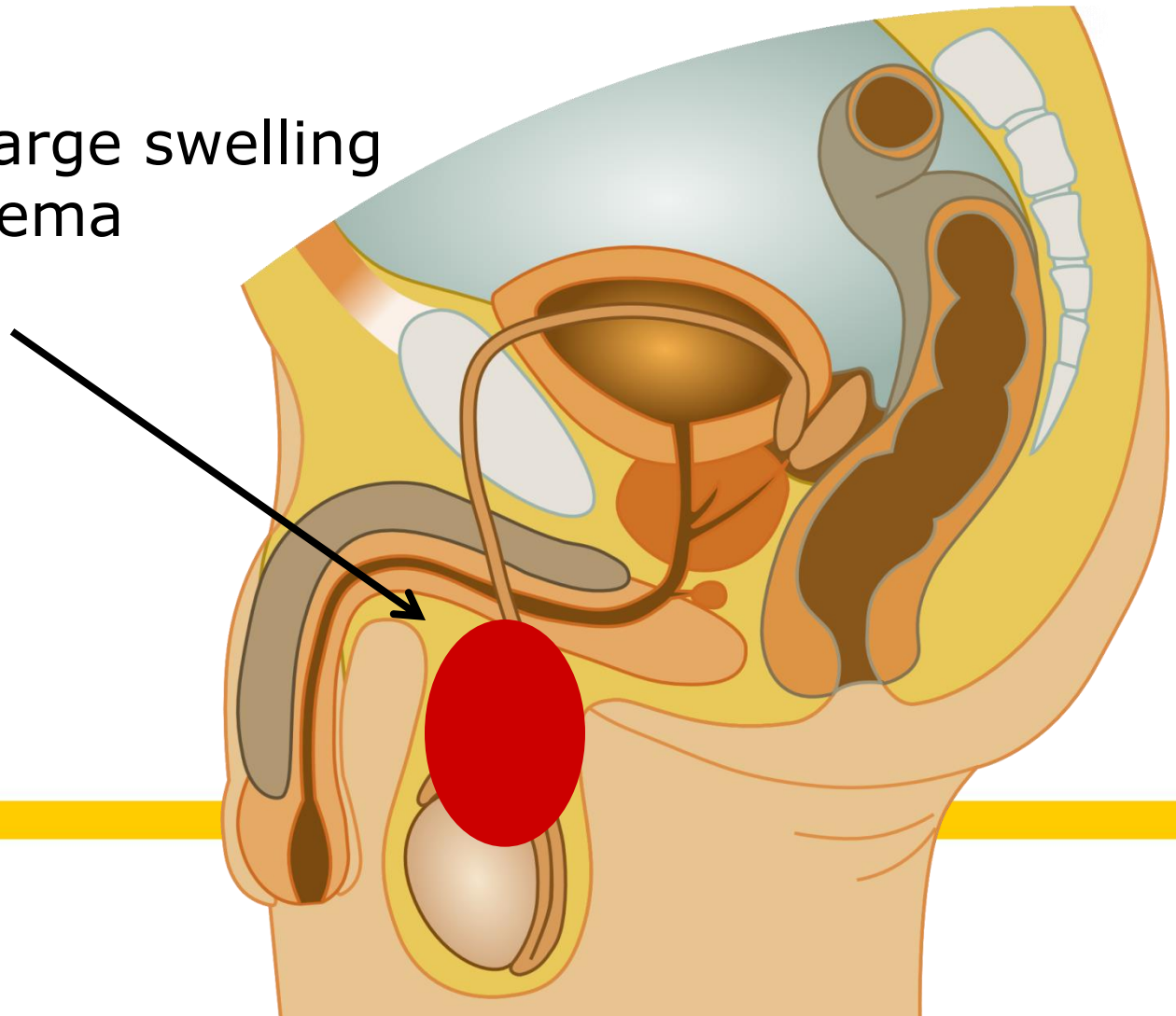
- 6 days after vasectomy
- Increasing pain and swelling on left side
- Fever?



- *Possible Dx's?*
- *What do you do?*

Infection

Pain
Usually large swelling
Skin oedema
Fever



Infection

- You won't miss this one!

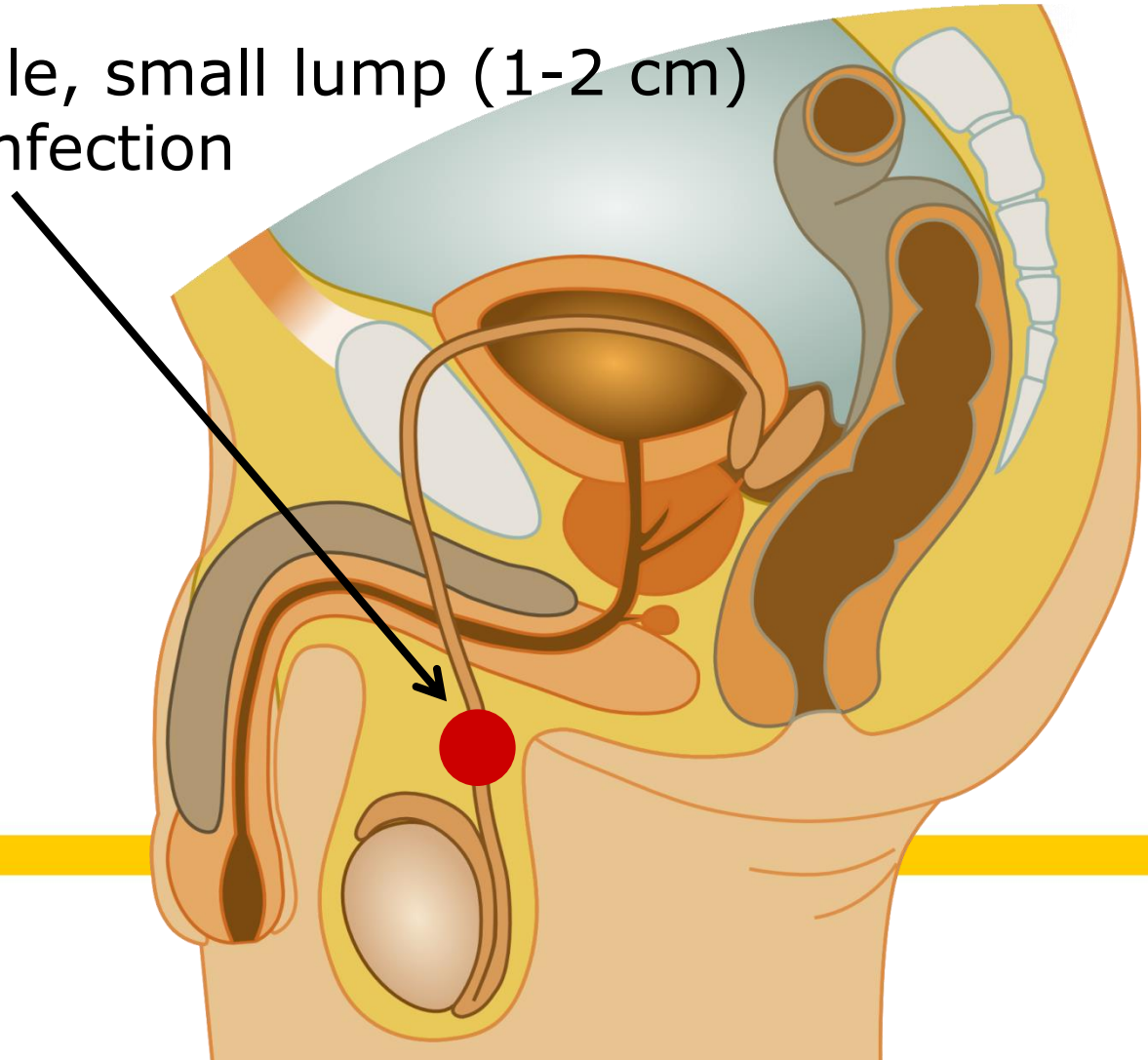


Infection

- Explanations (takes 48 hrs to improve with AB/days to weeks to disappear)
- Levaquin 500mg daily x 10 days (covers both gram + and gram -)
- NSAID/pain relief
- Scrotal support/Ice/Rest
- Close follow-up
- Inform your surgical consultant!

"Acute Granuloma"

Painful, mobile, small lump (1-2 cm)
No signs of infection



“Acute granuloma”

- Explanations (takes 48 hrs to improve with NSAID)
- Ibuprofen 200 mg 3 tab TID/Naproxen 500 mg BID x 5-7 days
- Support/Ice/Rest
- Close follow-up for infection
- If no response and no infection
 - Prednisone 50 mg daily x 7 day, 25 mg daily x 7 days, 12.5 mg x 7 days

Mark



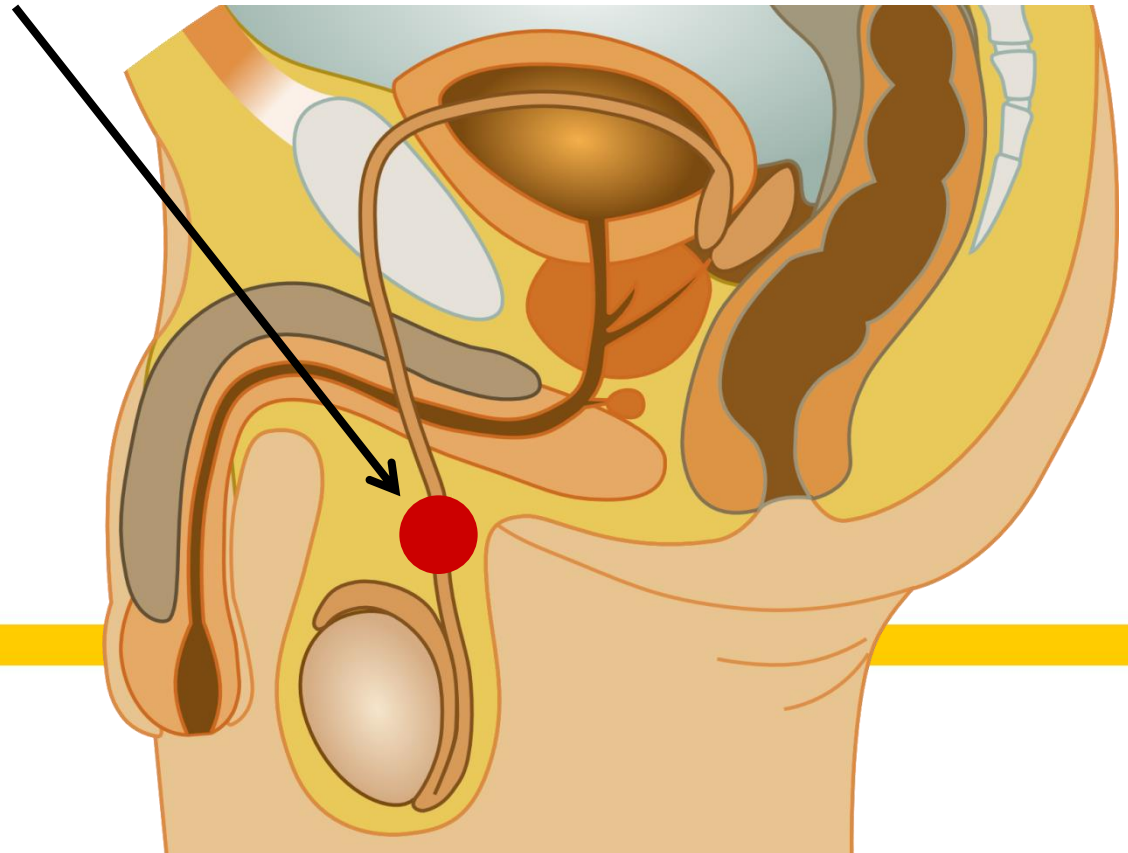
- 2 months after vasectomy
- Painful lump on right side
- No fever
- No risk of STDs



- *Possible Dx's?*
- *What do you do?*

Granuloma

Chronic intermittent pain with activities
Small painful lump (1 cm)
No signs of infection



Granuloma

- Explanations

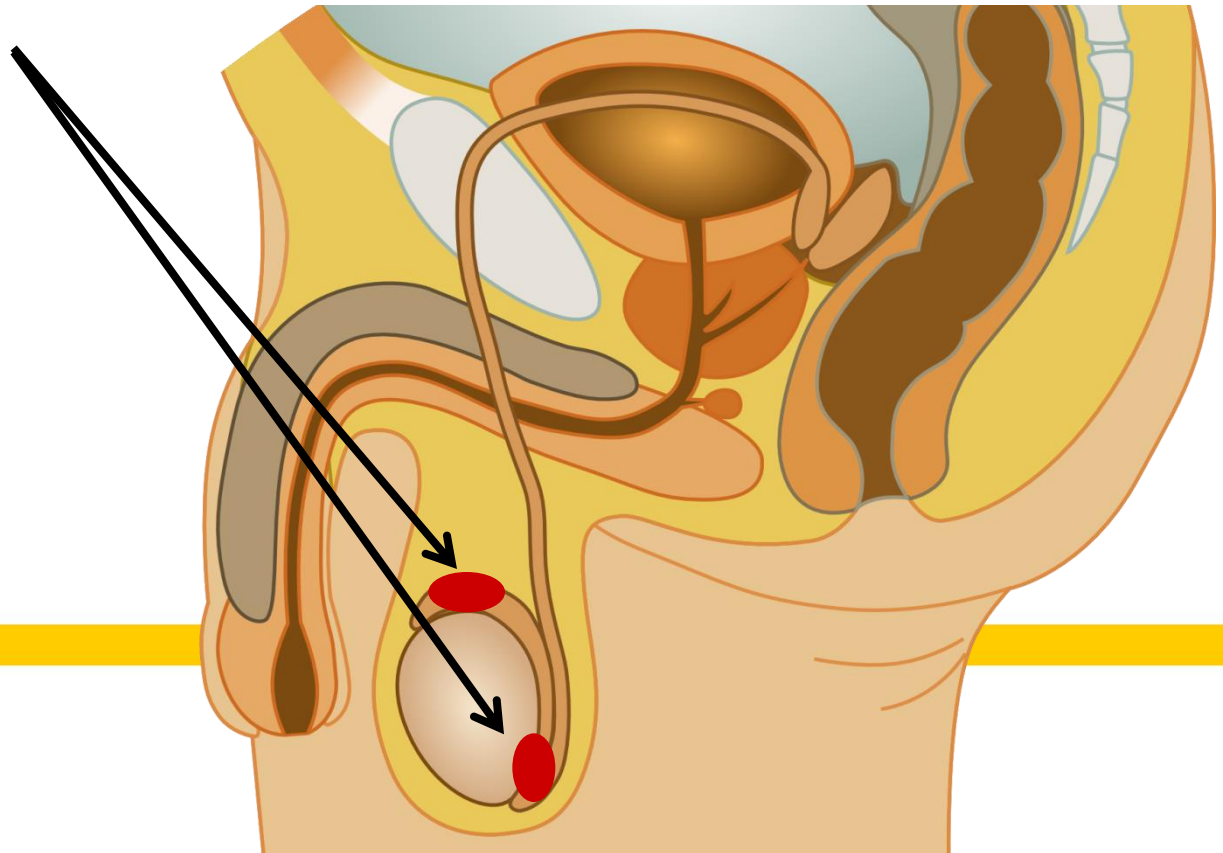
1. Ibuprofen 200 mg 3 tab TID/Naproxen 500 mg BID x 7-14 days
2. Infiltration xylocaine 2% 0.5 cc + triamcinolone 40mg/ml 0.5 cc
3. Surgical excision

Congestive Epididymitis

Acute or chronic pain

Temporary or intermittent pain

Painful epididymis (head and/or tail)



Congestive Epidydimis

- Explanations/support

1. First steps (frequent 5%)

- Ibuprofen 200 mg 3 tab TID/Naproxen 500 mg BID x 7-14 days
- Hot scrotal bath (testes-only)
 - Water at 116° F/46.7° C in Thermos
 - 45 minutes daily for 3 weeks

Congestive Epididymis

2. Second step (rare <1%)
 - Prednisone 50 mg daily x 7 day, 25 mg daily x 7 days, 12.5 mg x 7 days
 - Amitriptyline 10-25 mg daily at night
 - Acupuncture
 - Testosterone 200 mg every 2 weeks for 3 months
 - Vas deferens venting (Open-end vasectomy)

3. Third step (very rare <0.1%)
 - Spermatic cord block/denervation
 - Vasectomy reversal

Key Messages

You can now...

- Adequately inform your patients about vasectomy
- Refer them to an “ideal” surgeon
- Recognize and adequately treat most common complications

VASECTOMY
BAR

