Vasectomy for the Non-Vasectomist

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Potential Conflicts of Interests

- I perform vasectomy
  - 33,000+ 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)
- I am an administer and main donor of the *Fonds Michel-Labrecque en santé reproductive masculine* of the Laval University Foundation

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Who is Doing Vasectomy?

- Become a member of the Vasectomy Network Google discussion group

https://groups.google.com/forum/#!forum/vasectomy-network

- Sign up as one of the World Vasectomy Day vasectomy provider (November 18-22 2019)

https://www.worldvasectomyday.org/doctor-signup/

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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

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Clinical Practice Guidelines

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Justin

- 48 years-old
- Married since 14 years
- Wife 45 years-old
- 3 children
- Youngest 5 years-old
- Using IUD (Mirena®)
- He wants a vasectomy
- *What should you tell him?*

Any resemblance to real people or events is purely coincidental...

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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 ≤1%
  - Risk of pregnancy: 1 in 2,000 (0.05%)
- Surgical **complications**: 1-2%
- Chronic scrotal **pain**: 1-2%

FSRH/CUA/AUA Expert Opinion
EAU 4C (Expert Opinion)

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Justin

- *Do you examine him?*

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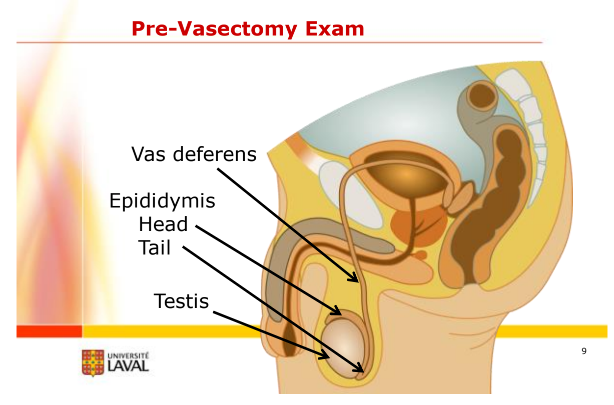

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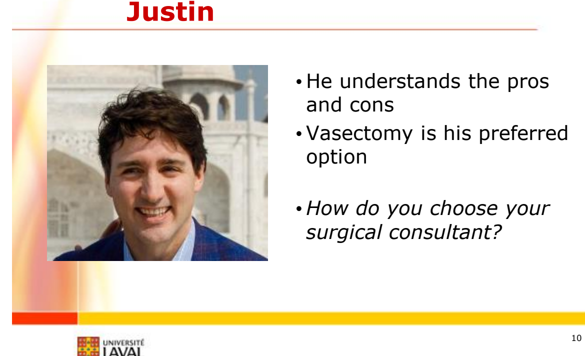

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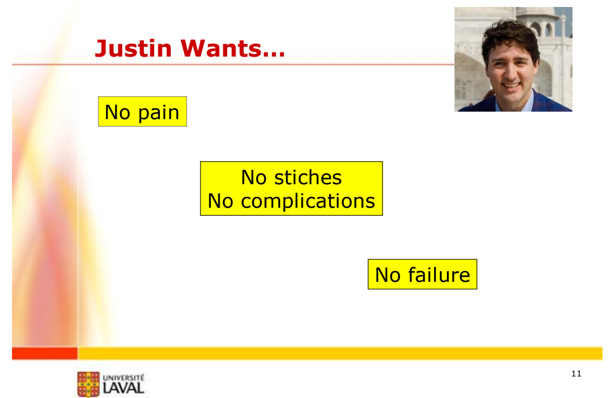

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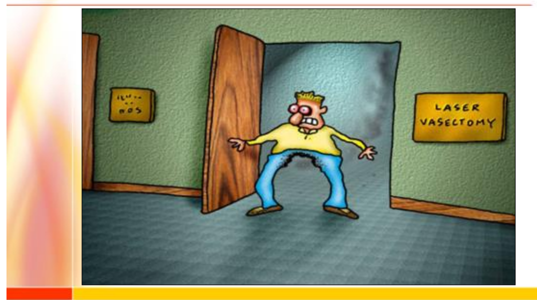
Your Ideal Surgical Consultant ?



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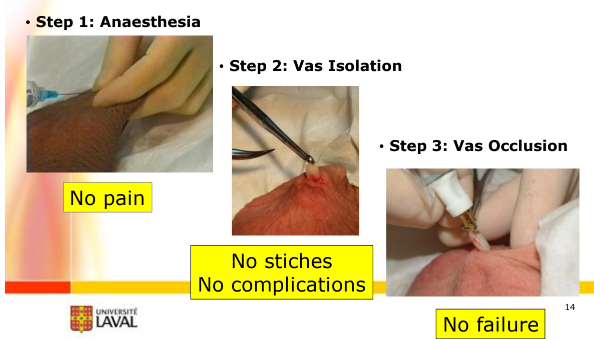
Your Ideal Surgical Consultant !

- Step 1: Anaesthesia
- Step 2: Vas Isolation
- Step 3: Vas Occlusion



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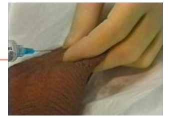
Step 1. Anaesthesia



- **Local**
  FSRH B;CAU/AUA Expert opinion;EAU principle
- Pain can be minimized with:
  - mini-needle (#30)
  - jet gun

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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*

Shih et al, J Urol 2010

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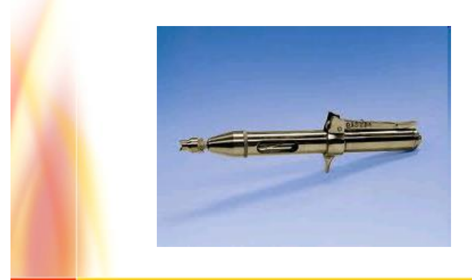
The Jet Gun Technique (No Needle)



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			
White 2007		2.1	1.9
Local (#27)			
Aggarwal 2009		3.3	2.7
Mini-needle (#30)			
Shih 2010	3.1	1.5	0.6
No Needle			
Weiss 2005		1.7	0.7
White 2007		1.6	1.7
Aggarwal 2009		2.2	2.1

Step 2. Vas Isolation

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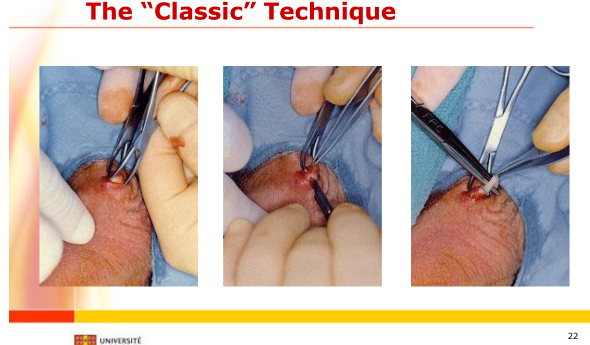
The “Classic” Technique



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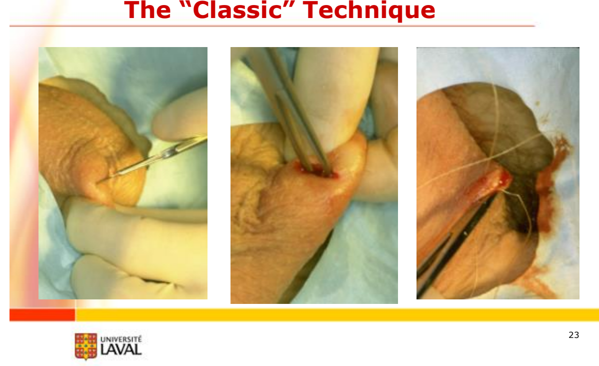
The “Classic” Technique



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Recommended Vas Isolation Technique

- Minimally Invasive Vasectomy (MIV) technique

  AUA Standard (Evidence Strength Grade B)

  FSRH A; CUA A-B

  - Small (<10 mm) opening (s)
  - No skin sutures
  - Minimal dissection of the vas and perivasal tissues

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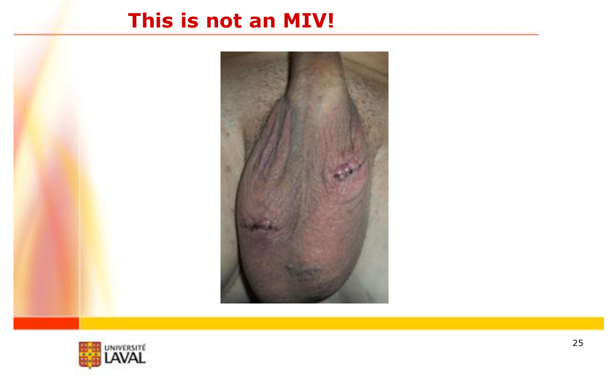
This is not an MIV!



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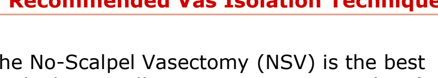
Recommended Vas Isolation Technique



The No-Scalpel Vasectomy (NSV) is the best studied Minimally Invasive Vasectomy (MIV)

NSV and MIV are vas isolation techniques, not “vasectomy” techniques

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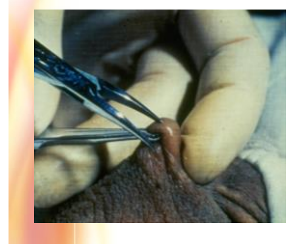
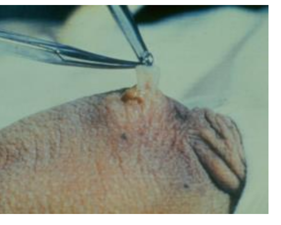
The No Scalpel Technique





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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 Recommendation (Grade C)

Labrecque et al, BMC Medicine 2004

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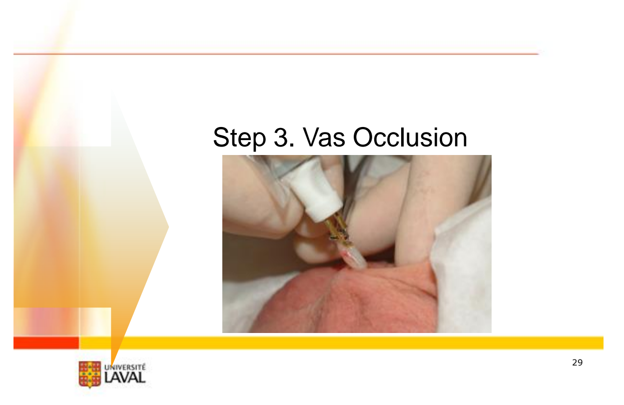

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The Most Common Vasectomy Occlusion Techniques

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

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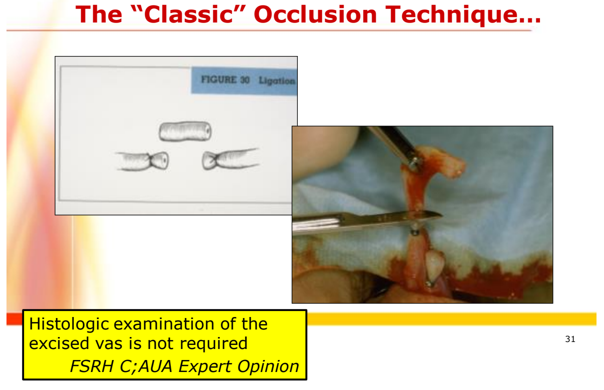
The “Classic” Occlusion Technique…



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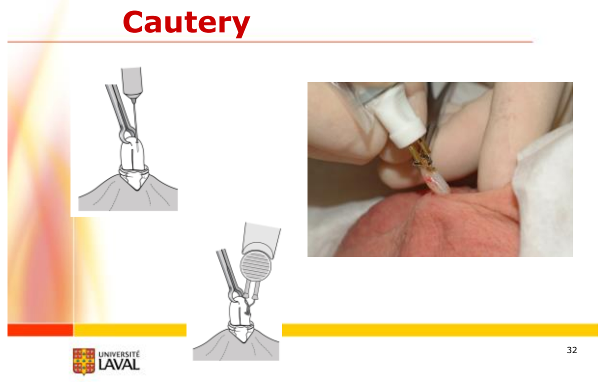
Cautery



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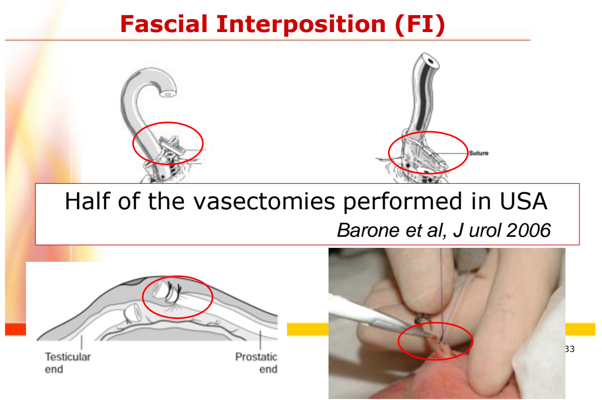
Fascial Interposition (FI)



Half of the vasectomies performed in USA

Barone et al, J urol 2006

EAU 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 *EUA 2a*

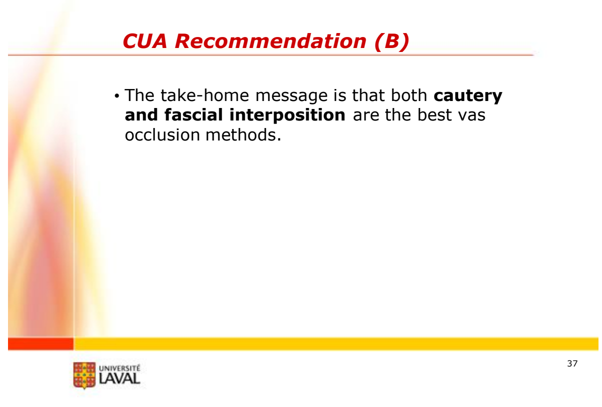
AUA Recommendation (Grade C)

- 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…

FSRH Recommendation (A)

- **Cauterisation** followed by division of the vas deferens, with or without excision, is associated with the lowest likelihood of early recanalisation (failure)…
- Division of the vas … should be accompanied by **diathermy or ligation** and **fascial interposition.**



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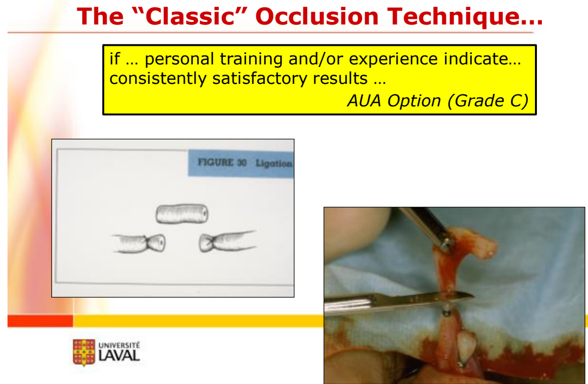

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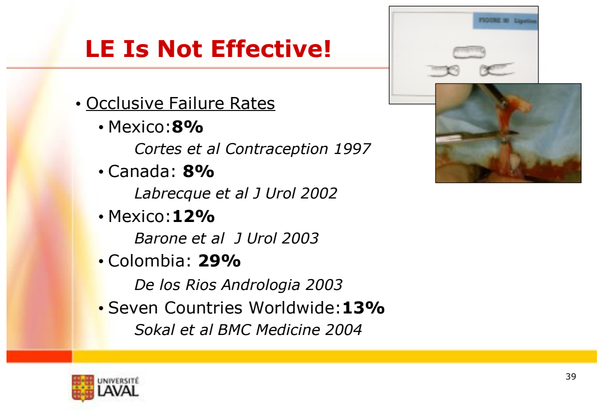

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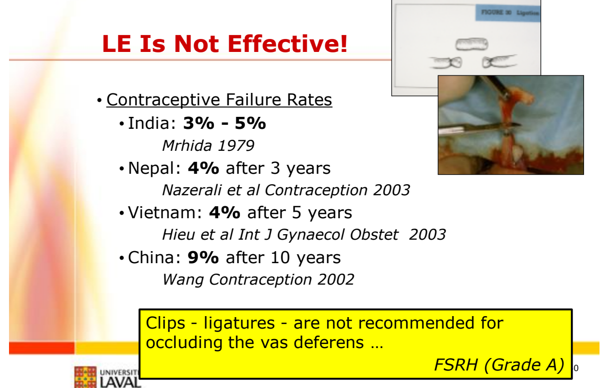

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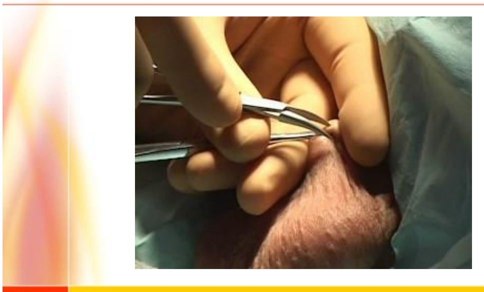
Step 3. Vas Occlusion – In Summary

- 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

Your Ideal Surgical Consultant !

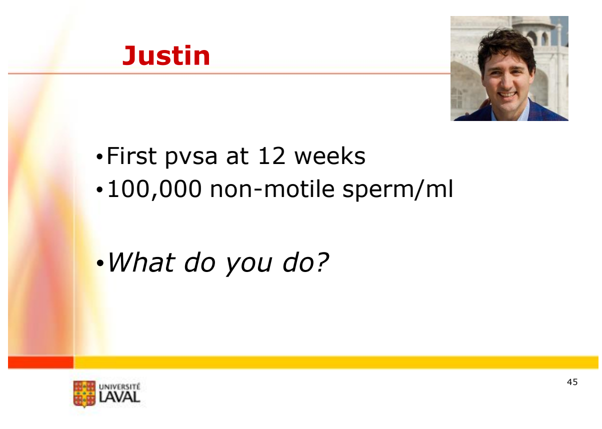
- No pain
- No stitches
- No complications
- No failure



https://www.youtube.com/watch?v=g-IcSOL7gWk

Justin

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



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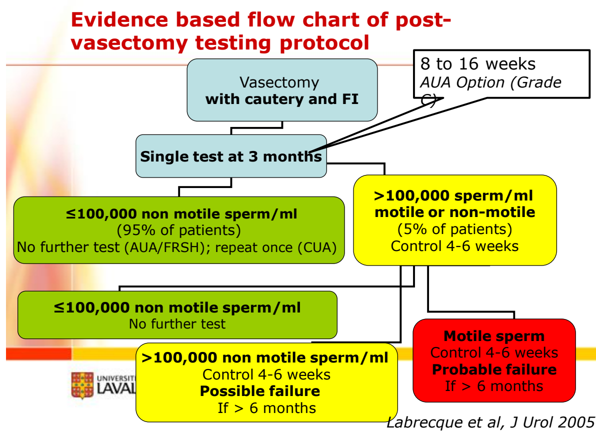

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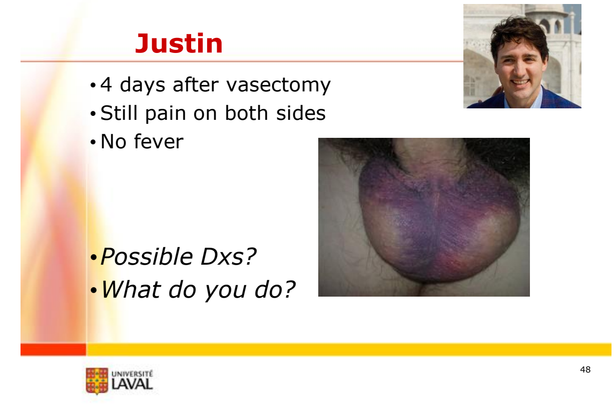

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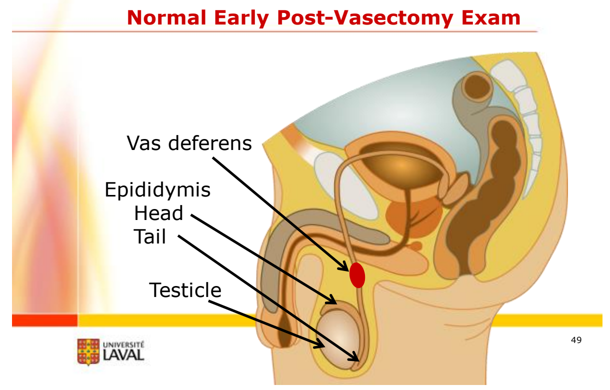
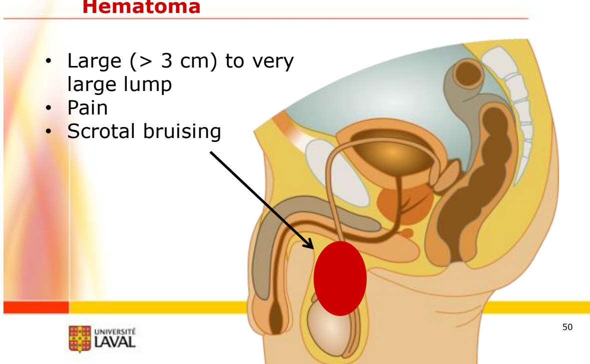
Normal Early Post-Vasectomy Exam



Hematoma

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



Hematoma

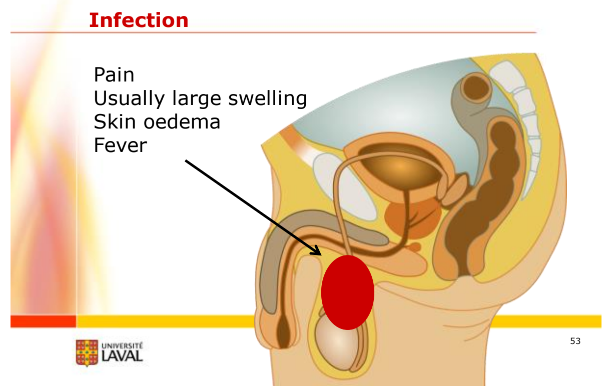
- Very early, very large : urologist

- Observation
- Explanations (takes weeks to months to disappear)
- Pain relief
- Scrotal support/Ice/Rest
- Close follow-up for infection
- Inform your surgical consultant!

Justin

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

- *Possible Dxs?*
- *What do you do?*



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Infection

- Explanations (takes 48 hrs to improve with AB/days to weeks to disappear)
- Antibiotics to cover both gram + and gram -
  - Levofloxacin (Levaquin®) 500mg daily x 7-10 days
  - Amoxicillin/Clavulanic Acid (Clavulin®) 875 mg bid x 7-10 days
- NSAID/pain relief
- Scrotal support/Ice/Rest
- Close follow-up
- Inform your surgical consultant!

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"Acute Granuloma"

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

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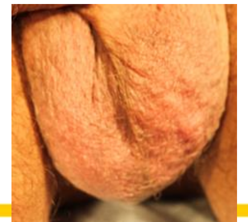
"Acute granuloma"

- 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

Justin

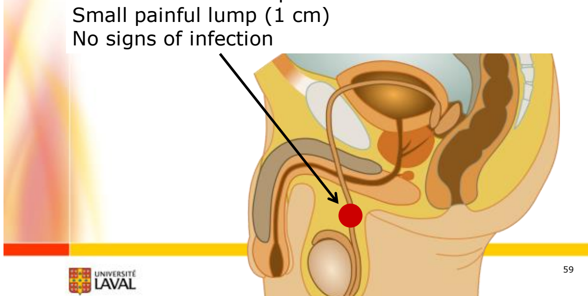
- 2 months after vasectomy
- Painful lump on left side
- No fever
- No risk of STDs



- *Possible Dxs?*
- *What do you do?*

Granuloma

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



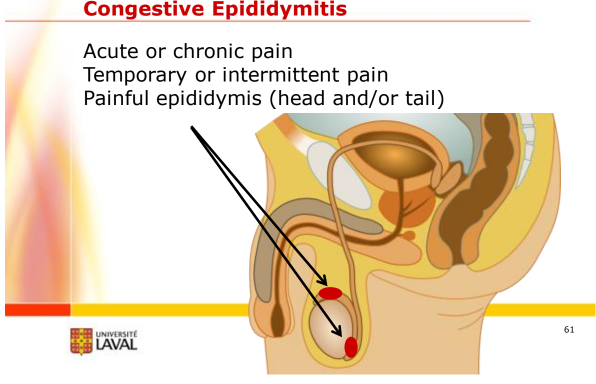
Granuloma

- 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)



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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 (testicles-only)
     - Water at 116°F/46.7°C in Thermos
     - 45 minutes daily for 3 weeks

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Congestive Epidydimis

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

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Key Messages

Now you can…

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

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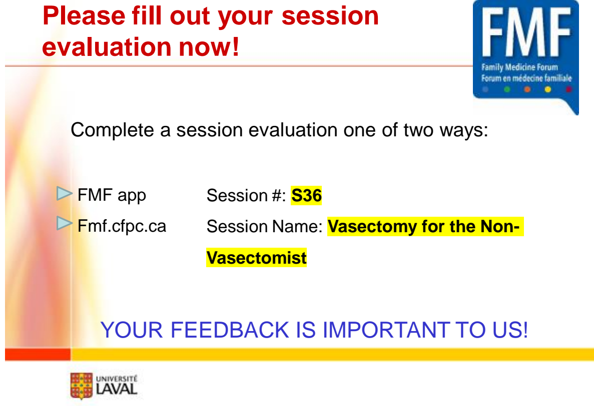

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