Vasectomy

Daniel Stulberg, MD
University of New Mexico
November 6, 2013
Goals Objectives

• Participants will
• Know the risks of vasectomy
• Know the benefits of vasectomy
• Understand the technique of no scalpel vasectomy
What is Vasectomy?

• Surgically cutting or blocking the Vas Deferens to stop the flow of Sperm from the testicle
Who?

- Desire permanent (Yes discuss reversal later)
- Stable relationship
- Usually after 30
- Already have children
- Medically stable – no coagulopathy
- Normal anatomy
  - Palpable mobile vas
  - Hernia? Varicocele? Hydrocele?
Other Options

• Abstinence
• Condoms
• Diaphragm
• Rhythm
• Female hormonal
• IUD
• Female sterilization
Comparison with BTL

• Tubal ligation has 14 deaths per year versus zero “attributable” deaths per year for vasectomies
• Tubal ligation has a higher rate of major morbidity
• Vasectomies have a higher rate of minor complications
• Average cost of vasectomy $500
• Average cost of tubal ligation $1500-$3500
• Failure rate in tubals is 0.4%, but can lead to ectopic pregnancies
• Reversal rates are similar
• Success of vasectomy can be easily checked with sperm count

From Scott M. Strayer, MD
UVA
Risks

- Usual – Bleeding, infection, pain, damage to nearby structures
- Specific
  - Failure = Pregnancy
  - Spermatocele
  - Later - pain
  - Congestion
  - Swelling
  - Antisperm antibodies
Rumors not Risks

• Coronary artery disease
• Prostate cancer - Association not causative
• Sexual dysfunction
• No noticeable change in semen
• Change in libido – not biological
Why?

- Permanent
- Safe
- Outpatient
- Relatively inexpensive
- $500 OCP’s $9 \times 12 = 106
- No need for ongoing measures
Counsel & Pre Op

• AAFP Handout
• Questionnaire
• Pt understanding
• ? Sig other involvement
• Sperm banking
• Phys exam
• No aspirin or NSAIDS
• Bring supportive underwear
• No shaving required
Welcome to the Center for Reproductive Health
Vasectomy History Questionnaire

Your visit today is about getting a vasectomy. You should read the hand out "Vasectomy: What to Expect" if you have not already read it. After that, please answer the following questions by filling in the blanks or circling the answer.

How old are you? ______________________

Please list any major medical problems that you have
____________________________________________

Please list any allergies to medications, iodine, stitches or anesthetics that you have ________________________________

Please list any medications that you take
______________________________________________
Have you taken any aspirin in the last 5 days?  Yes  or  No
Have you taken any anti-inflammatory medications like ibuprofen, Motrin, Naprosyn or others in the last 2 days?  Yes  or  No
Are you married or in a stable relationship?  Yes  or  No
How many children do you have? __________
Do you want to have any more children?  Yes  or  No
Do you understand that vasectomy is to cut the tubes carrying your sperm so that you cannot biologically father any more children?  Yes or  No
Do you understand that it will take 4-6 weeks for the sperm present in your tubes to “wash out” and that you should use a form of contraception until after you have had your semen tested and found to be clear of any sperm?  Yes  or  No
Do you understand that vasectomy reversal is complicated surgery that may not work and that you should not proceed with vasectomy if you think that you will change your mind about biologically fathering children in the future?  Yes  or  No
Do you wish to proceed with elective sterilization by vasectomy?  Yes or  No
Post Op

- Couch potato 2 days
- No heavy lifting/running 1 week
- No sex 1 week
- No bath or soaking 1 week – shower OK
- Nothing between legs 1 week
- Ice is nice
Confirmation

• Semen analysis gold standard
• 4-6 wks, 15-20 ejaculations vs 3 months
• 46% compliance
• Vas segments - ? pathology
Vasectomy is Not Guaranteed

Vasectomy pregnancy failure rate of 0.1%

- Early-unprotected intercourse prior to obtaining a negative semen analysis
- Late-recanalization of the vas deferens

Tubal ligation pregnancy failure rate of 1.85%

From Henry Fisch, MD
Columbia University

Trussell J et al, *Contraceptive Technology* 1998
Peterson HB et al, *NEJM* 1997
Weiske, *Andrologia* 2001
Schwingl and Guess, *Fert and Steril* 2000
“Clinical aspects of vasectomies performed in the United States in 1995”

Most physicians requested the first semen analysis too soon!

- \( \leq 6 \text{ weeks} \) - 59%
- 7-9 weeks - 29%
- > 9 weeks - 12%

Haws et al, *Urology* 1998

Only \( \frac{3}{4} \) of men are azoospermic at 3 months

From Henry Fisch, MD
Columbia University
What is the Best Vas Occlusion Technique?

Recent results based on semen analysis:

• Retrospective review
  – Clips - 7.1% (103/1453)
  – Cautery - 0.09% (1/1165)

• Prospective, non-comparative study
  – Ligation & excision alone - 11.5% (25/217)

Vasectomy Failure and Recanalization Rates

Recanalization based on qualitative assessment by 3 masked reviewers
Failure defined as > 10 million sperm/mL at 12 weeks or later  

From John Pile
Severe Oligospermia at 12-14 Weeks and 20 Ejaculation After Vasectomy

From John Pile

EngenderHealth
No Scalpel

- Developed in China
- Less bleeding
- Less infection
- Less time
- Less stitching
## Complication Rates of No-Scalpel and Incision Vasectomy Techniques

<table>
<thead>
<tr>
<th>Study</th>
<th>Bleeding/hematoma (%)</th>
<th>Infection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No-scalpel</td>
<td>Incision</td>
</tr>
<tr>
<td>Christensen, et al, 2002&lt;sup&gt;9&lt;/sup&gt; (RCT)</td>
<td>9.5</td>
<td>15.9</td>
</tr>
<tr>
<td>Nirapathpongporn, et al, 1990&lt;sup&gt;10&lt;/sup&gt; (NRCT)</td>
<td>0.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Sokal, et al, 1999&lt;sup&gt;11&lt;/sup&gt; (RCT)</td>
<td>1.8</td>
<td>12.2</td>
</tr>
</tbody>
</table>

From Paul Dassow AAFP 2006
## Tube Treatment

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie both tubes</td>
<td>1.5-19%</td>
</tr>
<tr>
<td>Cauterize prostatic end, fascial interposition, testicular end open</td>
<td>0.02-2.4%</td>
</tr>
<tr>
<td>Ligation and fascial interposition</td>
<td>&lt;16.7%</td>
</tr>
<tr>
<td>Cauterize both tubes</td>
<td>4.8%</td>
</tr>
<tr>
<td>Cautery and fascial interposition</td>
<td>&lt;1.4%</td>
</tr>
<tr>
<td>Remove segment, intraluminal cautery</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>
Variations & Styles

- Scalpel technique
- Midline
- No needle
- Tubes for path
Regrets

• Cryopreservation
• $500 to start
• $200/yr to store
• Reversal
Reversal

• **Vasovasostomy**
  – Difficult, expensive, elective (no coverage)
  – 2-4 hours $5-10,000
  – Only 30-60% success rate (10-90% range in literature)
  – Similar success to tubal reversal

From Greg Herman, MD
STFM 2008
Resources

- [https://no-scalpelvasectomy.com/forms_new/?form=vasectomy_registration](https://no-scalpelvasectomy.com/forms_new/?form=vasectomy_registration) pt questionnaire
- The original - [http://www.youtube.com/watch?v=tAiVi4O-Eok](http://www.youtube.com/watch?v=tAiVi4O-Eok)
- Second example -
- [http://www.youtube.com/watch?v=M2C1ZggmaK8](http://www.youtube.com/watch?v=M2C1ZggmaK8)