

Optimizing Office Management of Common PGU Problems: UDT-Retractile-"Ascending" Testis

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I have no disclosures,
Except that Dr. Einhorn saved my life.

Rationale for Treatment of UDT

- Testicular Cancer
 - 1:100 patients with UDT
 - 20-30 times higher chance in UDT
 - Surgery < age 13 years may decrease risk
- Infertility
 - Bilateral descended testis10%
 - Unilateral UDT 14%
 - Bilateral UDT 50%
- Associated inguinal hernia
- *Psychological impact*
- Higher incidence of *testicular trauma and torsion*

UDT

HISTOLOGIC CHANGES

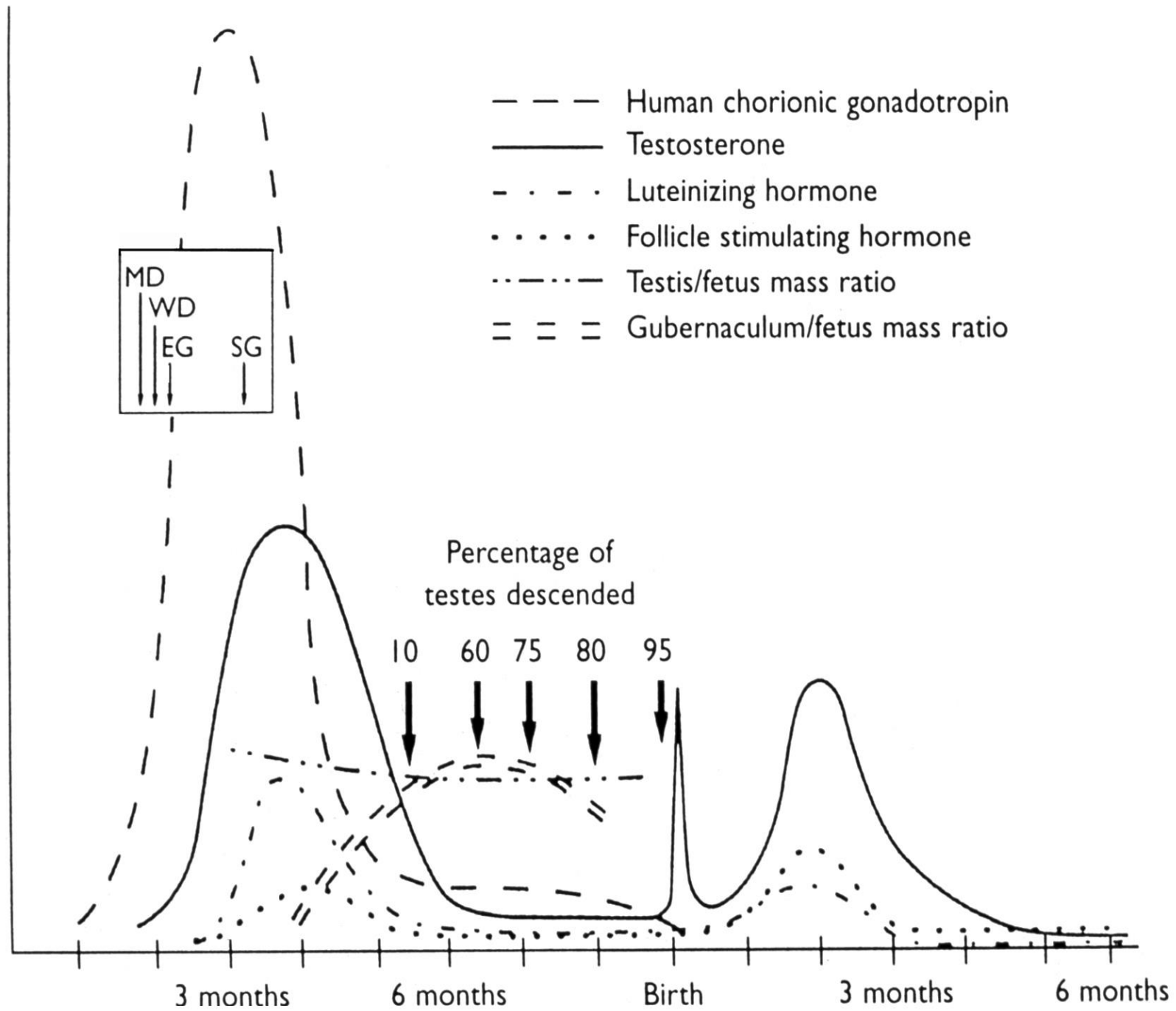
Progressive deterioration of normal histology
– varies with age, testis location

- 12 months - delay in germ cell development
- 24 months - peritubular fibrosis
- 36-72 mos - Sertoli / Leydig cell dysfunction
- Adulthood - germ cell aplasia (as early as 2 yrs. In some reports)

The Chance of Spontaneous Descent Approaches “0” After 6 Months

- **Park et al, J Urol, 2004**
 - 1, 235 UDT, 6.9% descended
 - 0% after 6 months
- **Arch Dis Child, 1992**
 - Radcliffe Study, 7500 births
- **Ghirri et al, J Endoc Invest, 2002**
 - 10, 730 births

Relative Change



EARLY SURGERY

Reduced risk of cancer

- **Turek et al, J Urol, 2007**
 - 6X decrease in CA if orchiopexy before puberty
- **Pettersson et al, NEJM, 2007**
 - 2X decrease in CA if orchiopexy < 13 yrs
- **Elder, J Urol, 2009**
 - Review of literature: orchiopexy < 10-12 yrs

EARLY SURGERY

Reduced risk of torsion

- **Mor et al, J Urol, 2006**
 - **20 yr review, 11 torsions in UDT**
 - **1/11 testis salvaged**

- **Osaigbovo et al, J Ped Surg, 2009**
 - **186 UDT followed prospectively**
 - **0% descended after 7 months**
 - **3.2% torsion rate over 2 yrs**

Testicular Biopsy Data Supports Earlier Surgery for Fertility

- **Ingeler, et al, Urology 2000**
- **Testis bx in 440 preperatal boys**
 - **Fertility correlated to number spermatogonia at orchiopexy**
 - **Fertility correlated inversely with age of orchiopexy**

A Prospective, Randomized Study Clearly Demonstrates Advantage For Early Surgery

- **Kollin et al, J of Urology, 2007**
- **Randomized prospective study of testis size after surgery 9 m vs 3yr**
- **US testis volume at 6-12 mo intervals until 4 yrs**
- **6 m = .68 to .81; 3 yr = .68 to .56***

$P < 0.001^*$

Other causes of subfertility with UDT



Undescended Testis

Current Recommendations

ORCHIOPEXY: 6-9mo Why

Not descending after 4-6 mo. old

Techniquely easier

Better testes growth

Less risk of torsion

Decrease tumor risk

Improve fertility

Question 1:

- Newborn male with bilateral UDT
- Cannot palpate either testis on exam
- Normal phallus



1. Next step is?

RTC 6 months

EUA and laparoscopy now

MIS level and karyotype

MRI abdomen/pelvis

1. Next step is?

RTC 6 months

EUA and
laparoscopy now

MIS level and
karyotype

MRI
abdomen/pelvis

1. Next step is?

 **Poll locked.** Responses not accepted.

RTC 6 months

EUA and
laparoscopy now

MIS level and
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MRI
abdomen/pelvis



Question 2:

- 8 month old male with unilateral UDT
- Cannot palpate on exam
- Contralateral scrotal testis 2.5 cm

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- 8 month old male with unilateral UDT
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- Next step is?

- A) Observation
- B) Ultrasound of groin/abdomen
- C) MRI pelvis
- D) Inguinal or scrotal exploration

2. Next step is?

Observation

Ultrasound of groin/abdomen

MRI pelvis

Inguinal or scrotal exploration

2. Next step is?

Observation

Ultrasound of
groin/abdomen

MRI pelvis

Inguinal or
scrotal
exploration

2. Next step is?

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Observation

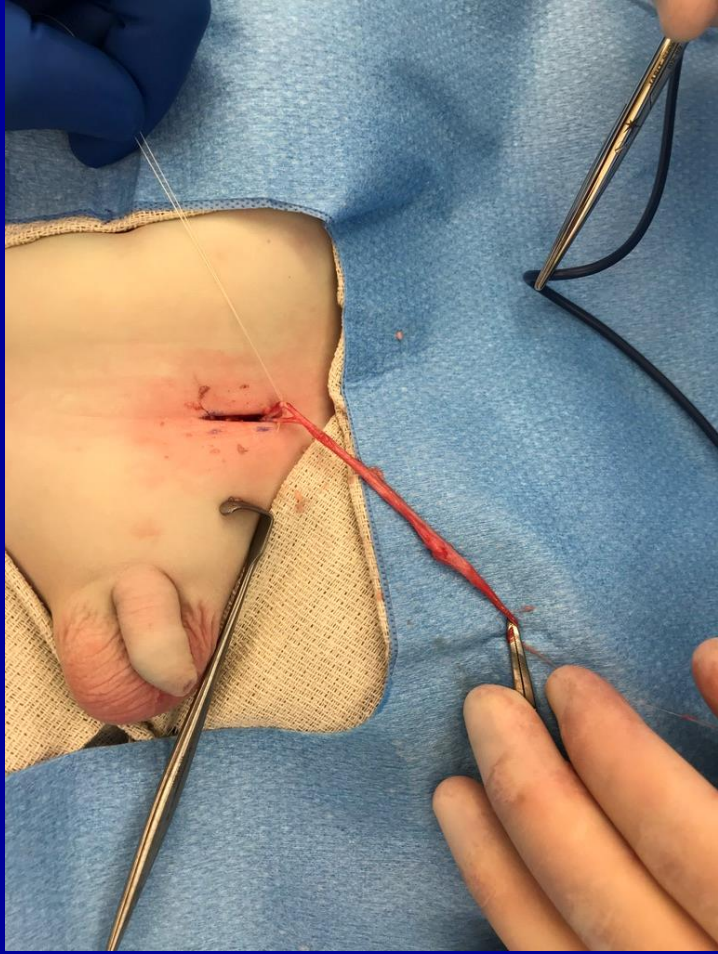
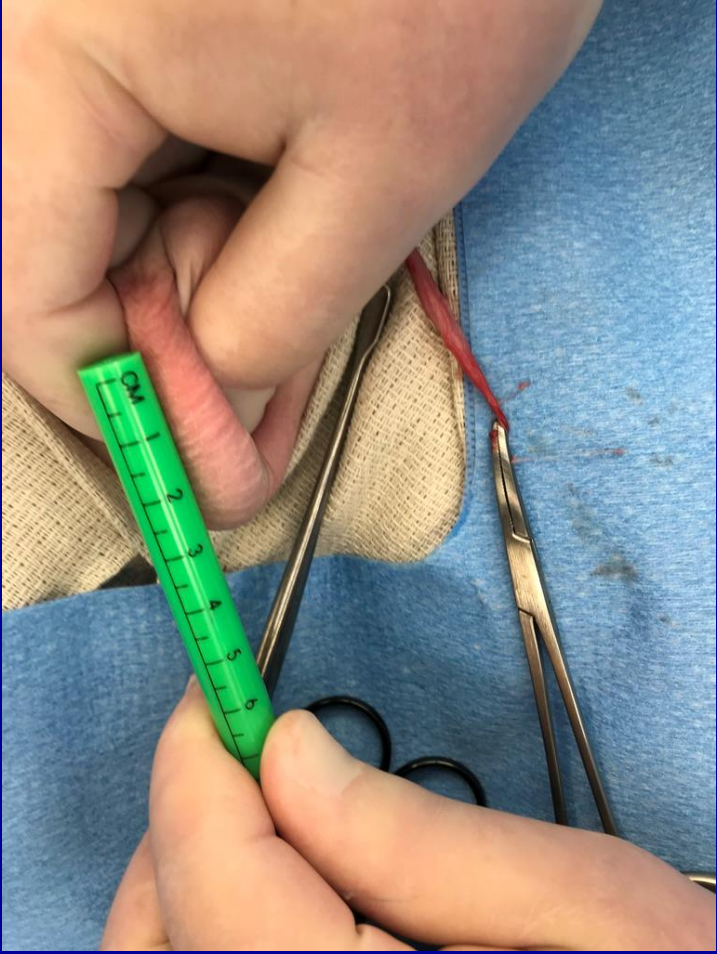
Ultrasound of
groin/abdomen

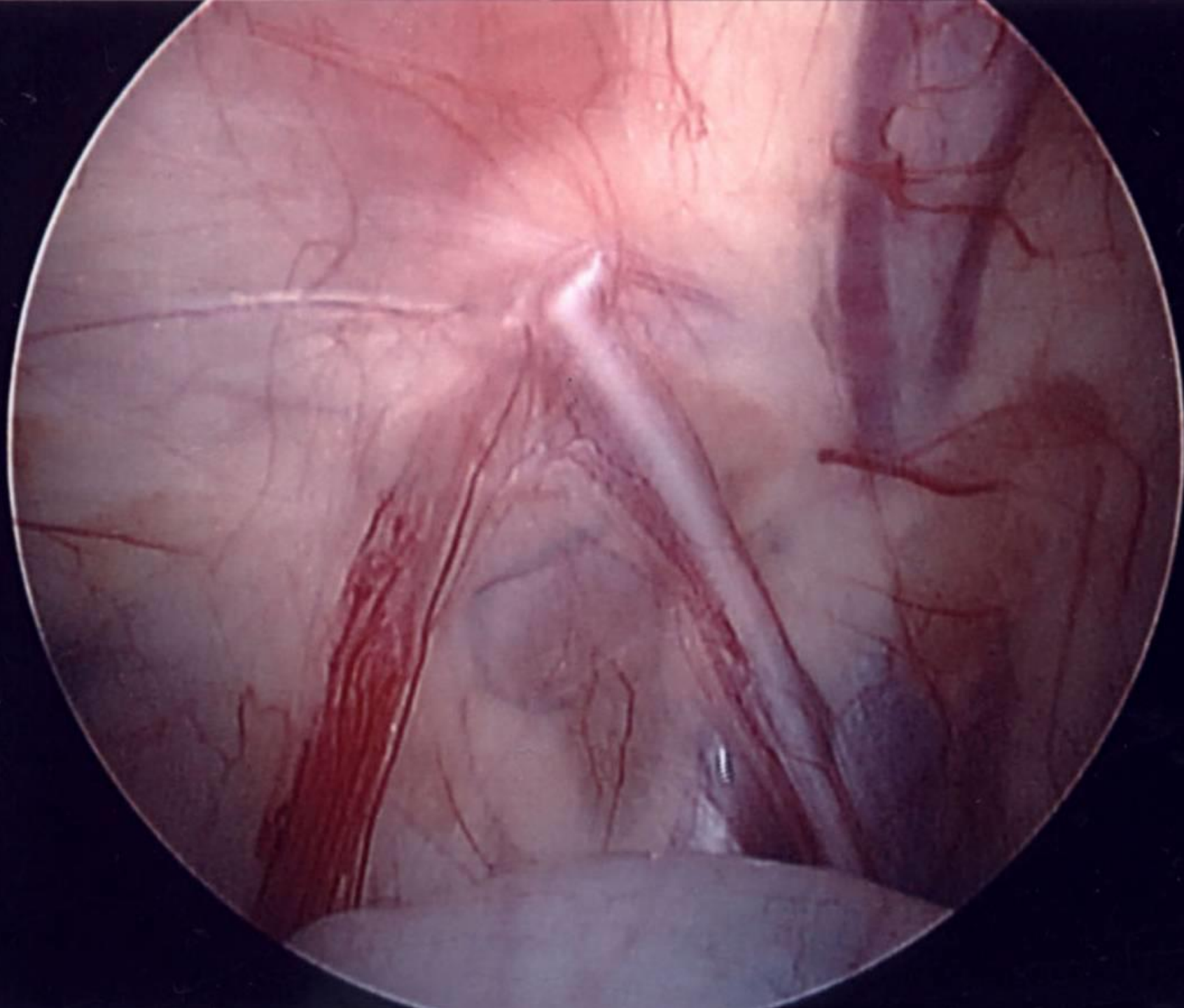
MRI pelvis

Inguinal or
scrotal
exploration

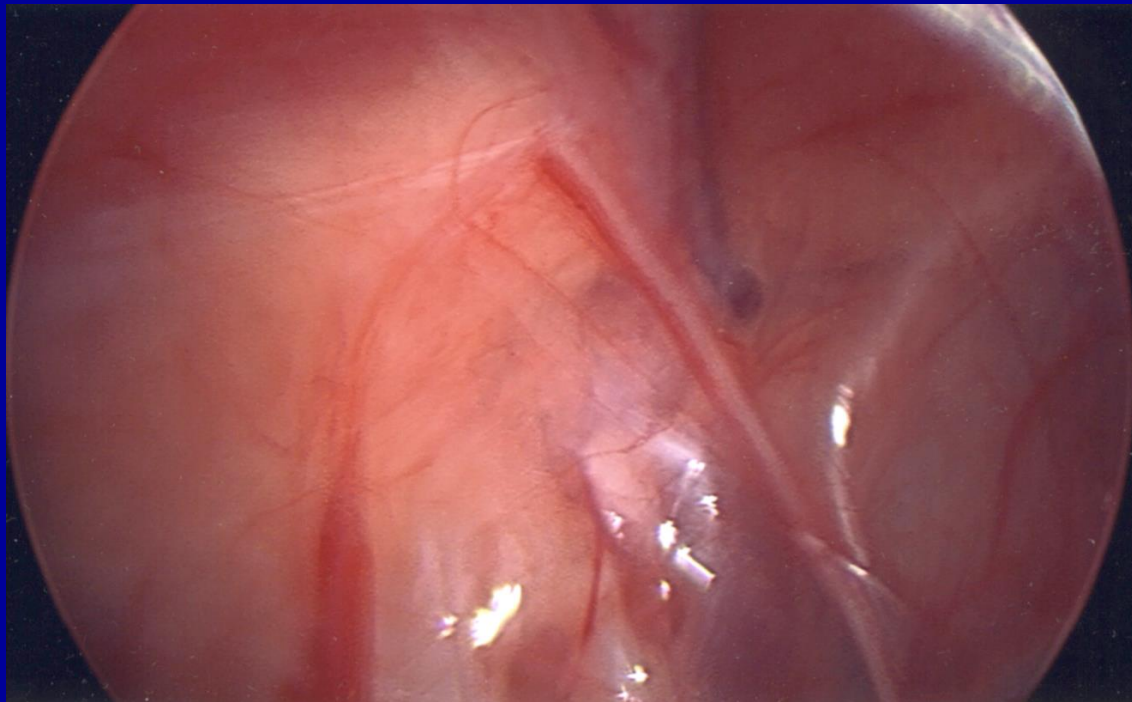
Non-palpable Testis: Basic Facts

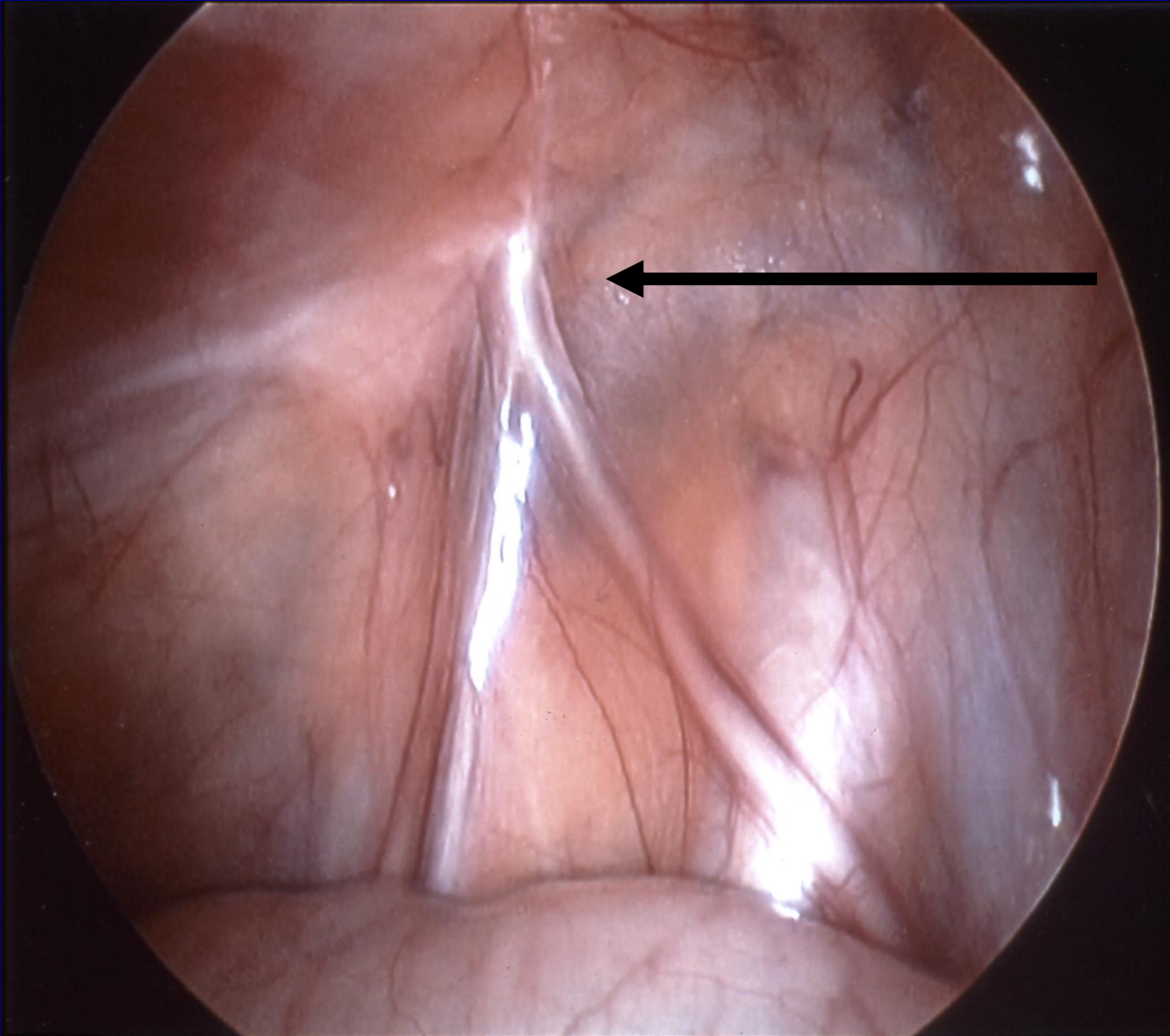
- 10%-15% of undescended testes
- 50% present, abdominal or high inguinal
- 50% absent (atrophic), secondary to in utero torsion
- If atrophic, remnant usually in scrotum
- If bilateral non-palpable testes, nearly always both present or both atrophic





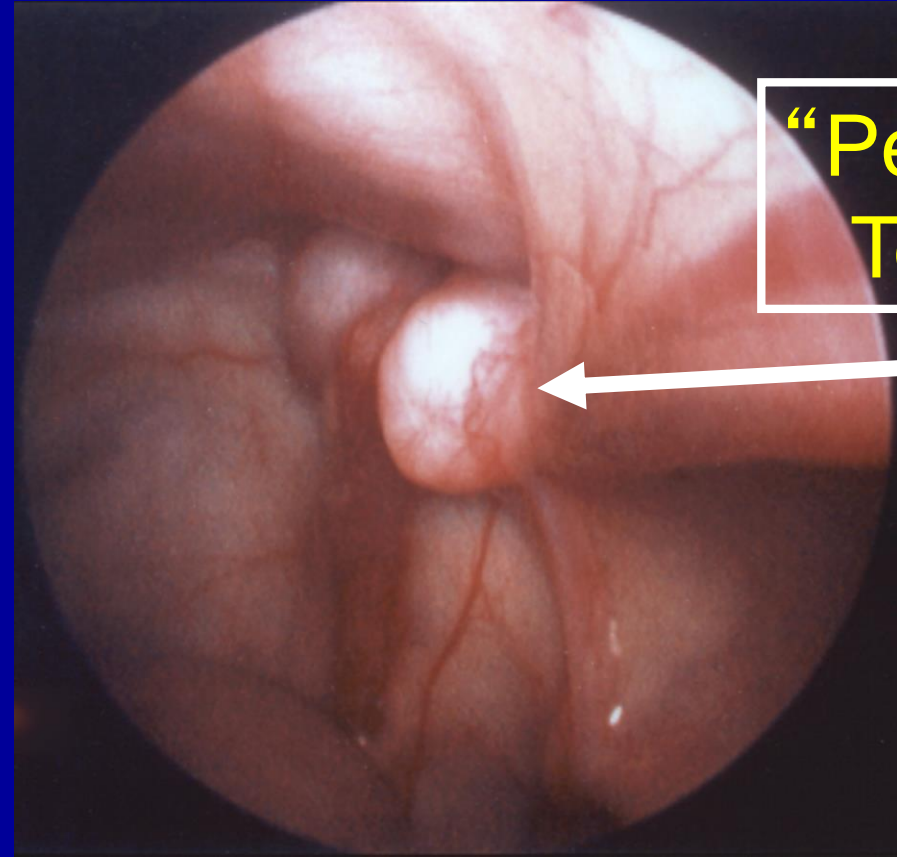
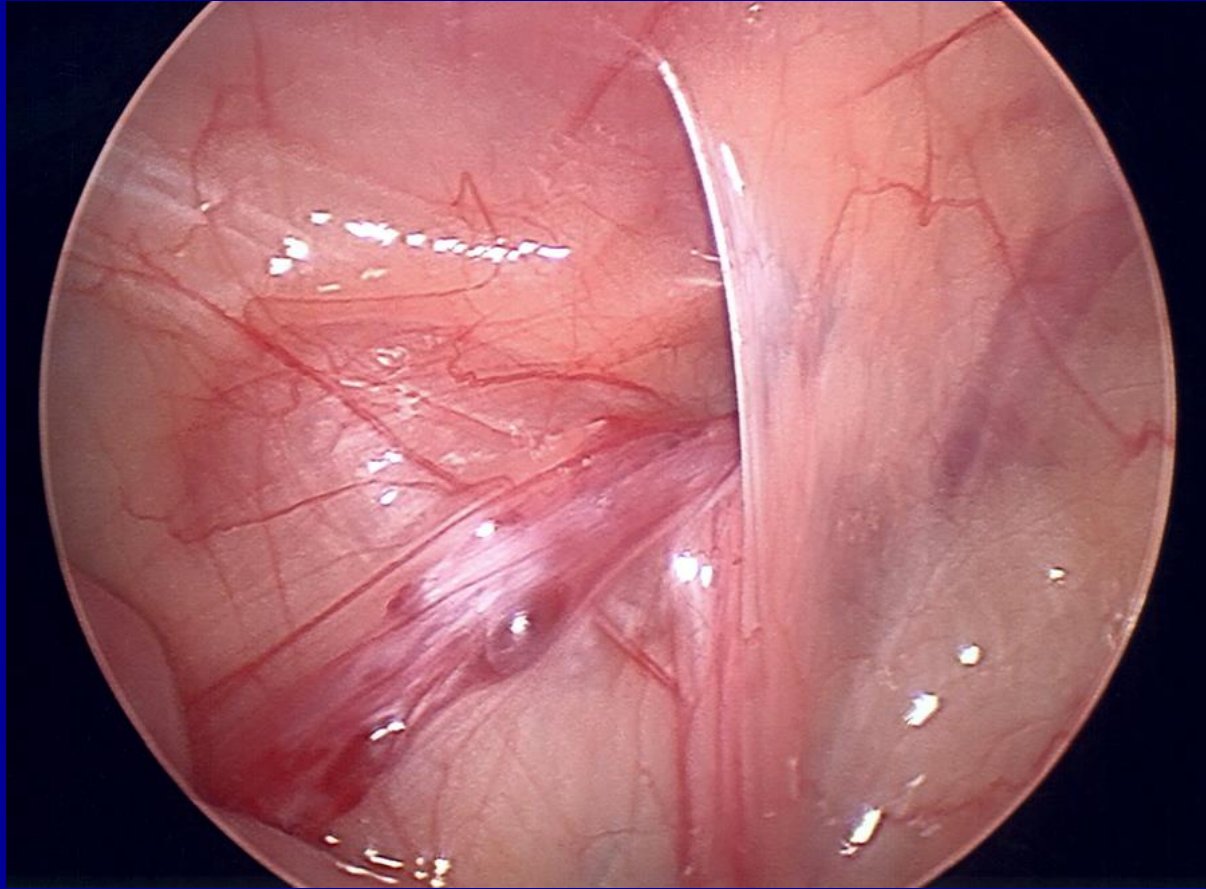
UDT: “Vanishing Testis”



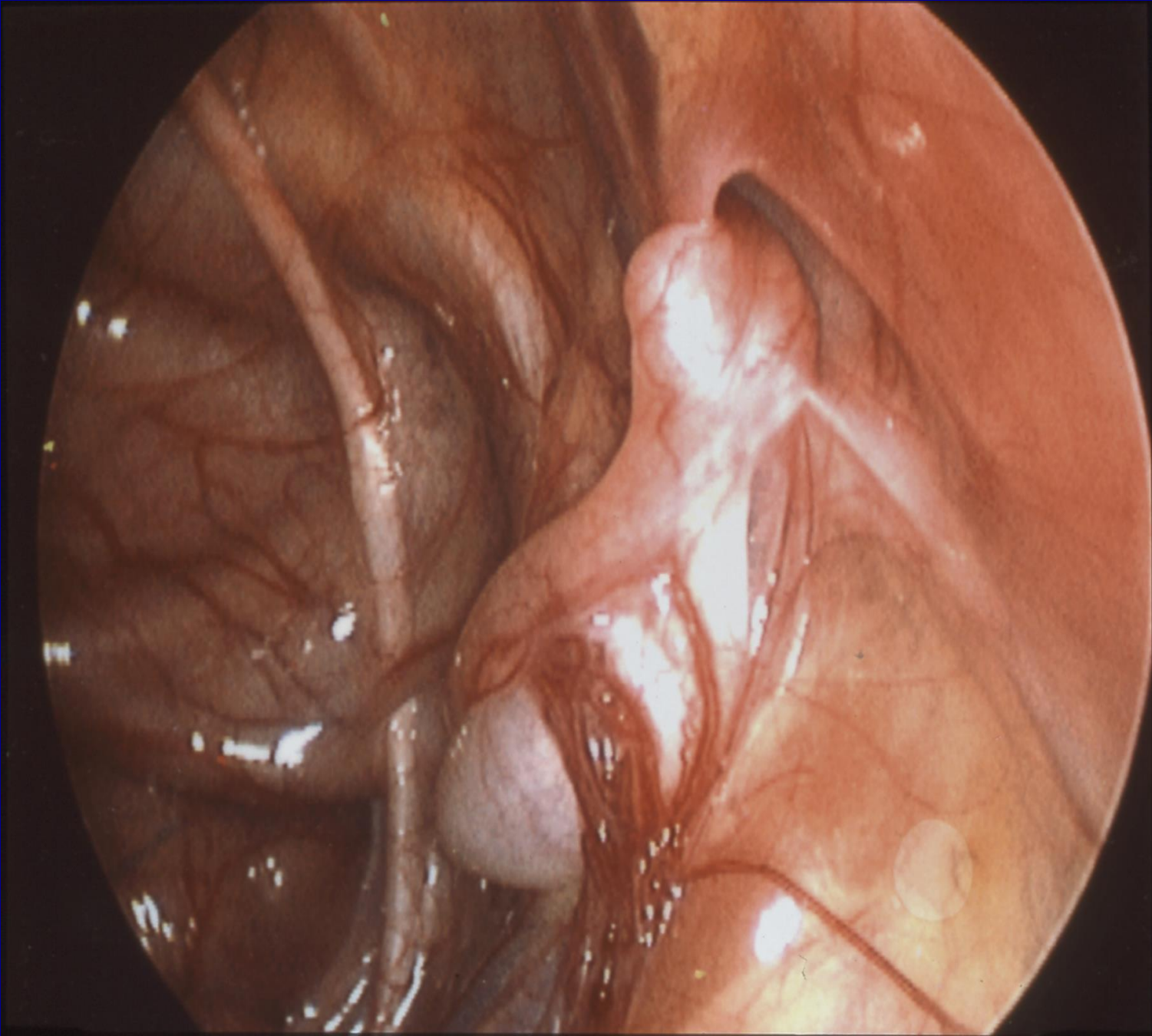


Closed Ring

Vessels and
Vas present

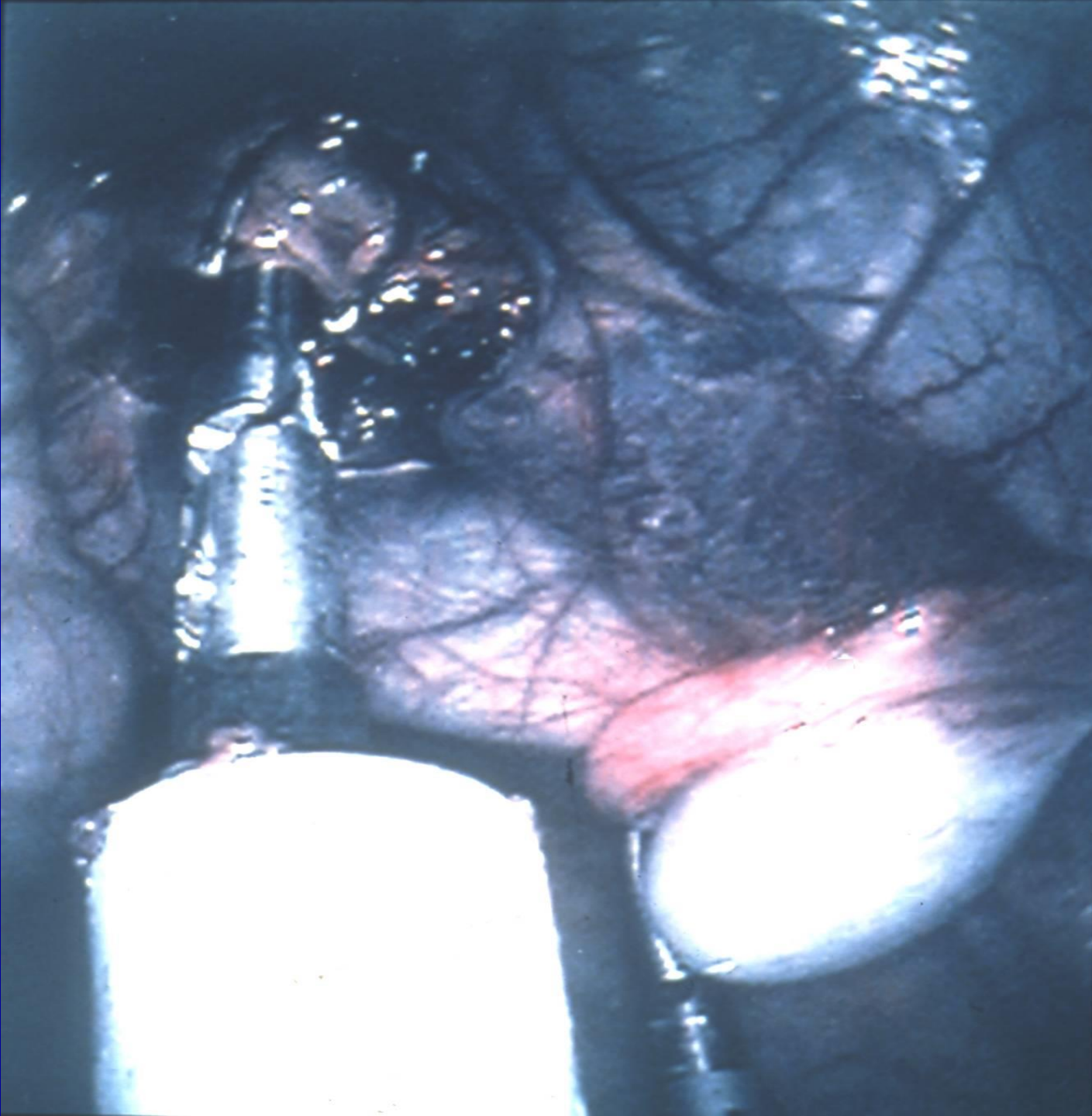


"Peeping"
Testis

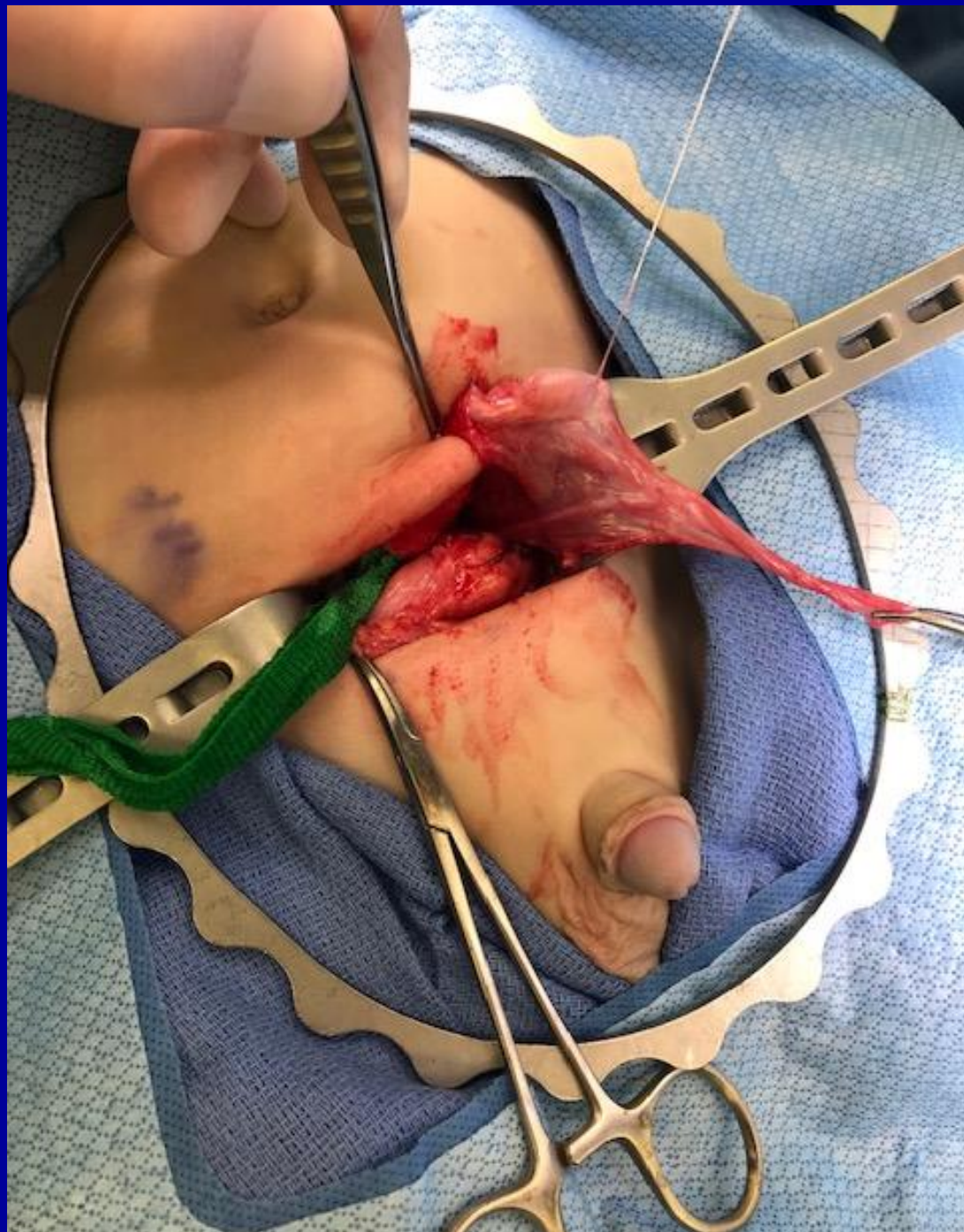


Intra-
Abdominal
Testis





Laparoscopic
Approach to
Testicle





Counseling after surgery:

1. Testicular self exam
2. Return at puberty
3. Protective cup

**The first testicular guard, the “Cup”,
was used in Hockey in 1874 and the first
helmet was used in 1974. That means
it only took 100 years for men to realize
that their brain is also important.
Ladies.... quit laughing**



Question 3:

- 14 year old obese male with unilateral UDT
- Cannot palpate on exam
- Contralateral scrotal testis normal size

3. Next step is?

MRI abdomen/pelvis

Ultrasound of groin

Inguinal exploration

Observation

3. Next step is?

MRI
abdomen/pelvis

Ultrasound of
groin

Inguinal
exploration

Observation

3. Next step is?

 **Poll locked.** Responses not accepted.


MRI
abdomen/pelvis

Ultrasound of
groin

Inguinal
exploration

Observation

Nonpalpable Undescended Testis

- **No radiographic study reliable**
 - US, CT, MRI, Venography
 - EXCEPTION: Obese teen, nonpalpable UDT
- **Size of descended testis predictive**
 - >2 to 2.5 cm  95% absent testis

Do not obtain Ultrasound

Question 4:

- 15 year old male with unilateral UDT
- Palpable in the inguinal canal
- Contralateral scrotal testis normal size
- Tanner 5 puberty

4. Next step is?

Orchiopexy, if possible

Orchiectomy

Serial examination

Serial ultrasound and tumor markers

4. Next step is?

Orchiopexy, if possible

Orchiectomy

Serial examination

Serial ultrasound and tumor markers

4. Next step is?

 **Poll locked.** Responses not accepted.

Orchiopexy, if possible

Orchiectomy

Serial examination

Serial ultrasound and tumor markers

Cancer Risk in UDT

Lifetime CA risk 3-5% (vs 0.4%)

No increased risk for abdominal UDT

Contralateral risk 1.5 – 2 X risk

? Effect of early orchiopexy

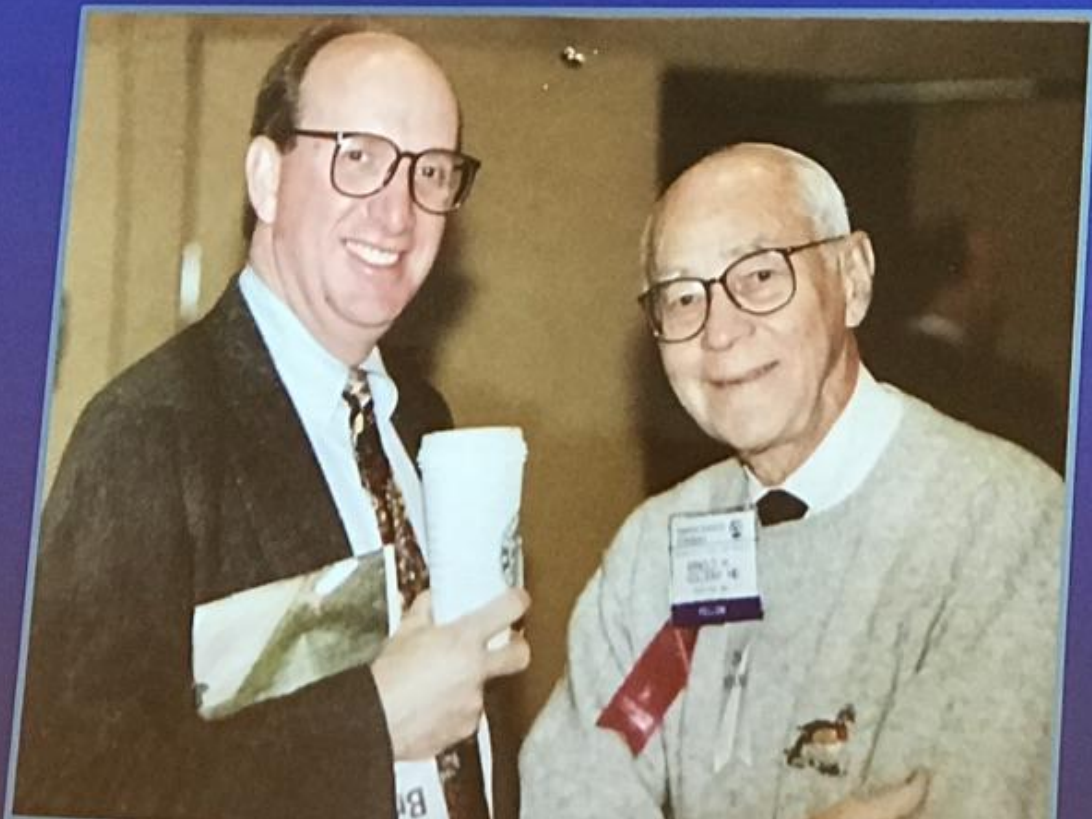
Risk of anesthesia > CA = age 50

Retractile Testicle

- Can manipulate into scrotum
- Stays for > 10 seconds
- Confirmed on multiple exams
- Remains in scrotum after puberty
- Responds to hormonal therapy if uncertain
- Does not impair fertility
- Does not increase cancer risk

*“Yes, I’ve seen that complication many times before, but **never** experienced it **personally!**”*

- A. H. Colodny



“If you are going to do unnecessary surgery, then you better do it perfectly”

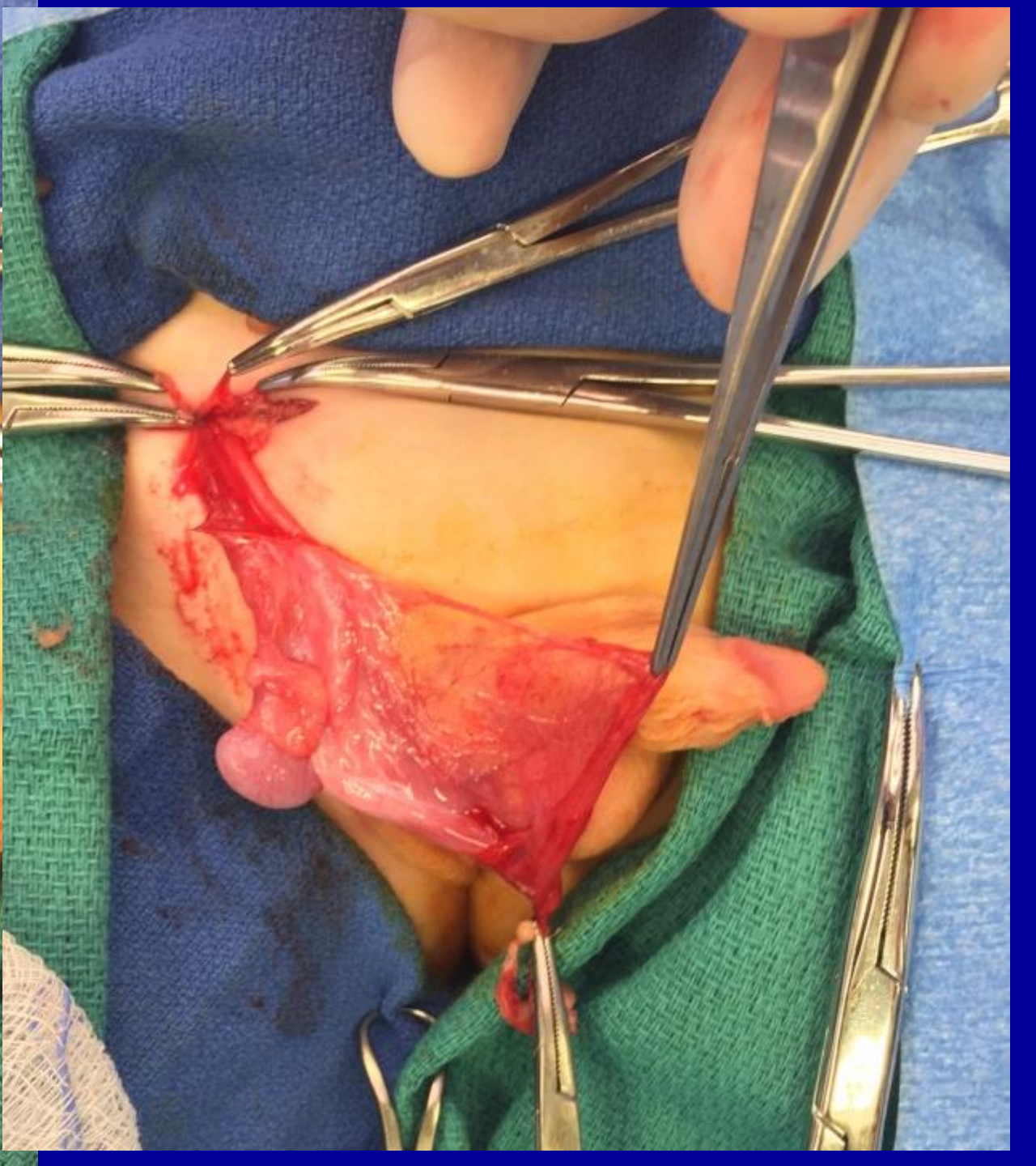
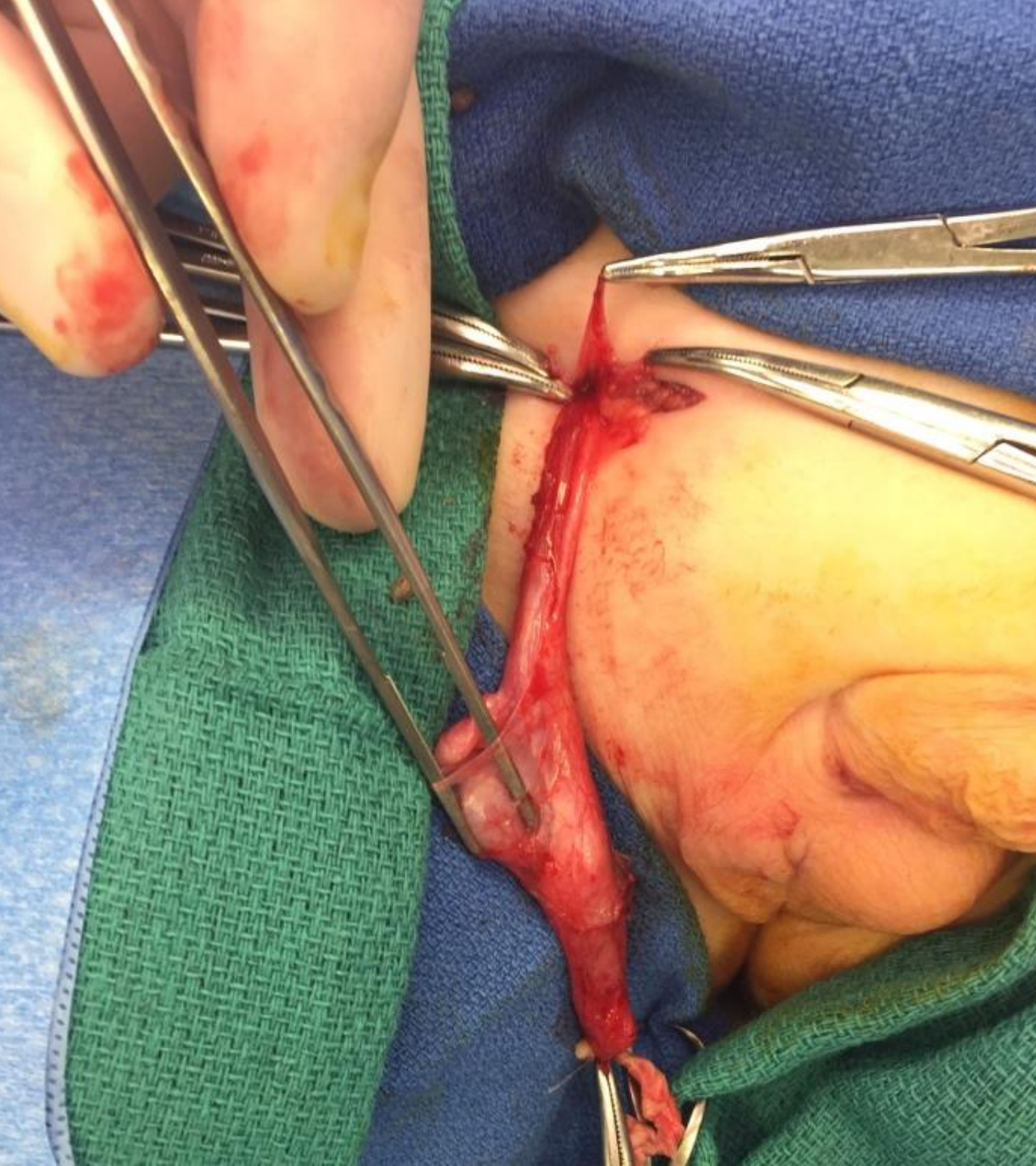


Versus the Ectopic Testicle.....

- Cannot manipulate into scrotum
- Stays for < 10 seconds, usually painful to move to scrotum
- Usual age 7-10 years
- Does not respond to hormonal therapy
- Surgery as soon as diagnosis made

UDT Since Birth (80+% Hernia)

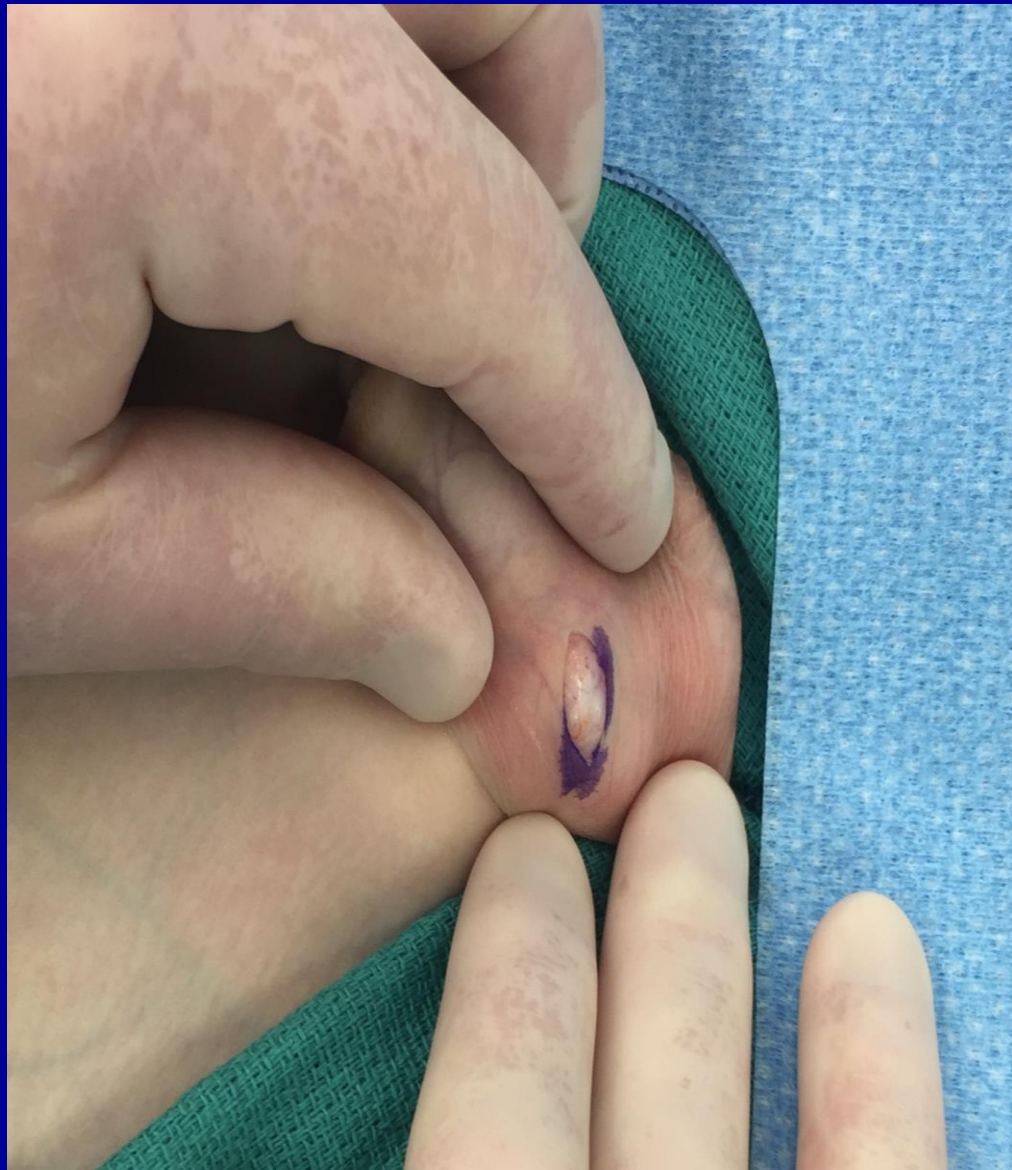




Ectopic UDT



Ectopic UDT (6-10 years) – Bianchi Orchiopexy



Bianchi Orchiopexy



Cryptorchidism

Goals of Treatment

Improve Fertility
Correct Associated Hernia
Decrease Risk of Torsion
Improve Detection of Malignancy

Undescended Testis

Current Recommendations

Palpable UDT – orchiopexy 6-9 mos
- hormonal therapy (Europe)

Nonpalpable UDT – laparoscopy vs
exploration (still controversial)

Bilateral nonpalp UDT – MIS/AMH testing

Atrophic UDT – remnant orchiectomy

Retractile testis – yearly exam until pubertal



Digital Photo to Make Diagnosis:

