

# Behind the Curve: Peyronie's Disease Symptoms and Treatments

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# Objectives

- Identification and evaluation for Peyronie's disease
- Indications for non-surgical treatments and available options
- Indications and review of surgical treatments

**I have no financial disclosures**

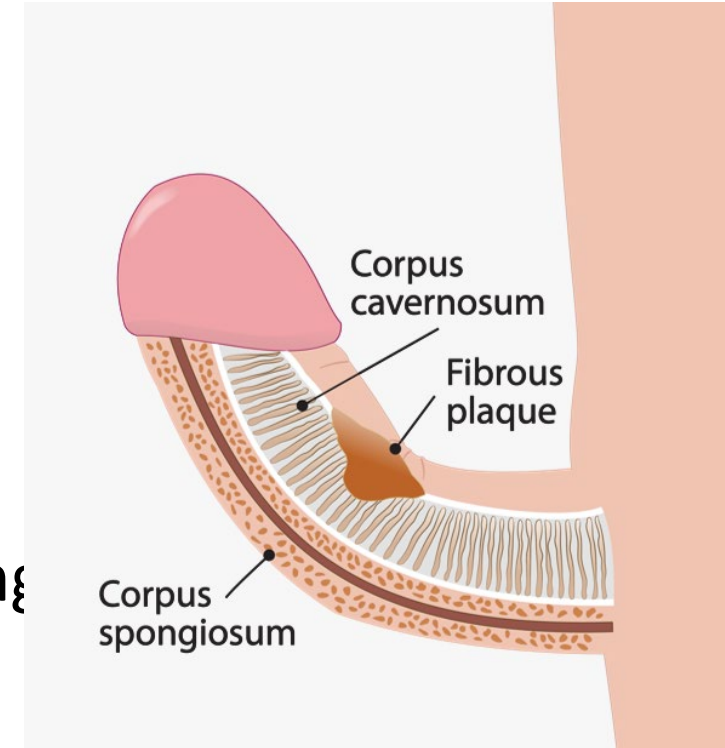
# Introduction

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# ● Peyronie's Disease

## What is it?

- Fibrous scar tissue generally deposited through trauma
- Deposits on the tunica albuginea of the corpus cavernosum
- Prevents expansion in that region, resulting in curvature



# • Peyronie's Disease

## **Etiology**

- Repeated minor microvascular trauma during intercourse
  - Inflammation and fibrosis
- Acute trauma (penile fracture)
- Association with Dupuytren's contracture



# • Peyronie's Disease

## Natural History

- Active Phase
  - Acute pain with erection
  - Changing curvature
  - Lasts around 1-6 months of initial symptoms
- Stable Phase
  - Painless erection
  - Stable curvature for 3- 6 months



# • Peyronie's Disease

## **Prevalence**

- About 10-11% of US men
- Most common in the 6<sup>th</sup> decade

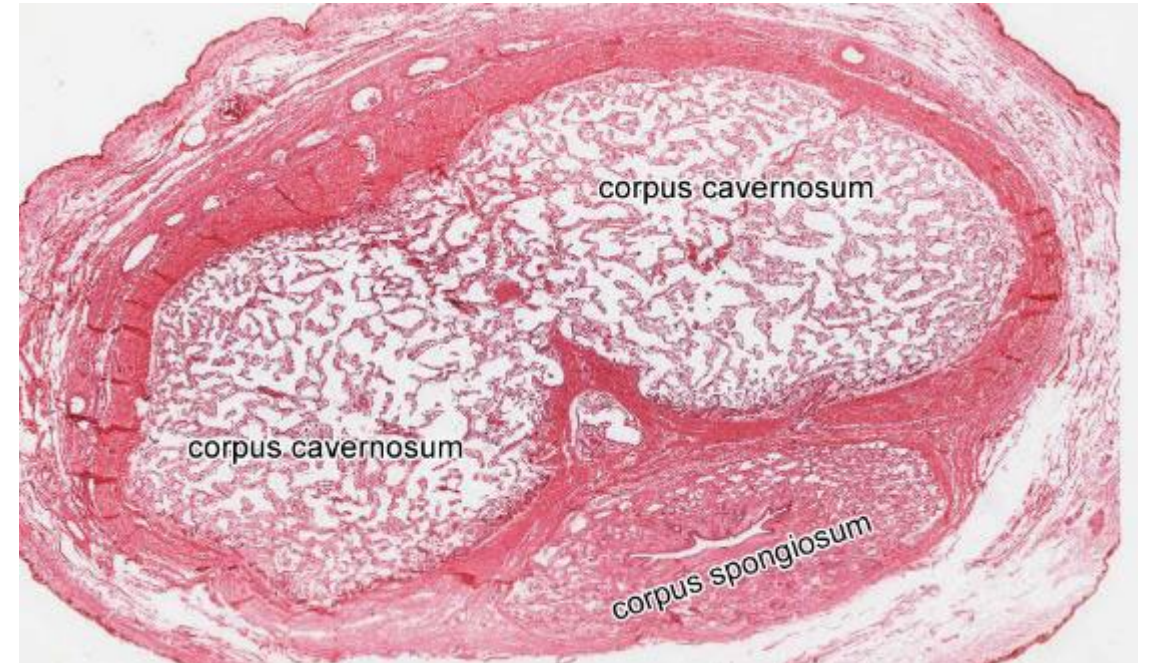
## **Symptoms**

- Pain with erection
- Acquired curvature of erection
- Inability to have intercourse



# • Peyronie's Disease

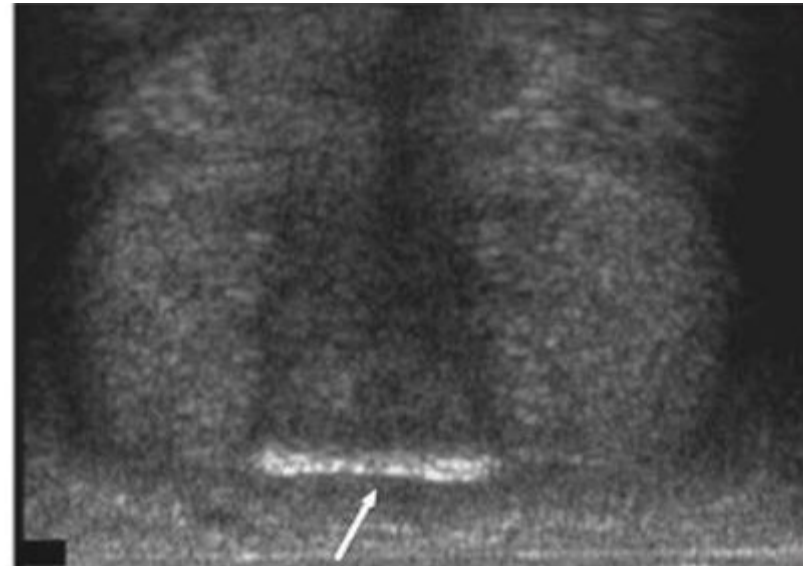
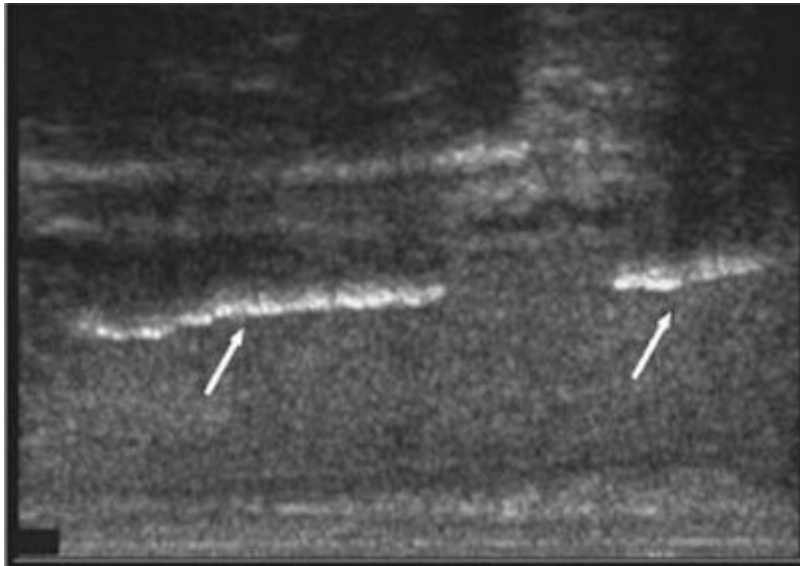
- Tunica albuginea
  - Fascial layer around the corpora cavernosa
  - Composed of a lattice of elastin and collagen in several layers
- Peyronie's plaque
  - Abnormal collagen deposition, disordered elastin, fibrin deposition



# • Peyronie's Disease

## Diagnosis

- Physical examination and history
- Duplex penile Doppler ultrasound with pharmaceutical erection





# • Peyronie's Disease

## Peyronie's Disease Questionnaire (PDQ)

- Validated questionnaire to assess severity of physical and psychological symptoms
  - Developed by Hellstrom et al. (2013)

- Q1 Concern about damaging penis while having vaginal intercourse
- Q2 Bending or collapsing of penis while having vaginal intercourse
- Q3 Trouble inserting erect penis into partner's vagina
- Q4 Difficulty with some positions that you used to enjoy when having vaginal intercourse
- Q5 Awkwardness with some positions that you used to enjoy when having vaginal intercourse
- Q6 Discomfort with some positions that you used to enjoy when having vaginal intercourse
- Q7 In the last 24 hours, how much pain or discomfort have you felt in your penis when it was not erect?
- Q8 Thinking about the last time you were erect, how much pain or discomfort did you feel in your penis when it was erect?
- Q9 Thinking about the last time you had vaginal intercourse, how much pain or discomfort did you feel in your penis when having vaginal intercourse?
- Q10 Thinking about the last time you had an erection, how bothered were you by any pain or discomfort you may have felt in your erect penis?
- Q11 Thinking about the last time you looked at your erect penis, how bothered were you by the way your penis looked?
- Q13 Thinking of the last time you had or tried to have vaginal intercourse, how bothered were you by your Peyronie's Disease?
- Q15 How bothered are you with having vaginal intercourse less often?

# **Treatment Options**

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# • Treatments

## **Oral Therapy**

- Vitamin E, tamoxifen, procarbazine
- Not recommended per AUA guidelines
- Numerous poorly powered trials in the literature



# • Treatments

## **Intralesional injections**

- Interferon alpha-2b
  - RCT by Hellstrom et al. (2006) improved penile curvature, ↓ plaque size, ↓ penile pain
  - Risk of flu-like symptoms, sinusitis, swelling
- Verapamil
  - Two RCTs<sup>2,3</sup> failed to demonstrate significance vs placebo
  - Risk of ecchymosis, dizziness, nausea

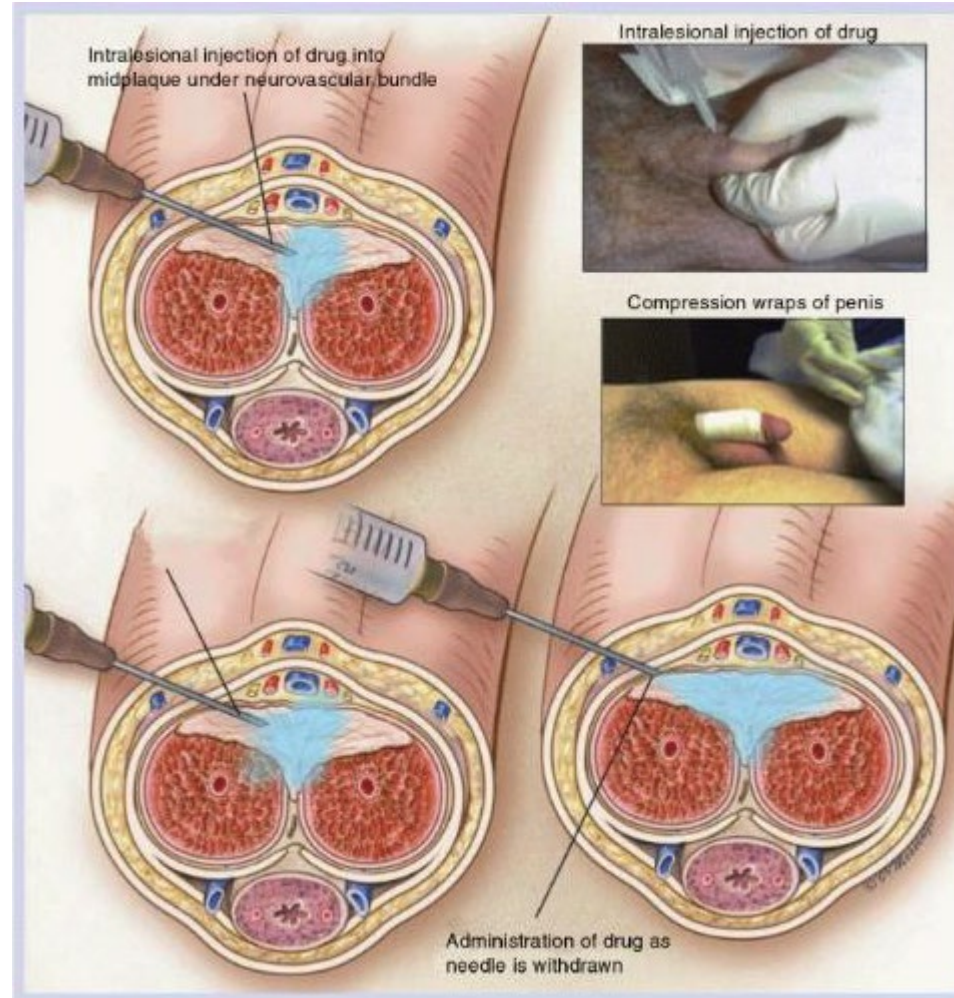
# • Treatments

## **Intralesional injections**

- Collagenase clostridium histolyticum (Xiaflex)
  - Only FDA approved therapy
  - Recommended for curvature between 30° and 90°
  - Should have erectile function (with/without erectile aids)
  - Avoid if calcified plaque
  - Risk of ecchymosis, swelling, corporal rupture



# ● Treatments





# • Treatments

## Data

- IMPRESS trial<sup>5</sup>
  - N=417, randomized double-blind
- 4 treatment cycles, 6 weeks in between cycles
  - 2 injections per cycle
  - Patients perform modelling after second injection
- Mean 34% improvement in penile curvature (14.8 degrees)
- 75% of treatment arm with at least 25% improvement
- Significant improvement in bother score vs placebo

# • Treatments

## **Mechanical Treatments**

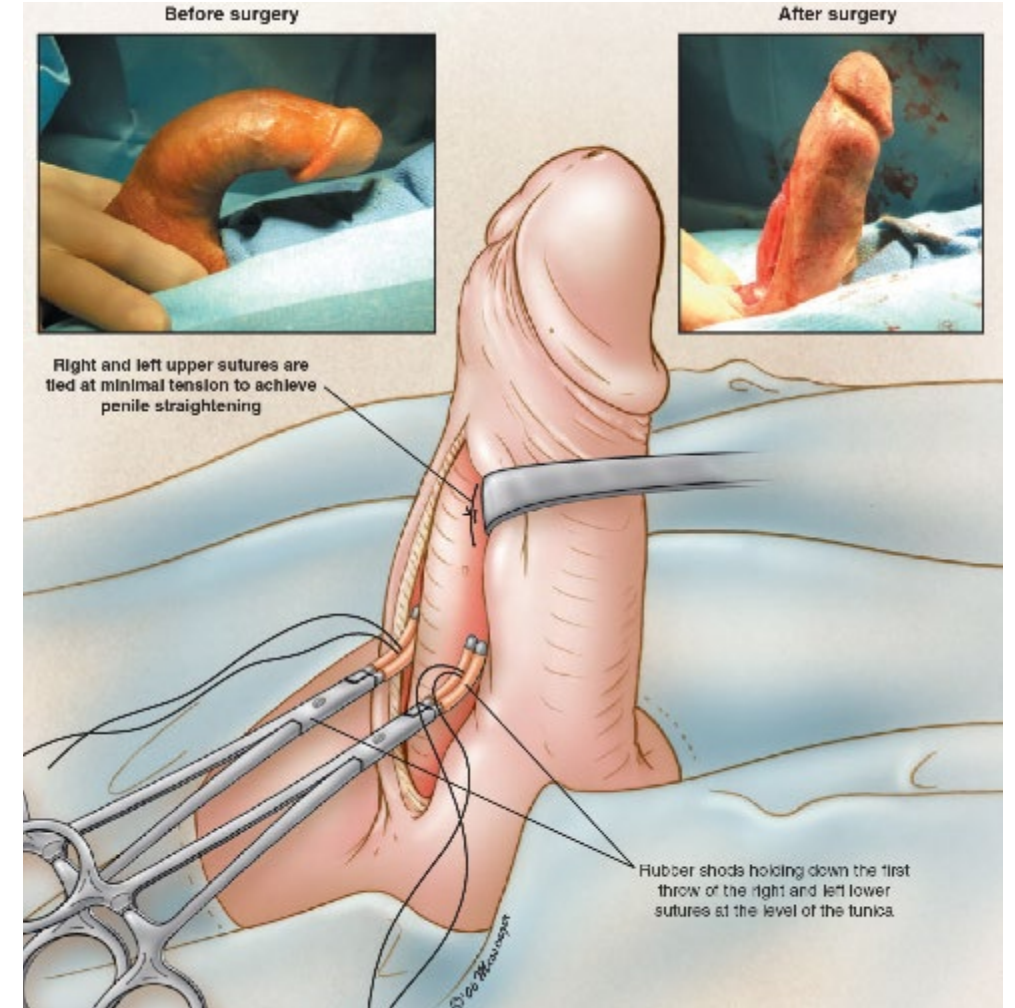
- Vacuum erectile device/penile traction
  - Penile traction devices uncomfortable, poor adherence
  - Raheem et al. (2010) evaluated 12 week VED for n=31
    - ↓ in penile curvature, ↑ in length
- Extracorporeal shockwave therapy
  - Decreased pain, no change in penile curvature<sup>7,8</sup>

# **Surgical Options**

# • Surgical Options

## Tunical Plication

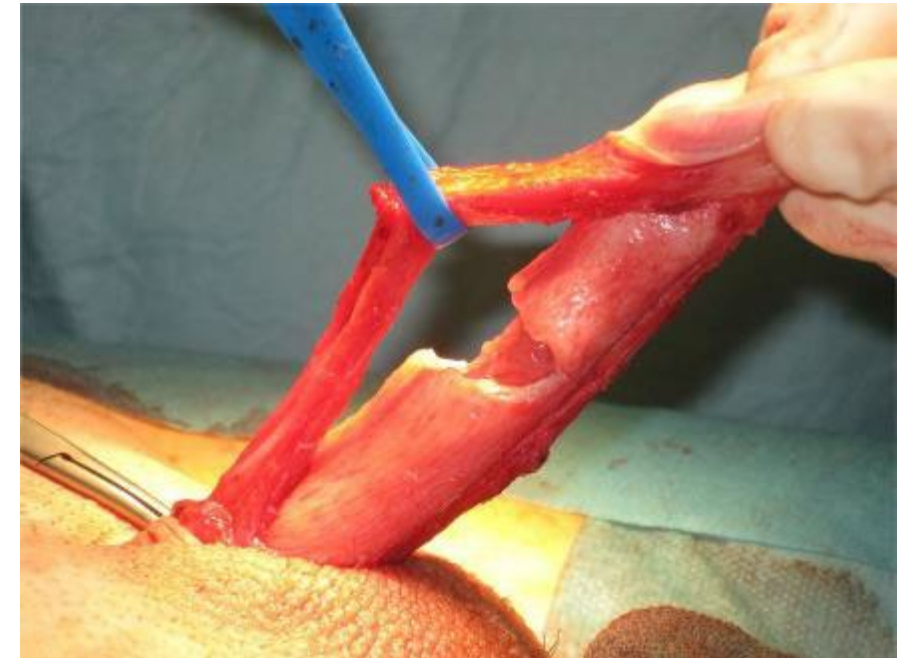
- Permanent sutures to contract tunica albuginea on opposite side of curvature
- Ideal for curvature <60 degrees
- Penile length loss
  - Average of 0.36cm<sup>9</sup>
  - Related to degree of curvature
- Risk of altered sensation, recurrence, ED



# • Surgical Options

## Plaque incision/excision and grafting

- Manipulation of the plaque followed by grafting of defect with various materials
  - Dermis, porcine SIS<sup>10</sup>
- Good for severe curvature, calcified plaque
- Potential for preserved penile length a consideration
- Risk of de novo ED<sup>11</sup>, contraction of graft



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# Thank You

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