Objectives: alright so this one should be a quickie. We will cover priapism, why its bad, ischemic/nonischemic presentation and how to tell the difference, and acute management in the ED.

Priapism: >4 hours of erection.
Relevant pathophysiology: erection comes from dilation of cavernosal arteries and decreased venous outflow in corpora cavernosa. Most common cause: Primary (idiopathic). Super helpful. Secondary (in order):
- Medications - intracavernosal injections, anticoagulants, PDE5 inhibitors, alpha blockers, methylphenidate, cocaine
- Any hyperviscosity syndrome (SCD, leukemia, myeloma, etc.)
- Diabetes, hyperlipidemia

Pelvic/penile trauma
Some other random ones that won’t be tested or are zebras (…amyloid…)

Two types of priapism: ischemic and non-ischemic
Ischemic = low flow/anoxic/veno-occlusive/time-to-lose-your-penis condition. Medical emergency!
Nonischemic priapism = high flow condition. Nonemergent. Due to high flow into corpora cavernosa. Blood is well-oxygenated.

<table>
<thead>
<tr>
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<th>Ischemic priapism</th>
<th>Non-ischemic priapism</th>
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<tbody>
<tr>
<td>Wait what?</td>
<td>Compartment syndrome of the penis. Get it now?</td>
<td>Most commonly due to penile or perineal trauma.</td>
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<td>Tissue damage at &gt;4 hours. Let that sink in.</td>
<td>Treatment: resolution in 60% of cases with just observation alone.</td>
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<td>Irreversible damage at &gt;24 hours = bye bye penis (90% of men lose sexual function at that point)</td>
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<td>What it looks like</td>
<td>Painful and rigid erection; penile gangrene if late</td>
<td>Less painful, less rigid</td>
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</table>

Sickle cell disease
-known for recurrent priapism that are short episodes but can resolve on their own (“Stuttering priapism”). Can lead to worse ones.
-often associated with awakenings from sleep with an erection. Treat them the same as ischemic patients. Make sure they are on Hydroxyruea.

How to manage priapism:
1. Questions to ask patients: duration of erection, prior episodes, if so what was done, medications, illicit drugs, history of SCD, trauma/recent sexual intercourse.
   Give these people generous pain meds before sticking needles anywhere.
2. Blood gas analysis: get a 21G needle and aspirate from one side of the corpus, 5 mL.
   Ischemic = black blood. Hypoxemia. pH <7.2, high CO₂, low O₂
   Nonischemic = red blood. Normal blood gas.
   You can also do Doppler if unable to do blood gas. Low/no pulse for ischemic priapism (#obvi)
3. Let’s begin by saying there are no RCTs or real research behind this stuff. Makes sense really- can you imagine recruiting participants for this sorta thing? “Wait you’re going to stick a needle in my WHAT? Hell nah”

Ischemic treatment:
<4 hours = Intracavernosal phenylephrine injection
>4 hours = Intracavernosal aspiration with/without saline irrigation, with phenylephrine injection

Phenylephrine:
Alpha agonist
⇒ contraction of cavernous smooth muscle
⇒ venous outflow

Consider a penile ring block: 25 or 27g needle inserted at penile base on dorsal aspect (see above x-section).

20G butterfly needle ⇒ aspirate 5mL from corpora to decompress it ⇒ wait 3-5 minutes for response ⇒ if none, inject Phenylephrine every 3-5 minutes until resolution or until UP TO 1 HOUR before deciding if treatment is working or not.

Ok so that failed? Call urology (probably should have already). Shunt surgery- fistula made to drain blood.

Avoid: beta-adrenergic agonists, mixed alpha/beta agonists. These can cause smooth muscle dilation.