

Synergy Penile Trauma Ultrasound Scanning Checklist (Rev. 12/1/23)

Patient Preparation

1. Position the Patient:

- Ensure the patient is in a supine position.
- Place the penis on the anterior abdominal wall.
- ***If done outside the trauma room, a chaperone must be present during the scan.***

2. Equipment Setup

3. Transducer:

- High-frequency (7–12 MHz) linear transducer (with or without standoff pad; if standoff pad used, cradle pad between two washcloths).

Scanning Steps

5. Initial Survey:

- Perform a general survey of the penis in both transverse and longitudinal planes.
- Start scanning at the level of the glans and move down to the base of the penis.

6. Transverse Scans:

- Perform transverse scans from the glans to the base. Acquire images at 1 cm intervals.
- Identify the two corpora cavernosa as hypoechoic circular structures.
- Visualize the tunica albuginea as a linear hyperechoic structure covering the corpora cavernosa.
- Measure any hematoma size or tunica discontinuity (please document distance from penile root).
- Transverse cine scan from glans to penile base (First on grayscale, then color Doppler).

7. Longitudinal Scans:

- Perform longitudinal scans along the length of the penis from right to left.
- Look for any irregular hypoechoic or hyperechoic defects indicating a rupture site.
- Document with an image(s) of any abnormality.
- Longitudinal cine scan from right to left (First on grayscale, then color Doppler).

8. Pulse-Doppler Imaging:

- Acquire pulse Doppler arterial and venous waveforms (at the penile base, mid-shaft, and near the glans). Measure Peak systolic velocities.
- Identify any abnormal vascularity or malformations.
- Check for vascularity at the periphery of any lesions.

Specific Findings

9. Penile Fracture:

- Look for an interruption of the thin echogenic line of the tunica albuginea.
- Identify associated hematomas, which may appear as hypo-anechoic in the acute phase and hyperechoic with septation later.
- Confirm the presence of a tear in the corpus cavernosum.

10. Urethral Injury:

- Check for urethral rupture, indicated by a discontinuous penile urethra, air in the cavernosal bodies, and edema or hematoma of the corpus spongiosum.

