

# Pre-SWL Checklist

## Comprehensive Safety & Readiness Verification Before Treatment

### Purpose

To ensure optimal patient selection, safety, and system readiness before initiating Shock Wave Lithotripsy (SWL).

### 1. Patient Evaluation

- Confirm indication for SWL based on stone size, density, and location (HU < 1000 ideal).
- Review clinical history for contraindications: pregnancy, infection, bleeding disorders, anticoagulant use.
- Verify renal function tests (urea, creatinine) within normal range.
- Check for urinary infection – negative urine culture mandatory.
- Ensure informed consent obtained and procedure explained to patient.
- Assess pain threshold and plan for appropriate analgesia or sedation.
- Confirm fasting status if sedation planned.

### 2. Imaging & Stone Assessment

- Verify latest imaging (KUB, USG, NCCT) and confirm stone visibility on imaging system used for SWL.
- Assess stone characteristics:
  - Size
  - Location (pelvis, pole, ureter)
  - Density (HU)
  - Skin-to-stone distance (SSD)
- Evaluate collecting system anatomy (infundibular width, angle, calyceal orientation).

### 3. Equipment & System Preparation

- Verify lithotripter calibration and focus alignment.
- Inspect water cushion and coupling membrane for air bubbles or leaks.
- Confirm inline imaging alignment between therapy focus and stone target.
- Set starting energy to 0–0.1 and frequency  $\leq 60/\text{min}$  for the ramp-up phase.
- Ensure all monitoring devices (ECG, pulse oximetry, BP) are functioning.

### 4. Patient Preparation

- **Hydration:** Encourage oral fluids before procedure or initiate IV fluids if required to ensure optimal urine output for fragment clearance.
- **Analgesia:**
  - Administer mild oral or IV analgesic (e.g., NSAID, paracetamol, or combination) 30 min prior.
  - Use local anesthesia or light sedation in anxious patients or when higher energy is anticipated.
- **Patient Counseling:**
  - Explain the procedure in simple terms: short shock waves will be delivered to break the stone into smaller pieces.
  - Inform that mild discomfort or tapping sensation may occur during treatment.
  - Emphasize the non-invasive nature—no incision or anesthesia required in most cases.
  - Advise on possible post-treatment effects such as mild hematuria, flank soreness, or transient colic due to fragment passage.
  - Reassure that medical staff will continuously monitor comfort and vital parameters throughout the session.

### 5. Patient Positioning & Safety

- Position patient to achieve direct acoustic path to stone; avoid ribs, bowel gas, or bone overlap.
- Verify correct side and stone localization under imaging.
- Confirm ECG leads and protective ear gear are applied.
- Keep emergency and resuscitation equipment readily available.

## 5. Documentation & Final Confirmation

- Cross-verify patient identity and side of treatment.
- Record stone data, settings, and ramping plan in SWL logbook.
- Confirm post-SWL imaging plan and follow-up schedule.
- Obtain final approval from treating urologist before first shock.

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