



What is a Shockwave Lithotripsy (SWL)?

Shockwave Lithotripsy is a common procedure for kidney stones. With this procedure, a doctor uses high-energy sound waves (also called shock waves) from a device outside the body called a lithotripter to shatter stones in the kidney and ureter into small pieces. This allows the stones to pass through the urine.

Will I need to a hospital stay for this procedure?

At Michigan Medicine shockwave lithotripsy is performed at the Livonia Center for Specialty Care as an out-patient procedure (you go home the same day).

Livonia Center for Specialty Care
1990 Haggerty Rd. Suite 100
Livonia, MI 48152

Who can be treated with SWL?

Many kidney and ureteral stones can be treated with shockwave lithotripsy. However, it is not recommended for people who:

- Have a Urinary Tract Infection (UTI)
- Have ureteral blockage near the stone
- Are taking anticoagulation medications
- Have a bleeding disorder
- Have anatomy that makes it difficult to target the stone
- Are pregnant

What steps should I take to prepare for the procedure?

1. **Do not eat any solid food** (including gum, hard candy or mints) after 12am (midnight) the night before surgery.
2. **Do not drink any milk products** after 12am (midnight). **You may drink water** only and any routine medications up to 4 hours before your surgery.
3. Wear loose, simple clothing which can easily be changed. Leave all jewelry and valuables at home.
4. **Bring along to the hospital a responsible adult companion who will:** remain in the hospital, be available to hospital personnel during your procedure, and assist you upon discharge by driving you home with close observation of your condition.

What should I expect before the procedure?

1. You will have lab tests, urine culture, a possible electrocardiogram (EKG) of your heart, and X-rays to ensure your safety during the procedure.
2. You may receive an antibiotic, either by mouth or through an IV, right before the procedure.
3. The anesthesia team will attach monitoring devices to you.
4. Usually your doctor can do your procedure with just intravenous sedation (medicine injected into the bloodstream to block pain and puts you in a deep sleep). However, in a small number of cases general anesthesia is required (pain-blocking medication that puts you to sleep).

What should I expect during the procedure?

1. Most of the time, you lie on your back for the procedure. Depending on your stone's location, you may be on your stomach on the operating room table.
2. Your doctor positions the lithotripter on the stone using X-ray or ultrasound imaging (devices used to take pictures of the inside of your body).
3. The doctor applies a cold gel-like material in between the lithotripter and your skin.

4. Your doctor presses the lithotripter against your side.
5. We measure your progress in real time with X-ray and ultrasound imaging.
6. We ask you to remain still during treatment to keep your stone in focus so the doctor can shatter them.
7. The procedure takes 30 to 60 minutes to complete. Treatment time is dependent on your stone's size and hardness.
8. After the procedure, there is a short observation period. You are able to return home after this brief period.

What should I expect after the procedure?

- You may experience blood in your urine after treatment. This typically clears up after 1 to 3 days.
 - **Notify the urology team** if it lasts longer than 3 days.
- To help pass stone fragments, drink plenty of water, about 2.5 to 3 liters daily
 - While the stone fragments pass, you may experience pain in the upper stomach, back, and sides area, as well as nausea. You may also have pink urine while passing these fragments.
 - Stone Fragments may pass up to 2 weeks after surgery.
 - If these symptoms continue, if you cannot keep food and water in your body, difficulty urinating, or if you develop fevers greater than 101.5, you should **contact the Urology team immediately 734-936-7030 or On Call Urologist (after hours/weekends) 734-936-6267.**
 - You may be directed to go to the Emergency Department.
- You will receive a medicine (such as Flomax [tamsulosin]) to take at home to relax the ureter and help stones pass.
- Most people can typically resume normal activities within 1 to 3 days of surgery.
- Do not drive any motor vehicle or operated motorized equipment for at least 24 hours after your procedure.

- Do not make any complex decisions, sign legal documents, or participate in activities potentially harmful to others, e.g., cooking, nursing infants, without supervision for at least 24 hours after your procedure.
 - This is to allow time for the anesthetic to leave your body.
- Do not drink alcohol for at least 24 hours after your procedure.
- Begin eating food slowly. Start with sips of liquids, followed by the addition of solid foods as tolerated.
 - If you do not feel like eating solids, take liquids
 - Nausea and/or vomiting commonly occurs during this period and is not considered abnormal unless severe or persistent beyond the first day.
- You will have a follow up visit with the urology team about 4 to 6 weeks after surgery.
 - An X-ray will be taken to determine the procedure's success.
- Depending on your risk, you may be offered further testing to help prevent future stones.

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Author: William Roberts MD, John Hollingsworth MD, Sapan Ambani MD, Casey Dauw MD, Khurshid Ghani MD, Anna Silvenis RN, Breanna Frederick RN

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