# **Kidney Stone Treatment Options**



If you've been diagnosed with a kidney stone, your doctor will help you decide which treatment is best. The decision depends on the stone's size, location, and your overall health. Here are three common treatment options:

## 1. Extracorporeal Shock Wave Lithotripsy (ESWL)

**Non-invasive:** Uses shock waves to break the stone into tiny pieces that pass through urine **Best for:** Stones less than 2 cm in the kidney or upper ureter

### Pros:

- No incisions
- · Quick recovery

#### Cons:

- · May need more than one session and may require a stent
- Less effective for larger dense stones or stones in the lower part of the kidney

## 2. Ureteroscopy (URS)

A thin scope is passed through the bladder and ureter to find and treat the stone Can be used to break up or remove stones in the ureter or kidney

Best for: Ureteral stones or kidney stones not suitable for ESWL

## **Pros:**

- · High stone-free rates
- Good for lower pole kidney stones
- No incisions needed

#### Cons:

- May cause short-term discomfort after the procedure
- Often requires stent and subsequent procedures for removal

## 3. Percutaneous Nephrolithotomy (PCNL)

Minimally invasive surgery through a small cut in your back Removes large or complex kidney stones

Best for: Stones larger than 2 cm or when other treatments fail

## **Pros:**

Highest success rate for large stones

#### Cons:

- Most invasive of the three
- Higher risk of bleeding or infection

## **Choosing the Right Option**

- Stone size & location matter most
- Your anatomy, medical conditions, and preferences also play a role
- Your doctor will guide you through a shared decision-making process to choose the safest, most effective treatment



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## ☐ Ureteral stents

Ureteral stents are small, flexible tubes inserted into the ureter to help urine flow from the kidney to the bladder. Essentially, they are straws that connect the kidney and the bladder to ensure urine can pass. They are commonly used to treat ureteral obstructions, such as those caused by kidney stones, tumors, or inflammation.

## **Reasons for Use:**

Ureteral stents are primarily used to:

- Relieve obstruction in the ureter.
- Facilitate urine drainage post-surgery.
- Prevent ureteral injury during procedures like ureteroscopy.

## **Associated Discomfort:**

Stent placement can cause several symptoms, including:

- Pain in the kidney or bladder area.
- Frequent urination and urgency.
- Burning sensation during urination.
- Discomfort during physical activity.

#### **Treatment for Stent Discomfort:**

Several medications can help manage stent-related symptoms:

- Alpha-blockers (e.g., tamsulosin) reduce urinary symptoms and pain by relaxing the muscles in the urinary tract.
- Anticholinergics (e.g., oxybutynin) help alleviate bladder spasms and urinary urgency.
- **Combination therapy** with alpha-blockers and anticholinergics has shown to be effective in reducing multiple symptoms.
- Nonsteroidal anti-inflammatory drugs (NSAIDs) can be used to manage pain.

## **Need for Removal:**

Ureteral stents are typically temporary and need to be removed or replaced within a few weeks to a few months, depending on the underlying condition and the type of stent used. Prolonged stent use can lead to complications such as infection, encrustation, and stent migration.

If you experience severe pain, fever, or signs of infection, contact your healthcare provider immediately.







# Resources Chirag Dave, MD

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For more information about Advanced Urology or Dr. Chirag Dave, please visit <a href="https://www.advancedurology.com">www.advancedurology.com</a>

