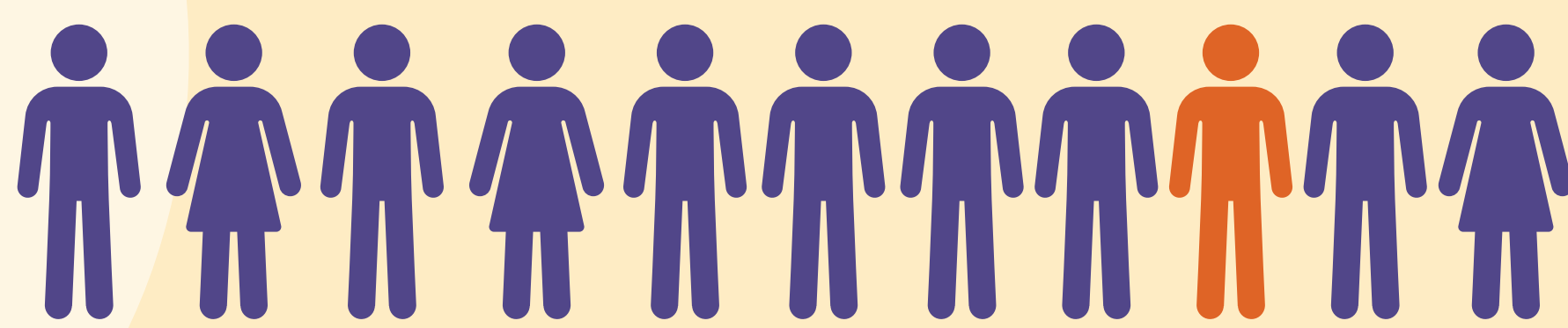
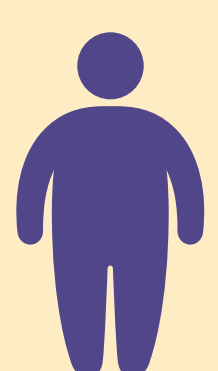


# Kidney stones

affect 1 in 11 people in the United States.



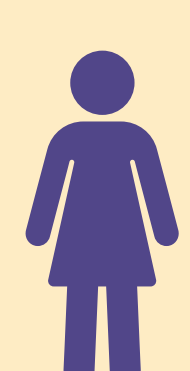
## Kidney stone prevalence



**PEOPLE WHO ARE OBESE**  
11.2%



**MEN**  
10.6%

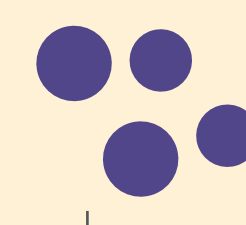


**WOMEN**  
7.1%



**PEOPLE WHO ARE HEALTHY WEIGHT**  
6.1%

**Kidney stones smaller than 5 millimeters can pass through the urinary tract.**



Peas are roughly 5-7mm in diameter



A dime has a diameter of 17.9mm

## What can put you at risk for developing kidney stones?

- Genetic predisposition
- Family history or personal history
- **Lifestyle:** diet and fluid intake\*
- Obesity\*
- Infections, such as urinary tract infections
- Underlying illnesses, such as certain gastrointestinal diseases, renal tubular acidosis, cystinuria, hyperparathyroidism
- Certain medications

\*Kidney stone risk factors you can change.



## Symptoms

### Pain

- In your flank (*upper abdomen, back or sides*)
- Radiates to the lower abdomen, penis, testicles or labia
- Comes in waves



### Nausea or vomiting

### Changes in urination

- Urgency
- Frequency
- Burning sensation during urination
- Urinating small amounts

### Changes in urine

- Bloody
- Cloudy
- Foul-smelling

### Fever and chills



## See a physician if you have:

- Severe pain that's not getting better
- Pain with nausea, vomiting, fever or chills
- Blood in your urine, or difficulty passing urine

## Treatment may include:

- Increasing fluid intake to flush out the stone
- Medication, both for pain and to dilate the ureter so the stone can pass

## If these measures don't work, other treatment options may include:

- Ureteroscopy: Using a small scope to remove the stone
- Shock wave lithotripsy (SWL): Using high-energy acoustic pulses to break up the stone into smaller pieces for passing
- Percutaneous nephrolithotomy (PCNL): Removing the stone surgically through the back

## Prevention

**Maintain a healthy daily fluid intake from food and beverages.**

**The National Academies of Sciences, Engineering, and Medicine recommends:**

- Men: 15.5 cups (3.7 liters)
- Women: 11.5 cups (2.7 liters)

**Eat a healthy diet.**

**If you have one or more of the risk factors for kidney stones, modify your diet:**

- Eat more citric acid, which is found in citrus fruits like oranges and lemons. Incorporate ½ cup of lemon juice into your diet daily.
- Don't eat an excess of calcium, animal protein or high-oxalate foods.

**Maintain a healthy weight and blood pressure.**

### Sources:

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