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# Kidney Stones, Enuresis, and Kidney Disease

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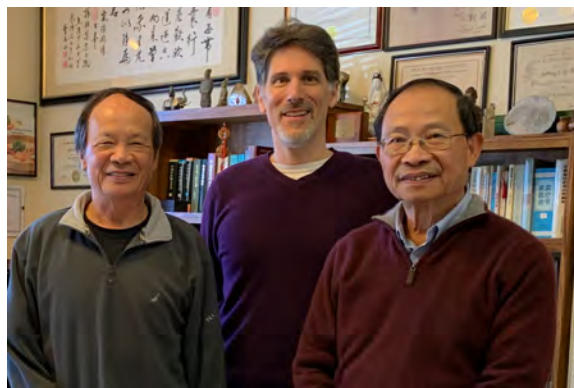
## Authors

For many years, the Pang family has practiced and taught Chinese medicine. In this continuing education series, we explore the treatments informed by Ken and Jeffrey Pang's decades of experience combined with generations of Pang family wisdom.

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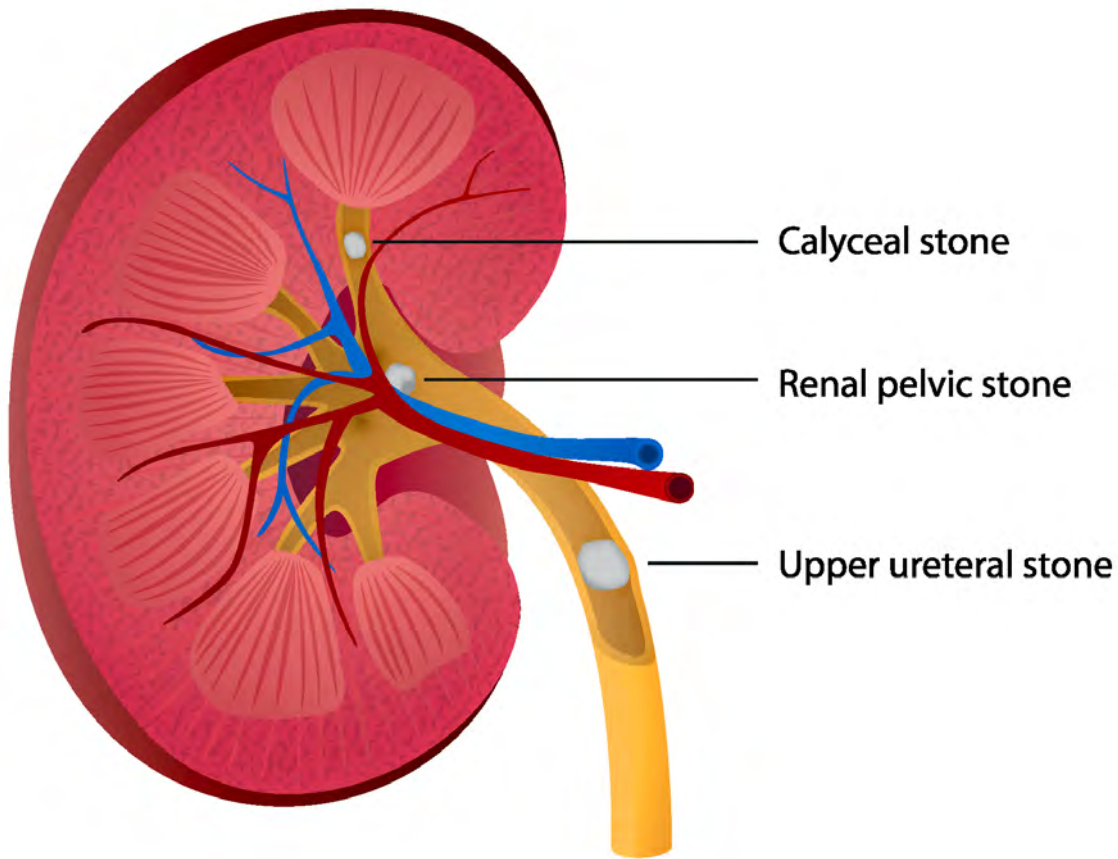
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Ken Pang, Adam White, Jeffrey Pang (from left to right)

# Kidney Stones



## Biomedicine

Kidney stones are hard pieces of material formed in the kidneys due to high levels of minerals in the urine that are not properly excreted. “Kidney stones are caused by high levels of calcium, oxalate, and phosphorus in the urine. These minerals are normally found in urine and do not cause problems at low levels.”<sup>1</sup>

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1. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/symptoms-causes](https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-stones/symptoms-causes)

Usual care terms for kidney and urinary tract stones are often the following: nephrolithiasis, urolithiasis, urinary stones. The following is from the Hackensack University Medical Center:

Urolithiasis (urinary tract calculi or stones) and nephrolithiasis (kidney calculi or stones) are well-documented common occurrences in the general population of the United States. The etiology of this disorder is multifactorial and is strongly related to dietary lifestyle habits or practices. Proper management of calculi that occur along the urinary tract includes investigation into causative factors in an effort to prevent recurrences. Urinary calculi or stones are the most common cause of acute ureteral obstruction. Approximately 1 in 1,000 adults in the United States are hospitalized annually for treatment of urinary tract stones, resulting in medical costs of approximately dollar 2 billion per year (Ramello, Vitale, & Marangella, 2000; Tanagho & McAninch, 2004).<sup>2</sup>

Typically, stones are the size of a grain of sand up to the size of a pea. In rare cases, they may be significantly larger (the size of a golf ball). According to a University of Iowa Hospitals and Clinics notation, if a stone is small (5 mm or less), a doctor may treat the symptoms with pain medications and allow the stone to pass on its own.<sup>3</sup>

The texture of stones range from smooth to jagged and they are often yellow or brown. Small stones may pass through the urinary tract without medication attention, often with minimal or no pain. **Larger stones may become stuck within the urinary tract, block the flow of urine, cause bleeding, or cause severe pain.**

According to the NIH (National Institutes of Health), approximately 11% of men and 6% of women in the USA have kidney/urinary tract stones at

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2. Colella, Joan, Eileen Kochis, Bernadette Galli, and Ravi Munver. "Urolithiasis/nephrolithiasis: what's it all about." *Urol Nurs* 25, no. 6 (2005): 427-48.

3. [uihc.org/health-topics/kidney-stones](http://uihc.org/health-topics/kidney-stones)

least once. There are four primary types of stones: calcium, uric acid, struvite, cystine.

## Calcium Stones

Calcium stones, including calcium oxalate stones and calcium phosphate stones, are the most common types of kidney stones. Calcium oxalate stones are more common than calcium phosphate stones.

Normally, extra calcium that isn't used by your bones and muscles goes to your kidneys and is flushed out with urine. When this doesn't happen, the calcium stays in the kidneys and joins with other waste products to form a kidney stone.<sup>4</sup>

Doctors may prescribe a thiazide diuretic or a medication containing phosphate to prevent calcium stones.

### Calcium Oxalate Stones

According to the National Institute of Diabetes and Digestive and Kidney Diseases, patients with calcium oxalate stones may benefit from reducing the amount of oxalate in the urine through dietary measures. This includes the reduction sodium intake and the following foods, which have a relatively high oxalate content:<sup>5</sup>

- nuts
- peanuts (a legume high in oxalate)
- rhubarb
- spinach
- wheat bran

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4. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts)

5. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition)

The National Institute of Diabetes and Digestive and Kidney Diseases also recommends limiting the intake of the following animal protein foods for patients with calcium oxalate stones:

- beef, chicken, pork
- organ meats
- eggs
- fish and shellfish
- milk, cheese, and other dairy products<sup>6</sup>

The National Institute of Diabetes and Digestive and Kidney Diseases notes the following:

Even though calcium sounds like it would be the cause of calcium stones, it's not. In the right amounts, calcium can block other substances in the digestive tract that may cause stones.

It may be best to get calcium from low-oxalate, plant-based foods such as calcium-fortified juices, cereals, breads, some kinds of vegetables, and some types of beans.<sup>7</sup>

### Calcium Phosphate Stones

The National Institute of Diabetes and Digestive and Kidney Diseases notes that sodium reduction is recommended. The same reductions of animal protein foods as with calcium oxalate stones (mentioned above) are also recommended. The same recommendation for calcium intake is also reiterated, “Even though calcium sounds like it would be the cause of calcium stones, it's not. In the right amounts, calcium can block other substances in the digestive tract that may lead to stones.”<sup>8</sup>

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6. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition)

7. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition)

8. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition)



## Uric Acid Stones

A uric acid stone may form when your urine contains too much acid. Eating a lot of fish, shellfish, and meat—especially organ meat—may increase uric acid in urine.<sup>9</sup>

Doctors may prescribe allopurinol to reduce uric acid levels in the blood and urine and an additional drug to maintain urine alkalinity. Allopurinol plus an alkalizing agent may dissolve uric acid stones.

For overweight patients, a healthy weight loss program and subsequent improvement of the BMI (body mass index) will reduce the incidence of uric acid stones. The National Institute of Diabetes and Digestive and Kidney Diseases recommends reducing intake of the following:

- beef, chicken, pork
- organ meats
- eggs
- fish and shellfish
- milk, cheese, and other dairy products<sup>10</sup>

## Struvite Stones

Struvite stones may form after you have a UTI. They can develop suddenly and become large quickly.<sup>11</sup>

Struvite stones are comprised of magnesium ammonium phosphate. Antibiotics may be prescribed to eliminate or control bacteria in the urine.

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9. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts](https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts)

10. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition](https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-stones/eating-diet-nutrition)

11. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts](https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts)

## Cystine Stones

Cystine stones result from a disorder called cystinuria that is passed down through families. Cystinuria causes the amino acid cystine to leak through your kidneys and into the urine.<sup>12</sup>

Stones are more likely to form in patients with a history of:

- obesity
- gout
- recurrent UTIs (urinary tract infections)
- hypercalciuria (excess calcium in the urine)
- digestive disturbances
- gastrointestinal tract surgery
- long-term use of diuretic medications
- long-term use of calcium based antacids
- chronic inflammation of the intestines
- hyperparathyroidism
- blockage of the urinary tract
- cystic kidney disease
- cystinuria (amino acid metabolism disorder)
- hyperoxaluria (overproduction of oxalate)
- renal tubular acidosis

The National Institute of Diabetes and Digestive and Kidney Diseases recommends drinking adequate amounts of liquid, especially water, to prevent cystine stones. Medications that reduce the cystine content in the urine may be prescribed by a doctor.

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12. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts](https://niddk.nih.gov/health-information/urologic-diseases/kidney-stones/definition-facts)

## Symptoms

In some cases, kidney/urinary tract stones are asymptomatic. The following are indications for the presence of stones:

- sharp pain in the back, side, lower abdomen, or groin
- pink, red, or brown blood in the urine (hematuria)
- constant urge to urinate
- pain while urinating (dysuria)
- inability to urinate
- urinate only a small amount
- cloudy or foul-smelling urine

Additional symptoms may include nausea, vomiting, fever, or chills.

## Fluid Samples

### Urinalysis

Urine samples determine whether or not urine contains high levels of minerals. The presence of white blood cells and bacteria in the urine may indicate a UTI.

### Blood Test

A blood sample can be tested for high levels of minerals in the bloodstream.

## Usual Care Detection & Treatment

### X-ray

Abdominal x-rays may determine the location of kidney stones in the urinary tract. Not all stones are visible on x-ray.

## Computed Tomography (CT) Scan

CT scans use x-rays and computer processing to create images of the urinary tract. CT scans can determine the size and location of a kidney/urinary tract stone. The images may also detect blockages that lead to stone formation.

## Cystoscopy

"Cystoscopy uses a cystoscope to look inside the urethra and bladder. A cystoscope is a long, thin optical instrument with an eyepiece at one end, a rigid or flexible tube in the middle, and a tiny lens and light at the other end of the tube. By looking through the cystoscope, the urologist can see detailed images of the lining of the urethra and bladder."<sup>13</sup>

## Ureteroscopy

"Ureteroscopy uses a ureteroscope to look inside the ureters and kidneys. Like a cystoscope, a ureteroscope has an eyepiece at one end, a rigid or flexible tube in the middle, and a tiny lens and light at the other end of the tube. However, a ureteroscope is longer and thinner than a cystoscope so the urologist can see detailed images of the lining of the ureters and kidneys."<sup>14</sup>

## Nephroscopy

The doctor uses a thin viewing tool (nephroscope) to locate and remove kidney stones. The tool is directly inserted into a kidney through a small cut made in the back of the patient. For larger kidney stones, a laser may be used to break the kidney stones into smaller pieces.

Percutaneous nephrostolithotomy (or nephrolithotomy) is the passing of a medical instrument through the skin into a kidney to remove kidney stones.<sup>15</sup>

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13. [niddk.nih.gov/health-information/diagnostic-tests/cystoscopy-ureteroscopy](https://niddk.nih.gov/health-information/diagnostic-tests/cystoscopy-ureteroscopy)

14. [niddk.nih.gov/health-information/diagnostic-tests/cystoscopy-ureteroscopy](https://niddk.nih.gov/health-information/diagnostic-tests/cystoscopy-ureteroscopy)

15. [medlineplus.gov/ency/article/007375.htm](https://medlineplus.gov/ency/article/007375.htm)

The following comparison of ureteroscopy and nephrolithotomy is made by doctors from the Department of Urology, Tokyo Metropolitan Ohtsuka Hospital:

Flexible ureteroscopy (fURS) has become a more effective and safer treatment for whole upper urinary tract stones. Percutaneous nephrolithotomy (PNL) is currently the first-line recommended treatment for large kidney stones  $\geq 20$  mm and it has an excellent stone-free rate for large kidney stones. However, its invasiveness is not negligible considering its major complication rates. Staged fURS is a practical treatment for such large kidney stones because fURS has a minimal blood transfusion risk, short hospitalization and few restrictions on daily routines. However, as the stone size becomes larger, the stone-free rate decreases, and the number of operations required increases. Therefore, in our opinion, staged fURS is a practical option for kidney stones 20 to 40 mm. Miniaturized PNL combined with fURS should be considered to be a preferred option for stones larger than 40 mm. Moreover, URS is an effective treatment for multiple upper urinary tract stones. Especially for patients with a stone burden  $< 20$  mm, URS is a favorable option that promises a high stone-free rate after a single session either unilaterally or bilaterally. However, for patients with a stone burden  $\geq 20$  mm, a staged operation should be considered to achieve stone-free status.<sup>16</sup>

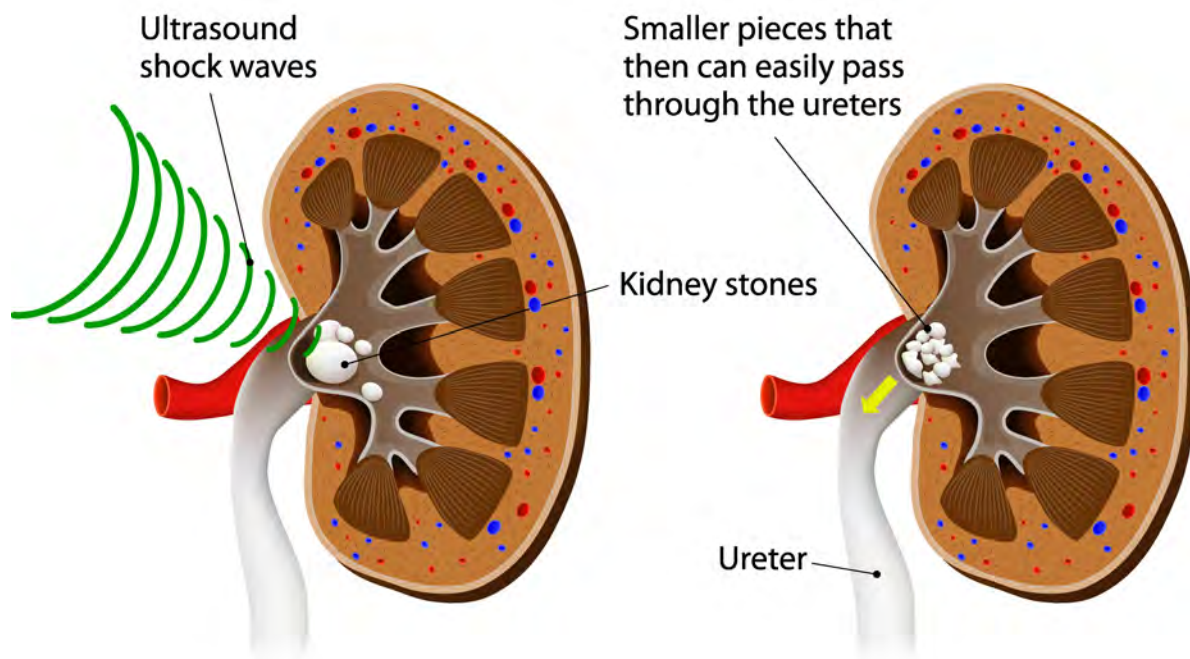
### Shock Wave Lithotripsy

Shock wave lithotripsy (SWL) has proven to be a highly effective treatment for the removal of kidney stones. Shock waves (SW's) can be used to break most stone types, and because lithotripsy is the only non-invasive treatment for urinary stones SWL is particularly attractive. On the

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16. Takazawa, Ryoji, Sachi Kitayama, and Toshihiko Tsujii. "Appropriate kidney stone size for ureteroscopic lithotripsy: When to switch to a percutaneous approach." *World journal of nephrology* 4, no. 1 (2015): 111.

downside SWL can cause vascular trauma to the kidney and surrounding organs. This acute SW damage can be severe, can lead to scarring with a permanent loss of functional renal volume, and has been linked to potentially serious long-term adverse effects. A recent retrospective study linking lithotripsy to the development of diabetes mellitus has further focused attention on the possibility that SWL may lead to life-altering chronic effects. Thus, it appears that what was once considered to be an entirely safe means to eliminate renal stones can elicit potentially severe unintended consequences.<sup>17</sup>



### Ureteral Stent

A doctor may place a thin flexible tube (ureteral stent) in the urinary tract to help urine flow or a stone to pass.<sup>18</sup>

17. McAteer, James A., and Andrew P. Evan. "The acute and long-term adverse effects of shock wave lithotripsy." In *Seminars in nephrology*, vol. 28, no. 2, pp. 200-213. WB Saunders, 2008.

18. [niddk.nih.gov/health-information/urologic-diseases/kidney-stones/treatment](https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-stones/treatment)

# Chinese Medicine

Lin syndromes generally present with urgent, frequent, difficult, or painful urination. Kidney and urinary tract stones are termed stone lin (shi lin).

## Symptoms

- low back pain that may radiate to the abdomen or groin
- painful or scanty urination
- pain of the lower abdomen and groin region
- hematuria (blood in the urine)
- passage of stones through the urine

## Diagnostic Patterns

- lower jiao (burner) damp heat
- qi and blood stagnation turns into stone
- deficiency of spleen and kidney qi

Damp heat kidney and urinary tract stones may be caused by excessive intake of hot and spicy foods, greasy and fried foods, and excessive alcohol intake. In some cases, heart fire transmits to the small intestine. The damp heat may lead to hematuria. For this presentation, the tongue is red and the coating is greasy and yellow. The pulse is slippery and rapid.

Qi and blood stagnation kidney and urinary tract stones may be caused by emotional factors including anger and irritability causing liver qi stagnation leading to fire. The fire in the lower burner and through the liver channel disturbs the kidneys and bladder. The tongue is purple and the pulse is wiry and rapid.

Spleen and kidney qi deficiency kidney and urinary tract stones may be caused by overexertion, long-term fatigue, or chronic damp heat disturbing the kidneys and bladder. This painful urination is often accompanied by low appetite, fatigue, and a persist dull pain of the low back. The tongue is pale and the pulse is deep and weak.

## Treatment Principles

- Clear lower jiao damp heat
- Promote urination to expel stones
- Regulate the qi and blood
- Relax the smooth muscles of the urinary tract

In cases of chronic and recurrent stones with deficiency of spleen and kidney qi, it may be necessary to warm and nourish the kidneys and to benefit the spleen qi.

## Acupuncture

- Needle ashi points on the lower abdomen and back
- SP6 (Sanyinjiao)

Use strong stimulation techniques on the acupoints. Often, the pain resolves within a few minutes.

### **SP6 (Sanyinjiao)**

SP6 is 3 cun directly above the tip of the medial malleolus, on the posterior border of the medial aspect of the tibia. Sanyinjiao is translated as 3 yin junction; this point is the meeting of the 3 lower yin meridians. SP6 strengthens the spleen, transforms dampness, spreads liver qi, and benefits the kidneys. SP6 is an important acupuncture point in obstetrics and gynecology. Indications for use include: dysmenorrhea, irregular menstruation, abnormal uterine bleeding, leukorrhea, prolapse of uterus, infertility, difficult or delayed labor. Other common indications



for use include: abdominal pain and distention, diarrhea, nocturnal emissions, enuresis, dysuria (painful or difficult urination), lower limb atrophy, lower limb motor impairment or hemiplegia, vertigo from blood deficiency (xue xu), insomnia.

### Supplementary acupuncture points

The following points may present as ashi points or act as secondary acupoints.

#### **BL23 (Shenshu)**

This point is located 1.5 cun lateral to L-2, at the level of the lower border of the spinous process. This is the kidney back shu point (Beishu). BL23 regulates kidney qi, benefits the lumbar vertebrae, and benefits the eyes and ears. Common indications for use include irregular menstruation, tinnitus, edema, low back pain, and weak knees.

#### **BL28 (Pangguangshu)**

This point is located at the level of the second sacral foramen, 1.5 cun lateral to the midline. BL28 is the bladder back shu point. This point regulates the bladder, clears lower jiao damp heat, benefits the lumbar vertebrae, dispels stagnation, and resolves masses. Indications include urinary disorders (e.g., dysuria, uneven flow, enuresis, urinary retention), pain of the low back and sacrum, pain and swelling of the genitals, diarrhea, and constipation.

#### **BL20 (Pishu)**

This acupoint is 1.5 cun lateral to T-11, at the level of the lower border of the spinous process. BL20 is the spleen back shu point. BL20 regulates spleen qi and assists the spleen's transportive and transformative functions. BL20 eliminates dampness, harmonizes blood and nourishes qi. Common indications for usage include digestive disturbances, vomiting, edema, excessive menstruation, and jaundice.

#### **CV4 (Guanyuan)**

This point is located on the midline of the abdomen, 3 cun below the umbilicus. CV4 is the front mu point of the small intestine. CV4 nourishes and stabilizes the kidneys, moves and builds qi, and restores yang. CV4 is the intersection of the three leg yin channels deeply. Common indications for use include abdominal pain, diarrhea, irregular menstruation, dysmenorrhea, leukorrhea, and enuresis.

### **CV3 (Zhongji)**

CV3 is on the midline of the abdomen, 4 cun below the umbilicus. This acupoint is the front mu point of the bladder and intersection point of the 3 leg yin channels. CV3 tonifies the kidneys, assists the transforming function of qi, regulates the uterus and menstruation, alleviates damp-heat (especially urogenital), and benefits the urinary bladder. Common indications for usage include enuresis, urinary retention, frequent urine, leukorrhea, irregular menstruation, dysmenorrhea, vaginitis, prolapsed uterus, and infertility.

## **Herbal Formula**

The following herbal formula is effective for expelling urinary tract stones and kidney stones, especially when due to lower jiao damp heat and qi and blood stagnation:

- Jin Qian Cao      30g
- Bai Shao          30g
- Ji Nei Jin        20g
- Bai Mao Gen      12g
- Nui Xi            15g
- Hou Po            12g
- Zhi Shi            12g
- Yan Hu Suo      15g
- Yu Jin             15g
- Qing Pi            3g
- Mu Xiang         6g (add last five minutes)

- Gan Cao 6g

### *Directions*

Cover the herbs with water and leave approximately 3 cun of water above the herb line and then boil. One bag of this herbal formula is cooked 3 times.

Patients are instructed to drink one cup each time, at least 45 minutes to one hour after each meal: drink one cup, three times per day. Use the herbs less frequently each day as the patient recovers and the stones have been expelled.

Another standard technique to boil herbs is to boil the first batch and set it aside. Next, add more water and decoct again with the same herbs. Combine the two decoctions and then split into one cup doses. This creates an even potency for decoctions.

### *Herbal Formula Chief Herbs*

**Jin Qian Cao, Bai Shao, and Ji Nei Jin are all used with heavy dosages and they are the main herbs used to expel the stones.** The remaining herbs regulate qi and blood and also relax the smooth muscles of the urinary tract.

### *Formula Individual Herbs*

The following is a synopsis of individual herbal functions within the formula.

#### **Jin Qian Cao (Herba Lysimachiae, 金錢草)**

This herb promotes urination, expels stones from the urinary tract and kidneys, and unblocks painful urinary dysfunction. This herb is useful for the treatment of damp heat painful and scanty urination. Jin Qian Cao clears liver and gallbladder damp heat and expels gallstones. Topically,

this herb clears heat and toxins and reduces swelling used for snakebites, abscesses, and traumatic injuries. Jin Qian Cao enters the bladder, gallbladder, kidney, and liver channels.

### **Bai Shao Yao (Radix Albus Paeoniae Lactiflorae, 白芍)**

This herb has many functions. Especially when combined with Gan Cao, this herb soothes the liver, nourishes liver blood and yin, and stops spasms. This combination of herbs is useful for relief of muscle spasms, calf cramps, abdominal pain, dysmenorrhea, irritability, and trigeminal neuralgia. Other functions of Bai Shao include harmonizing ying and wei and calming liver yang uprising. Additional indications include headache, dizziness, irregular menstruation, abnormal uterine bleeding, costal region pain, spermatorrhea, and diarrhea. Bai Shao enters the liver and spleen channels.

### **Ji Nei Jin (Endothelium Comeum Gigeriae Galli, 鸡内金)**

This herb dissolves urinary tract and kidney stones and enters the stomach, spleen, small intestine, and bladder channels. Other benefits include stopping enuresis (involuntary urination), dissolving gallstones, benefitting kidney jing, eliminating food stagnation, and improving the transforming and transporting functions of the spleen.

### **Bai Mao Gen (Rhizoma Imperatae Cylindrica, 白茅根)**

This herb clears heat and promotes urination, cools the blood and stops bleeding, and clears heat from the lungs and stomach. Indications include dysuria, jaundice, epistaxis, hematemesis (vomiting blood), hemoptysis (coughing blood), nausea, irritability, and thirst. This herb enters the lung, stomach, small intestine and bladder channels.

### **(Chuan) Nui Xi (Radix Cyathula Officinalis, 川牛膝)**

This herb invigorates blood circulation, eliminates blood stasis, drains heat downwards, and promotes urination. This herb is indicated for the treatment of dysuria and hematuria; it clears damp heat in the lower jiao and eliminates blood stasis in the lower jiao.

### **Hou Po (Cortex Magnoliae Officinalis, 厚朴)**

This herb regulates qi, moves qi stagnation, transforms dampness, and directs lung qi downwards.

### **Zhi Shi (Fructus Immaturus Citri Aurantii, 枳实)**

This herb breaks stagnant qi and transforms phlegm. Indications include abdominal pain, distention, shortness of breath, and angina.

### **Yan Hu Suo (Corydalis Rhizome, 延胡索)**

This herb invigorates blood, moves qi, and stops pain. Indications include abdominal pain, headaches, chest pain, hernia, dysmenorrhea, and abdominal masses.

### **Yu Jin (Tuber Curcumae, 郁金)**

This herb moves qi, invigorates blood, stops pain, clears heat, and cools the blood. Indications include hematuria (blood in the urine), abdominal masses, irregular menstruation, dysmenorrhea, pain of the hypochondrium, epistaxis, hematemesis, gallstones, and jaundice.

### **Qing Pi (Pericarpium Citri Reticulatae Viride, 青皮)**

This herb breaks qi stagnation, spreads the liver qi, disperses nodules, and removes food stagnation.

### **Mu Xiang (Radix Aucklandiae Lappae, 木香)**

This herb moves stagnation, regulates the middle jiao, and benefits the spleen. Indications include indigestion, abdominal fullness or pain, diarrhea, dysentery, bitter taste in the mouth, and vomiting.

### **Gan Cao (Radix Glycyrrhizae, 甘草)**

This herb enters all twelve main channels. It harmonizes formulas and moderates the function of other herbs, tonifies the spleen, clears heat and toxins, moistens the lungs, and stops spasms and pain. Indications include fatigue, cramping and pain of smooth muscle tissue, chronic cough, loose stools, poor appetite, and skin lesions.

## **Case History**

Patient: Mr. C.

Age: 41

The patient presented with intermittent abdominal and lower back pain that had been present for several months. The patient presented his imaging studies, which revealed three kidney stones that ranged between 5–8 mm in size. The patient received herbs and acupuncture according to the aforementioned protocols. After five consecutive days of treatment, the stones were expelled and the condition completely resolved.

## Kidney Stone Research

Acupuncture combined with herbal medicine and medications assists in the elimination of kidney stones that have lodged in the ureters. Jiangxi Jiujiang Hospital of Traditional Chinese Medicine researchers made two important findings. First, a combination of herbs and the drug tamsulosin (Flomax) enables the passage of kidney stones. Second, adding acupuncture to the herbal medicine and drug protocol significantly increases positive patient outcome rates. [1]

The results of the investigation have important clinical implications. The drug tamsulosin is an alpha-blocker used to ease urination. It relaxes the muscles of the bladder and prostate and causes dilation of the ureteral lumen. Currently, tamsulosin is FDA approved for improving urination for men with benign prostatic hyperplasia. The drug has also been used for the treatment of ureteric calculi (kidney stones that have already moved into the ureters).

French researchers have indicated that tamsulosin, as a standalone therapy, is ineffective for the treatment of ureteric calculi, “Although well tolerated, a daily administration of 0.4 mg of tamsulosin did not accelerate the expulsion of distal ureteral stones in patients with ureteral colic.” [2] However, Jiangxi Jiujiang Hospital of Traditional Chinese Medicine researchers achieved significant results when the drug was combined with the Chinese herbal medicine formula San Jin Tang. Moreover, adding acupuncture to the integrative medicine protocol boosted the success rate. [3]

The drugs plus herbal medicine group achieved a total effective rate of 73.6%. The group receiving identical drugs and herbal medicine plus the addition of acupuncture achieved a total effective rate of 88.7%. Adding acupuncture to the administration of tamsulosin and San Jin Tang increases the total effective rate by 15.1%. Notably, the group receiving acupuncture had faster pain relief.

A total of 106 patients with ureteric calculi were treated and evaluated in this study. The patients were diagnosed between January 2015 and January 2017. They were randomly divided into an abdominal acupuncture group and a drugs plus herbal medicine group, with 53 patients in each group. The treatment group received acupuncture, herbs, and drug therapy. The control group received only herbs and drug therapy. Both groups received identical drugs plus Chinese herbal therapy, for two consecutive weeks.

The statistical breakdown for each randomized group was as follows. The treatment group was comprised of 28 males and 25 females. The average age in the control group was 35 ( $\pm 6$ ) years. The control group was comprised of 31 males and 22 females. The average age in the treatment group was 36 ( $\pm 6$ ) years. There were no significant statistical differences in age and gender relevant to patient outcome measures for patients initially admitted to the study.

A modified version of the herbal formula San Jin Tang was administered. The ingredients of the modified San Jin Tang include: Ji Nei Jin, Hai Jin Sha, and Jin Qian Cao. This herbal formula San Jin Tang has historically been used for the treatment of ureteric calculi. Next, 0.2 mg of tamsulosin extended-release capsules were prescribed. Additional drugs were used based on individual symptoms. For non-severe pain, 50 mg diclofenac suppositories were provided. Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) used for the treatment of pain and inflammation. For severe pain, 100 mg of tramadol (a potent pain reliever) combined with 20 mg of anisodamine (an atropine derivative) were administered through intramuscular injections.

The acupuncture treatment group received identical herbs and drugs plus abdominal acupuncture. The primary acupoints for the abdominal acupuncture therapy group were as follows:

- CV3 (Zhongji)



- CV4 (Guanyuan)
- CV6 (Qihai)
- CV9 (Shuifen)
- CV10 (Xiawan)
- CV11 (Jianli)
- ST28 (Shuidao)
- ST29 (Guilai)

Additional acupoints were administered based on diagnostic patterns. For upper urinary tract calculi, the following acupoint was added:

- GB26 (Daimai)

For middle and lower urinary tract calculi, the following acupoint was added:

- GB28 (Weidao)

Acupuncture treatment commenced with patients in a supine position. After disinfection of the acupoint sites, a disposable filiform needle was inserted into each acupoint with a high needle entry speed, reaching as deep as the superficial layer of the abdominal wall. One acupuncture session was administered every two days. The entire course of treatment was comprised of six acupuncture sessions.

All patients underwent VAS (Visual Analogue Scale) assessments before and after treatments, measuring pain intensity levels experienced by patients with ureteric calculi. Next, the number of the patients having passage of ureteric calculi was recorded and the calculi passage rate was calculated. The efficacy rates for each patient were categorized into 1 of 3 tiers based on Guidelines for Diagnosis and Curative Effect Evaluation of Traditional Chinese Medicine (issued by the State Administration of Traditional Chinese Medicine of China) and were categorized as follows:

- *Recovery: Spontaneous passage of ureteral calculi. Complete recovery from lower back pain. Normal urination.*
- *Effective: A change in the position of ureteral calculi (closer to the lower end of the ureter). Improvement of lower back pain. Normal urination.*
- *Ineffective: No changes in the position of ureteral calculi. No improvement of lower back pain. Difficult urination.*

For the group receiving acupuncture, the total effective rate was 88.7%, with the following breakdown of improvement tiers: 31 recovered, 16 effective, 6 no effect. The group receiving only drugs and herbs had a 73.6% total effective rate, with the following breakdown of improvement tiers: 20 recovered, 19 effective, 14 no effect. The researchers note, “While effective, the downside of the medication is that it is slow to act, with many adverse effects, higher medical costs and even drug dependence. By comparison, acupuncture is instant, sustainable, green, and convenient.” The research team concludes that acupuncture significantly increases the positive patient outcome rates for patient taking medications with herbs. [4]

The treatment of kidney and urination bladder related disorders is a standard aspect of Traditional Chinese Medicine (TCM). In recent years, combining herbs, acupuncture, and other TCM modalities with modern procedures and medications has been integrated into the TCM system. In addition, TCM modalities are effective as standalone procedures for the treatment of biomedically defined conditions. For example, a forte of TCM is the treatment of urinary incontinence. Herbal medicine formulas, including Sang Piao Xiao San, and acupuncture points (CV2, CV3, DU20, etc...) are among standard treatment options within TCM.

Research confirms that acupuncture is an effective treatment modality for the alleviation of urinary incontinence. For example, Dr. Liu et al.’s article in JAMA (Journal of the American Medical Association) entitled Effect of Electroacupuncture on Urinary Leakage Among Women With

Stress Urinary Incontinence finds electroacupuncture in the lumbar region effective for the alleviation of stress urinary incontinence. In a multi-center, randomized, controlled clinical trial across 12 hospitals, acupuncture decreased the quantity of urinary leakage and frequency of leakage. The researchers note, "In this randomized clinical trial that included 504 women, the mean decrease in urine leakage, measured by the 1-hour pad test from baseline to week 6, was 9.9 g with electroacupuncture vs 2.6 g with sham electroacupuncture, a significant difference." [5]

Research confirms that acupuncture and herbal medicine play an important role in the the alleviation or elimination of endogenous and exogenous disorders, including kidney and urination bladder disorders. Based on the data, integration of acupuncture and herbal medicine into standard protocols of care improves patient outcomes and best serves the needs of individuals and communities.

*References:*

1. Chen Q, Chen F, Lei JY, Zhang JP, Mao YN. *Therapeutic Observation of Abdominal Acupuncture plus Chinese Medication for Ureteral Calculus [J]. Shanghai Journal of Acupuncture and Moxibustion, 2017, 36(10).*
2. Vincendeau, Sébastien, Eric Bellissant, Alain Houlgatte, Bertrand Doré, Franck Bruyère, Alain Renault, Catherine Mouchel, Karim Bensalah, and François Guillé. "Tamsulosin hydrochloride vs placebo for management of distal ureteral stones: a multicentric, randomized, double-blind trial." *Archives of internal medicine* 170, no. 22 (2010): 2021-2027.
3. Chen Q, Chen F, Lei JY, Zhang JP, Mao YN. *Therapeutic Observation of Abdominal Acupuncture plus Chinese Medication for Ureteral Calculus [J]. Shanghai Journal of Acupuncture and Moxibustion, 2017, 36(10).*
4. *Ibid.*
5. Liu, Zhishun, Yan Liu, Huanfang Xu, Liyun He, Yuelai Chen, Lixin Fu, Ning Li et al. "Effect of electroacupuncture on urinary leakage among women with stress urinary incontinence: a randomized clinical trial." *Jama* 317, no. 24 (2017): 2493-2501.

# Nocturnal Enuresis

Nocturnal enuresis is the involuntary discharge of urine at night. It is intermittent urinary incontinence or bedwetting during sleep. The discussion below covers the topic of adult and adolescent bedwetting. Acupuncture and herbal medicine are often effective for resolving this condition, thereby avoiding the need for aggressive medical interventions and associated iatrogenic risks. For a usual care perspective, Cornell University researchers (Department of Urology, Weil Medical College) state the following:

Adult onset nocturnal enuresis with absent daytime incontinence is a serious symptom that usually heralds significant urethral obstruction, and a high incidence of bladder diverticulum, hydronephrosis and vesicoureteral reflux. It demands urological investigation and aggressive therapy.<sup>19</sup>

## Treatment Principle

The Pang family herbal formula and acupuncture points below tonify the kidneys and astringe urination. It is applicable for the treatment of chronic nocturnal enuresis due to deficiency.

## Herbal Formula

- Yi Zhi Ren 12g
- Fu Pen Zi 12g
- Jin Ying Zi 12g
- Bu Gu Zhi 12g
- Tu Si Zi 10g

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19. Sakamoto, Kyoko, and Jerry G. Blaivas. "Adult onset nocturnal enuresis." *The Journal of urology* 165, no. 6 (2001): 1914-1917.

- Sang Piao Xiao            9g
- Zhi Gan Cao            3g

### *Directions*

Cover the herbs with water and leave approximately 3 cun of water above the herb line and then boil. One bag of this herbal formula is cooked 3 times.

Patients are instructed to drink one cup each time, at least 45 minutes to one hour before or after meals: drink one cup, one to three times per day. Another standard technique to boil herbs is to boil the first batch and set it aside. Next, add more water and decoct again with the same herbs. Combine the two decoctions and then split into one cup doses. This creates an even potency for decoctions.

## Individual Herbs

Let's look at a review of the individual herbs in the formula.

### **Yi Zhi Ren            (Fructus Alpiniae Oxyphyllae, 益智仁)**

Yi Zhi Ren is acrid, warm, enters the spleen and kidney channels, and is a tonify yang category herb. It warms the kidneys and astringes kidney jing and urine. Indications related to this function include the following: urinary incontinence, dribbling urine, frequent urination, and irregular uterine bleeding.

Yi Zhi Ren warms the spleen, benefits the appetite, stops diarrhea, and regulates salivation. Related indications include stomach and spleen deficiency diarrhea, abdominal pain, excessive salivation, and vomiting.

### **Fu Pen Zi            (Fructus Rubi Chingii, 覆盆子)**

Fu Pen Zi is a an astringent category (herbs that stabilize and bind) herb. It is sweet, astringent, and is slightly warm to neutral. Fu Pen Zi enters the kidney and liver channels. This herb tonifies the kidneys,

astringes jing and urine, and stabilizes the kidneys. Related indications include frequent urination, enuresis, premature ejaculation, spermatorrhea, impotence, and nocturnal emission. Fu Pen Zi tonifies yang and improves vision. It is indicated for benefitting vision and the treatment of low back pain.

### **Jin Ying Zi (Fructus Rosae Laevigatae, 金樱子)**

This astringent category (stabilize and bind) herb is neutral and enters the bladder, kidney, and large intestine channels. Jin Ying Zi stabilizes the kidneys and jing. Related indications include urinary incontinence, enuresis, frequent urination, spermatorrhea, vaginal discharge, nocturnal emission, and abnormal uterine bleeding. This herb binds the intestines and stops diarrhea, especially for chronic diarrhea.

### **Bu Gu Zhi (Fructus Psoraleae Corylifoliae, 补骨脂)**

This tonify yang category herb is acrid, bitter, and is very warm. Entering the spleen and kidney channels, this herb tonifies kidneys, strengthens yang, stabilizes jing (essence), and astringes urine. Related indications include enuresis, frequent urination, cold-type low back pain, impotence, and premature ejaculation. This herb tonifies and warms spleen yang and stops diarrhea. Topically, this herb may be applied for the treatment of vitiligo.

### **Tu Si Zi (Semen Cuscutae Chinensis, 菟丝子)**

This tonify yang category herb enters the kidney and liver channels. It tonifies yang and yin, astringes jing and urine, and benefits marrow. Related indications include frequent urination, low back pain, leukorrhea, impotence, nocturnal emissions, and premature ejaculation.

Tu Si Zi pacifies the fetus and is useful for the treatment of habitual or threatened miscarriage. This herb benefits liver and kidney yin, yang,

and also jing. As a result, this herb benefits vision. Tu Si Zi tonifies spleen and kidney yang and stops diarrhea.

### **Sang Piao Xiao (Ootheca Mantidis, 桑螵蛸)**

This astringent category herb tonifies the kidneys, preserves jing (essence), and astringes urination. Indications include enuresis, frequent or dribbling urination, nocturnal emissions, and spermatorrhea.

### **Zhi Gan Cao (Radix Glycyrrhizae, 甘草)**

This herb enters all twelve main channels. It harmonizes formulas and moderates the function of other herbs, tonifies the spleen, clears heat and toxins, moistens the lungs, and stops spasms and pain. Indications include fatigue, cramping and pain of smooth muscle tissue, chronic cough, loose stools, poor appetite, and skin lesions. Zhi Gan Cao is honey-processed Gan Cao. It is sweet, warm, and has a greater tonify spleen function and moisten the lungs function than Gan Cao.

## **Acupuncture**

### **CV4 (Guanyuan)**

This point is located on the midline of the abdomen, 3 cun below the umbilicus. CV4 is the front mu point of the small intestine. CV4 nourishes and stabilizes the kidneys, moves and builds qi, and restores yang. CV4 is the intersection of the three leg yin channels deeply. Common indications for use include abdominal pain, diarrhea, irregular menstruation, dysmenorrhea, leukorrhea, and enuresis.

### **SP6 (Sanyinjiao)**

SP6 is 3 cun directly above the tip of the medial malleolus, on the posterior border of the medial aspect of the tibia. Sanyinjiao is translated as 3 yin junction; this point is the meeting of the 3 lower yin

meridians. SP6 strengthens the spleen, transforms dampness, spreads liver qi, and benefits the kidneys. SP6 is an important acupuncture point in obstetrics and gynecology. Indications for use include: dysmenorrhea, irregular menstruation, abnormal uterine bleeding, leukorrhea, prolapse of uterus, infertility, difficult or delayed labor. Other common indications for use include: abdominal pain and distention, diarrhea, nocturnal emissions, enuresis, dysuria (painful or difficult urination), lower limb atrophy, lower limb motor impairment or hemiplegia, vertigo from blood deficiency (xue xu), insomnia.

### **ST29 (Guilai)**

ST29 is 4 cun below the umbilicus and 2 cun lateral to CV3. Standard perpendicular insertion depth is approximately 1–1.5 cun. **Caution** must be used to avoid penetrating the peritoneal cavity, especially in thin patients. Excess insertion depth risks penetrating the bladder, especially when full. It is advisable to have the patient urinate prior to treatment.

ST29 warms the lower jiao, regulates menstruation, and benefits the genitals. Indications include irregular menstruation, amenorrhea, dysmenorrhea, inflammation of the uterus, fallopian tubes, or ovaries, leukorrhea, abdominal pain, endometritis, prolapsed uterus, hernia or orchitis, impotence, retraction of the testicles, and nocturia (waking at night with the need to urinate).

### **Auricular Acupuncture Points**

- Shenmen
- Kidneys
- Bladder



## Case History

The patient was 15 years of age and male. The major complaint was nocturnal enuresis, presenting with bedwetting two times per night. The patient received drug therapy for an extended period of time from a medical doctor with no results. The pulse was deep and weak at the kidney position. The tongue was pale, tender, with a thin-white coating.

The aforementioned herbal formula was provided. The patient was instructed to drink one cup, two time per day. In addition, a supplement of the herbal formula Bu Zhong Yi Qi Wan, in pill form, was provided. The patient consumed the herbal tea and pills for one month, received the enuresis acupuncture treatments regularly, and was completely cured of the condition after one month.

## Nocturnal Enuresis Research

### Acupuncture Effective For Bedwetting

A study shows that acupuncture is an effective treatment for nocturnal enuresis (bedwetting). Nocturnal enuresis is involuntary urination during sleep and is most typical among children. Most children overcome this disorder by age seven but clinical conditions may persist indefinitely in some patients if left untreated.

Acupuncture was shown to be more effective than bedwetting alarms. Bedwetting alarms, a standard in conventional medicine, detect moisture and wake the patient with an audible tone. The study also concluded that electroacupuncture achieved better clinical results than acupuncture without electricity. The researchers note that, "Acupuncture can influence spinal micturition centers and parasympathetic innervation to the urinary tract and is known to modulate brain function via the descending serotonergic system."

Nocturnal enuresis is caused by deficiency of Kidney Qi leading to the inability of the urination bladder to regulate urination. The kidneys form urine and the bladder stores and excretes urine. If the kidneys are deficient they are unable to support the function of the bladder in regulating urinary output.

Chronic nocturnal enuresis typically exhausts the patient and leads to the inability to properly distribute nutrients to the body (spleen qi deficiency). As a result, this condition often presents with a pale complexion and a low appetite. Classic acupuncture points for this condition include: Shenshu (UB23), Pangguangshu (UB28), Zhongji (CV3), and Sanyinjiao (Sp6). Supplementary points include Shenmen (Ht7) and Zusanli (St36).

#### Reference:

Acupuncture as a treatment for nocturnal enuresis, W.F. Bower, M. Diao , *Autonomic Neuroscience: Basic and Clinical*; 28 October 2010 (Vol. 157, Issue 1, Pages 63-67).

## Acupuncture And Herbs Halt Bedwetting

A study finds acupuncture and herbal medicine effective for treating children with bedwetting and other forms of involuntary urination. In a comparison of treatment modalities, the researchers discovered that combining acupuncture with herbal medicine creates a powerful medicinal effect. The study group receiving both acupuncture and herbal medicine treatments demonstrated superior patient outcomes over groups that received either acupuncture or herbal medicine only. As a result, the researchers conclude that combining acupuncture with herbal medicine is more clinically effective than either treatment as a standalone procedure.

Researchers from the Department of Pediatrics of the Affiliated Hospital of Traditional Chinese Medicine of Capital University of Medical Sciences (Beijing) compared three study groups with a total sample size of 330 children with enuresis, involuntary urination. Group #1 consisted of 112 patients receiving herbal medicine treatments. Group #2 consisted of 108 patients receiving acupuncture treatments. Group #3 consisted of 110 patients receiving both herbal and acupuncture treatments. Treatments were administered for two months and a six month follow-up visit was used to gather and tabulate the data. Patients in all three groups demonstrated significant positive patient outcomes. The combination group outperformed the other two groups with a clinically significant gain in the cure rate.

Inclusion parameters restricted participants to those with a Traditional Chinese Medicine (TCM) differential diagnostic pattern of deficiency, cold and essence (jing) insufficiency. This pattern is characterized by excessive production of clear urine, soreness of the waist, lusterless complexion, listlessness and fatigue, aversion to cold, cold limbs, pale tongue with white tongue coating and a deep, slippery and weak pulse.

According to TCM theory, enuresis may be due to deficient kidney qi and yang and/or cold-deficiency in the urination bladder. The treatment principle is to benefit the kidney qi and yang and to astringe the essence. The herbal formula used in the medication group contained the following ingredients:

- Yi Zhi Ren 6g
- Bu Gu Zhi 6g
- Sang Piao Xiao 10g
- Fen Xin Mu 10g
- Lu Jiao Shuang 10g
- Gou Qi Zi 10g
- Tu Si Zi 10g
- Fu Pen Zi 10g

- Jin Ying Zi 10g
- Rou Cong Rong 10g
- Zhi Ma Huang 5g
- Bai Guo 6g

The standard 3:1 decoction was taken at one dose per day for a course of two months. The dosage was age adjusted. The first stage of acupuncture points applied to patients were:

- Baihui (DU20)
- Shenmen (HT7)
- Sanyinjiao (SP6)
- Qihai (REN6)
- Guanyuan (REN4)
- Zhongji (REN3)
- Shuidao (ST28)

The retention of acupuncture needling in stage one of the treatment session was 10 minutes. During needling, a TDP heat lamp was directed towards REN4. The next stage of acupuncture needling incorporated the use of the following points:

- Shenshu (BL23)
- Pangguangshu (BL28)
- Sanjiaoshu (BL22)
- Mingmen (DU4)

During needling of these points, a TDP heat lamp was directed towards DU4. Acupuncture was applied every other day for a course of two months. Patients in the combination group received both herbal and acupuncture treatments. Two months comprised one course of care.

The overall curative effective rate for the combination group was 85.5% compared with 79.5% for the herbal group and 69.4% for the acupuncture group. As a result, the researchers conclude that there is a

positive clinical effect created by combining acupuncture with herbal medicine for the treatment of pediatric related enuresis.

Reference:

Wang, Zhongyi, Ming Li. "Observation of curative efficacy of acupuncture combined with herbs in treating infantile enuresis of the deficient cold in lower essence type." Chinese Journal of Information on Traditional Chinese Medicine 21.3 (2014): 92-93.



*Tu Si Zi*

# Chronic Kidney Disease

Chronic kidney disease (CKD) is when damaged kidneys are not able to filter blood properly. Typically, the kidney damage happens gradually over an extended period of time and wastes build-up in the body, which may lead to secondary illnesses.

The kidneys filter excess water and waste from the blood and create urine. They are responsible for balancing minerals and salts (e.g., calcium, phosphorus, sodium, potassium) that circulate in the bloodstream. Other important functions include producing hormones responsible for regulating blood pressure and producing red blood cells. In addition, the kidneys play a crucial role in maintaining healthy bones. The following is from the National Institute of Diabetes and Digestive and Kidney Diseases:

The kidneys play an important role in maintaining healthy bone mass and structure by balancing phosphorus and calcium levels in the blood. Healthy kidneys activate a form of vitamin D that a person consumes in food, turning it into calcitriol, the active form of the vitamin. Calcitriol helps the kidneys maintain blood calcium levels and promotes the formation of bone.

The kidneys also remove extra phosphorus, helping balance phosphorus and calcium levels in the blood. Keeping the proper level of phosphorus in the blood helps maintain strong bones.

The parathyroid glands, four pea-sized glands in the neck, create parathyroid hormone, or PTH. Parathyroid hormone plays an important role in controlling calcium levels in the blood. When the kidneys do not function properly, extra

parathyroid hormone is released into the blood to move calcium from inside the bones into the blood.<sup>20</sup>

Risks for CKD or subsequent renal failure include diabetes, high blood pressure, heart disease, chronic nephritis, exposure to chemotherapy drugs, or a family history of CKD. High blood glucose levels in diabetics can cause kidney blood vessel damage. Hypertension may damage the blood vessels of the kidneys. Statistically, there is a direct correlation between the incidence of CKD and heart disease. CKD may be asymptomatic in its earliest stages; at risk individuals are advised to have their kidneys monitored. If untreated, CKD may lead to kidney failure thereby necessitating hemodialysis, peritoneal dialysis, or kidney transplant.

Early stage CKD is often asymptomatic; however, as kidney function declines, the following symptoms may occur:

- swelling, usually in the legs, feet, or ankles
- headaches
- itchy
- tired during the day and have sleep problems at night
- feeling sick to one's stomach
- loss of sense of taste
- poor appetite
- weight loss
- producing little or no urine
- muscle cramps, weakness, or numbness
- pain, stiffness, or fluid in your joints
- confusion, trouble focusing, or memory problems<sup>21</sup>

High blood pressure may cause CKD, but CKD may also cause high blood pressure. In addition, CKD may lead to anemia.

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20. [niddk.nih.gov/health-information/kidney-disease/mineral-bone-disorder](https://niddk.nih.gov/health-information/kidney-disease/mineral-bone-disorder)

21. [niddk.nih.gov/health-information/kidney-disease/kidney-failure/what-is-kidney-failure](https://niddk.nih.gov/health-information/kidney-disease/kidney-failure/what-is-kidney-failure)

When kidneys are damaged, they don't make enough erythropoietin (EPO), a hormone that helps make red blood cells. Red blood cells carry oxygen from your lungs to other parts of your body. When you have anemia, some organs—such as your brain and heart—may get less oxygen than they need and may not function as well as they should. Anemia can make you feel weak and lack energy.<sup>22</sup>

## Treatment Principle

The following treatment strategy for patients with CKD helps to prevent kidney failure and therefor may save a person's life. The treatment principle of the herbal formula is to detoxify the kidneys and tonify kidney yin and yang.

## Herbal Formula

- Da Huang 15g
- Dong Chong Xia Cao 15g
- Dan Shen 9g
- Nu Zhen Zi 10g
- Yin Yang Huo 10g
- Wu Mai 9g
- Zhi Fu Zi 3g (cook first for 30 minutes)
- Huang Qi 15g
- Dang Gui 9g
- Chuan Xiong 9g
- Fu Ling 12g
- Bai Zhu 12g
- Gan Cao 3g

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22. [niddk.nih.gov/health-information/kidney-disease/kidney-failure/what-is-kidney-failure](https://niddk.nih.gov/health-information/kidney-disease/kidney-failure/what-is-kidney-failure)



## About the formula

The king herb is Da Huang. It helps with kidney detoxification, reduces excess nitrogen levels in the blood, and prevents sclerotic glomerular changes. The prime minister herb is Dong Chong Xia Cao for the purposes of tonifying kidney yin and yang. Another important herb is Dan Shen, which benefits blood circulation, especially in the renal tubules.

## Individual Herb Functions

### **Da Huang (Radix et Rhizoma Rhei, 大黃)**

Da Huang drains heat, purges excess, and drains fire, which is applicable for the treatment of yangming fu organ stage illness. Da Huang drains damp-heat through the stool, applicable for the treatment of disorders including dysentery and jaundice. This herb drains blood level heat and therefore treats bloody stools due to hemorrhoids, epistaxis, hematemesis, heat in the intestines, and fire toxins. Da Huang is applicable for treating heat related disorders including dysuria, fever, sore throat, painful eyes, constipation, blood stasis due to injuries, and phlegm misting the heart orifice. This herb is contraindicated during pregnancy and lactation. Use caution if the patient is dehydrated or has an electrolyte imbalance.

### **Dong Chong Xia Cao (Cordyceps Sinensis, 冬虫夏草)**

Translated as “winter bug, summer herb,” this tonify yang category herb is sweet, warm or neutral and enters the lung and kidney channels. Dong Chong Xia Cao tonifies kidney yin & yang and augments jing. Related indications for these functions include the treatment of impotence and lower back pain. This herb nourishes lung yin, transforms phlegm, and stops bleeding. Indications include chronic cough and wheezing, blood-streaked sputum with cough, and kidney and lung deficiency related asthma.

This herb is very expensive. One substitute product for Dong Chong Xia Cao is called Cs-4. If using Cs-4 or any other type of replacement for real Dong Chong Xia Cao, follow the manufacturer's recommended dosage. The following is information on Cs-4:

*Cordyceps sinensis* (Berk) Sacc is a natural herbal medicine that has been popular in China for centuries for invigoration, health preservation, and reduction of fatigue. Naturally occurring *Cordyceps sinensis* is a wild fungus found on the Qinghai-Tibetan Plateau of China at an altitude of about 10,000 feet. The fungus is parasitic and colonizes the larvae of moths until their inner body is filled with mycelium. Wild *Cordyceps* is a composite consisting of the stroma of the parasite together within the larva of the Hepialidae moths. Wild cordyceps is increasingly rare in its natural habitat, and the price is now completely out of reach for clinical practice. For this reason and because of the scarcity of natural sources, a refined standardized fermentation product, Cs-4,<sup>®</sup> was produced from the mycelial strain *Paecilomyces hepiali* Chen at Dai that was isolated from wild *C. sinensis*. A close similarity between this fermentation product and natural *Cordyceps* has been demonstrated with respect to their chemical constituents (Cs-4 contains not less than 0.14% adenosine and 5% mannitol) and pharmacologic properties.

The mechanisms of action of *Cordyceps* and its fermentation product Cs-4 in improving general well-being and physical ability have yet to be fully investigated. Improvements in quality of life have been suggested in patients with chronic heart failure, renal failure, and chronic pulmonary disease. *Cordyceps* gained world attention in 1993 when Chinese female runners achieved records in 1500 m, 3000 m, and 10,000 m events. Their coach attributed their success to a diet containing *Cordyceps*. It was suggested that *Cordyceps* helped improve exercise capacity in these athletes via antioxidant effects. Despite

these reports, the ability of *Cordyceps* or Cs-4 to enhance aerobic capacity has not been tested objectively.<sup>23</sup>

The aforementioned information about Cs-4 was mentioned in a study examining the effects of Cs-4. The study concludes, “This pilot study suggests that supplementation with Cs-4 (*Cordyceps sinensis*) improves exercise performance and might contribute to wellness in healthy older subjects.”<sup>24</sup> Note, Cs-4 is good for the environment because people don’t dig up the earth to get real Dong Chong Xia Cao. According to the research, it appears that Cs-4 is almost as good a real Dong Chong Xia Cao, and it is better for the environment.

There is another replacement often found in Asian markets. This fungus is called Chong Cao Hua. The “hua” in the name is the word for flowers. It is not a flower, but is an attractive name for marketing purposes for this fungus. It is not as potent as real Dong Chong Xia Cao, so large quantities are required. One recommendation is to consult with your herbal medicine supplier to find affordable substitutes for wild Dong Chong Xia Cao.

### **Dan Shen (Radix Salviae Miltiorrhizae, 丹参)**

Dan Shen is bitter, cool, and enters the heart, pericardium, and liver channels. This invigorate blood category herb moves the blood and dispels blood stasis. Indications include chest, lower jiao (burner), rib, and hypochondrium blood stasis disorders including irregular menstruation, amenorrhea, abdominal pain, masses, and pain due to injuries. Dan Shen clears heat and soothes irritability including ying stage (nutritive level) heat with insomnia, palpitations, and mental restlessness. Dan Shen is benefits patients with heart and kidney yin

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23. Chen, Steve, Zhaoping Li, Robert Krochmal, Marlon Abrazado, Woosong Kim, and Christopher B. Cooper. "Effect of Cs-4@(*Cordyceps sinensis*) on exercise performance in healthy older subjects: A double-blind, placebo-controlled trial." *The Journal of Alternative and Complementary Medicine* 16, no. 5 (2010): 585-590.

24. Chen, Steve, Zhaoping Li, Robert Krochmal, Marlon Abrazado, Woosong Kim, and Christopher B. Cooper. "Effect of Cs-4@(*Cordyceps sinensis*) on exercise performance in healthy older subjects: A double-blind, placebo-controlled trial." *The Journal of Alternative and Complementary Medicine* 16, no. 5 (2010): 585-590.

deficiency. This herb nourishes the blood and calms the spirit, which is useful for patients with ying and blood stage heat or heart blood deficiency.

**Nu Zhen Zi (Fructus Ligustri Lucidi, 女真子)**

This herb tonifies liver and kidney yin. Nu Zhen Zi treats visual floaters, benefits vision, alleviates low back pain, and treats weakness of the knees, premature graying of hair, and tinnitus.

**Yin Yang Huo (Xian Ling Pi, Herba Epimedii, 淫羊藿)**

This herb tonifies the kidneys, strengthens yang, sinews, and bone, dispels wind-cold-dampness, and warms the flow of yang qi. Indications include low libido, impotence, infertility, urinary frequency, poor memory, and coldness of the lower back and knees. This herb helps in the treatment of wind-cold-damp-bi pain including pain and numbness of the extremities.

**Wu Mei (Fructus Pruni Mume, 乌梅)**

Wu Mei benefits lung qi, generates fluids and alleviates thirst, expels roundworms, astringes the intestines, stops diarrhea, and stops bleeding. This herb is used for thirst and the treatment of wasting and thirsting syndrome due to qi and yin deficiency heat.

**Zhi Fu Zi (Radix Aconiti Lateralis Preparata, 附子)**

This is the prepared variety of Fu Zi, but it is toxic and contraindicated during pregnancy and for patients taking antiarrhythmic heart medications. Use caution with this herb and only use when laws allow for its use. Zhi Fu Zi warms the interior and expels cold and is useful for the treatment of heart, spleen, and kidney yang deficiency. Zhi Fu Zi disperses cold and dampness and is useful for the treatment of wind-cold-damp-bi pain.

**Huang Qi (Radix Astragali Membranacei, 黄芪)**

This herb tonifies spleen and lung qi, raises the yang qi of the spleen and stomach (lifts the qi), hardens the wei qi and stabilizes the exterior (especially for the treatment of spontaneous sweating due to qi deficiency), promotes urination and reduces edema, expels pus and generates flesh, generates body fluids, and alleviates numbness due to qi and blood deficiency.

**Dang Gui (Radix Angelicae Sinensis, 当归)**

Dang Gui tonifies the blood, regulates menstruation, moves the blood, moistens the intestines, and reduces swellings and expels pus.

**Chuan Xiong (Rhizoma Ligustici Chuanxiong, 川芎)**

This herb benefits the blood, invigorates the blood, moves the qi, and expels wind related headaches.

**Fu Ling (Scierotium Poriae Cocos, 茯苓)**

Fu Ling drains dampness, promotes urination, and benefits the spleen qi. One variety (Fu Shen) calms the shen and is useful for patients with palpitations, and insomnia.

**Bai Zhu (Rhizoma Atractylodis Macrocephalae, 白术)**

This herb tonifies spleen qi, dries dampness, transforms dampness, stabilizes the exterior and stops sweating, and calms the fetus.

**Gan Cao (Radix Glycyrrhizae, 甘草)**

This herb tonifies spleen qi, moistens the lungs, clears fire toxins, relaxes cramps and alleviates pain, and harmonizes herbs in formulas. This herb is also used as a poison antidote for a variety of purposes.

## Acupuncture

### LI11 (Quchi)

When the elbow is flexed, this point is in the depression at the lateral end of the transverse cubital crease, midway between LU5 and the lateral epicondyle of the humerus. LI11 is a He Sea, earth, mother, Ma Dan-yang heavenly star, and Sun Si-Miao Ghost Point. LI11 regulates the blood, drains dampness, cools heat in the blood, clears exterior heat, and eliminates wind. LI11 is indicated for the treatment of hypertension, sore throat, toothache, red and painful eyes, scrofula, goiter, neck nodules, urticaria, skin diseases, upper limb paralysis, febrile diseases, and chest oppression.

### ST36 (Zusanli)

This acupoint is 3 cun below ST35, one finger-breadth from the anterior crest of the tibia, in tibialis anterior. This point is lateral to a notch that is palpable on the tibia. Zusanli (leg three measures) is a He Sea, earth, lower He Sea of the Stomach, and Sea of Nourishment point. ST36 is a Gao Wu command point and a Ma Dan-Yang heavenly star point. ST36 orders the spleen and stomach, regulates qi and blood, and tonifies qi. Common indications for usage include hypertension, gastric pain, vomiting, abdominal distention, diarrhea, constipation, mastitis, breast abscesses, enteritis, gastritis, edema, asthma, general weakness, emaciation, anemia, indigestion, hemiplegia, neurasthenia, and mental disorders.

### SP6 (Sanyinjiao)

SP6 is 3 cun directly above the tip of the medial malleolus, on the posterior border of the medial aspect of the tibia. Sanyinjiao is

translated as 3 yin junction; this point is the meeting of the 3 lower yin meridians. SP6 strengthens the spleen, transforms dampness, spreads liver qi, and benefits the kidneys. SP6 is an important acupuncture point in obstetrics and gynecology. Indications for use include: dysmenorrhea, irregular menstruation, abnormal uterine bleeding, leukorrhea, prolapse of uterus, infertility, difficult or delayed labor. Other common indications for use include: hypertension, abdominal pain and distention, diarrhea, nocturnal emissions, enuresis, dysuria, lower limb atrophy, lower limb motor impairment or hemiplegia, vertigo from blood deficiency (xue xu), insomnia.

### **KD7 (Fuliu)**

KD7 is located 2 cun above KD3, on the anterior border of tendocalcaneus. KD7 is a jing river (traversing), metal, and mother point. KD7 regulates kidney qi, and clears and cools damp-heat. Indications include febrile diseases, night sweating, spontaneous sweating, abdominal distention, edema, and diarrhea with pus and blood. Special combinations for KD7 including using it with LI4 to producing sweating and with HT6 for the treatment of night sweating. A recommended pairing is LU7 with KD7 to treat lung conditions and to benefit body fluids.

### **BL23 (Shenshu)**

This point is located 1.5 cun lateral to L-2, at the level of the lower border of the spinous process. This is the kidney back shu point (Beishu). BL23 regulates kidney qi, benefits the lumbar vertebrae, and benefits the eyes and ears. Common indications for use include irregular menstruation, tinnitus, edema, low back pain, and weak knees.

## **Auricular Points**

- Shenmen
- Kidney

- Spleen
- Liver

## Dietary Recommendations

Reduce consumption of proteins with saturated fats. Reduce sodium and sugar consumption. Increase the amount of carp fish in the diet and drink Chi Xiao Dou soup.

### Li Yu Chi Xiao Dou Tang

Li Yu Chi Xiao Dou Tang is a soup that promotes urination and treats dirty water stagnation. Indications include edema, chronic nephritis, leg qi disorder, obesity, water retention due to PMS and liver cirrhosis with ascites. Two important ingredients are carp and adzuki beans.

#### **Carp (Li Yu)**

Carp enters the lung and kidney channels and promotes urination. According to Chinese medicine theory, carp is a strong variety of fresh water fish much like shark is considered a strong saltwater fish. Carp appear to have a mustache, have golden-shiny scales, survive outside of water longer than many fish, jump high above the water at high speeds, and can grow to approximately 140 lbs. and 56 inches in length. Carp are representative of the dragon. Bighead carp has a stronger medicinal function than other varieties; however, silver carp is often more widely available while continuing to provide similar medicinal benefits.

#### **Adzuki Beans (Chi Xiao Dou)**

Adzuki beans are sweet, sour, neutral and enter the heart and small intestine channels. Chi Xiao Dou promotes urination to drain dampness.

#### **Recipe**

Boil Bai Mao Gen, Sang Bai Pi, and Huang Qi to make an herbal soup. Remove the herbs and cook Chi Xiao Dou (adzuki beans) in the herbal



soup. Sauté carp in oil with Sheng Jiang (fresh ginger), Da Suan (garlic), and a little Chen Pi (dried citrus peel) until both sides are brown. Add the fish to the soup and serve. Eat the beans and fish with the soup. For children, some prefer to put the fish in a cloth bag to avoid issues with bones.

## Case History

Female, 52 years of age, presented with renal failure following breast cancer surgery and chemotherapy.

- Creatinine 4 (normal approximately 0.4–1.2)
- Urine nitrogen 81 (normal approximately 7.0–25.0)

The patient felt very tired, had no appetite, and had edema throughout the entire body. The patient drank one bag of the renal formula per day. She drank two cups per day for three weeks. In addition, she received the renal acupuncture treatments regularly. The creatinine changed to 4 and the urine nitrogen changed to 63. After one year of treatment, this patient's condition completely resolved and no further treatment was necessary.

## Research

### Acupuncture Alleviates Fatigue In Dialysis Patients

Researchers conclude that acupuncture is more effective than conventional relaxation methods for the relief of fatigue in kidney dialysis patients.

Central Hospital of Laifeng District researchers find acupuncture safe and effective for the relief of fatigue in dialysis patients. In a controlled study, investigators compared acupuncture with conventional

rejuvenation methods. Acupuncture outperformed conventional methods and provided significant relief for dialysis patients.

Acupuncture relieves fatigue more effectively than conventional rest and relaxation methods for dialysis patients. Researchers from Central Hospital of Laifeng District compared conventional relaxation methods (e.g., napping, eating, chatting, listening to music, watching television) with acupuncture. The Revised Piper Fatigue Scale (RPFS) was used to measure fatigue levels and was chosen based on the quality of its psychometric properties. RPFS is a multidimensional instrument that covers fatigue domains in twenty-two items over four subscales.

Seventy-six dialysis patients were randomly divided into two groups: acupuncture, conventional relaxation. The acupuncture group was needed at the following primary acupoints:

- Zusanli, ST36
- Sanyinjiao, SP6
- Yongquan, KD1
- Shenshu, BL23

Perpendicular insertion and manual stimulation using lifting, thrusting, and twirling techniques were applied to the acupoints. The techniques employed for the purposes of tonifying and sedating. Acupuncture was applied once per day, three times per week, for a total of four weeks.

The results demonstrate that acupuncture is effective for relieving fatigue in dialysis patients. Given the widespread prevalence of fatigue in these patients (Wang et al.), acupuncture may be an important addition to conventional therapies for purposes of improving the quality of life. As a result, additional research is warranted to confirm these results and to evaluate methods of integrating acupuncture into usual care medical settings.

Acupuncture is effective for helping dialysis patients in several other ways that have been substantiated by controlled clinical trials. Tsay et al. note, "Uraemic pruritus is a common problem in end-stage renal failure." The researchers conclude, "Acupuncture at the Quchi (LI11) acupoint is an easy, safe and effective means of relieving uraemic pruritus." Kim et al. conclude, "Acupuncture seems feasible and safe for symptom management in patients undergoing hemodialysis."

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