

**Urinary tract infections (UTIs)** can affect any part of the urinary system including the kidneys, ureters, bladder, and urethra. Most infections occur in the lower part of the urinary system; the bladder and urethra. 90% of UTIs are caused by the gram-negative bacterium, *Escherichia coli* (*E. coli*). Women are at a greater risk of developing a UTI due to the shorter distance from the urethral opening to the bladder. This shortens the distance that bacteria must travel to reach the bladder and begin to multiply.

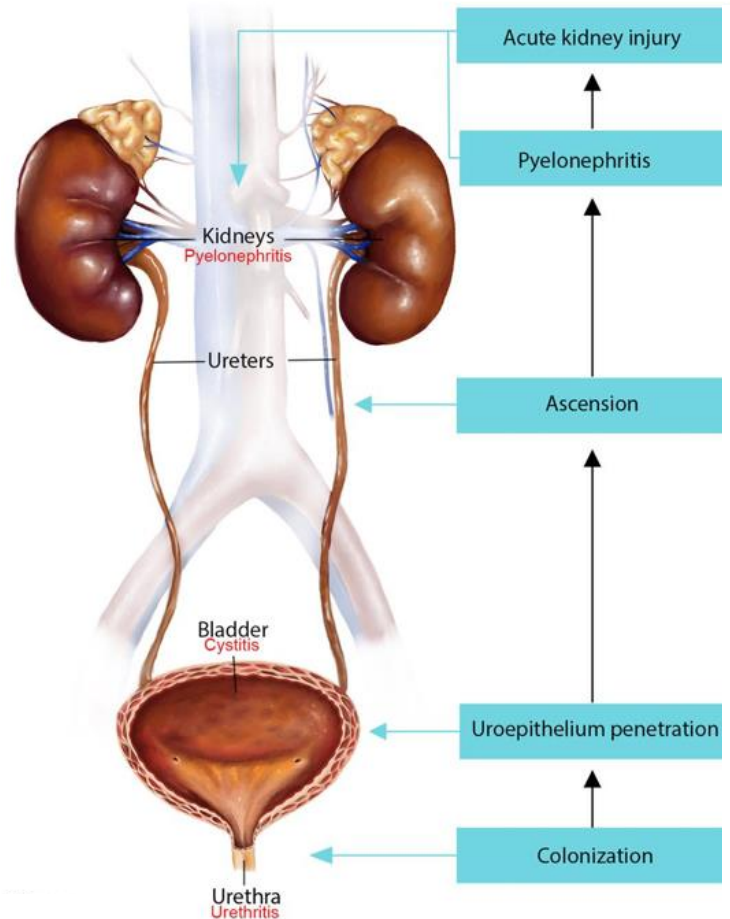
*E. coli* secretes many molecules that help it bind to urinary tract tissue. This allows the bacteria to stay within the urinary tract even during urine excretion. In patients with recurrent bladder infections, *E. coli* can form biofilms within the bladder making it resistant to antibiotics.

Common symptoms of a UTI include a strong and persistent urge to urinate, a burning sensation when urinating, passing a frequent and small amount of urine, urine that appears cloudy, strong-smelling urine, and pelvic pain. Symptoms can vary depending on where the infection occurs. If the infection only affects the urethra, the symptoms include burning with urination and discharge. If the infection spreads into the kidneys (acute pyelonephritis), symptoms can include back and flank pain, high fever, shaking and chills, nausea, and vomiting. If not addressed properly, UTIs can lead to complications. Permanent kidney damage can occur from an acute or chronic kidney infection (pyelonephritis) when bacteria ascend from the ureters into the kidneys.

*E. coli* can also suppress the immune system by breaking down communication channels and decreasing cytokine activity. This can cause bladder infections by multiple strains of bacteria. *E. coli* can invade the underlying basal epithelium to protect itself from clearance through exfoliation of bladder luminal surface and can lay dormant for several months. These patients are at an even greater risk of recurrent infections.

**Interstitial cystitis** can develop when the bladder remains in a chronically inflamed condition. Pinpoint areas of bleeding develop in the bladder wall and scar tissue can form that causes the bladder to become stiff and less able to expand. The capacity of the bladder is markedly reduced. Irritants in the urine can leak into the interstitium through the scar tissue and irritate the nerve endings causing an abnormally high urination frequency, urgency, pressure and/or pain in the bladder, and pelvic pain. Patients may need to go to the bathroom at least once every hour. The sense of urgency can be present immediately after urination. The inflamed tissue makes it even more likely for recurrent and frequent infections to occur.

In rare cases, patients with UTIs can also be infected by atypical bacteria, such as mycobacteria or fungus due to their immune system being suppressed by *E. coli*. Mycobacteria can cause infections and inflammation of the urinary tract causing urethritis. Symptoms of urethritis include abnormal discharge and a burning sensation while urinating. Kidney infections by mycobacteria can cause kidney inflammation, kidney cysts, scars, and chronic kidney disease in severe cases. Symptoms of kidney mycobacterial infections include back, flank, and suprapubic pain; hematuria



or dark-colored urine; increased urination frequency, burning or irritation with urination, increased urination at night, or bubbles in urine. Other symptoms may include body heaviness, tiredness, and muscle weakness.

Fungal infections of the bladder and urinary tract can cause cystitis due to irritation and damage to the bladder and urinary tract lining. Patients may experience symptoms of frequent urination, urination urgency, pain and burning with urination, and suprapubic pain. Fungal infections of the bladder can spread to the kidneys. The thick cell walls of the fungus are very toxic to the kidneys and can cause kidney inflammation. Symptoms of kidney fungal infections include difficulty urinating. Patients may also have an increased sense of urination but cannot pass the urine out. This is the opposite of a kidney mycobacterial infection which causes frequent urination.

### **Wellness Recommendation**

The inflammation of the urinary tract due to irritation and infection is viewed as Bladder Heat in TCM. Invasion of the gram-negative bacteria in the underlying basal epithelium and the resulting tissue damage and scar tissue formation is viewed as Bladder Damp Heat in combination with a Bladder Blood Stasis in TCM.

The wellness recommendation for a bladder infection includes BI and UI. BI clears bladder Heat and helps to clear urinary tract inflammation. BI also helps to clear the Blood Stasis in the bladder to shed the scar tissue and heal the damaged lining of the bladder. The healthy bladder lining will not allow the bacteria to attach and therefore prevent bladder infections from reoccurring. Herbal ingredients in BI have been shown to contain many biological activities such as antioxidant, anti-inflammation, and wound healing.<sup>1</sup> UI helps clear damp heat in the Lower Jiao. UI helps clear infections by a gram-negative bacterium, such as E. coli, in the bladder, ureters, and urethra. Herbal ingredients in UI have been shown to contain antibacterial properties and have inhibitory effects against E. coli.<sup>2</sup> Patients should experience symptom improvement in 1-3 days. Up to 1 month of treatment is recommended for significant improvement depending on the severity of the condition.

If the infectious bacteria have formed biofilms in the bladder and patients still experience recurrent infections with the use of BI and UI, Biofilmin is also recommended. Biofilmin helps break up the stasis and dissolve the microbial biofilms in the bladder. Patients can experience improvement in 3-7 days. 10-12 weeks of treatment is recommended for significant improvement and sustained results

The wellness recommendation for Interstitial cystitis includes BI, UI and LC Balancer. BI and UI helps clear the Heat, Damp Heat and Blood stasis to address the chronic inflammation, infection, and the scar tissue. LC Balancer nurtures Kidney Yin and enhances microcirculation to help support the blood circulation to the injured bladder and speed up the tissue repair of the damaged epithelium and interstitium. Patients can experience symptom improvement in 2 weeks. 6-8 weeks of treatment is recommended for significant improvement and sustained results.

If the infection has spread to the kidneys, KS is also recommended. KS helps clear kidney Heat and remove infection and inflammation from the kidney. Pyrrosia Folium, an herb utilized in KS, has been used in Chinese medicine practice for the treatment of urinary infections, urolithiasis, and hematuria caused by damp heat.<sup>3</sup> If KS can't resolve kidney gram-negative bacterial infection, K-2 is recommended. K-2 helps clear damp heat in the kidney and clear kidney infections caused by gram-negative bacteria. If K-2 can't resolve the condition, K-3 is recommended.

A mycobacterial bacterial infection is viewed as Cold Damp in TCM. Nefnin and Mycocin help remove cold damp and clear mycobacterial infections from the kidneys and lower Jiao. Mycocin targets the bladder and urinary tract and Nefnin targets the kidneys. LC Balancer and Xcel are required to help with waste removal. BI and KS are also required to help reduce inflammation of the kidneys and urinary tract and reduce irritation. Patients can experience symptom improvement in 3 days. 3-4 weeks of treatment is required for significant improvement and sustained results. If patients have developed kidney cysts or scars, Renogen is also required to help break scar tissue and clear the mycobacterial infection. CKD treatment is also required if the condition has caused kidney damage.

Fungal infection is viewed as Heat Toxin invasion in TCM. If the patient has a bladder or kidney infection caused by fungus, BI-F and KS-F are recommended to help clear the Heat Toxin from the bladder and kidneys. BI-F clears fungal infections from the bladder and KS-F clears fungal infections in the kidneys. Herbal ingredients in BI-F have

many anti-fungal properties and has been shown to have remarkable inhibitory effects against fungi.<sup>4</sup> Patients can experience symptom improvement in 3 days. 3-4 weeks of treatment is required for significant improvement and sustained results. BI, UI, KS, LC Balancer and Xcel are also recommended for additional inflammation and infection clearing as well as kidney support.

### Product Summary

Products	
Bladder infection (first-line) (If there is biofilm formation)	BI, UI Additional: Biofilmin
Interstitial cystitis	BI, UI, LC Balancer
Kidney infection and recurrent UTIs (first-line)	BI, UI, KS
Kidney infection (other gram-negative bacteria)	K-2, K-3
Bladder and kidney infection (mycobacteria)	Nefnin, Mycocin, N-2, LC Balancer, KS, BI, Xcel
Bladder and kidney infection (fungal)	BI-F, KS-F, BI, UI, KS, LC Balancer

### Selected Case Studies

#### Elimination of Symptoms of a Urinary Tract Infection due to Atypical Bacterial Infections

*Bio Wellness Center, LA*

A female patient presented to the Bio-Wellness Center on Oct. 3rd, 2017, with a urinary tract infection. The patient experienced a burning sensation during urination with a restricted flow and was frequently urinating throughout the day. She was also suffering from a lack of sleep due to constantly waking up in the middle of the night to urinate, which was not only uncomfortable but painful. The patient had been taking antibiotics prescribed by her primary care physician with no results.

The doctor recommended her to take Wei Laboratories BI and KS formula to help address the bladder infection and inflammation in addition to her issue of waking up to urinate at night. After one week, the patient reported no changes in her symptomology. Through further analysis, the doctor concluded that the patient may not have a typical bacterial infection. The doctor suggested on Oct. 10th for her to take Nefnin, K-2, and Mycocin to address atypical bacterial infections in her kidneys and bladder.

On Oct. 23rd, the patient reported her symptoms of burning during urination, restriction, and frequency had all improved by 90%. However, she was still having occasional minimal discomfort and some frequency of urination. The doctor then advised her to continue on her current protocol while adding in KS-F and BI-F to address a fungal infection in the kidneys and bladder. Within 3 days of starting the new protocol, the patient reported that she was completely symptom-free and was now sleeping throughout the night without waking up to urinate. Her urine flow was no longer restricted and her energy levels and mood had greatly improved.

#### Successful Treatment of Emphysema, Heart and Urination Issues

*Dr. Robert Schwartz, ND, LAc, OR*

A 58-year-old female patient came for her stage 3-4 emphysema treatment. She had symptoms of chest tightness, shortness of breath on exertion on a scale of 4 out of 10, fatigue with her energy level at 5 out of 10. She also had a problem with a rapidly pounding heartbeat upon exertion. She had acid reflux and bloating which had gone away with a change of diet. History of UTI but still experienced symptoms of UTI with pain in urination and waking up in the middle of the night to urinate.

Dr. Schwartz recommended Wei Laboratories herbal products including Soup A, Soup B and LC Balancer to improve her lung condition; Millenium to improve her heart condition, and KS and BI to improve her urination issue.

After 4 weeks of treatment, the patient reported that all her symptoms have gotten much better! She can breathe better, the pounding heartbeat is no longer an issue, her UTI symptoms are gone and she is not waking up in the middle of the night anymore. She is feeling every day more and more like herself! She is doing well with the herbal treatment. The only problem she experienced is that she felt some dehydration at the beginning. It was found she was taking several other vitamins and supplements. The LC Balancer enhances absorption and she might have overloaded with too many minerals and vitamins. She was then advised to cut back on the dosages of the vitamins and other supplements. The patient is now on the 2nd month of treatment with Soup A, Soup B and LC Balancer to further improve her lung condition.

References:

1. Zeng, H., Xue, P., Su, S., Huang, X., Shang, E., Guo, J., ... Duan, J. A. (2016). Comparative Pharmacokinetics of three major bioactive components in rats after oral administration of Typhae Pollen-Trogopterus Feces drug pair before and after compatibility. *Daru: journal of Faculty of Pharmacy, Tehran University of Medical Sciences*, 24, 2. doi:10.1186/s40199-016-0140-2
2. Yi-Ting Shu, Kuo-Ting Kao, Ching-Sung Weng, in vitro antibacterial and cytotoxic activities of plasma-modified polyethylene terephthalate nonwoven dressing with aqueous extract of Rhizome *Atractylodes macrocephala*, *Materials Science and Engineering: C*, Volume 77, 2017, Pages 606-612
3. Xiao, Wei et al. "Comparative Evaluation of Chemical Profiles of *Pyrrosiae Folium* Originating from Three *Pyrrosia* Species by HPLC-DAD Combined with Multivariate Statistical Analysis." *Molecules* (Basel, Switzerland) vol. 22,12 2122. 1 Dec. 2017, doi:10.3390/molecules22122122
4. Yujie Li, Weiyan Cai, Xiaogang Weng, et al., "Lonicerae Japonicae Flos and Lonicerae Flos: A Systematic Pharmacology Review," *Evidence-Based Complementary and Alternative Medicine*, vol. 2015, Article ID 905063, 16 pages, 2015. <https://doi.org/10.1155/2015/905063>.