



HERBAL MEDICINE

## Clinical Applications of *Du Huo Ji Sheng Tang*: Case Reports

Hongru Wei, LAc, DACM; Yan Zhou, LAc | DIGITAL EXCLUSIVE

### WHAT YOU NEED TO KNOW

- *Du Huo Ji Sheng Tang (DHJST)* is a Chinese herbal medicine documented in *Important Formulas Worth a Thousand Gold Pieces* and originating from the Tang Dynasty.
- DHJST is one of the most highly utilized Chinese herbal medicines for inhibiting osteoclast activity in osteoarthritis and preventing osteoporosis.
- Thirty patients from our clinic have taken *DHJST* and completed a short survey. The average age of participants was 50-60 years old. Seventy percent of participants saw some improvement in less than a month.

*Du Huo Ji Sheng Tang (DHJST)* is a Chinese herbal medicine documented in *Important Formulas Worth a Thousand Gold Pieces* and originating from the Tang Dynasty. According to traditional Chinese medicine (TCM) theory, this formula treats kidney and liver deficiency causing chronic pain in the low back and knees. Low back pain is associated with the kidneys, while knee ligaments and sinews belong to the liver.

*DHJST* is composed of 15 ingredients; the chief herb, *du huo*, expels cold and dampness from the lower extremities. *Xi xin* is a deputy herb that pushes wind-damp-cold out from channels and alleviates the pain. Secondary deputy *fang feng*, like its name, “wind guard,” works to dispel wind and overcome dampness. Another deputy is *qin jiao*, which relaxes sinews and expels wind and dampness.

Assistant herbs *sang ji sheng*, *niu xi* and *du zhong* are beneficial for joint condition due to their function of tonifying the kidneys and liver. *Rou gui* is used to warm the kidneys and move the *yang*.

The commonly used formula *Si Wu Tang* is included in *DHJST* to invigorate and nourish the blood. Since spleen *qi* deficiency causes dampness, *DHJST* includes *ren shen* and *fu ling* to strengthen the spleen *qi*. Assistant herb *zhi gan cao* helps to harmonize the whole formula.

Application: Osteoporosis

Several studies have found that *DHJST* benefits osteoporosis. According to Wang, et al., *xhuanxiong* and *DHJST* increase osteogenic activity in human mesenchymal stem cells and decrease bone marrow aging. Chen, et al.,<sup>1</sup> reports that osteoarthritis in female patients is usually combined with menopausal syndrome and osteoporosis.

*DHJST* is one of the most highly utilized Chinese herbal medicines for inhibiting osteoclast activity in osteoarthritis and preventing osteoporosis. *DHJST* is known as a female beneficial formula, with research showing that when taken with conventional RA medications, it is associated with a decrease in endometriosis risk. Several research teams have discussed *DHJST*'s TCM activities of antiapoptosis, antioxidation, and proliferation in osteoarthritis.<sup>2-3</sup>

Case Report #1

*76-year-old female diagnosed with calcium pyrophosphate crystal arthritis.*

Patient is a 76-year-old female who was diagnosed with crystal arthritis for the past 10 years and experienced onset of sharp knee pain three months ago. This patient frequently rubbed her right knee, where a bulging mass was located. The patient mentioned her bowlegs were a result of malnutrition, which she has suffered from since she was a child. The patient stays indoors unless she needs to visit a doctor.

The patient was asked to take two scoops of powder formula *DHJST* twice a day, while undergoing two acupuncture sessions per month. The patient noticed improvements in her knees after taking *DHJST* for two months. Patient continued to take *DHJST* 2-3 times a week for maintenance.

Case Report #2

*40-year-old male with degenerating cartilage in right knee and torn meniscus.*

Patient is a muscular and tall 40-year-old male with degenerating cartilage in his right knee and a meniscus tear from forceful twisting. He felt increasing discomfort and dull pain in his kneecap while walking. The patient noticed compression in his right hip, and felt a numb and cold sensation in his right knee. He leaned on his left side and noticed himself limping after a day of standing or walking.

The patient was prescribed a capsule form of *DHJST* and took five capsules twice a day. The patient felt his knee pain subside after two weeks, but he continued the formula for another month in order to achieve maximal effect.

Case Report #3

*34-year-old female with low back pain and a tailbone injury due to ski accident.*

The patient came to an evaluation in August 2022 due to a tailbone injury in 2020 from snowboarding. She fell on her left hip and started to feel pain in her tailbone and right gluteal musculature following the injury. According to her X-ray result, the apex of her coccyx bone was very loose, but not fractured. The patient could not find a comfortable sitting position and was

forced to sleep on her stomach to alleviate the pressure around her tailbone. She felt pain around UB 35 and her lower back felt tight from the stress of sitting at work.

The patient took three scoops of powder *DHJST* three times a day. She returned after two weeks for an acupuncture follow-up and reported an overall decrease in her pain. After taking *DHJST* for a month, she noticed the pain in her tailbone had subsided, especially during her vacation, during which she was sitting on flights for long hours. She was discharged from acupuncture after her third session. Only one bottle of *DHJST* was administered.

## Discussion

Thirty patients from our clinic have taken *DHJST* and completed a short survey. The average age of participants was 50-60 years old. Ten percent of participants had pain in their lower backs, knees, hips and other locations; 60% of participants felt pain only in their knees; and 30% patients showed either lower back pain, hip pain, or both. Most participants experienced 3-6 months of low back and knee pain prior to taking this herbal formula, with 80% of participants describing their pain as dull and achy.

Seventy percent of participants saw some improvement in less than a month. Five patients noticed their pain conditions subsided in two weeks.

## References

1. Chen FP, Chang CM, Hwang SJ, et al. Chinese herbal prescriptions for osteoarthritis in Taiwan: analysis of national health insurance dataset. *BMC Compl Alt Med*, 2014;14(1):91.
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3. Wang JY, Chen WM, Wen CC, et al. Du-Huo-Ji-Sheng-Tang and its active component Ligusticum chuanxiong promote osteogenic differentiation and decrease the aging process of human mesenchymal stem cells. *J Ethnopharmacol*, 2017;198:64-72.

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