

FOUR MARVEL FORMULA *SI MIAO WAN*

ORIGINS: *Convenient Reader of Established Formulas*, by Zhang Bing-Cheng, 1904.
Modification of classical formula, *Er Miao Wan*.

Four Marvel Formula is a modification of the classic formula, *Er Miao San* or Two Marvel Powder. The original formula consists of two herbs: phellodendron (*huang bai*) and atractylodes (*cang zhu*) in equal parts. Two Marvel Powder was first published in the *Essential Teachings of Zhu Dan Xi* in 1481. In 1749, Fang Zhao-Zhang published a modification of *Er Miao San* in his book *Fang's Orthodox Lineage of Pulse and Symptoms*. The now famous modification, called *San Miao Wan*, or, Three Marvel Pill includes the addition of acharanthes root (*huai niu xi*). The *san* became *wan* in the formula name because the preparation instructions changed from the original. *Er Miao San* was prepared by grinding the two fried ingredients into a powder; then it was taken as a draught by adding the powder to ginger juice. *San Miao* is a “*wan*” because the instructions in the source text advise to mix the three herbs together into flour after pulverizing and then roll into individual boluses. The present formulation, *Si Miao Wan* (Four Marvel Pill) contains the further addition of job's tears (*yi yi ren*). *Si Miao Wan* was first published in 1904 in the *Convenient Reader of Established Formulas* by Zhang Bing-Cheng. It is Zhang's formulation that is the basis for the **Four Marvel Formula** under discussion here.

GENERAL SIGNS/SYMPTOMS

Zhang Bing-Cheng created *Si Miao Wan* to expand the application of the formula to treat atrophic syndromes in the lower body, but all of the same conditions that the smaller two versions address are still a part of *Si Miao Wan*. With the appropriate presentation (damp-heat in the lower body), **Four Marvel Formula** can be applied to a wide variety of signs and symptoms. The hallmarks include: atrophy, redness, swelling, oozing sores, scanty, yellow urination, morbid leukorrhea that is yellow and foul-smelling, damp, itchy scrotum, numbness or weakness of the lower limbs, sinew or bone pain in the lower back or limbs, and red, burning pain in the lower extremities. You can expect a red or pale, red tongue with a yellow, greasy coat and a pulse that is rapid and tight or rapid and rolling.

CLASSICAL APPLICATIONS

1. Clears heat and dries dampness in the lower body

- red, raised skin and/or yellow, oozing discharge, or discoloration in the lower body

2. Removes obstructions leading to atrophy in the lower body

- atrophy syndromes in the lower body

INGREDIENTS

PINYIN	LATIN	ENGLISH	PERCENT OF FORMULA
Huang Bai (chief)	Phellodendri (cortex)	Phellodendron bark	33%
Yi Yi Ren (deputy)	Coicis (seed)	Job's tears seed, Chinese pearl barley, coix	33%
Cang Zhu (assistant)	Atractylodis (rhizome)	Atractylodes rhizome	17%
Chuan Niu Xi (assistant)	Cyathulae (root)	Cyathula root	17%

GENERAL INDICATIONS / MODERN APPLICATIONS

- Ankylosing Spondylitis
- Arthritis, rheumatoid
- Atrophy, numbness, and weakness of lower limbs
- Cervicitis, from damp-heat
- Eczema
- Edema, lower body
- Erysipelas / Cellulitis
- Feet, painful and swollen
- Fungal Infection
- Genital sores
- Gout
- Leg Qi
- Numbness, lower body
- Skin rash, from damp-heat
- Testicular eczema or swelling
- Urinary tract infection
- Vaginal discharge, yellow
- Vaginitis from damp-heat

SYNERGY OF INGREDIENTS AND FORMULA DISCUSSION

Phellodendron (*huang bai*) has an affinity for the yin aspects of the body and can directly enter the entire lower warmer (pelvis, colon, bladder, uterus, and genitals) where its cold, bitter properties are powerful agents for drying dampness and clearing heat. *Huang bai* has the ability to drain fire and resolve toxin. It is effective against many varieties of bacteria and fungusⁱ and some viruses. As part of its affinity for the yin aspects of the body, *huang bai* has a moderate ability to consolidate kidney yinⁱⁱ and a remarkable ability to clear deficiency heat. *Huang bai* clears while it descends, directing its qi downward and can even be used as a stand-alone herb to treat many of the indications listed for **Four Marvel Formula**, making it the chief substance in this formula.

FORMULA ACTIONS

- Clears heat and dries dampness in the lower body
- Treats yellow discharges and discolorations in the lower limbs and urogenital system
- Treats hot swellings in the lower body
- Removes obstructions leading to atrophy in the lower limbs

TONGUE

Red, or pale red with greasy, yellow coat.

PULSE

Rapid, and tight or rolling.

CONTRAINDICATIONS / CAUTIONS

This formula is contraindicated in cases where lung-heat has consumed body fluids. If patient presents with significant kidney or liver yin deficiency, **Four Marvel Formula** should be given with an appropriate tonic to protect the yin.

Cyathula root (*chuan niu xi*) is contraindicated in pregnancy.

Job's tears / coix (*yi yi ren*) is traditionally contraindicated in pregnancy due to its descending nature.

Atractylodes (*cang zhu*) has an inhibitory effect on omeprazole (Prilosec).ⁱⁱⁱ May need to increase dose of omeprazole to maintain effectiveness.

The patient should avoid excessive amounts of sweet foods as well as oily foods when presenting with damp-heat patterns.

DOSAGE

The standard dosage of 2 tablets, 3 times daily is appropriate for most adults.

Atractylodes (*cang zhu*) is the deputy ingredient. By supplementing spleen qi and warming the middle, *cang zhu* protects the digestive system from the cold, descending properties of the chief. But its inclusion as one of the original “Two Marvels” is not only to moderate the harshness of *huang bai* (phellodendron). *Cang zhu* is remarkable at drying dampness and rescuing the spleen from damp encumbrance. It restores the spleen's transportation and transformation functions. *Cang zhu* is sometimes used to induce perspiration and dispel wind-dampness to treat certain types of wind-cold exterior patterns and *bi* syndrome where dampness is a significant factor. These actions demonstrate an ability to disperse dampness from the bones and joints as well as the muscle layer. Its aromatic nature provides *cang zhu* with an ability to “clear filth,”^{iv} which assists the chief at eliminating damp-toxin and damp-heat toxins such as trichomonas, candida, and E-coli.^v When combined with *huang bai*, the actions of *cang zhu* are extended to the lower warmer and legs.

Cyathula (*chuan niu xi*) and achyranthes (*huai niu xi*) have nearly identical functions, albeit with slightly different emphases. Since the formula's first modification, physicians have used both species to accommodate the needs of their patients, and to adjust for availability. Both substances guide into the lower warmer and extremities; both invigorate blood flow, break up stasis, and drive fire downward; both herbs have a diuretic action and clear damp-heat in the lower warmer; both expel wind-dampness; and both tonify liver and kidneys and strengthen bone and sinew. The chief distinctions are that *huai niu xi* is stronger at tonifying liver and kidney/strengthening bone and sinew, while *chuan niu xi* has a stronger action to dispel wind-dampness, invigorate blood, and dredge the collaterals. The formulation under discussion uses *chuan niu xi* (cyathula) to amplify the formula's ability to dredge the collaterals. By the time damp obstruction has led to the development of atrophy, ulcerations, leg qi, numbness, and damp-heat arthritic conditions, qi and blood flow have become impaired, and the collaterals have become obstructed. *Chuan niu xi* can remove these obstructions. It can pull the action of the whole formula further down into the limbs than any of the other ingredients. It allows the damp-heat clearing actions of the other herbs to be effective all the way to the feet.

The second assistant and fourth “marvel” is job's tears/coix (*yi yi ren*). At first glance, this choice might seem to dilute the already highly effective “Three Marvel” formulation, but a closer look reveals the genius of its inclusion. The ability of *yi yi ren* to remove dampness, supplement the spleen, and expel pus is well-known. In fact, *yi yi ren* is effective to clear damp-heat at any level, anywhere in the body. *Yi yi ren* can be used to leach out dampness from bone, sinew, and muscle to resolve leg qi (see below) and damp-heat arthritic conditions. It removes obstruction to relieve muscle spasm and increase mobility. The action of *yi yi ren* to expel pus is achieved through virtue of its cold nature, leaching and dispersing actions, and its affinity for the flesh. This affinity for the flesh is due to the fact that it enters the lung, spleen, and stomach channels; the first pertaining to the skin, the other two to muscle tissue. Its ability to expel pus makes *yi yi ren* ideal in **Four Marvel Formula** for addressing ulcerations in the lower limbs. But it also enters the kidney channel and can therefore take the same dispersing, expelling, and clearing actions all the way to the bone. In **Four Marvel Formula**, these actions are directed to the lower warmer and lower extremities. *Yi yi ren* has a descending, sinking nature, and therefore, because it is combined with cyathula (*chuan niu xi*) and phellodendron (*huang bai*), reinforces the ability of the formula to reach its target.

MODERN APPLICATIONS**Musculo-skeletal Disorders**

Gout—Gout is always a damp-heat issue, and the majority of cases (though not all) occur in the lower body. A number of clinical studies have shown significant results with use of **Four Marvel Formula** for gouty arthritis. One study

achieved a 92.5% effectiveness rate when **Four Marvel Formula** was combined with **Poria Five Formula**.^{vi} (See Formula Combinations below.)

Arthritis—Damp-heat arthritis is a classical indication for the “Marvel” family of formulas. One large study (278 participants) showed an overall effectiveness of 95.7% using a modified version of the formula.^{vii}

Ankylosing Spondylitis—This disease is a case of an excess pathogen leading to a deficiency, which is then compensated for by a new excess. Damp-heat invades the vertebrae and begins to disintegrate the cartilage. The body senses instability in the vertebrae, caused by deterioration of the disc and/or supportive tissue around the disc and compensates by growing little boney extensions on the vertebrae themselves to brace them and prevent tipping and sliding. The deterioration is clearly a deficiency issue, but the root of the deterioration is usually pathogenic damp-heat. The pain itself and the boney protuberances are excess. **Four Marvel Formula** treats the root of the problem and provides hope for the discontinuation of the disease process. One study showed that modified **Four Marvel Formula**, when used as part of an integrative treatment plan, is more effective than treatment with any single therapy.^{viii}

Multiple Sclerosis—Multiple Sclerosis is classified as a *wei*, or “wilting” disorder in Oriental Medicine. It is considered degenerative and is characterized by progressive weakening of the limbs, muscles, sinews, and sometimes marrow. The *Su Wen* states that the main cause of *wei* syndrome is heat scorching the lungs. “All long-term illness eventually affects the kidneys,” and over time, the essence too becomes scorched. The lung governs the distribution of qi in the channels and the damage sustained by both kidney and lung leads to a failure in the distribution of essence. The limbs are the first affected by this, and the lower limbs usually are affected before the upper, especially if dampness, with its tendency to sink, is a complicating factor. Nerves are classified as marrow, and therefore have a close relationship with both kidney and essence. When sufficient essence fails to reach the limbs, the nerves are usually the first to register symptoms. This results in neuropathy, difficulty lifting arms and legs, gait problems, balance problems, grip problems, and numbness. As the disease progresses, muscles begin to atrophy. The person is eventually unable to walk. **Four Marvel Formula** is helpful in treating MS and other *wei* disorders when dampness is present. The *Grand Materia Medica* states that “disorders of the sinews and bones are addressed at the root by treating yang brightness.”^{ix} Both atractylodes (*cang zhu*) and job’s tears/coix (*yi yi ren*) are classified as “yang brightness” herbs and both supply some of the supplementation needed when treating chronic conditions. (Additional supplementation may be required, depending on pattern and severity.)

Today, informed by modern science, MS has been categorized by TCM into a number of etiologies and patterns, not just a matter of scorching heat in the lungs leading to impairment of essence distribution.^x One common differentiation of this disease is “damp-heat obstruction in the lower limbs leading to atrophy.” This pattern may be accompanied by heat sensation and burning pain, especially in the feet. Other symptoms may

include a heavy sensation in the body, frequent, urgent, possibly painful urination, dark urine, chronic low grade fever, painful, hot joints, or frequent foul diarrhea. This pattern can be successfully treated with **Four Marvel Formula**.

Fibromyalgia—**Four Marvel Formula** can be used to treat damp-heat type fibromyalgia. Symptoms that may accompany the pain and aching of damp-heat fibromyalgia are edema, skin swellings in the lower body, burning or painful urination or urination with concentrated yellow color, vaginal discharge that is thick, white or yellowish; red, hot, swollen, or weeping skin in the genital region; red, hot, weeping sores especially on the lower body. The tongue will be red or pale red with yellow, greasy coat and the pulse will be slippery and rapid or tense and rapid.^{xi} Damp-heat type fibromyalgia is more frequently seen in the earlier stages of the disease and damp-heat may be seen as the root cause of a developing chronic condition.

Leg Qi—There is a lot of confusion about the meaning of this disorder. “Leg qi” is a non-specific term referring to a group of patterns. In general, leg qi refers to a varying set of signs and symptoms that result from the presence of a pathogenic factor (dampness, heat, or cold, or a combination of these) which “pours downward into the leg” and winds up impairing the smooth flow of qi and blood in the lower extremities. It is usually not simply qi and blood stagnation, which may be from trauma, and is not a wind-damp nor wind-damp-cold pattern, which would fall under the category of *bi* syndrome. Rather, the pathogenic factor interferes with the normal “qi” of the leg, resulting in functional impairment in the skin, muscles, joints, or nerves. The manifestations can be edema, ulcers, joint or skin swellings, numbness, atrophy, or minor neurological irregularities. Since leg qi is said to be caused by a pathogen that “pours down into the legs,” dampness is almost always one of the pathogenic factors in “leg qi” pathology. It can occur alone or in combination with heat or cold. **Four Marvel Formula** is especially effective at treating leg qi caused by dampness or by dampness combined with heat.

Skin Disorders

Eczema—Two Marvel Powder (*Er Miao San*) is often used topically as a soak or wash to treat damp-heat type eczema with great success,^{xii} but eczema often has an internal etiology. **Four Marvel Formula** can be taken internally to prevent outbreaks, while Two Marvel Powder (decocted) can be used externally when outbreaks occur.

Erysipelas / Cellulitis—This condition is usually caused by an infection of streptococcus bacteria in the skin. Phellodendron (*huang bai*) is very effective against this bacteria.^{xiii} It is best to use **Four Marvel Formula** internally to prevent spreading, and to use a decoction topically (see above).

Urogenital Disorders

Vaginitis, Vaginal Discharge, Genital Inflammation, Sores These are all classic indications for the original Two Marvel Powder, and are also effectively addressed with the addition of the other “two marvels.” Distinguishing signs and symptoms are weeping, yellow discharges around the genital area or discharges that have a hot sensation to them; red, painful, swollen labia,

with or without inflamed lesions; creamy, thick, and yellowish vaginal discharge. Painful urination may or may not be present.

Testicular Swelling, Itching and Eczema—These too are classic indications for any formula in the “Marvel” family.

Urinary Tract Infection or Cystitis—Urinary tract infections are among the classical indications for the “Marvel” family. Cystitis, on the other hand, does not always have obvious dampness. Job’s tears/coix (*yi yi ren*), however is cool in nature and can penetrate to any type of flesh and tissue, clearing both heat and dampness. Phellodendron (*huang bai*) is naturally cooling, goes to the urinary bladder, and helps to consolidate the yin in areas ruled by the kidney. It is known to be able to treat some types of cystitis.^{xiv} Cyathula (*chuan niu xi*), with its ability to dredge collaterals and invigorate blood, is guided to the bladder by the chief herb and may assist in opening the collaterals.

FORMULA COMPARISONS

Gentiana Drain Fire Formula and Four Marvel Formula

Both formulas are indicated for damp-heat in the lower body; both can be especially effective at clearing damp-heat in the urogenital system, such as scrotal eczema, foul smelling yellow vaginal discharge, and urinary bladder infections. **Gentiana Drain Fire Formula** does not contain the aromatic component found in **Four Marvel Formula**; rather, **Gentiana Drain Fire Formula** drains the dampness primarily by action of its bitterness. **Gentiana Drain Fire Formula** is more appropriate for treating damp-heat originating in the liver-gallbladder system; **Four Marvel Formula** is more appropriate when the same pathogen (damp-heat) is in the kidney-bladder system or in the flesh. Both formulas can clear the bone and joint level. Another way of looking at the difference between the actions of these two formulas is that **Gentiana Drain Fire Formula** addresses patterns where the body responds to pathogenic heat by producing dampness in order to contain and cool it. **Gentiana Drain Fire Formula** can be used when there is no dampness, only heat in the liver-gall bladder system or joints. **Four Marvel Formula**, on the other hand, focuses on dampness and heat equally. It is not as cold a formula as **Gentiana Drain Fire Formula** and is contraindicated when there is no dampness.

Duhuo and Loranthus Formula and Four Marvel Formula

Both of these formulas can be used to treat atrophy, pain, and weakness of the lower limbs. **Duhuo and Loranthus Formula** is more appropriate when the etiology is kidney deficiency. It is warming and tonifying, and therefore inappropriate for treating damp-heat issues. If any damp-heat signs or symptoms are attendant, use **Four Marvel Formula**.

Curcuma Longa Formula and Four Marvel Formula

Both of these formulas can be used to treat systemic inflammation, leading to gouty arthritis, rheumatoid arthritis, and certain autoimmune disorders. **Curcuma Longa Formula** works in those cases with more systemic heat throughout the body. It is weak at clearing dampness, while **Four Marvel Formula** can be damaging if no dampness is present. **Four Marvel Formula** is preferred if any of the common signs of damp-heat are present or if the inflammation is mainly in the lower part of the body.

FORMULA COMBINATIONS

Four Marvel Formula plus Poria Five Formula with Golden Yellow Ointment

This formula combination has been proven effective for treatment of gouty arthritis for 92% of the subjects in a clinical study with 40 participants in the treatment group and 35 patients in the control group.^{xv} All participants received a combination of **Four Marvel Formula** (*Si Miao San*) and **Poria Five Formula** (*Wu Ling San*) taken internally with **Golden Yellow Ointment** (*Jin Huang Gao*) applied topically to the affected areas.

Four Marvel Formula and Coptis Relieve Toxicity

This combination can be used for treatment of acute bacterial infections in the lower warmer, including bacterial infections, such as urinary tract infections, vaginitis, or prostatitis.

Four Marvel Formula and Ji Xue Formula

This combination could be used to treat a patient with Multiple Sclerosis that exhibits symptoms of dampness and heat in the lower warmer and lower extremities, particularly when there is atrophy of the muscles of the legs and numbness of the feet.^{xvi}

ENDNOTES

ⁱ Shan Dong *Journal of Chinese Medicine*, 1989;8(4):50

ⁱⁱ *Huang bai's* ability to tonify yin in this formula was originally implied by Zhu Dan-Xi himself. This assertion has been a topic of dispute ever since. Many modern commentators have come to interpret Zhu's statements as “consolidating yin” rather than “tonifying” or “supplementing” yin, with an understanding that there is some “preservation” of the yin by eliminating factors that damage it.

ⁱⁱⁱ *Biochemical Pharmacology*, 2000, April 1:59(7):881-6.

^{iv} *Rectification of the Meaning of Materia Medica*, Zhāng Shān-Léi/Zhāng Shòu-Yi, 1914.

^v “Observation on Germicidal Efficacy of the Volatile Oil from *Attractylodes Chinensis* Koidz”, *Chinese Journal of Disinfection*, 2009-02.

^{vi} Miao, J., et al, “Clinical Observation in Treating of Acute Gouty Arthritis with Traditional Chinese and Western Medicine”, *Journal of Liaoning University of Traditional Chinese Medicine*, 2009.

^{vii} *Journal of Practical Chinese Internal Medicine*, 1997; 2:36.

^{viii} *New Chinese Medicine*, 1994;7:24.

^{ix} Quoted from page 276 of Bensky, Dan, with Clavey, Steven and Stöger, Erich, *Chinese Medicine Materia Medica*, 3rd Edition, Eastland Press, 2004.

^x Blackwell, R. & MacPherson, H. (1993). “Multiple Sclerosis, Staging and Patient Management.” *Journal of Chinese Medicine*, No. 42.

^{xi} Flaws, B., Sionneau, P, *The Treatment of Modern Western Medical Diseases with Chinese Medicine*, Blue Poppy Press, 2001, Boulder, CO, pg. 225.

^{xii} *Zhejiang Journal of Chinese Medicine*, 1983;10:468.

^{xiii} *Chinese Herbal Medicine*, 1985; 16(1):34; 1998; 144-146; 1989; 10(5):385.

^{xiv} Xu X., Mavlave A., “Protective Effects of Berberine on Cyclophosphamide-induced Hemorrhagic Cystitis in Rats”, *Pharmacology and Toxicology*, May 2001; 88(5)232-7.

^{xv} Miao, J., et al, “Clinical Observation in Treating of Acute Gouty Arthritis with Traditional Chinese and Western Medicine”, *Journal of Liaoning University of Traditional Chinese Medicine*, 2009.

^{xvi} Blackwell, R. & MacPherson, H. *Ibid*.

REFERENCES

- Bensky, Dan, Clavey, Steven and Stöger, Erich, *Chinese Medicine Materia Medica*, 3rd Edition, Eastland Press, 2004.
- Scheid, Volker Bensky, Dan, Ellis Andrew, and Barolet, Randall, *Chinese Herbal Medicine: Formulas and Strategies*, 2nd Edition, Eastland Press, 2009.
- Scott, John, Monda, Lorena, Heuertz, John. *Clinical Guide to Commonly Used Chinese Herbal Formulas*, 5th Edition, Placitas, NM, Herbal Medicine Press, 2009.
- Chen, John K. and Chen, Tina T. *Chinese Medical Herbology and Pharmacology*, City of Industry, CA, Art of Medicine Press, 2004. Chen, Chen Tina T. *Chinese Herbal Formulas and Applications*, City of Industry, CA, Art of Medicine Press, 2009.