



HERBAL MEDICINE

## Herbal Education: What You & Your Patient Need to Know

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Long ago I had a patient that didn't fill her herb prescription. I asked her why and she began to reply hesitantly. I stepped in and said, "I understand if you have concerns about products from China. Would you like to know more about why I trust my herbs?" She said, "Yes." After I had shared a few quick facts, she started asking questions.

She ended with saying, "You know, I didn't want to tell you that I was leery of herbs, but products from China worry me! Now I see that your herbs are entirely different!" I then realized that patients come into the clinic with preconceived notions about Chinese herbs. I hadn't previously considered preempting my prescriptions with a message about quality until this conversation.

I recognized that patients were getting their information from limited sources that didn't address the professional discipline of Traditional Chinese Herbal Medicine (TCHM) products. To enter into a conversation about quality requires you to be armed and ready with answers. To do this, you need to have questions of your own.

The professional prescription carries with it an enormous amount of sophistication that extends beyond the practitioner into their suppliers, the manufacturers and all those along the supply chain. Here is a list of questions you can use to vet your sources:

- How do you determine the exact identity of the herbal material?
- Do you have full traceability from the plant to product?
- What processing methods do you use? How do you process your Fu Zi?
- How do you prepare the herbs (for example decoction, extract, tincture or ground)?
- Do you test for microbiological material such as E. coli, salmonella and bio-contaminants like

aflatoxins, mold, and yeast?

- How do you test for heavy metals?
- How do you test for pesticides, herbicides, and fungicides?
- How do you detect for aristolochic acid, and sulfur dioxides?
- How do you measure the active chemical components of the formula?
- Are your products compliant with the Food and Drug Administration (FDA) Good Manufacturing Practices (GMPs)?
- Can you provide a Certificate of Analysis (COA) for each batch of herbs you produce?

#### Supplier Answers Identity/Traceability



Macroscopic herb identification methods including organoleptic testing involves the use of trained senses: sight, smell and taste to initially determine if the species of the herb is correct. The vendor should have a voucher confirming the specimen identity. The herbs are then microscopically examined before being tested. Chemical testing with Thin Layer Chromatography (TLC) offers the unique chemical fingerprint of each herb, determining that the herb is what it says it is.

#### Processing or Pao Zhi

Pao Zhi, or traditional processing techniques, are unique for each herb to enhance efficacy or minimize toxicity and are often based on classical literature references. Western and Chinese herbal processing often differs. In many cases, the Chinese Pao Zhi includes pre-processing (before decoction) with: salt, vinegar, steam, frying, or charring of herbs. This pre-processing step is essential in cases for herbs such as Fu Zi (*Radix Lateralis Praeparatus Aconiti Carmichaeli*).

Fu Zi consumed in the raw, unprocessed form could be deadly, due to high levels of aconitine. A simple decoction of Fu Zi will not prepare it adequately. Aconitine is a toxin found in some raw plants; these plants are always pre-processed, tested and identified by quality suppliers of TCHM to guarantee that dangerous levels don't appear in final products.

If you offer your patients this remarkable herb, remind them not to attempt to replicate your prescription outside of the care of a licensed TCHM practitioner.

### Testing & Detection

Following is a list of tests that suppliers might use to explain their quality measures.

- Microbiological assays -screening for E. coli, salmonella, aflatoxins (chloroform test) molds, yeasts and more.
- GC-MS-MS (Gas Chromatography-Mass Spectrometry) tests for the presence of pesticides, herbicides, and fungicides.
- UPLC-MS-MS (Ultra-performance Liquid Chromatography-Mass Spectrometry) measures active ingredients and detects accurate specimens.
- ICP-MS (Inductively Coupled Plasma - Mass Spectrometry) tests for heavy metals to the parts per billion (ppb).
- Aerated-oxidization, iodine titration, atomic absorption spectroscopy and direct color comparison — components of tests to detect sulfur dioxide.

### Dietary Supplement - Good Manufacturing Practices (GMP)

Companies comply with GMPs by following specific guidelines that ensure the identity, purity, strength and composition of their products. The goals of rigorous inspections by the Food and Drug Administration (FDA) are to insure product safety, as well as to provide reliable labeling information, truthful marketing, and advertising.

### Certificate of Analysis

A Certificate of Analysis (COA) can show the results of many of the tests listed above such as pesticide and heavy metal screens, microbiological assays, and more. Ask product manufacturers for COAs on products like Fu Zi, and on occasion to take a look at how their herbs are performing.

The first rule in offering a patient TCHM is assuring the safety and potency of the products themselves. A practitioner must be familiar with herb quality and the supplier with whom they contract. The manufacturer must guarantee their processing methods provide products that are effective and non-toxic.

Patients benefit from the education that state-licensed and the nationally-certified TCHM practitioners can offer. The more informed patients are about their prescriptions, the less likely they are to seek out unsafe products from untrusted sources. Practitioners must never assume that patients understand various safety concerns with herb sourcing and quality, which is why it is important to provide education.

Some manufacturers offer a patient education handout. You could even host a patient education session about this article to inform folks of the quality of professionally prescribed Chinese herbs, produced at the highest levels in today's market. Enjoy spreading the word!

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