

INTRODUCTION TO MEDICINE MAKING

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WATER EXTRACTIONS

Water is the universal solvent and the least likely to cause harm. Aqueous solutions are probably the most common and one of the most important preparations in herbal therapeutics. Most water extractions should be used within 24 hours.

TEAS

Infusions are made by pouring boiling water (sometimes cold water, depending on the herb) over an herb and allowing it to steep; decoctions are when the herb is boiled in the water. Infusions are usually made from the aerial parts of the herb: leaves and flowering tops, with some soft barks, tender roots, and seeds. Mints, most plants in the Compositae Family (plants with heads composed of many florets – daisy, dandelion, lettuces, ragweed, marigold, etc.) and culinary herbs infuse well. In comparison, decoctions are primarily used with hard or woody parts of the herb like bark or roots.

To make “beverage” tea: 1 teaspoon of dried herb per one cup of boiling water, steep up to twenty minutes. Make sure it is covered if you are using an aromatic herb such as peppermint or chamomile, which have especially fragile oil. This amount of herb provides very mild therapeutic action. Adding lemon, organic milk (esp. to herbs high in tannins if you do not want their astringent effect) and honey can augment medicinal qualities.

With a few exceptions, commercial tea bags are 1/4 the strength of a medicinal dose. Therefore, bulk herbs are most frequently used to create medicinal teas. You can purchase muslin bags, iron shut tea bags, tea balls, or simply strain the herbs through a sieve. The amount of liquid used is not as important as the amount or weight of the herb when preparing a medicinal tea.

To make a medicinal infusion: 1 tablespoon of herb to one cup (8 oz) water or 1 oz herb to 1 pt (16 oz) water. The water should be just off the boil. Cover the vessel tightly. Steep a minimum of 10 minutes to a half an hour. Strain and discard the herb consciously. You can press out the strained herbs, especially bulky herbs like chamomile, red clover, and mullein. Also, bitter herbs don't require quite as large of a quantity as other herbs; just a few grains of cayenne or other intense herbs are needed for an effective infusion.

When infusing fresh herbs: bruise leaves slightly with your hands or a mortar and pestle before pouring on the water. Because of the high water content in fresh herbs, use double the amount, i.e. 2 oz of herb to 1 pint (16 oz) of water.

Room temperature water infusion: (sometimes called “warm” or “cold” infusion) this is used for herbs that have more fragile volatile compounds like essential oils (frequently in blossoms and leaves), polysaccharides (mucilages like comfrey root or marshmallow root). A cold infusion is also used when the herb contains a constituent that is readily soluble in hot water, but is not desired in the final infusion product (like safrol in Sassafras root bark). Christopher Hobbs says to combine 1 parts herb to 4-10 parts room temperature water (depending on what herbs you are using). Grind in a blender until smooth and let steep for eight to twelve hours. Strain and drink.

Sun Tea: This is another gentle infusion with mild heat. Place herbs and water in measured amounts in clean, clear jar with a lid. Leave in a sunny spot for about four to six hours.

To make a decoction: Use the same measurements as infusion, 1 oz herb to 1 pint (16 oz) of cold water. Gradual heating of the water and herb matter is important to extract all constituents. If possible, let the herb soak a few hours before heating. Bring the water to a boil, then lower heat to a simmer. Simmer time can range from 5-15 minutes to 1 hour depending on the herb and whether it is whole or chopped finely. The average time is about 30 minutes. Allow to cool to just above room temperature, strain and drink.

A good deal of water evaporates while decocting, so its a good idea to add about 1/4 as much water above what you want to end up with. Or, another way is to make up for the lost volume is by pouring additional cold water through the herbs while you strain them.

Make a strong decoction by doubling the amount of herb used and keeping the water amount constant, 2 oz herb to 16 oz water.

Reducing the volume of the tea or decoction after straining can increase the strength of the product. Place the liquid on the stove and simmer very slowly. As the liquid thickens, continue to reduce the heat and stir constantly to prevent burning.

ALCOHOL EXTRACTION

TINCTURES

A *tincture* is an herbal preparation made by macerating an herb in a solvent or menstruum for a period of at least two weeks. The solvent generally has preservative properties. The most commonly used solvent is alcohol or alcohol and water solution (vodka, brandy or diluted ethyl alcohol). Others solvents are glycerin, vinegar and wine.

A *common dosage* for tinctures is 45-60 drops, three times a day or 1/2 tsp., three times a day.

Vodka, at 100 or 151 proof, is a great beginner’s menstruum and is especially useful to bring along to the field for freshly harvested herbs.

General guidelines for tincturing:

- Make sure your herb is chopped finely in order to expose as much surface area as possible to the menstruum.
- You can make a tincture of a single herb (a simple), or a combination of herbs (the Chinese prefer this method).
- The standard menstruum strength is 50% alcohol and 50% water, however, alcohol to water ratios can vary according to the herb used in order to enhance extraction of particular constituents.
- The water you use should be distilled or reverse osmosis purified. A well-tested and reliable source of spring water is also acceptable.
- Most tinctures are left to “cook” for a minimum of two weeks; you should be shaking them every day within this period. There is an association of the solvent with the influence of the moon cycle inherent in the meaning of the word “menstruum”. A common length of time to allow the tincture to cook is from the day of the new moon until the day of the full moon (which is, not coincidentally, approximately two weeks). An effective tincture is one whose period of extraction has included all days of the waxing part of the moon cycle. Therefore, depending on the start date of your tincture, your extraction period may be anywhere from two weeks to six weeks in order to catch the waxing phase of the moon.
- Items you will need: canning jars, water, glass measuring cup, herbs, Vodka or other alcohol, an ounce scale, labels, pen or pencil.
- Label your tinctures with date of tincture, date of pressing, batch number and source of herb, ratio or method used, alcohol percentage.

Folk method: This is an excellent way to produce tinctures from fresh herbs in the field. Place the fresh or dried herb in a jar with a watertight lid (canning jars are great). Cover with menstruum to about two fingers width above the top of the herbs. Cover tightly. Shake well. Store in a cool, dark place and shake daily for two weeks or longer (see above). Herbs can be left in menstruum until the tincture is needed. To use, press the herb then bottle the tincture (see pressing and storage below). Discard marc consciously.

Weight to volume method (w/v): This is also called weight to measure method, and is a very effective way to insure potency at a standardized volume. “Weight” refers to the weight of the herb in either ounces or grams; “volume” refers to the volume of the menstruum in either fluid ounces or milliliters. First determine the weight of your herb. The weight of the herb will determine the volume of menstruum by a common “menstruum ratio” (as described below). Once the volume of the menstruum has been determined, combine the herb and menstruum in a watertight jar, cover, shake and store in a cool, dark place. Shake daily for two weeks or longer (see above).

Herb to menstruum ratio (h:m): The ratio of herb to menstruum in a tincture that is either in the process of actively tincturing (macerating) or has already been decanted and pressed. (Example: “1:5 menstruum ratio” means there is 1 ounce of an herb to every 5 fluid ounces of menstruum).

To choose an herb:menstruum ratio: Different herbs, depending on whether they are fresh or dry, leaf or root, tonic or poisonous, will be tinctured at different ratios. The following are some general guidelines:

1:2 ratio: fresh herbs

1:4 ratio: for dry herbs, a stronger tincture. Use with roots, barks and seeds.

1:5 ratio: the dry herb standard ratio, especially for dry aerial portions of plants: leaves, flowers, stems and soft (i.e. water soluble) roots, barks

1:10 ratio: for toxic or intense botanicals like cayenne, lobelia, poke root or for herbs that take up a lot of spatial volume (puffy) like mullein and red clover.

Alcohol to water ratio: The ratio of alcohol to water in a given menstruum, it is usually expressed in a percentage (%) where the amount of alcohol is expressed and the amount of water is understood. There is a disagreement among herbalists as to whether fresh herbs tincture best in a higher alcohol ratio because of the higher water content or if fresh herbs should be tinctured in a lower alcohol ratio (Cech, Gaia herbs). For dry herbs in general, the herbs that are best extracted in room temperature infusions are generally best tinctured at a lower percentage of alcohol. Herbs that do not extract well in water (for example, herbs high in resins) are generally best extracted at a higher percentage of alcohol. When in doubt, tincture at 50%.

The Extraction Period (i.e. “cooking”)

It is important to keep the level of the herb submerged in the menstruum to prevent mold and increase extraction. When shaking your tincture make sure that you gently press the herb back below the menstruum if needed. If you’ve pressed the herb down and it is still above the level of the menstruum, then you can top off your tincture with a little more menstruum at the correct (or similar) alcohol to water ratio. A couple of ounces are usually sufficient.

Finishing the Process: Decanting, Pressing and Storage

Decanting: process used to separate fluids from solids by allowing the solids to settle at the bottom of the container and pouring off the liquid from the top.

Pressing: upon the completion of a new moon to full moon cycle or other auspicious time when you feel your tincture has become optimally extracted, pressing is the separation of the insoluble parts of the herb (marc) from the soluble parts (the finished tincture) by first decanting and then expressing the herbs through by hand, gravity or machine. One can use a piece of muslin cloth or clean piece of bed sheet to strain off the marc from the tincture. Some herbalists, however, prefer that small amounts of marc are left in the finished tincture, so they prefer to use cheesecloth or a wire sieve.

Storage: Using a funnel, pour the finished tincture into brown or other colored glass bottles. Label with the date, menstruum ratio, alcohol %, herb name, source, lot number (if applicable). Store in a cool, dark place.

The Alternatives: Glycerites, Vinegars and Wines

Glycerites:

Glycerin extracts are a good alternative to alcohol tinctures for alcohol sensitive individuals and children. Glycerin is quite sweet and is a favorable extracting agent but the extracts have a shorter shelf life (1-3 years) than tinctures made with alcohol. Glycerites are also thought to be half as strong as alcohol tinctures, the strength is often improved by double maceration (see below). Herbs that are resinous or oily do not extract well in glycerin, for a list of recommended herbs to make glycerines please see enclosed chart.

Double maceration: Used to improve the strength of your medicines. After pressing the tincture, add fresh new herbs to the strained menstruum. Leave to extract for an additional waxing moon cycle.

To Prepare: Follow guidelines for making tinctures above, except replace alcohol with glycerin. Using either the folk or the w/v method is acceptable. My only suggestion is to use as low herb to menstruum ratio as possible to increase the overall strength of the extraction. For your menstruums, James Green says that a standard percent of glycerin to water should be more than 50%. In order to make the preservative action more reliable, the glycerin should be at 60%-75% in the tincture. If some alcohol is tolerable, then adding 10-15% EtOH to a 50% glycerin tincture would be even more ideal. According to both Green and Hoffman, use a lower percent of glycerin for dry herbs (60%) and a higher percent for fresh herbs (75%).

Vinegars

Vinegar is also a powerful solvent, but is a weaker solvent and preservative than alcohol. Vinegars can keep about 1-3 years in a cool, dark place like the refrigerator. You can also use a double maceration process to improve the strength. The herbs that work best in vinegars are those high in alkaloids, but avoid extracting herbs high in acids because it won't work because vinegar, itself, is acetic acid (Tierra, L.). Use an herbal that lists chemical constituents to find which herbs are high in alkaloids (words that end in -ine like lobeline) or high in acids. You can also add vinegar (10-15%) to your alcohol tinctures to increase extraction for particular herbs. Try vinegars with any culinary herbs, lobelia and cayenne (use a 1:5 h:m ratio), horseradish, onion, garlic, horsetail, and bloodroot.

To Prepare: Use only organic apple cider vinegar. No dilution with water is needed. Prepare as you would an alcohol tincture, both the folk or the w/v method is acceptable. Once again, if you choose w/v, use a low herb to menstruum ratio as possible to increase the overall strength of the extraction.

Wines

Wines are the traditional way that the Chinese prepare tinctures. Often a number of herbs are combined together in a tonic formula and allowed to steep. There are two ways to make wine (that I know about), one is to steep the herbs in red wine, rice wine, millet

wine or even brandy to make liquor. The second is to make the wine out of herbs, water, yeast and sugar and allow for the fermentation process to occur. Dandelion and Elderberry wine are popular wines made in this way, check *A Modern Herbal* for more details. See also *Sacred Herbal Beers* by Stephen Buhner for beer and mead recipes.

To prepare: for the purposes of tonification, wines are made at a weaker herb to menstruum ratio. L. Tierra suggests one ounce of herb to one pint of wine (1:16 h:m ratio). Prepare as you would a tincture and shake daily, however, don't strain the herbs off. Just take as needed. You can choose to strain by the glass, but you can also enjoy eating the wine soaked herbs especially if you use lycium fruit (gou qi zi) or jujube dates (da zao). Wines can keep indefinitely – as long as most wines would.

RECOMMENDED READING LIST

- Cech, Richo. 2000. *Making Plant Medicine*. Oregon: Horizon Herbs Publication.
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