

DOSE AND PREPARATION ISSUES

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Form	Preparation	Advantages	Disadvantages	Comments
Capsules "0" size = 4-5 grains = 300 mg "00" size = 8-10 grains = 600 mg	Place powdered herb into capsule; home encapsulation device is faster alternative	Entire herb used No taste Convenient, travel well Easy dose count Long life span (3 yrs)	Expensive Absorbed slowly Swallowing problems Digestive difficulty Little herb per dose	Best for small amounts, potent herbs, bad taste, herbs that do not extract Amounts: 1 oz. powder = 30-50 "00" capsules ½ tsp. powder= 1 "00" capsule
Infusions Delicate herbs (flower, leaf) (Infusion and decoction are relative and approximate terms. Necessary to cook herb long enough to extract active constituents.)	Bring water to boil and turn heat off Put herbs in teapot or container Pour boiled water over herbs in container Put tight lid on to keep volatile oils from escaping Put in warm place Let sit (steep) for 1-24 hours Strain, squeeze completely, drink Usual formulas is 1 ounce dry herb weight to 1 pint water	Control of ingredients No binders, additives, alcohol Inexpensive Easily swallowed Convenient for high dose	Liquid volume Taste Messy Time consuming All active ingredients may not be extracted Spoilage	Best for mild flavor & actions, large quantities Amounts (mild herbs): 30-90 grams dry herb per day, brewed (acute) 15-30 grams dry herb per day, brewed (chronic) Usual <i>beverage</i> dose is 1 tsp. cut dry herb per cup water Usual teabag wt. is 2 grams Life: brew, room temp.: 1 day Brew, strain, refrig.: 7 days May brew more dilute, add sweetener or flavor

Form	Preparation	Advantages	Disadvantages	Comments
<p>Decoctions</p> <p>Sturdy herbs (root, bark)</p> <p>(Infusion and decoction are relative and approximate terms. Necessary to cook herb long enough to extract active constituents.)</p>	<p>Place herbs directly in water and stir well</p> <p>Bring water to boil, then reduce heat to simmer, covered</p> <p>Simmer herbs for 30-60 minutes (Water level may decrease)</p> <p>Strain completely, drink</p> <p>Usual formulas is 1 ounce dry herb weight to 1 pint water</p>	<p>Control of ingredients</p> <p>No binders, additives, alcohol</p> <p>Inexpensive</p> <p>Easily swallowed</p> <p>Convenient for high dose</p>	<p>Liquid volume</p> <p>Taste</p> <p>Messy</p> <p>Time consuming</p> <p>All active ingredients may not be extracted</p> <p>Spoilage</p>	<p>Best for mild flavor, mild actions, large quantities</p> <p>Amounts (mild herbs):</p> <p>30-90 grams dry herb per day, brewed (acute)</p> <p>15-30 grams dry herb per day, brewed (chronic)</p> <p>Usual <i>beverage</i> dose is 1 tsp. cut dry herb per cup of water</p> <p>Usual teabag weight is 2 grams</p> <p>Life: brew, room temp.: 1 day</p> <p>Brew, strain, refrig.: 7 days</p> <p>May brew more dilute, add sweetener or flavor</p>
<p>Tincture</p>	<p>Prepared by maceration (soaking or percolation)</p> <p>Generally 1 part herb (weight) to 5 parts menstruum (volume) (1:5 strength) (20% strength)</p> <p>May be 1:4</p> <p>Put in 1 ounce water or juice to administer</p>	<p>Less expensive than capsules</p> <p>(if packed in large quantity- typical 1 oz. dropper bottles are most expensive)</p> <p>Travels well, convenient</p> <p>Easily swallowed & digested</p> <p>Fast acting</p> <p>Never loses potency</p>	<p>Taste</p> <p>Requires liquid medium to dilute to swallow</p> <p>Possible mess, spills</p> <p>Alcohol content</p> <p>All active ingredient may not be extracted</p> <p>Necessary dose has strong bad taste</p>	<p>Tinctures not more potent than other forms- all forms dose dependent</p> <p>Solvents: alcohol, glycerin ("glycerite"), vinegar- extracts, preserves- for oil soluble ingredients</p> <p>Amounts: Std. dose 15 ml (app. 1/2 liquid ounce)/day</p> <p>Life: forever (proper conditions)</p>

Prepared herb equivalents	
Dry herb powder	1 ounce (approx. 28 grams) weight
Capsules	43 ("00"- 650 mg each)
Tincture (1:5 strength) (1 part herb weight to 5 parts volume finished tincture) (Activity of 20 grams of dried herb in each 100 ml of finished tincture)	140 ml (5 fluid ounces) (1oz. tincture = approx. 8 ½ average "00" capsules)
Tincture (1:4 strength) (1 part herb weight to 4 parts volume finished tincture) (Activity of 25 grams of dried herb in each 100 ml of finished tincture)	112 ml (4 fluid ounces) (1 oz. tincture = approx. 10 average "00" capsules)
Tincture (1:2 strength) (1 part herb weight to 2 parts volume finished tincture) (Activity of 50 grams of dried herb in each 100 ml of finished tincture)	56 ml (2 fluid ounces) (1 oz. tincture = approx. 21 average "00" capsules)

Dosages

This information is largely from Sharol Tilgner

Liquids:

(The higher the alcohol percentage in a solution, the thinner the drops. Alcohol reduces the surface tension.)

1 dram = 3.7 ml = $\frac{3}{4}$ tsp = 60 minims = 70 drops of filtered water = 183 drops of alcohol

1 tsp = 5 ml

1 fl. oz. = 29.57 ml = 8 drams = approx. 6 tsp.

1 one-ounce dropper = approx. 25-35 drops of liquid extract

1 Tbsp. = 3 tsp. = 15 ml

Liquid Tincture Approximate Equivalents

(Measuring dose by drops is not accurate or consistent. The size of a drop will vary according to the size, shape and form of the dropper tip. Viscosity of the herbal material and alcohol content will affect the drop behavior.)

	45% alcohol content tincture	75% alcohol content tincture	95% alcohol content tincture or resinous extract
1 teaspoon	165 drops	195 drops	178 drops
1 tablespoon	495 drops	585 drops	533 drops
1 dram	144 drops	170 drops	155 drops
1 milliliter	39 drops	46 drops	42 drops
1 ounce	1152 drops	1360 drops	242 drops

Solids:

1 grain = 65 mg

1 oz. = 28.3 g

1 lb. = 16 oz. = 454 g

1 kg. = 2.2 lb. = 35.2 oz. = 1000 g

1 g. = 1000 mg

1 mg = 1,000 mcg

Comparison of raw materials:

A **rough** estimate of the amount of herb needed to make **one ounce (weight)**:

Flowers (chopped): 14 Tbs.

Leafy parts (chopped): 12 Tbs.

Barks (chopped): 6 Tbs.

Roots (chopped): 5 Tbs.

Roots (powder): 4 Tbs

Seeds (chopped): 3 Tbs.

Most dense to least dense plant part: seeds>roots>barks>leafy parts>flowers

Other Preparations

Standardized extracts

A name given to one of many forms of products (tinctures, tablets, solid extracts) in which certain constituents are assayed in the product and listed as to the amount of assayed chemical per a certain unit of product

Example: a tincture in which the amount of hydrastine per drop is listed

Some believe these are the best extracts but there is much controversy in deciding which ingredients in the herb is so called "active"- some compounds to which preparation is standardized are "marker compounds" only

Standardized extracts are needed to meet the FDA's requirements for over-the-counter medicines

Fluid extracts

Alcoholic preparations of vegetable drugs, prepared by percolation and subsequent concentration of a portion of the percolate by evaporation

Constructed to represent one grain of the crude drug in each minim of fluid extract (represents a 1/1 drug strength)

As a rule they are concentrated tinctures

Not often used today

Solid extracts

Prepared by evaporating the solutions, alcoholic or otherwise, of vegetable medicines at a low heat until they are a solid or semi- solid consistency

Compresses or Fomentations

Cloth soaked in hot or cold water, strong tea or oil, and applied to skin

Hot compresses: relax tight muscles and vasodilate blood vessels in skin

Cold compresses: constrict blood vessels in skin

Salves & ointments

Fatty preparation about the consistency of lard

May contain vegetable oils, bees' wax, lanolin, glycerin, paraffin

Applied to the skin

May or may not be medicated with other medicinal agents (herbs, minerals, drugs)

Creams

Emulsion of fat and water or water-based product that is miscible with skin secretions

White, creamy preparation, softer than a salve

Short shelf life unless preserved or refrigerated

Ear oils

Note: Caution with ear preparations containing glycerin, as it is hygroscopic and will draw water out of the tympanic membrane (may or may not be desirable)

Glycerin is also a good medium for bacteria growth at low concentrations. Glycerin is preservative at higher concentrations (typically 60% or higher)

Only use with intact tympanic membrane

Warm drops are used, and do not touch dropper to ear

Nasal Sprays

Note: never use oil so droplets can't get to lungs

Eye Drops

Must be sterile, isotonic, particle free.

Cornea is non-vascular and infections resolve slowly so preparations must be made fresh each time

Suppositories

Designed to enable the insertion of remedies into bodily orifices

Most commonly used rectally and vaginally but can be shaped for use in ears and nose

Act as carriers for herbs and are divided into 3 categories:

Soothing

Astringent: for discharge or reduction of hemorrhoids

Peristaltic

The base must be firm enough to be inserted into the orifice, and also melt at body temperature

Douches

Aqueous solutions directed against the body or into a cavity to cleanse, irrigate, or antiseptic purposes

Usually relatively large volumes of infusions, decoctions, tinctures, fluid extracts are used

Ear, nasal, vaginal douches are used to wash away substances and treat infection

Example: enema

Vaginal Packs (“Vag Packs”)

Used to deliver and hold preparations to the face of the cervix.

Lambswool is common medium to hold medicines

Put preparation in lambswool and tie with string; leave enough string on end so vag pack can be easily removed from vagina by the patient

Patient inserts and removes vag pack like a tampon

All you need to know about herbs

Shelf life

Whole: 1-2 years

Cut: 1 year

Powdered: 3-12 months, depending on cut of herb and storage conditions

Formulas

Avoid "shotgun" formulas (expensive, not synergistic); use well-crafted combinations (personal compatibility, synergy)

Shopping

Reputable source- develop trusting relationship

Deep, rich color- not faded

Moist, not dried out

Size, weight, density

Strong scent and flavor

Buy whole if possible- freshest- grind as needed

Pay more for quality when necessary

Storage

Avoid heat, light, oxygen, bacteria, moisture

Use airtight jars, dark container or shelf, cool space, proper labels with name, date, type of preparation

Drying

Preserves fresh (green) plant or animal matter

Commonly used is heat of 100-150 degrees Fahrenheit

Can be done by removing water via a de-humidifier

Freeze-drying is removing frozen water crystals by sublimating the ice crystals to vapor, done at temperatures below freezing and in a vacuum.

Solubility of Plant Constituents

	Water	Alcohol	Glycerin
Glycosides	Mostly soluble (gradually hydrolyze in water- need sufficient alcohol to preserve)	Mostly soluble	Mostly soluble
Saponins	Soluble	Mostly insoluble	Mostly insoluble
Enzymes	Soluble	Insoluble	Mostly insoluble
Alkaloids	Slightly soluble	Soluble	Soluble (in water/glycerin solvent)
Alkaloid salts	Soluble	Soluble	Soluble
Anthraquinones	Soluble	Soluble	Soluble
Tannins	Soluble	Insoluble (precipitate)	Soluble
Volatile Oils	Insoluble or slightly soluble	Soluble	Soluble
Resins (lipid)	Insoluble	Soluble in high alcohol concentration	Slightly soluble
Gums (carbohydrate)	Soluble	Insoluble	Insoluble
Proteins	Soluble	Insoluble	Insoluble
Fixed Oils	Insoluble	Mostly soluble	Slightly soluble