

second year. To dry the roots, wash them in water, wipe dry, cut into thin slices, and dry them on well ventilated trays or screens. Once the root slices have dried completely (after 2-4 weeks,) they can be placed in a jar or plastic bag. The dried roots last for several years.

Fresh roots can be tinctured at a ratio of 1:2 (plant weight to menstruum volume) with 95% alcohol (grain or grape alcohol). Dried roots can be tinctured at a 1:5 ratio, with 50%-60% alcohol. Although I prefer to use alcohol-based extracts, I find that the glycerin-based extracts can be administered to children with greater ease. I recommend the following proportions: prepare tinctures with fresh roots at a ratio of 1:2, using a menstruum containing 50% glycerin and 50% alcohol; prepare a tincture with dry roots at a ratio of 1:5 using 40% glycerin, 40% water, and 20% alcohol.

For adults, the dose range of the root extract is 30-60 drops, one to three times a day. To evaporate off the alcohol, add the measured dose to 2-4 ounces of just-boiled water, and wait fifteen minutes; this method is recommended when administering the tincture to children, individuals who are sensitive (not allergic) to alcohol, or for those whom alcohol irritates the bladder or kidneys.

Mullein root tea is prepared as a decoction by placing 4 tablespoons of the root in one quart of water, and simmering on low for a minimum of thirty minutes. Allow the tea to steep for another thirty minutes (or longer), strain, and drink. Consume four to eight ounces of the tea, two to four times daily. The water-based preparations are ideal for addressing urinary tract issues.

#### ENERGETIC ACTIONS

The thermal nature of mullein root is warming. Its flavor is mildly astringent and slightly bitter. Mullein root has an earthy, robust taste. Mullein root drains dampness in the lower burner, specifically dampness in the kidney and bladder. Mullein leaves and flowers are cooling, astringent, and bitter.

#### CONSTITUENTS

Although mullein has been used medicinally for centuries, very little research has been done on its healing properties. The roots contain the following constituents: aucubin, heptaose, nonaose, octaose, and verbascone.<sup>1</sup> The leaves contain calcium, magnesium, iron, beta-carotene, mucilaginous polysaccharides, iridoids, triterpene saponins (verbascosaponin), glycosides, acids and flavonoids.<sup>1,2,3</sup> The flowers contain triterpene saponins (verbascosaponin), flavonoids (rutin), iridoids (aucubin), phenylethanoid glycosides (verbascoside = acteoside) thapsic acid, crocetin, and mucilaginous polysaccharides.<sup>1,2,3</sup> The plant contains catalpol, hesperidin, bascoside, and verbasterol.<sup>1</sup> The seeds contain mucilage and oleic acid.<sup>1</sup>

## Medicinal uses of Mullein Root

### URINARY INCONTINENCE

Mullein root is valuable as a bladder tonifying agent for the treatment of urinary incontinence (loss of urine without warning.) It strengthens and improves the tone the trigone muscle (a triangular area at the base of the bladder) and significantly enhances bladder function. It has soothing diuretic properties; it increases the volume of urination, while decreasing the frequency of urination. Mullein root also has mild astringent properties which reduce inflammation in the mucosa of the bladder. It does not irritate or over stimulate bladder or kidney function. Mullein root can be used as a long term tonic for individuals with urinary incontinence, recurring bladder infections, interstitial cystitis, and benign prostatic hypertrophy.

### STRESS INCONTINENCE

Mullein root is one of the most effective herbal treatments for mild physical stress incontinence, caused by coughing, heavy lifting, laughing, or running. Stress incontinence is associated with aging or a cystocele (a bladder hernia which protrudes into the vagina) which results from injuries related to childbirth. Mullein root reduces the frequency of urination, decreases leakages and dribbling. It also improves the integrity of the tissues in the bladder and appears to restore the tone of a prolapsed bladder. Although, the single extract of Mullein root works well, I often combine it with Saw palmetto (*Serenoa repens*), Yellow pond lily (*Nuphar lutea*), and Corn silk (*Zea mays*) when treating women with prolapsed bladder and cystocele.

### PREGNANCY INCONTINENCE

Mullein root can be used to relieve pregnancy related incontinence and leakage. However, relief during the latter half of the third trimester may be limited due to the constant pressure of the fetus on the bladder.

#### Bladder strengthening compound for pregnant and nursing women (60 mls - 2 ounces)

- Take 30-60 drops, 2-3 times a day.
- 15 mls *Verbascum* root (Mullein root)
- 15 mls *Zea mays* (Cornsilk)
- 10 mls *Serenoa* (Saw palmetto)
- 10 mls *Nuphar* (Yellow pond lily)
- 10 mls *Urtica* leaf (Nettles)

### CHILDREN WITH INCONTINENCE

Mullein can also be of value for the treatment of urinary incontinence in children, including enuresis (bed wetting at night). Its use is appropriate for children who continue to have problems after four years of age. Children can experience significant decrease in their fre-

be used as a long term treatment for interstitial cystitis, as well as to reduce bladder weakness which exhibits similar sensations to a bladder infection.

#### **Bladder strengthening formula (120 milliliters, 4 ounces)**

Consume 60 drops of the formula, two to three times a day, in 2-4 ounces of water. The herbs contained in this formula strengthen the structure and improve the function of the bladder. The mild astringent actions and the silica reduce inflammation of the mucus membranes in the bladder. The herbs also have soothing diuretic actions.

- 30 mls *Verbascum* spp. (Mullein root)
- 30 mls *Zea mays* (Corn silk, fresh)
- 20 mls *Nuphar luteum* (Yellow pond lily)
- 15 mls *Plantago alisma* (Ze Xie, Chinese Water Plantain rhizome)
- 15 mls *Serenoa* (Saw Palmetto)
- 10 mls *Equisetum* (Horsetail)

#### **Urinary soothing tea**

Prepare the tea as a decoction, and consume 6-8 ounces 3-4 times a day.

- 3 parts *Althea officinalis* (Marshmallow root)
- 2 parts *Verbascum* root (Mullein root)
- 1 part *Eupatorium purpureum* (Gravel root)
- 1 part *Glycyrrhiza glabra* (Licorice root)

#### **BENIGN PROSTATIC HYPERTROPHY**

Mullein root reduces prostate swelling and inflammation and can be very useful for the treatment of benign prostatic hypertrophy (BPH) (enlargement of the prostate gland.) The diuretic and astringent actions have a soothing and anti-inflammatory effect on the bladder, prostate, and urethra. The root decreases dribbling and reduces the sensation of a dull ache in the prostate gland. The root can be used alone or in a compound as a long term tonic to address symptoms of BPH.

The following compound contains herbs with soothing diuretic, astringent, and anti-inflammatory actions; as well as herbs that strengthen the bladder and urinary apparatus. *Serenoa* can reduce the accumulation of dihydrotestosterone (DHT) levels; high DHT levels can be an indicator of BPH. Black or blue cohosh can be used to reduce swelling and pain of the prostate; however, black cohosh is more specific for individuals with high blood pressure, while blue cohosh is more specific for individuals with low blood pressure.

#### **Compound for males with BPH**

Take 60-90 drops, up to 3 times a day, in 2-4 ounces of water.

- 30 mls *Urtica* root (Nettles)
- 20 mls *Verbascum* root (Mullein)
- 20 mls *Nuphar luteum* (Yellow pond lily)
- 20 mls *Serenoa repens* (Saw palmetto)
- 15 mls *Galium aparine* (Cleavers)
- 15 mls *Cimicifuga racemosa* (Black cohosh) or *Caulophyllum* (Blue cohosh)

#### **CONTRAINDICATIONS**

The plant is non toxic. The wooly hairs on the leaves can be irritating to the skin and may cause a rash in sensitive individuals. One may want to wear a mask and gloves when processing mullein leaves. The leaves and flowers may irritate the mucus membranes in the throat, causing a slight tickle. When preparing a tea of the leaves, consider straining the leaf and flower tea through a fine cloth or a paper coffee filter before consuming.

#### **ADDITIONAL RECOMMENDATIONS**

When treating patients with urinary incontinence, a cystocele, and benign prostatic hypertrophy, I always recommend that they practice Kegel exercises at frequent intervals throughout the day. Patients are also encouraged to practice Kegel exercises during urination (starting and stopping the urinary stream intermittently.) Kegel exercises strengthen the pubococcygeal muscles, and are an important part in strengthening the bladder.

In addition to Kegel exercises, patients with chronic bladder and prostate problems will experience a more rapid recovery if they avoid consuming bladder irritants such as coffee, chocolate, alcohol, citrus, soda, carbonated beverages, refined or processed foods, and foods and beverages containing sulfites. It is also important to identify food allergies, as they can sometimes cause irritation and inflammation of the bladder.

#### **REFERENCES**

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