Plantain (Plantago major)

Volume Six:
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Plantain is another one of those medicinal plants that is so common that it’s easy to overlook in favor of stronger, more exotic or less common remedies. It holds a unique place in our western materia medica as one of #1 topical agents, of which it is widely used, but it also has a broad spectrum of internal applications which are highly beneficial for a wide range of organ systems. I believe Plantain to be one of our most critical plants to have on hand and at the ready, especially in an herbal first aid kit and in the home dispensary. This is another one of our relatively straightforward herbal medicines with a small handful of specific applications which are it’s specialty.

• Common Name: Plantain, ribwort, white man’s footprint
• Latin Name: Plantago major and P. lanceolata are the major species used. Though it’s cousin Plantago psyllium is also used for common psyllium husks. Plantago asiatica is the primary species used in Chinese medicine.
• Family: Plantaginaceae
• Parts Used: leaf and seeds. Husks for P. psyllium.
• Geographical Data (IE where it grows naturally): While Plantain originated from Europe, it is widely naturalized throughout the world now. It is commonly referred to as “whiteman’s footprint” as it followed the spread of western culture from colonialization.
The 5 Keys of Plantain

Tastes
Plantain has a primarily bitter taste, with combinations of astringency and a sweetish/mucilaginous flavor. These tastes indicate an action and affinity for the mucosal membranes of the body and the digestive apparatus. It’s always interesting to find plants that are equally astringent and mucilaginous, revealing a unique combination of drying and moistening properties which is somewhat rare in medicinal plants.

Primary Actions

- **Diuretic:** Plantain is a highly effective diuretic used in flushing treatments for the kidneys and urinary tract and the treatment of urinary tract infections. The combination of demulcent and astringent makes it beneficial for urinary tract infections marked by heat, inflammation, dryness and bleeding, where the mucosal membranes are irritated and need a soothing action. In this way it helps to increase the tone of the mucosal membranes, but also helps to soothe, cool and moisten them up. Thus it could be seen as both a relaxant/demulcent diuretic, as well as a tonic/astringent diuretic. We will see throughout this monograph that this combination of astringency and demulcent properties makes Plantain a highly unique remedy.

- **Astringent/Vulnerary:** This is likely the most widely used action found in Plantain. The astringency helps to staunch bleeding in cuts, scrapes, and other types of bleeding wounds topically, but can also stop bleeding internally as well. For internal bleeding it works best on the urinary tract, but could also be applied to the digestive system as well. One of the unique things about Plantain is that while it is astringent and drying on one hand, it is also demulcent, soothing, and moistening on the other. In this way it has a certain paradoxical quality where it can moisten and dry at the same time. It is important to remember that many vulnerary medicines that are typically only considered for topical usage can also heal wounds and tissues internally as well, specifically in the digestive system which we will see is a major usage of Plantain.

- **Demulcent:** This is one of our great demulcent remedies for treating dry conditions in the mucosal membranes lining the urinary tract, respiratory and digestive systems. The demulcent property of Plantain comes out best in fresh preparations of the plant as compared to dried leaves, which I find are a bit more astringent. Again this combination of demulcent with astringency makes Plantain a highly unique medicine, and these 2 actions makes it quite specific for tissues that are bleeding and need astringency, but are also dry, atrophic, and cracking and thus need the soothing qualities of a demulcent. It contains a wide variety of polysaccharides which are responsible for its demulcent properties, as well as a slight immunostimulation.

- **Inflammation Modulating:** This is a fantastic remedy for treating inflammatory conditions in the organ systems of which it is specific for, most notably the urinary, respiratory and digestive systems, and of course topically. It is a quite specific for the heat/excitation tissue state in these systems. Again the term “inflammation modulating” is preferable to “anti-inflammatory” as most herbal medicines do not completely shut down the bodies...
inflammatory processes, but rather slightly adjusts them so they are not overly expressed. It’s critical in our model of holistic herbalism to realize that inflammation is a **critical and necessary** intelligent response of the body and a vital healing process.

- **Antiseptic:** Plantain contains a small handful of constituents which have exhibited antiseptic properties making it beneficial in the treatment of infections. It is most commonly used topically in this regard, but also has applications for internal infections as well- most often in the urinary tract, but can also be used in the respiratory and digestive systems as well. While some constituents are directly antiseptic, it’s also worth noting that the variety of polysaccharides present in the leaves also exert a local immunostimulant property, as these sugar compounds can mimic the proteins present on pathogenic antigens that the immune system responds to.

- **Moistening Expectorant:** This remedy is a highly useful expectorant for the lungs which is primarily due to its demulcent property. In this regard it is specifically used for dry coughs and is likely contraindicated in a predominantly wet cough. As such, it can be used in formulation with other demulcent expectorants or combined with more stimulant expectorants to make them a bit less harsh.

**Affinities**

- **Physical Organs, Systems and Tissues:** These are the primary organs, systems and tissues Plantain has an affinity for. I will briefly mention these affinities as they relate to the actions listed above. More detail will be gone into the specific effects this remedy has on these organs systems and tissues later on when we explore clinical patterns and uses.

  - **Mucosal Membranes:** The essential affinity of Plantain is it’s action upon the mucosal membranes of the urinary, respiratory and digestive systems. It enhances secretions and stimulates the activity of the mucosa. It cleanses and disinfects them as well.

  - **Urinary Tract:** This remedy is a wonderful relaxant diuretic, demulcent, antiseptic, and inflammation modulating remedy for the treatment of urinary tract infections.

  - **Respiratory System:** Plantain is an effective demulcent expectorant and antiseptic for the treatment of respiratory tract infections.

  - **Digestive System:** The vulnerary action makes Plantain one of our great healing remedies for the digestive system, including ulcerations, inflammations, infections, and leaky gut syndrome.
• **Teeth, Mouth, and Gums:** Plantain has been effectively used for a long time in the treatment of dental problems, most notably the infection and nerve pain that often accompanies it. The astringency, demulcent, antiseptic, and drawing actions are highly beneficial for dental issues.

• **Skin:** This is our top #1 topical remedy for all manner skin wounds and injuries.

**Energetics**

• **Temperature, Moisture and Tone:** The energetic effects of Plantain are primarily cooling, as it has a predominant bitter flavor which drains excess heat from the tissues. Many constituents have been shown to be anti-inflammatory as well- though it is important to remember that just because a plant in anti-inflammatory does not mean that it is always cooling, which can be slightly confusing. Inflammation can occur due to a wide variety of different underlying tissue states and is not always necessarily due to true heat. A good example of a warming anti-inflammatory would be something like Ginger (*Zingiber officinale*) or Turmeric (*Curcuma longa*). That being said, Plantain is a cooling inflammation modulating plant.

It’s effects upon moisture are a bit paradoxical, as we see it has both astringent and demulcent actions at the same time. Astringency is one of our primary herbal actions associated with the drying energetic quality, and the demulcent action is primarily associated with the moisturizing quality, and we have them both in Plantain. This makes this remedy quite unique in it’s energetics, as it has the ability to both tonify and astringe tissues while at the same time moisturizing, softening, soothing and cooling them down.

If you can imagine a mucosal membrane which is weak, dry, cracking and bleeding you can see the importance of a combined astringent and mucilaginous property. The astringency will help to staunch the bleeding and the demulcent property will help to soothe and moisten the irritated membrane. If we were to give a pure astringent in a situation like that, it will help the bleeding, but will further dry out the tissue. A pure demulcent would moisten and soothe the irritated tissue, but may not help with the bleeding. This is where Plantain truly shines in it’s uniqueness.

It’s effects upon the tone of the tissues is predominantly tonifying rather than relaxing. This is again due to it’s astringency helping to pucker up and tighten an overly lax tissue.

• **Effects upon Doshas:** Based on the energetic properties noted above, we can see that Plantain will be best for treating pitta type constitutions where there is a predominance of heat in the constitution. This is because it is primarily cooling. It can certainly aggravate vata because of the astringency and cooling effects, but the moistening quality can be good for treating the dryness of vata. It is similar with kapha- the cooling and demulcent effects can be aggravating, but the astringency and drying properties can be beneficial.

What’s important to remember about constitutional theory and the energetics of herbal medicines, is that the effects on the entire constitution can sometimes take some time to
manifest. In general, Plantain is typically considered a short term use plant, not because it is a low dose remedy or toxic, but rather that the things it is specifically applied for are short term issues, such as a urinary or respiratory tract infection, or a sting, bite, or skin wound. Thus these considerations of how it will influence the doshas may not be the most important things to consider whether to use it or now. Overall, Plantain is a mild herbal medicine that will not profoundly shift the doshas in one direction or another, unless it is being taken in high doses or for a prolonged period of time.

• Effects upon Tissue States: This is where it gets kind of interesting, because Plantain has applications in a very wide range of tissue states, but most specifically heat/excitation, dry/atrophy, and damp/stagnation. The cooling and inflammation modulating effects are especially useful for tissues which are irritated, inflamed, bleeding and worn down from too much metabolic activity. It effectively cools and soothes them. It acts upon dry/atrophy in a similar way, most notably due to it’s demulcent virtue- again helping to cool, sooth, and moisten up the dried out mucosal membranes. It operates upon the damp/stagnation tissue state quite nicely as well, especially when there is torpor or infection. We see this through it’s bitter, draining, drying, and detoxifying action, as well as the drawing astringent action which assists in the removal of pus, infection, and stagnant fluids which have turned putrid. It can be used in this regard for old infections that have never fully cleared.

Prabhava/Specific Indications

• Pulse and Tongue Indications: There are no specific indications for the pulse and tongue for Plantain.

• Psychological Picture: There are no known psychological pictures that indicate the usage of Plantain.

I would like to note here though that the uniqueness of Plantain is in it’s combination of astringent and demulcent properties and the mixed moistening and drying qualities. This is a relatively rare blend of herbal actions and energetics not seen in many other herbal medicines. The other special potency of Plantain is it’s drawing nature. This is truly where Plantain is unlike any other plant, as it has the unique ability to draw out materials from the body, such as splinters, dirt, and stingers, as well as pus, infection, toxins, and accumulated dampness. It is classically referred to as the “herbal drawing agent,” slightly similar in it’s action to activated charcoal which absorbs and draws out toxins from the intestinal tract. So, anytime there is something “stuck” in the body, Plantain should be the first remedy that comes to mind.

Clinical Patterns and Uses

1. Topical Applications: As most people get into plant medicine know, Plantain is likely our top #1 topical agents. Through it’s synergetic properties of being a vulnerary/astringent, inflammation modulating, mucilaginous, and antiseptic, combined with it’s unique drawing power, Plantain is truly an incredible wound healing medicine.

In this way, it should be one of the first remedies that you think of for all manner of cuts, scrapes, lacerations, puncture wounds (though St. John’s Wort might be better here), stings, insect bites, and all other manner of open skin injuries. While the vulnerary
properties are relatively comparable to that of other common topical medicines like Calendula, Plantain is truly unique in its action as what Matthew Wood calls a “drawing agent.”

Acting almost like a little vacuum, Plantain has the ability “suck out” dirt, splinters, stingers, infection, venoms and poisons from the skin. This makes it a most important first aid remedy and should be the first plant used in any type of venomous snake bite, poisonous spider bites (brown recluse, black widow etc.), and tick bites, to more mild ones such as mosquito bites, poison ivy or poison oak rashes and bee stings. That being said, to some a bee sting or poison oak can be very serious indeed.

I can recall teaching a class at the Hawthorn Institute in Williams Oregon when on break one of the students got a bee sting on the side of her foot. She started to panic rather quickly as she was severely allergic to these bites and has had to be hospitalized for anaphylactic shock. Luckily she had an epi-pen on hand in case that happened, but I suggested that first she make a simple spit poultice with some of the Plantain growing outside. She did so, and in the meantime we mixed up a strong decoction of the fresh leaves and prepared a medicated clay- hydrating bentonite clay with the decoction of the leaves. We coated the surrounding area with about an inch of the thick sludge and wrapped it with a clean cloth which was soaked in the tea.

It was pretty incredible what happened, because within about 2 minutes she said all of the pain went away. She experienced no swelling whatsoever in the area surrounding the sting, no swollen lymph nodes, no closing of the throat. Within an hour she felt totally fine. After the class was over we took the poultice off and found the stinger in the glob of clay, which drew it out of her skin and everything looked perfectly normal. She was very grateful to avoid a trip to the hospital to say the least!

This shows a principle of how this plant works. Because we applied the Plantain so quickly, it prevented the venom from entering her circulatory system and triggering her immune system in a systemic manner. The clay and Plantain drew out the venom, along with the stringer and reduced the inflammation. There are few other plants that have drawing power quite like Plantain.

This drawing property of Plantain also makes it quite beneficial for treating wounds that have gone septic and have infection trapped inside. Whenever a wound is unable to breathe and drain effectively, oftentimes there will be damp accumulation within the tissues, leading to the formation of pus and allowing infection to settle in. Plantain applied topically has the ability to draw out that infection, bring fresh blood to the surface, stimulate local immunity, detoxify the area, and provide its own antiseptic properties.

Matthew Wood notes that this signature in the plant is shown in how it prefers to grow in hard compacted soil and has the ability to draw nutrients out when few other plants would be able to do so.
For topical applications, Plantain can be used simply as fresh leaves that have been chewed up into what is called a “spit poultice,” or the fresh leaves can be pounded to a pulp and applied topically. Many herbalists prepare infused oils from the leaves and make salves out of it which is also useful. I have a lot of experience of using Plantain infusions to make medicated clays as described above, as well as making liniments by soaking clean cloth in a strong tea and wrapping the afflicted area. It’s a good idea to keep some dried Plantain in a first aid kit, along with a salve made from the fresh leaves. Luckily for us though, it usually grows everywhere and can be used as a simple spit poultice which I have always found to be highly effective (if it doesn’t gross someone out too much though!).

2. **Urinary Tract Infection:** A commonly overlooked usage of Plantain is in the treatment of urinary tract conditions. The herb is a mild but effective diuretic agent, providing it’s astringent and mucilaginous properties to the mucosal membranes which line the urinary tract. This makes it highly beneficial for urinary tract infections where there is an excess of irritation, heat, dryness and bleeding. Plantain effectively cools and sedates the heat and inflammation, soothes the irritation, moistens the dryness, astringes the bleeding, assists in drawing out the infection, and also provides an antiseptic action and a bit of local immune stimulation.

It is important to consider here though that because Plantain is predominantly a cooling medicine, it is likely to be contraindicated for urinary tract infections where there is too much cold present in the tissues, unless it is formulated with some other herbs that provide a more warming stimulating property such as Juniper (Juniperus communis) or Pipsissewa (Chimaphila umbellata).
For blood in the urine, Plantain combines very nicely with Yarrow (*Achillea millefolium*) and Shepherd’s Purse (*Capsella bursa-pastoris*) to staunch blood flow and heal the tissues. For infection it works well with Uva-Ursi (*Arctostaphylos uva-ursi*) and Echinacea (*Echinacea angustifolia*). If there is lymphatic swelling in the inguinal area it combines nicely with Cleavers (*Galium aparine*) and Red Clover (*Trifolium pratense*).

I consider Plantain to be both a soothing demulcent diuretic, while at the same time being a slight tonic/astringent diuretic- thus again we see it’s slightly mixed drying and moistening properties combined. The one thing that is quite clear though is that it is predominantly cooling and indicated where there is an excess of heat, irritation, and inflammation.

3. **Respiratory Tract Infection:** Similar to it’s action on the urinary tract, Plantain is a quite effective soothing, moistening expectorant remedy for a dry irritable cough. Here the mucous membranes are lacking in their production of immune rich mucous that coats, soothes and protects the membrane- thus it gets dried out, inflamed and easily irritated- where the simple act of taking a deep breath can feel sharp and painful. Matthew Wood notes a specific indication, “I have used it where the cough gave the impression that there was something like a fine splinter stuck in the side of the bronchial tube or trachea, providing the cough.”

Because of it’s natural drawing capacity, we can also think of using Plantain for the lingering cough that simply won’t go away or for when there is infection deeply trapped within the respiratory system that needs to be drawn out. Again, Matthew Wood notes, “Plantain can be quite helpful in bronchial infections such as pneumonia. It cools and moistens the mucosa, but also astringes and draws up, so to speak, mucus and water from the lungs. It is indicated when there is irritation in the trachea and bronchi, with an irritable cough.” He also notes that it is “a specific for smoking cessation; can make cigarettes not taste good and cleanses the lungs after smoking.”

In general, I tend to lump Plantain alongside many of the other moistening demulcent expectorants that can be extracted well as a tincture, such as Licorice (*Glycyrrhiza glabra*), Red Clover (*Trifolium pratense*), Mullein (*Verbascum thapsus*), Pleurisy root (*Asclepias tuberosa*), and Sweet root (*Osmorrhiza occidentalis*). It formulates quite nicely with these remedies and can also be used to mellow out the more stimulating expectorants such as Osha (*Ligusticum porteri*), Elecampane (*Inula helenium*), and Lomatium (*Lomatium dissectum*).

4. **Leaky Gut Syndrome:** Here is a more modern application of Plantain that I originally learned from clinical herbalist Paul Bergner, founder of the North American Institute of Medical Herbalism. This is an extremely important usage of Plantain that I think makes it one of the most important herbs to understand for treating the modern human, for this issue is rampant in western culture from the excess of antibiotic trauma, food intolerance/allergy, genetically modified and artificial foods.
In short, anything that treats the skin topically will treat the gut wall, which can be thought of as our “inner skin.” Thus our vulnerary materia medica becomes very important for treating the lining of the gut wall, such as Calendula (*Calendula officinalis*), St. John’s Wort (*Hypericum perforatum*), Comfrey (*Symphytum officinale*), and Yarrow (*Achillea millefolium*) among others.

Why is that? The leaky gut phenomenon can be very simply boiled down to as a “wound” in the gut lining. If we think that the lining of the gut is a semi-permeable membrane designed to let a selected amount and type of materials to cross it, when it is “leaky” then that selectivity becomes adversely affected, allowing larger than normal compounds and substances to cross the gut well, enter the portal circulation, the liver, and ultimately systemic circulation. This can lead to a wide range of problems that effect the entire physiological organism—from arthritis, liver stagnation, depression, allergies, asthma, chronic sinus infections, to more serious issues such as autoimmune conditions.

Once again, we see the combination of astringency/vulnerary actions helping to heal and tonify the lining of the gut, a reduction in inflammation directly on the gut wall but also systemically, a soothing demulcent action, as well as the antiseptic quality helping to alleviate any possible flora imbalances or infection. Plantain is literally like a formula unto itself when it comes to treating leaky gut syndrome! The slight bitterness of the remedy also supports digestion as a whole.

What’s critical to understand here in terms of using it for these purposes though is the mechanism of delivery. Tinctures are likely the most commonly used form of herbal medicine in our modern world because of their convenience and concentration. But when it comes to directly healing the digestive system, they are not always the best. This is because most tinctured herbs are absorbed in the mucous membranes of the mouth and the stomach, and thus never have the chance to even reach the intestinal tract!

Therefore, when working with Plantain, or other medicines that we want to have direct contact with the intestines, they are best administered as either infusions, decoctions, or powders so they will have a direct **topical action** on the gut lining. Think of it like a wound on the skin… when you have a cut you want to put the herbs directly on the cut, right!? Same is true here, you want the herbs to come into direct contact with the tissues of intestinal wall, and the only way that is possible is through powders or large amounts of water extracts. Think about it, how much surface area can 30 drops of tincture cover vs. a quart of tea?

Plantain also has other applications in the digestive system. The astringency makes it a useful remedy in the treatment of acute diarrhea—though we want to be cautious here not to suppress an intelligent vital response of the body. This tonic property also makes it beneficial for the treating hemorrhoids both internally and topically.

I find it interesting to note that the great Eclectic physician Finley Ellingwood placed Plantain under the category “specific glandular remedies.” He predominantly used it in the treatment of diseases of the blood, such as “Scrofula, syphilis, specific or non-specific
glandular disease, and mercurial poisoning.” I would imagine these applications are due once again to it’s drawing power and mild alterative actions. He goes on to mention, “It is used in ulcerations of the mucous membranes, due to depraved conditions.” This makes sense, again due in part because of it’s astringency and demulcent properties. We can consider leaky gut syndrome to be a sort of ulcer in the intestinal lining.

On a few other notes here, *Plantago psyllium* is likely one of the most commonly used herbs in our culture, as it is used as a bulking laxative in the treatment of constipation. Our standard long leaved or broad leaved Plantain leaves can also be used here as a moistening fibrous herb that helps to stimulate the mucosal membranes into a greater level of activity (similarly to how they were used in the urinary and respiratory systems). Thus it can be used in the treatment of constipation, of which the bitterness is also beneficial, but conversely it can also be used to treat diarrhea or hemorrhoids due to it’s astringency. Once again we see the slightly contradictory nature of this remedy at play.

Because it is so effective at reducing inflammation, Plantain has applications in a wide variety of other digestive complaints, such as colitis, ulcers (here it is a specific), inflammation from ingestion of intolerance or allergenic foods, parasites/worms and other digestive infectious agents, and diverticulitis.

5. **Dental Care:** Lastly we come to dental care. This technically could be lumped in with the topical actions or even the digestive system actions, but this remedy shines so brightly here I thought it deserves it’s own category. It’s very common for people in general to forget about dental care and how important it is, that is until you start having some problems with your teeth, see the dentist bill, feel the excruciating pain of it…. and all the sudden tooth and gum care becomes a bigger priority.

Once again we see the net actions of Plantain provide an extremely valuable medicinal action for natural treatment of the teeth, mouth and gums. First off, it’s a great remedy for the treatment of aphthous ulcers, or canker sores. It cools down the heat and irritation, soothes the tissues, and heals the ulceration within the mouth. This symptom is typically considered to be an issue of too much heat in the stomach rising up into the mouth, leading to ulcers. Thus we see the topical effects of Plantain being beneficial here, but also the cooling bitter action helping to settle the excess heat in the stomach as well. It’s best here to simply hold the tea in the mouth, or chew on the fresh leaves and hold them against the ulceration.

This is one of our top herbal medicines for dental infections, once again due to it’s drawing capacity. It’s easy to see that the teeth and gums are a slightly difficult area to get herbal medicines to simply by swallowing, and there are a lot of small recesses for bacteria and other infectious materials to hide in, as well as little pockets for pus to accumulate in. Thus we want to primarily consider topical application directly on the afflicted area. Plantain has been used countless times as an herbal quid, meaning the rolled up leaves are chewed up and packed around the infected area to allow the drawing action to work it’s magic. The tincture or strong decoctions could be soaked into a cotton ball and packed into the area as well. To quote Finley Ellingwood again, “A simple but important influence is that
exercised in tooth-ache. The juice on a piece of cotton applied to a tooth cavity or to the sensitive pulp, has immediately controlled intractable cases of toothache."

The astringency will help to heal the tissues, the drawing capacity will help remove dampness and stagnation, the inflammation will be reduced, and it even has a mildly numbing effect upon the nerves. Ellingwood says again, “It seems to exercise a sedative influence upon pain in the nerves of the face, and relieves many cases of earache and tic-douloureux.” The latter is very important when treating dental issues, as there is a great number of nerve endings around the teeth and gums which is why the pain is often excruciating.

It combines very nicely with Goldenseal (*Hydrastis canadensis*), Myrrh (*Commiphora molmol*), and Spilanthes (*Spilanthes oleracea*) for the treatment of dental infections and general maintenance of the teeth and gums. For acute toothache it combines nicely with St. John’s Wort (*Hypericum perforatum*), Kava-Kava (*Piper methysticum*), and Clove (*Syzygium aromaticum*).

**Pharmacological Data**

- **Primary Constituents:** Iridoid glycosides (aucubin, catalpol); tannins; polysaccharides (galactose, glucose, xylose, arabanose, and rhamnose IE mucilage); alkaloids (plantagonine, asperuloside); flavonoids (baicalein, apigenin, scutellarin, nepetin, hispidulin, luteolin, plantagoside)

- **Mechanisms of Action:** The primary constituents responsible for the medicinal virtues of Plantain are as follows: the bitter tonic properties are due to the iridoid glycosides which provide a stimulant action on the digestive system and the net cooling constitutional effects. Aucubin has also been shown to have anti-inflammatory, liver protective, laxative, diuretic, and antiseptic properties. A useful thing to consider about Plantain is that the aucubin is rendered inactive through too much heating, thus reducing the antiseptic effects.

The astringency and vulnerary actions are due to the presence of tannins. The moistening properties are due to the mucilage/polysaccharide content, which help to coat, soothe and cool inflamed and irritated tissues. Polysaccharides also have a reflex immunostimulant action, promoting local immunity by mimicking antigen protein structures. The flavonoids also promote a cooling and anti-inflammatory effect.

**Contraindications and Safety**

- **Contraindications:** There are no known contraindications with Plantain, although some people do have allergic reactions from the ingestion of psyllium husks.

- **Energetic/constitutional side effects:** The primary energetic property of Plantain is that it is cooling and should be avoided in constitutions or tissue states marked by an excess of coldness. While it is astringent, it is also demulcent, and in this way can be used for both dry tissues or damp tissues, though it’s effects upon the mucous membranes are predominantly moistening. To quote Francis Brinker in his book “Herb Contraindications and Drug Interactions:” “[Plantain is contraindicated in] profuse catarrh or congestion of mucous
membranes n respiratory conditions since its mucilage serves to exaggerate the effect of the mucosal discharge.” This is generally standard with all moistening/demulcent expectorants.

**Herb-Drug Interactions:** Plantain has been shown to possibly decrease the absorption of lithium through the gastrointestinal tract. This interaction was due to ingestion of the husk of *Plantago psyllium* as a bulking laxative. There is a theoretical interaction of Warfarin antagonism due to the relative amount of Vitamin K found in Plantain leaves, which would increase the potential for coagulation. Though it’s important to remember this is a **theoretic interaction** and most usage of Plantain is in dosages and periods of usage that would likely not have an adverse affect here. There have been no known **actual** interactions through the use of the leaf of the common *Plantago lanceolata* or *Plantago major*.

**Preparations and Dosage**

- **Tincture:** For tincture of Plantain, the fresh leaves are the best material to be used. I prefer a mid-range alcohol to water menstruum, somewhere around 50% alcohol at a 1:3 ratio—stronger if possible. Dosage can range from small (1-5 drops), up to larger amounts (2-3 mL). The German Commission E recommends 3-6 grams of the herb daily, which at a 1:3 preparation would be approximately 1-2 mL per day.

- **Infusion:** The fresh or dried leaves can be prepared as an infusion to be drank as a tea for respiratory and urinary tract complaints. It can also be steeped with clean cloth soaked in the tea to be used as a topical liniment for injury. Michael Moore states that many of the active constituents in **dried plant material** are rendered inactive from heat and that a cold infusion is the preferred method of preparation—though I have felt the medicinal effects of hot infusions as well. (But I have also only used the fresh leaves for tea). So do with that as you will… I suggest making both for yourself and noticing what you find out! Standard dosage range for water based extracts would be 1 tbsp per 8 oz of water.

- **Succus:** The fresh leaves of Plantain can be run through a juicer and used either fresh or frozen in ice cube trays to be used at a later date. This can be taken in amounts of 1-2 tablespoons up to 4x a day. This juice can also be preserved with a small amount of alcohol—only enough to bring it up to about 25%. To make it even stronger you could...
preserve the juice with the tincture of the plant rather than just plain Everclear. This preparation is excellent for treating ulcerations in the stomach, dry respiratory conditions, and irritable urinary tract infections.

- **Salve/Oil:** The fresh or dried leaves are commonly prepared as an infused oil which is used as a base for many topical salves. Simply infuse an oil via a double boiler with enough oil to cover the plant material and gently heat for a few hours. Strain and add enough beeswax to make a soft consistency salve. This can be used on all manner of cuts, scrapes, and wounds. It is oftentimes combined with other topical vulneraries such as Comfrey (*Symphytum officinalis*), Calendula (*Calendula officinalis*), and St. John’s Wort (*Hypericum perforatum*). Use as needed, but typically 2-3 applications per day serves well.

- **Poultice:** This is probably one of the most common ways in which Plantain is administered. Because the most common usage is for open wounds, the fresh leaves are picked and chewed up into a pulp which is applied to the open wound and covered with a clean bandage. This will effectively staunch bleeding, draw out any dirt, splinters, or other foreign materials, provide an antiseptic effect, and begin to draw the wound together. These can be applied 2-3 times a day.

- **Medicated Clay:** Clay is a profound healing substance on it’s own, and has a drawing power and astringency that is similar in quality to Plantain. Together they form a potent topical healing agent. Most typically bentonite clay is used, but any form of clay is typically adequate. Simply prepare a strong infusion or decoction of Plantain leaves (or you can use the juice or tincture) and add to the clay to form a thick paste. Apply this to the wound. This is truly best for poisonous spider bites, snake bites, ticks, mosquitos, biting flies, beestings, or other types of inflammatory, itchy, stingy, painful insect wounds. The clay is typically quite soothing and cooling to the irritation, and Plantain obviously adds all of it’s benefits to it.

It’s generally recommended to apply the clay as thick on top of the skin as deep as you would like it to penetrate. Oftentimes people apply just a thin layer and while this is good, it would be better if it was thicker- as it dries out quickly. I will usually apply a layer of medicated clay about 1/2”-1” thick and cover it with a wet cloth soaked in the tea of Plantain. This will help keep the clay hydrated and allow it to do it’s work for a longer period of time. These poultices can be applied twice to three times a day.

### Formulation Strategies

<table>
<thead>
<tr>
<th>Dry Cough Triplet</th>
<th>33%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantain (<em>Plantago major</em>)</td>
<td></td>
</tr>
<tr>
<td>Mullein (<em>Verbascum thapsus</em>)</td>
<td></td>
</tr>
<tr>
<td>Coltsfoot (<em>Tussilago farfara</em>)</td>
<td></td>
</tr>
</tbody>
</table>

This is a nice simple triplet of demulcent, relaxant expectorants commonly used for a dry irritable cough. These 3 herbs work together synergistically in the sense that they all have a relatively similar action and energetic profile. While they would provide relief, most are not
strongly antiseptic for the respiratory system, for which we might consider adding some other herbs.

**Dry Cough Formula**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantain (Plantago major)</td>
<td>30%</td>
</tr>
<tr>
<td>Mullein (Verbascum thapsus)</td>
<td>30%</td>
</tr>
<tr>
<td>Coltsfoot (Tussilago farfara)</td>
<td>20%</td>
</tr>
<tr>
<td>Osha (Ligusticum porteri)</td>
<td>10%</td>
</tr>
<tr>
<td>Elecampane (Inula helenium)</td>
<td>10%</td>
</tr>
</tbody>
</table>

Here we see the addition of a stimulant expectorant pair with Osha and Elecampane to our basic dry cough triplet above. These 2 remedies will add a bit of a more stimulating action on the respiratory tract as well as a stronger antiseptic action for the treatment of infection. This formula can be modulated and adjusted to suit the constitutional needs of the patient, adding higher amounts of Osha and Elecampane if there is more dampness and cold, and less if there is more dryness and heat.

**Urinary Irritation Triplet**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantain (Plantago major)</td>
<td>33%</td>
</tr>
<tr>
<td>Cornsilk (Zea mays)</td>
<td>33%</td>
</tr>
<tr>
<td>Couchgrass (Elymus repens)</td>
<td>33%</td>
</tr>
</tbody>
</table>

Like our Dry Cough Triplet above, this is combination of 3 moistening demulcent remedies used for dry, irritable urinary tract infections. They are distinctly soothing and moistening to the mucosal membranes of the ureters and bladder and will effectively decrease pain and inflammation. This triplet would be contraindicated if there was too much dampness or cold in the urinary tract.

**Urinary Bleeding Pair**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantain (Plantago major)</td>
<td>50%</td>
</tr>
<tr>
<td>Yarrow (Achillea millefolium)</td>
<td>50%</td>
</tr>
</tbody>
</table>

This is a great pair to use if there is bleeding in the urinary tract due to an excess of heat, inflammation and infection. Both are excellent astringents for the urinary tract, as well as sedate inflammation, staunch bleeding, and provide antiseptic properties. Plantain achieves this through the iridoid glycosides, and Yarrow through the volatile oils.

**Urinary Infection Formula**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uva-Ursi (Arctostaphylos uva-ursi)</td>
<td>20%</td>
</tr>
<tr>
<td>Yarrow (Achillea millefolium)</td>
<td>20%</td>
</tr>
<tr>
<td>Echinacea (Echinacea angustifolia)</td>
<td>20%</td>
</tr>
<tr>
<td>Plantain (Plantago major)</td>
<td>20%</td>
</tr>
<tr>
<td>Couchgrass (Elymus repens)</td>
<td>20%</td>
</tr>
</tbody>
</table>

Here we see a combination of our 2 formulas above (minus the Couchgrass) along with Echinacea and Uva-Ursi for the treatment of a urinary tract infection. The Plantain and
Couchgrass here are acting as synergists to moisten the drying effects of the Uva-Ursi, Yarrow and Echinacea, while providing a diuretic, anti-inflammatory, and wound healing action. The Echinacea will help stimulate local immunity, and the Yarrow and Uva-Ursi provide supportive antiseptic properties. This would be best drank as an infusion.

**Leaky Gut Pair**
Plantaion (*Plantago major*) 50%
Calendula (*Calendula officinalis*) 50%

This classic topical pair is commonly used for healing wounds on the skin, but can also be used internally to heal the lining of the gut wall. They are both excellent vulnerary astringents, inflammation modulating, and bitter tonic remedies. It’s an excellent place to start for a more complex leaky gut formula.

**Leaky Gut Formula**
Plantaion (*Plantago major*) 25%
Calendula (*Calendula officinalis*) 25%
Agrimony (*Agrimonia eupatoria*) 10%
Chamomile (*Matricaria recutita*) 10%
Peppermint (*Mentha piperita*) 10%
Fennel (*Foeniculum vulgare*) 10%
Licorice (*Glycerrhiza glabra*) 10%

Here we see our base pair of Calendula and Plantain being added on to with some more remedies for the digestive system. Agrimony provides supportive tonic/astringent properties, while also relaxing tension for the liver, which is often overly stressed by an excess of metabolic products entering it from the leaky gut. Chamomile and Licorice provide supportive anti-inflammatory effects, with the former being also an excellent bitter tonic and carminative. Licorice moistens up the whole formula as a demulcent. The Peppermint and Fennel also provide carminative effects, increasing circulation, decreasing tension, wind and cramping.

**Dental Tonic Formula**
Plantaion (*Plantago major*) 30%
Goldenseal (*Hydrastis canadensis*) 30%
Myrrh (*Commiphora molmol*) 20%
Gravel root (*Eupatorium purpureum*) 10%
Spilanthes (*Spilanthes oleracea*) 10%

This formula uses a classic pair used by North American herbalists for a wide variety of infectious type conditions: Goldenseal and Myrrh. The former provides a bitter and tonic astringent property for the gums, clears damp stagnation, and cleanses the local area, while the Myrrh has a broad spectrum antiseptic action. Spilanthes is present as a circulatory stimulant and antiseptic, while the Plantain draws out the infection and heals the tissues. Gravel root assists in the mineral balance of the teeth and moisture balance of the gums.
Bite Powder Formula

Plantain (Plantago spp.) 33%
Echinacea (Echinacea angustifolia) 33%
Tobacco (Nicotiana rustica) 33%

This is a great powder formula to have in any first aid kit for the treatment of venomous bites from insects, spiders, and snakes. The Plantain and Tobacco both have a strong drawing capacity to “suck out” the venom and the Echinacea stimulates local immunity, cleanses the lymphatics, and brings blood flow to the local area. This formula can be mixed in with a small amount of water to form a paste and applied to the area, or made into a small batch decoction to hydrate clay and made into a poultice. It should be reapplied every 30-60 minutes for serious bites while you are on your way to the hospital! I also suggest taking 1 oz of Echinacea tincture immediately after more deadly bites from rattlesnakes, brown recluse or black widow spiders.

Herbal Drawing Powder

Plantain (Plantago major) 50%
Cayenne (Capsicum annum) 50%

This is a dynamic duo. The Plantain has all the drawing power here, and the Cayenne radically stimulates circulation to the local area. It can be used to draw out deep splinters, clean infected wounds, remove pus and infection and promote local tissue healing. Naturally the Cayenne might sting a little bit, but after the initial burn the pain will subside rapidly as it depletes the local resources of Substance P (the compound associated with pain).

Energetic Architecture

• Ruling Planet: When we look at the wholeness of Plantain, we see that it has some properties which are relatively standard to many other herbal medicines, but also that there is a special uniqueness to it that is really unlike anything else- which is it’s drawing power. Whenever there is a plant which has something this unique to it, it is absolutely an important consideration for it’s planetary ruler. If we think of a “drawing agent,” it is essentially acting through attraction, by bringing something towards it. This is a property of Venus, who rules the laws of attraction, resonance, and harmony. In a way, Plantain likes to bring things towards it- like a magnet- and this is exactly how Venus functions.

We see other Venusian correspondences present in Plantain. The structure of the plant is particularly Venusian, with it’s smooth leaves and parallel venation. The astringency is quite notable as well, for Venus tends to generate relaxation within the tissues when imbalanced, and a number of Venusian remedies help to astringe and tonify those relaxed tissues (Wild Rose, Red Raspberry, Lady’s Mantle, Horse Chestnut). It draws the tissues together and increases their tone.

One of the main ways I have always thought of Plantain is that it is a Venusian plant that treats and balances an excess of Mars. Mars governs heat, irritation, pain, inflammation, injury, wounds, bleeding disorders, and infection- which of course are all things that Plantain specifically treats. When I looked up Plantain in Culpeper’s Herbal, his monograph
starts off by saying, "This is under Venus, and it cures the head by its antipathy to Mars, and the privities by its sympathy to Venus; neither is there a martial disease but it cures." A nice confirmation to how I had already understood the remedy. Thus Plantain is used whenever Mars is afflicting the body. This can be through inflammation, infections, an excess of heat within the tissues, wounds, injuries, and all manner of bleeding internally and externally.

This illustrates an important principle in the practice of astro-herbalism, which is that a plant can be sympathetic as well as antipathetic to certainly planetary qualities at the same time. If you remember Nettles, it is sympathetic to Mars in its morphology and organ affinities, but it is antipathetic in the sense that it reduces an excess of Mars. This is important to understand when classifying herbs by planets, for they exist upon a spectrum of these energetic influences.

We also see the Venusian influence of Plantain through its affinity for the urinary tract and usage as a diuretic. As Venus is about balance, I like to think of Plantain as embodying her qualities as this remedy has this unique drying and moistening (astringent/demulcent) property.

- **Ruling Element:** I would classify Plantain as a Water Element plant, primarily because it has an affinity for the mucosal membranes of the body that line the respiratory, urinary and digestive systems. While the astringency could be related to Venus, the demulcent property would be due to the Water Element. We see that it cleans out the fluids of the body, moves fluid stagnation, and draws out pus and infection (IE damp/stagnation), as well as coats, soothes, and moistens dried out tissues of the body- making it also specific for dryness and atrophy.

- **Ruling Principle:** For the Philosophical Principle associated with Plantain I place it under the Fixed/Salt principle. The reasoning behind this is due in part because of it’s strong affinity for healing the physical tissues of the body, closing openings in wounds, and it’s capacity to draw out physical materials from the body (poisons, splinters, dirt, stingers etc.). Plantain is also relatively rich in minerals, and when taken through the spagyric process yields a good amount of soluble alkali mineral salts. The Fixed Mode also shows in how it likes to grow in hard, compacted soils and it's capacity to draw up minerals and nutrients from the deeper parts of the Earth.

**Esoteric Significance**

Based on the correspondences above, Plantain could be seen as relating to the Waters of Venus, which translates to the Yetzirah of Netzach in the Qabalah. It does not have particularly strong correspondences to any of the cards of the Tarot.