<table>
<thead>
<tr>
<th>Agent</th>
<th>Possible Uses</th>
<th>Dose/Routes</th>
<th>Studies</th>
<th>Safety/Adverse Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arnica</strong> <em>(Arnica montana)</em></td>
<td>Used for general counterirritant, anti-inflammatory, and pain reliever (Koenig, 2003)</td>
<td>Topically: Used as a cream, 15% arnica oil (Natural Medicine Comprehensive Database, 2003)</td>
<td>Arnica gave rise to greater pain than a placebo and caused more swelling when used to treat impacted wisdom teeth (Kaziro, 1984).</td>
<td>Considered poisonous if injected (Skidmore-Roth L, 2004)</td>
</tr>
<tr>
<td></td>
<td>Topically, to decrease inflammation in bruises, sprains, wounds, acne, boils, and rashes (Skidmore-Roth L, 2004)</td>
<td>Typical strength is 2 grams of flowerheads in 100 mL water</td>
<td>Topical application of <em>Arnica Montana</em> gel was a safe, well-tolerated, and effective treatment of mild to moderate osteoarthritis of the knee (Knuesel, Weber, &amp; Suter, 2002).</td>
<td>Serious liver and kidney damage can occur (Skidmore-Roth L, 2004)</td>
</tr>
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<td></td>
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<td>Significant reduction of pain experienced by hand surgery patients (Sindrup et al., 2001).</td>
<td>Interacts with antihypertensive drugs (Skidmore-Roth L, 2004)</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Analysis of eight trials found, on balance, homeopathic arnica is no more effective than placebo (Ernst &amp; Pittler, 1998).</td>
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</tr>
<tr>
<td><strong>Black Cohosh</strong> <em>(Cimicifuga racemose)</em></td>
<td>It is a smooth-muscle relaxant, an antispasmodic, an antitussive, a diuretic, an antidiarrheal, and an antiarthritic (Skidmore-Roth L, 2004)</td>
<td>Oral: 300-2000 mg of the dried rhizome or root three times daily (Natural Medicine Comprehensive Database, 2003)</td>
<td>No published research related to pain</td>
<td>Likely safe when used orally and appropriately, safe in studies lasting up to 6 months (Natural Medicine Comprehensive Database, 2003)</td>
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<td>Adversely interacts with hormone sensitive cancers/conditions, but has no known drug interactions (Natural Medicine Comprehensive Database, 2003)</td>
</tr>
<tr>
<td><strong>Camphor</strong> <em>(Cinnamomum camphora)</em></td>
<td>Applied topically as an analgesic and an antipruritic (Natural Medicine Comprehensive)</td>
<td>Topically: 0.1%-0.3%, 3 to 4 times daily (Natural Medicine Comprehensive)</td>
<td>No published research related to pain</td>
<td>Likely safe when used topically in low concentrations short-term. Unsafe when used orally (Natural Medicine Comprehensive Database, 2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Orally, camphor can cause significant adverse effects (Skidmore-Roth L, 2004)</td>
</tr>
</tbody>
</table>
### Cemphire, Camphor tree
- Database, 2003
- Inhalation: tablespoon of solution per quart of water, medicated vapors are breathed (Natural Medicine Comprehensive Database, 2003)
- Inhalation: tablespoon of solution per quart of water, medicated vapors are breathed (Natural Medicine Comprehensive Database, 2003)
- Oral preparations are no longer available in the U.S. (Natural Medicine Comprehensive Database, 2003)
- Toxicity, symptoms can occur rapidly starting with nausea and vomiting, oral and intestinal burning, feeling of warmth, and headache (Natural Medicine Comprehensive Database, 2003)

### Capsaicin
- **Capsicum frutescens**
- Also known as: African Chillies, African Pepper, Capsaicin Fruit, Garden Pepper, Sweet Pepper, Mexican Chilies, Grains of paradise
- Stimulate digestion when used orally, as an antiflatulent, for colic, diarrhea, cramps, to improve peripheral circulation, reducing blood clotting tendencies, and preventing heart disease (Natural Medicine Comprehensive Database, 2003)
- Topically to reduce pain
- Oral: Capsicum fruit is usually in doses of 30-120 mg, 3 times daily (Natural Medicine Comprehensive Database, 2003)
- Topical: For pain syndromes, creams can be applied 3-4 times daily (Natural Medicine Comprehensive Database, 2003)
- Available in 0.075% and 0.025% creams
- Systemic capsaicin is effective for short-term treatment of Burning Mouth Syndrome but with major gastrointestinal side effects (Petruzzi et al., 2004)
- Topically applied capsaicin cream may decrease subjective neck pain (Mathias et al., 1995)
- Capsaicin is ineffective in relieving pain associated with HIV-associated Peripheral Neuropathy (Paice et al., 2000)
- Topical 0.075% capsaicin cream appeared to be more effective than the vehicle cream in relief of postmastectomy pain syndrome in a double-blind study (Watson, 1994).
- Open-label trial where 68.4% of patients received good pain relief from 0.025% capsaicin administered to treat post-mastectomy pain syndrome (Dini et al., 1993).
- Double-blind, 8-week trial found topical capsaicin 0.075% cream is safe and effective in managing painful diabetic neuropathy (Scheffler, 2003)
- Likely safe when used orally in amounts typically found in food (Natural Medicine Comprehensive Database, 2003)
- May cause gastrointestinal irritation, sweating and flushing of the head and neck when taken orally (Natural Medicine Comprehensive Database, 2003)
- Interferes with the activity of acid-inhibiting drugs, antihypertensive drugs (Natural Medicine Comprehensive Database, 2003)
- May increase the effects of antiplatelet drugs, barbiturates, cocaine, and drugs with sedative properties (Natural Medicine Comprehensive Database, 2003)
- Topically, may increase pain, may cause burning of the eye or mucous membrane if accidentally applied

### Toxicity
- Symptoms can occur rapidly starting with nausea and vomiting, oral and intestinal burning, feeling of warmth, and headache (Natural Medicine Comprehensive Database, 2003)
- Oral preparations are no longer available in the U.S. (Natural Medicine Comprehensive Database, 2003)
- Likely safe when used orally in amounts typically found in food (Natural Medicine Comprehensive Database, 2003)
- May cause gastrointestinal irritation, sweating and flushing of the head and neck when taken orally (Natural Medicine Comprehensive Database, 2003)
- Interferes with the activity of acid-inhibiting drugs, antihypertensive drugs (Natural Medicine Comprehensive Database, 2003)
- May increase the effects of antiplatelet drugs, barbiturates, cocaine, and drugs with sedative properties (Natural Medicine Comprehensive Database, 2003)
- Topically, may increase pain, may cause burning of the eye or mucous membrane if accidentally applied
• Analysis of several trials found topical capsaicin is generally not satisfactory as a sole therapy for chronic painful conditions; it may serve as an adjuvant (Watson, 1994).

• Long-term, open, non-randomized study might indicate that the analgesic effect of capsaicin in post-herpetic neuralgia is mediated by both interference with neuropeptide metabolism and morphological changes of nociceptive afferents (Peikert, Hentrich, & Ochs, 1991).

• After two week 80% of capsaicin treated patients with osteoarthritis or rheumatoid arthritis in a double-blind randomized study experienced a reduction in pain after two week of treatment (Deal et al., 1991).

• A two-arm, double-blind, placebo-controlled, crossover study found topical capsaicin cream decreases postsurgical neuropathic pain to a 3 to 1 margin over placebo. There were some toxicities (Ellison et al., 1997).

• A vehicle controlled, double-blind, multicenter study found 0.075% capsaicin cream is safe and effective in treating painful diabetic neuropathy (Treatment of Painful Diabetic Neuropathy with Topical Capsaicin, 1991).

• In a 12-week, double-blind, placebo-controlled randomized study of capsaicin cream on distal painful polyneuropathy found no difference between capsaicin cream and the placebo (Low et al., 1995).
| **Chamomile**  
**Topical: Used as a rinse. No known typical dosage**  
**Tea: Steep 3 grams in 150 mL boiling water for 5-10 minutes (Natural Medicine Comprehensive Database, 2003)** | **Chamomile extract spray does not significantly ameliorate pain associated with post-operative sore throat (Kyokong et al., 2002).** | **Has a Generally Recognized as Safe status for food use in the US (Natural Medicine Comprehensive Database, 2003)**  
**Generally safe when consumed in amounts commonly found in foods (Natural Medicine Comprehensive Database, 2003)**  
**Theoretically, large doses may increase the risk of bleeding when used with anticoagulants (Nutrition in Cancer Care, 2004)**  
**Theoretically, may increase additive and side effects of benzodiazepines (Nutrition in Cancer Care, 2004)** |
|---|---|---|
| **Cinnamon** *(Cinnamomum)*  
**Also known as:** Cinnamon bark, Batavia cassia, Ceylon Cinnamon, Panang Cinnamon, Saigon Cinnamon | Improve appetite (The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines, 1998)  
Treat dyspepsia, abdominal pain, nausea, and other digestive complaints (Koenig, 2003)  
Thought to be, antispasmodic, antiflatulent, antiarrheal, antimicrobial, and anthelmintic (Natural Medicine Comprehensive Database, 2003) | No published research related to pain |
|  | Oral: 2-4 grams of cinnamon bark (Natural Medicine Comprehensive Database, 2003)  
Topical: No known typical dosage  
Tea: 0.5-1 grams of the bark in 150 mL of boiling water, for 5-10 min., then strain (Natural Medicine Comprehensive Database, 2003) |  |
| **Cloves** *(Syzygium aromaticum)*  
**Also known as:** Clove, Caryophylli, Caryophyllus, Clous de Giroffe, Flores Caryophyllum | Used for gastrointestinal upset, including flatulence, nausea, and vomiting (Natural Medicine Comprehensive Database, 2003)  
|  | Oral: 120-300 mg, limit ingestion to 3.6 mg/kg clove oil per day (Natural Medicine Comprehensive Database, 2003)  
Topical: Commonly used in mouthwash, 15% clove tincture can treat athletes’ foot (Natural Medicine Comprehensive Database, 2003) |  |
|  | Has a Generally Recognized as Safe status for food use in the US (Natural Medicine Comprehensive Database, 2003)  
Likely safe when consumed in amounts commonly found in foods and possibly safe when used orally and appropriately in amounts slightly greater than those found in food (Natural Medicine Comprehensive Database, 2003)  
Might interfere with antacids (Natural Medicine Comprehensive Database, 2003)  
May be irritating to respiratory tract when smoked (clove cigarettes) (Natural Medicine Comprehensive Database, 2003)  
Concomitant use of anticoagulants and... |
| --- | --- | --- | --- |
| **Cod-liver Oil**  
*Also known as:* n-3 Fatty Acids, Cod Oil, Fish Oil, Liver Oil, Omega-3 Fatty Acids, Polyunsaturated Fatty Acids | **Used for hyperlipidemia, hypertriglyceridemia, hypertension, coronary heart disease, osteoarthritis, and systemic lupus erythematosus (Natural Medicine Comprehensive Database, 2003)** | **Oral: For lowering triglycerides, 20 mL a day. For lowering blood pressure, 20 mL a day (Natural Medicine Comprehensive Database, 2003)** | **n-3 polyunsaturated fatty acids directly attenuate the neuronal and glial process that underlie neuropathic and inflammatory pain (Shapiro, 2003).**  
**People with musculoskeletal pain experience less pain if they take cod liver oil (Eriksen, Sandvik, & Bruusgaard, 1996).**  
**Cod liver oil as supplement to NSAID therapy in treating osteoarthritis showed no significant benefit vs placebo (Stammers, Sibbald, & Freeling, 1992).**  
**Likely safe when used orally and appropriately (Natural Medicine Comprehensive Database, 2003)**  
**Increased risk of bleeding when used with anticoagulants/antiplatelet drugs (Natural Medicine Comprehensive Database, 2003)**  
**Decreased effectiveness of antidiabetes drugs (Natural Medicine Comprehensive Database, 2003)**  
**May have additive effects on antihypertensive drugs (Natural Medicine Comprehensive Database, 2003)**  
**May cause nosebleeds, halitosis, and heartburn (Natural Medicine Comprehensive Database, 2003)** |
| **Devil’s Claw**  
*Harpagophytum procumbens* | **Used to treat joint pain and inflammation (Skidmore-Roth L, 2004)** | **Oral: To stimulate appetite, 1.5 grams of root per day: 1-4.5 grams of root per day for**  
**Devil’s Claw lacks the anti-inflammatory properties possessed by NSAIDS (Whitehouse, Znamirowska, & Paul, 1983). Type II, B** | **Possibly safe when used orally and appropriately for short term. Well tolerated for up to 16 weeks (Natural Medicine Comprehensive Database, 2003)** |
| **Dong Quai**  
*Angelica sinensis*)  
Also known as: Chines Angelica, Dang Gui, Dong Qua, Dong-Quai, Tang Kuei, Tan Kue Bai Zhi | **Echinacea**  
*echinacea angustifolia*)  
Also known as: American Cone | **Loss of appetite, dyspepsia, supportive therapy of degenerative disorders of the musculoskeletal system (The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines, 1998)** | **Other uses**  
- Tea: 4.5 grams in 300 mL water boiled for 8 hours | **Devil’s Claw extract is effective in treating pain associated with arthrosis of the hip or knee (Wegener & Lupke, 2003).**  
- Effective in treatment of slight to moderate muscular pain (Gobel et al., 2001) Type II, B  
- Effective in treatment of chronic non-radicular back pain (Laudahn & Walper, 2001). | **May decrease blood glucose levels in diabetes (Natural Medicine Comprehensive Database, 2003)**  
**May increase bile production in gallstones patients (Natural Medicine Comprehensive Database, 2003)**  
**Adversely effects acid-inhibiting drugs, blood pressure therapy, and cardiac drugs (Natural Medicine Comprehensive Database, 2003)**  
**Orally, devil’s claw is well tolerated. Most common adverse effect is diarrhea (Natural Medicine Comprehensive Database, 2003)** |
| **Orally, devil’s claw is well tolerated. Most common adverse effect is diarrhea (Natural Medicine Comprehensive Database, 2003)** | **Orally: 3-4 grams daily with meals (Natural Medicine Comprehensive Database, 2003)**  
**Tea: Extract of dong quai in a dose of 1 mL three times daily (Natural Medicine Comprehensive Database, 2003)** | **No published research related to pain** | **Orally, dong quai is well-tolerated (Natural Medicine Comprehensive Database, 2003)**  
**Theoretically, may increase effects of warfarin and may potentiate the effects of other anticoagulants and antiplatelet drugs (Nutrition in Cancer Care, 2004; Paice et al., 2000)**  
**Interacts with hormone sensitive cancers/conditions, especially for women with hormone sensitive conditions (Natural Medicine Comprehensive Database, 2003)** | **Orally, echinacea is usually well tolerated (Natural Medicine Comprehensive Database, 2003)**  
**Has been used safely in trials lasting up to 12 weeks when used topically and** |
<table>
<thead>
<tr>
<th><strong>Flower, Indian Head, Purple Cone Flower, Black Sampson, Kansas Snakeroot, Red Sunflower</strong></th>
<th><strong>(The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines, 1998)</strong></th>
<th><strong>Database, 2003</strong></th>
<th><strong>Theoretically, may interfere with immunosuppressive therapy (Nutrition in Cancer Care, 2004)(^\text{•})</strong>&lt;br&gt;<strong>May experience allergic reactions, fever, nausea, vomiting, unpleasant taste, abdominal pain, diarrhea, sore throat, and dizziness (Natural Medicine Comprehensive Database, 2003)(^\text{•})</strong>&lt;br&gt;<strong>Theoretically may increase hepatotoxicity risk when co-administered with acetaminophen (Paice et al., 2000)</strong></th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>Externally for poorly healing wounds and chronic ulcerations</strong></td>
<td><strong>Topical: Semi-solid preparation containing at least 15% pressed juice of Echinacea purpurea herb</strong></td>
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<td></td>
<td><strong>Also used for migraines, dyspepsia, pain, and dizziness</strong></td>
<td><strong>Tea: Prepared by pouring 8 oz. of boiling water over a tea bag and steeping for 10-15 minutes (Natural Medicine Comprehensive Database, 2003)</strong></td>
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<td><strong>Infusion may be used as an adjunct for reducing analgesic consumption after spinal anaesthesia (Apan et al., 2004).</strong></td>
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<td><strong>Use as an adjuvant analgesic in patients undergoing open cholecystectomy resulted in better pain relief during first postoperative hour but did not significantly decrease postoperative morphine requirement (Bhatia et al., 2004).</strong></td>
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<td><strong>Using a rat model, magnesium amplifies the analgesic effect of low-dose morphine in conditions of sustained pain (Begon et al., 2002).</strong></td>
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<td><strong>Epsom Salt (Magnesium)</strong>&lt;br&gt;<strong>Also know as:</strong> Chelated Magnesium, Magnesium Sulfate, Milk of Magensia</td>
<td><strong>Used for treating and preventing hypomagnesemia, may also be used orally as a laxative or for treating symptoms of asthma (Natural Medicine Comprehensive Database, 2003)</strong></td>
<td><strong>Oral, topical, or parenteral</strong></td>
<td><strong>Likely safe when used orally and appropriately.</strong>&lt;br&gt;<strong>Parenteral magnesium sulfate is a FDA-approved prescription product (Natural Medicine Comprehensive Database, 2003)</strong>&lt;br&gt;<strong>Interacts with malabsorption syndromes, renal disease, excretion-enhancing/reducing drugs, and skeletal muscle relaxants (Natural Medicine Comprehensive Database, 2003)</strong>&lt;br&gt;<strong>Orally, magnesium can cause gastrointestinal irritation, nausea, vomiting, and diarrhea (Natural Medicine Comprehensive Database, 2003)</strong></td>
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<td></td>
<td><strong>Reduces swelling, muscle ache, and pain resulting from bruised or irritated tissues (Koenig, 2003)</strong></td>
<td><strong>Dosages are very illness specific and varies (Natural Medicine Comprehensive Database, 2003)</strong></td>
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<td></td>
<td><strong>Topically, used for treating infected skin ulcers (Natural Medicine</strong></td>
<td><strong>Tea: Steep 4.5 grams of root in 300 mL boiled water for 8 hours at room temperature and then strain (Natural Medicine Comprehensive Database, 2003)</strong></td>
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<td></td>
<td></td>
<td><strong>Found magnesium can be an adjuvant for perioperative analgesic management to reduce perioperative pain (Kara et al., 2002).</strong></td>
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| **Gamma Linolenic Acid**  
*Octadeca-6,9,12-trienoic acid*  
*Also known as:* Gamolenic Acid, GLA | **Rheumatoid arthritis, hyperlipidemia, heart disease, syndrome-X, systemic sclerosis, diabetic neuropathy, and cancer prevention** (Natural Medicine Comprehensive Database, 2003)  
*Also used for ADHD, depression, postpartum depression, chronic fatigue syndrome* (Natural Medicine Comprehensive Database, 2003) | **Oral:** For rheumatoid arthritis 1.1 grams daily, for diabetic neuropathy 360 to 480 mg per day, for hyperlipidemia 1.5-6 grams daily (Natural Medicine Comprehensive Database, 2003)  
Control group, placebo study found GLA may produce mild improvement in rheumatoid arthritis, but the placebo, olive oil, may have unrecognized benefits (Brzeski, Madhok, & Capell, 1991).  
Meta-analysis of a small number of studies suggests that GLA is effective treatment for rheumatoid arthritis patients (Rothman, DeLuca, & Zurier, 1995).  
A review of 11 studies found there is some potential benefit for the use of GLA in rheumatoid arthritis. More studies on dosage and duration are needed (Little & Parsons, 2001).  
Meta-analysis found moderate support for GLA for reducing pain, tender joint count and stiffness. In general, GLA herbal medicines were relatively safe to use (Soeken, Miller, & Ernst, 2003). | **Appears safe when taken in oral doses of 2.8 grams per day or less for up to a year** (Natural Medicine Comprehensive Database, 2003)  
**May interact with herbs that have coumarin constituents or affect platelet aggregation to theoretically increase the risk of bleeding** (Natural Medicine Comprehensive Database, 2003)  
**Taking with other anticoagulants or antiplatelet drugs might increase risk of bruising and bleeding** (Natural Medicine Comprehensive Database, 2003) |
| **Ginger**  
*Zingiber Officinale* | **Motion sickness, nausea, dyspepsia, flatulence, chemotherapy-induced** | **Oral:** 550-1100 mg three times daily (Natural Medicine Comprehensive Database, 2003)  
**Extract as effective as placebo during first three months of study, but at end of 6 months, extract group experienced better relief from pain** | **Has Generally Recognized as Safe Status in the US** (Altman & Marcussen, 2001) |
| **Also known as:** African Ginger, Black Ginger, Gingembre, Ginger Root, Zingiberis rhizoma | nausea (Natural Medicine Comprehensive Database, 2003) • Can be used for treating thermal burns (Natural Medicine Comprehensive Database, 2003) • The essential oil of ginger is used topically as an analgesic (Natural Medicine Comprehensive Database, 2003) | Database, 2003 • Topical: No typical dosage | associated with symptomatic gonarthritis (Wigler et al., 2003). • Randomized, placebo-controlled, cross-over study found no difference between ginger extract and a placebo in treating osteoarthritis of the hip or knee. Ibuprofen was significantly more effective than ginger extract (Bliddal et al., 2000). • Randomized, double-blind, placebo-controlled, 6-week study found highly purified ginger extract had a statistically significant effect of reducing pain in patients with osteoarthritis of the knee compared to a control group that received a placebo (Altman & Marcussen, 2001). | • Usually well tolerated when used in typical doses (Altman & Marcussen, 2001) • Theoretically, may increase the risk of bleeding, or interfere with diabetic, cardiac, therapy for heart conditions and acid-inhibiting drugs (Altman & Marcussen, 2001) |
| **Ginkgo Biloba** (Ginkgo biloba) • Also known as: Baiguo, Fossil Tree, Ginkyo, Yinhsing, Kew Tree, | Used as an antitussive and expectorant (Altman & Marcussen, 2001) • Fatigue (The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines, 1998) • Thought to increase blood flow to the brain and to treat/prevent Alzheimer’s/dementia | Oral: 120-240 mg ginkgo tablets or capsules in 2 or 3 divided doses (Altman & Marcussen, 2001) | A study of rats looked at several models of nociceptive pain, tail-electric stimulation assay, and capsaicin-induced paw licking, results suggest Ginkgo biloba extract may be of clinical value as an anti-inflammatory and analgesic alone or in conjunction with NSAIDs (Abdel-Salam et al., 2004). | • May increase bleeding with NSAIDS (Abebe, 2002), acetaminophen (Abebe, 2002), dipyridamole, and warfarin (Nutrition in Cancer Care, 2004) • Ginkgo fruit and pulp can cause redness of the mouth, rectal burning, and painful anal sphincter spasms (Natural Medicine Comprehensive Database, 2003) • May increase blood pressure when used with thiazide diuretics (Nutrition in Cancer Care, 2004) • Reportedly causes seizures (Natural Medicine Comprehensive Database, 2003) • Theoretically, might interfere with the effectiveness of anticonvulsants (Natural Medicine Comprehensive Database, 2003) • Can cause coma when combined with trazodone (Hu et al., 2005) |
| **Ginseng** | For symptomatic | Oral: 0.25-0.5 | No published research related to pain | No adverse reactions have been }
### Panax quinquefolius
- Also known as: American Ginseng, Ren Shen, Sang, Red Berry

<table>
<thead>
<tr>
<th>Treatment of:</th>
<th>Grams of the root 2 times daily (Natural Medicine Comprehensive Database, 2003)</th>
<th>Expected to increase risk of bleeding if taken with NSAIDS (Abebe, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increase physical endurance and lessen fatigue, to improve ability to cope with stress</td>
<td></td>
<td>May interfere with antipsychotic drugs, hormones, MAOIs (Nutrition in Cancer Care, 2004)</td>
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<td></td>
<td>(Skidmore-Roth L, 2004)</td>
<td>Ginseng may diminish the effect of immunosuppressants (Skidmore-Roth L, 2004)</td>
</tr>
</tbody>
</table>

### Japanese Mint (Mentha arvensis)
- Also known as: Brook mint, Chinese Mint Oil, Comnint Oil, Minzol

<table>
<thead>
<tr>
<th>Use</th>
<th>Oral: 3-6 drops of oil daily (Natural Medicine Comprehensive Database, 2003)</th>
<th>No published research related to pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Orally to reduce flatulence</td>
<td></td>
<td>Possibly safe when the oil is used orally or topically and appropriately</td>
</tr>
<tr>
<td>• Topically, for musculoskeletal or neuropathic pain, pruritus, and urticaria</td>
<td>Topically: Rub several drops of oil in affected areas of skin (Natural Medicine Comprehensive Database, 2003)</td>
<td>May worsen bronchial spasms, gallbladder conditions, or liver disease (Natural Medicine Comprehensive Database, 2003)</td>
</tr>
<tr>
<td></td>
<td>Inhalation: 3-4 drops of oil in hot water</td>
<td>No known interactions with drugs (Natural Medicine Comprehensive Database, 2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can cause upset stomach when taken orally (Natural Medicine Comprehensive Database, 2003)</td>
</tr>
</tbody>
</table>
| **Kava Kava** *(Piper methysticum)* | • Treat anxiety disorders, stress, insomnia, and restlessness (Natural Medicine Comprehensive Database, 2003)  
• Orally, for depression, headaches, common cold, cancer prevention, and musculoskeletal pain (Natural Medicine Comprehensive Database, 2003) | • Oral: 100 mg 3 times a day (Natural Medicine Comprehensive Database, 2003)  
• Tea: 2-4 grams in 150 mL boiling water for 5-10 minutes, then strain (Natural Medicine Comprehensive Database, 2003) | • No published research related to pain  
• Taken orally, may induce hepatotoxicity and liver failure (Natural Medicine Comprehensive Database, 2003; Nutrition in Cancer Care, 2004)  
• Banned in Switzerland, Germany, and Canada (Natural Medicine Comprehensive Database, 2003)  
• Decreases platelets, lymphocyte, bilirubin, protein, increased red blood cell volume (Skidmore-Roth L, 2004)  
• Adverse interactions with alprazolam, hepatotoxic drugs, and levodopa (Natural Medicine Comprehensive Database, 2003)  
• Given hepatotoxic affects, avoid concurrent use with acetaminophen (Natural Medicine Comprehensive Database, 2003).  
• Expected to enhance CNS depression/sedation caused by opioids (Natural Medicine Comprehensive, 2003) |
| **Ma Huang** *(Ephedra distachya)* | • Used for weight loss and enhancing athletic performance (Natural Medicine Comprehensive Database, 2003)  
• Also used for allergies, allergic rhinitis, respiratory tract conditions, colds, flu, fever, headache, joint and bone pain (Natural Medicine | • Oral: 15-20 mg of ephedrine taken up to three times daily (Natural Medicine Comprehensive Database, 2003)  
• Tea: 1-4 grams in 150 mL boiling water for 5-10 minutes and then straining (Natural Medicine | • No published research related to pain  
• FDA recently banned ephedra (1/1/2004)  
• Increases toxicity with beta-blockers, monoamine oxidase inhibitors, caffeine, and St. John's Wort (Nutrition in Cancer Care, 2004)  
• Side effects-insomnia, motor restlessness, irritability, headaches, nausea, vomiting, disturbances of urination, tachycardia; in high doses, increase in blood pressure, cardiac arrhythmia, herb dependency (The |
| **Mustard**  
*Brassica* | • Topically, used as a poultice for bronchial pneumonia, pleurisy, arthritis, lumbago, aching feet, rheumatism, and as a counterirritant (Natural Medicine Comprehensive Database, 2003)  
• To treat inflammation and joint pain  
(Skidmore-Roth L., 2004) | • Topical: Prepare a mustard plaster; 100 grams of mustard flour mixed with warm water to make a paste. Put mustard paste into a linen and apply for 10 minutes (Natural Medicine Comprehensive Database, 2003)  
• Orally: No known suggested dose (Natural Medicine Comprehensive Database, 2003) | • No published research related to pain  
• Has Generally Recognized as Safe (GRAS) status in the US (Natural Medicine Comprehensive Database, 2003)  
• Can irritate asthma, and the GI tract (Natural Medicine Comprehensive Database, 2003)  
• Orally, large amounts of black mustard seed can lead to vomiting, stomach pain, diarrhea, somnolence, cardiac failure, breathing difficulties, coma, and possibly death (Natural Medicine Comprehensive Database, 2003) |
| **Oil of Wintergreen**  
*Gaultheria Proxumbens*  
• Also known as: Boxberry, Canada Tea, Deerberry, Mountain Tea, Partridge Berry | • Topically, wintergreen oil is used as a counterirritant for musculoskeletal pain and as an antiseptic (Natural Medicine Comprehensive Database, 2003)  
• May be useful in the treatment of neuropathic pain  
(Skidmore-Roth L., 2004) | • Topical: Apply as gels, lotion, or ointments 3-4 times daily (Natural Medicine Comprehensive Database, 2003)  
• Orally: No known suggested dose (Natural Medicine Comprehensive Database, 2003) | • No published research related to pain  
• Symptoms of toxicity include tinnitus, nausea, and vomiting (Natural Medicine Comprehensive Database, 2003)  
• May aggravate gastrointestinal inflammation, and increases INR and bleeding if used with warfarin (Natural Medicine Comprehensive Database, 2003)  
• Likely unsafe when used orally for medicinal purposes (Natural Medicine Comprehensive Database, 2003) |
| **St. John's Wort**  
*Hypericum* | • Depressive moods, anxiety and/or nervous | • Oral: for mild depression, 300 | • Found no significant effect of St. John’s Wort on painful |

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**Table Notes:**
- Comprehensive Database, 2003
- Reports of serious life-threatening or debilitating adverse effects, psychosis, and hepatitis (Natural Medicine Comprehensive Database, 2003)
- Mustard (Brassica)
- Topically, used as a poultice for bronchial pneumonia, pleurisy, arthritis, lumbago, aching feet, rheumatism, and as a counterirritant (Natural Medicine Comprehensive Database, 2003)
- To treat inflammation and joint pain (Skidmore-Roth L., 2004)
- Topical: Prepare a mustard plaster; 100 grams of mustard flour mixed with warm water to make a paste. Put mustard paste into a linen and apply for 10 minutes (Natural Medicine Comprehensive Database, 2003)
- Orally: No known suggested dose (Natural Medicine Comprehensive Database, 2003)
- No published research related to pain
- Has Generally Recognized as Safe (GRAS) status in the US (Natural Medicine Comprehensive Database, 2003)
- Can irritate asthma, and the GI tract (Natural Medicine Comprehensive Database, 2003)
- Orally, large amounts of black mustard seed can lead to vomiting, stomach pain, diarrhea, somnolence, cardiac failure, breathing difficulties, coma, and possibly death (Natural Medicine Comprehensive Database, 2003)
- Oil of Wintergreen (Gaultheria Proxumbens)
- Also known as: Boxberry, Canada Tea, Deerberry, Mountain Tea, Partridge Berry
- Topically, wintergreen oil is used as a counterirritant for musculoskeletal pain and as an antiseptic (Natural Medicine Comprehensive Database, 2003)
- May be useful in the treatment of neuropathic pain (Skidmore-Roth L., 2004)
- Topical: Apply as gels, lotion, or ointments 3-4 times daily (Natural Medicine Comprehensive Database, 2003)
- Orally: No known suggested dose (Natural Medicine Comprehensive Database, 2003)
- No published research related to pain
- Symptoms of toxicity include tinnitus, nausea, and vomiting (Natural Medicine Comprehensive Database, 2003)
- May aggravate gastrointestinal inflammation, and increases INR and bleeding if used with warfarin (Natural Medicine Comprehensive Database, 2003)
- Likely unsafe when used orally for medicinal purposes (Natural Medicine Comprehensive Database, 2003)
- St. John’s Wort (Hypericum)
- Depressive moods, anxiety and/or nervous
- Oral: for mild depression, 300
- Found no significant effect of St. John’s Wort on painful
- Likely safe when used orally and appropriately, short term for up to 8
| **perforatum)**  
| **Also known as:** Amber, Demon Chaser, Goatweed, Tipton Weed, Hypericum, Millepertuis, Johns Wort  
| No studies have yet examined the effects of St. John’s wart on chronic pain in the absence of depression (Koenig, 2003)  
| Also used for dysthymia, exhaustion, fibrositis, headache, heart palpitations, muscle pain, OCD, and neuralgia (Natural Medicine Comprehensive Database, 2003)  
| mg three times daily (Natural Medicine Comprehensive Database, 2003)  
| For long-term maintenance therapy, 300-600 mg have been used (Natural Medicine Comprehensive Database, 2003)  
| Polyneuropathy or measures of pain processing (Sindrup et al., 2001)  
| **weeks (Natural Medicine Comprehensive Database, 2003)**  
| May cause serotonin syndrome when used with some selective serotonin reuptake inhibitors (Nutrition in Cancer Care, 2004)  
| Increases the effects of triptans and opioids (Natural Medicine Comprehensive Database, 2003)  
| Decreases the effects of amitriptyline, barbiturates, digoxin, irinotecan, and protease inhibitors (Natural Medicine Comprehensive Database, 2003)  
| Increase side effects of antidepressants, cyclosporine, nefazodone, paroxetine, and sertraline (Natural Medicine Comprehensive Database, 2003)  
| Side effects can include insomnia, restlessness, anxiety, irritability, fatigue, headache (Natural Medicine Comprehensive Database, 2003)  
| Avoid with all concurrent chemotherapy  
| May decrease blood concentrations of cyclosporine, midazolam, tacrolimus, amitriptyline, indinavir, warfarin, phenprocoumon and theophylline (Hu et al., 2005)  
| May cause breakthrough bleeding and unplanned pregnancy when used concomitantly with oral contraceptives (Hu et al., 2005)  

| **White Willow (Salix alba), Also known as:** Willow Bark, Bay Willow, Reifweide, Violet Willow  
| Diseases accompanied by fever, rheumatic ailments, headaches (The Complete German Commission E Monographs: Therapeutic Guide to  
| Oral: 1-3 grams dried bark 3-4 times (Natural Medicine Comprehensive Database, 2003)  
| Tea: 1-3 grams  
| Willow bark extract may be a useful and safe treatment for low back pain (Chrubasik et al., 2000).  
| No efficacy shown for use of willow bark extract in treatment of osteo- and rheumatoid arthritis (Biegert et al., 2004).  
| Possibly safe when used orally and appropriately, short term (Natural Medicine Comprehensive Database, 2003)  
| Theoretically, may interact with kidney or liver dysfunction and an anticoagulant/antiplatelets and oral  

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* This table includes only herbal supplements, dietary supplements or other forms of CAM therapy were not included.