

## 1<sup>ST</sup> MedX-Patch

A combination of ingredients with analgesics and anesthetic properties are used in a unique way to maximize its pain relieving effects and to aid in addition to other therapies. This offers long lasting relief for a variety of pain conditions. 1<sup>st</sup> MedX Patch is manufactured in accordance with FDA regulations by an FDA approved manufacturer.

### **Active Ingredients:**

Menthol 5%

Lidocaine 4%

Methyl Salicylate 20%

Capsaicin 0.0375%

**Uses:** This formulation can be used to assist patients in the treatment of mild to moderate acute or chronic aches or pain. Muscle or joint pain can be due to musculoligamentous strains, simple backache, tendonitis, osteoarthritis, rheumatoid arthritis, peripheral neuropathies such as diabetic neuropathy or post herpetic neuralgia, and other complex regional pains

### **Directions:**

Apply patch to affected area 1 to 2 times daily or as directed by physician

### **Instructions for Use:**

1. Clean and dry the affected area
2. Open pouch and remove one patch
3. Remove any protective film and apply directly to affected area of pain
4. Wash hands with soap and water after applying patch
5. Reseal pouch containing unused patches after each use
6. Pain relief varies from patient to patient; may need to use a few times to see benefit.

### **Mechanism of Action:**

*Menthol* has some local anesthetic and counterirritant qualities and also acts as a weak kappa opioid receptor agonist making it an analgesic as well. Its ability to chemically trigger the cold-sensitive TRPM8 receptors in the skin is responsible for its cooling sensation when applied to the skin. Lastly, it enhances the efficacy of other topical applications by increasing penetration via vasodilatation.

*Lidocaine* is a common local anesthetic that relieves itching, burning, and pain. Topically, it blocks both initiation and conduction of nerve impulses by decreasing ionic flux through the neuronal membrane. Since it penetrates the skin, it creates an anesthetic effect by not just preventing pain signals from propagating to the brain but by stopping them before they begin.

*Methyl Salicylate* also known as wintergreen oil, is a natural product from many plant species. It is topically used to cause dilation of the capillaries thereby increasing blood flow to the area.

*Capsaicin* is an active component from chili peppers that produces a warm sensation on the skin. The true mechanism is not fully understood, but it is believed to be a neuropeptide-active agent that decreases and depletes the synthesis, storage, transport, and releases of substance P. Substance P is thought to be the principal chemical mediator of pain impulses from the periphery to the central nervous system. It is also hypothesized that substance P is released into the joint tissues where it activates an inflammatory response. When capsaicin depletes substance P in the nerve endings, the local pain impulses can no longer be transmitted to the brain