ASPIRIN
SOY
LOW BACK PAIN

ASPIRIN
The word “aspirin” is a derivative of Spiraea, a biological genus of plants that includes natural sources of the drug’s key ingredient, salicylic acid, found in jasmine, beans, peas, clover and certain grasses and trees.

As far back as 1500 B.C., people were aware of the medicinal properties of the willow bark. During the time of Hippocrates (400 BC), people were advised to chew on the bark to reduce fever and inflammation. Willow bark has been used throughout the centuries in China and Europe, and continues to be used today for the treatment of pain (particularly low back pain and osteoarthritis), headache, and inflammatory conditions, such as bursitis and tendinitis.”

The willow family includes a number of different species of trees and shrubs native to Europe, Asia, and some parts of North America. Some of the more commonly known species are white willow/European willow (Salix alba), black willow/pussy willow (Salix nigra), crack willow (Salix fragilis), purple willow (Salix purpurea), and weeping willow
(Salix babylonica). The bark is used for pain, including headache, muscle pain, menstrual cramps, rheumatoid arthritis (RA), osteoarthritis, gout, and ankylosing spondylitis.

In the 1800s, scientists figured out which part of that plant was doing the healing. In 1853, chemist Charles Frédéric Gerhardt treated acetyl chloride with sodium salicylate to produce acetylsalicylic acid for the first time\(^{(3)}\).

Aspirin is linked to Reye syndrome, a serious condition with symptoms like vomiting, confusion, and being over-stimulated. It causes swelling in the brain and liver and may lead to a coma. Because of the danger of developing Reye syndrome (a rare but serious illness associated with the use of aspirin in children), children under the age of 18 should not take willow bark or aspirin. Therefore, for moms-to-be, acetaminophen is a better choice for pain relief. High doses of aspirin can cause tinnitus. The ringing should go away once you stop taking it.

A Dundee physician, Thomas Maclagan, used salicin to treat patients who had rheumatism, and he reported its beneficial effects in The Lancet in 1876\(^{(4)}\). Aspirin’s effects on blood clotting were observed in 1950 by Lawrence Craven\(^{(5)}\). Craven thought it could prevent blood clots in arteries that caused heart attacks. So he started prescribing an aspirin a day to thousands of men at high risk of heart attack. Half of Americans of age 45-75 take aspirin to help prevent a heart attack. Then in the 1960s, John O’Brien, a hematologist in Portsmouth, England, arrived at the same conclusion. That convinced Peter Elwood from the UK Medical Research Council to start a randomized controlled trial. The first men enrolled in 1970\(^{(6)}\). Lancet\(^{(7)}\) recently reported that a daily aspirin appeared to lower the risk of cancer by at least 20% during a 20-year period.

Aspirin can be good medicine for plants, too. A solution of one and a half tablets in 2 gallons of water sprayed on your garden every 3 weeks can give you more and bigger veggies. The key ingredient, salicylic acid, bumps up plant growth and helps protect them from disease. Other reported fixes with aspirin include making a paste for acne or bee stings, protecting your hair from chlorine, boosting your car battery, although there is no science to back them up.

One large study found that most drugs are still OK up to 15 years after they’re made. Manufacturers are required by law to give an expiration date: It’s their suggestion for when you should use the medicine for the best results.
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Homeopathy has designated symptoms and activity on sexual organs as a sex tonic. This herb is available in the North America. It works effectively both in male and females. In women just before and during menses there is certainly much stress and anxiety along with pain in ovaries. The specific indication of Salix Nigra is nocturnal emissions, sexual erythrmis, cystitis, libidinous thoughts, erotomania and satyriasis, urethral irritation, lascivious dreams etc.(8)

SOY
(Continuation of Myths and Men, Issue 212)
In the past few decades, diet and dietary components have been regarded as important strategies to prevent the development or mitigate numerous chronic diseases, including inflammation, cardiovascular pathologies, cancer, etc. Noteworthy in this regard is the health claim for soy foods and coronary heart disease awarded by the U.S. Food and Drug Administration in 1999 on the basis of the cholesterol-lowering properties of soy protein(9).

Isoflavones are diphenolic compounds that bind to estrogen receptors and exert some estrogen-like effects under certain experimental conditions; for this reason they are classified as phytoestrogens. The two primary isoflavones in soybeans are genistein and daidzein. However, neither soy protein nor isoflavones affect reproductive hormone concentrations in men regardless of age or cancer status. Consumption of soy foods or isoflavone supplements would not result in the adverse effects associated with lower T levels. Further studies in men consuming soyfoods or supplements containing 40-70 mg/d of soy isoflavones do not support concerns about effects on reproductive hormones and semen quality(10).

Soy foods have played an important role in the diets of many East Asian countries for centuries. One of the most common dietary components of Asian population (about 2 billion out of 7 billion, i.e., about 28% of humanity) is soy and its derivatives such as tofu. Tofu is made from soybeans, water and a coagulant, or curdling agent. It is high in protein and calcium and well known for its ability to absorb new flavors through spices and marinades. A plethora of research shows the promising effect of soy soy-based foodstuffs and genistein, which is one of the predominant isoflavone compounds, in the prevention and mitigation of stroke. Growing evidence shows that genistein, which is a selective estrogen receptor modulator, mitigates ischemic stroke-induced damages through the modification of oxidative stress and molecular pathways. The promising pharmacological role of genistein is attributed to its ability to suppress nuclear factor (NF)-kappa B and Akt signaling pathway, direct antioxidant action, and targeting
estrogen and androgen-mediated molecular pathways which help to mitigate stroke damages and prolong cell survival. Dietary intake of soy has been associated with a decreased risk of cancer. Soy isoflavones have been postulated to be the protective compounds in soybeans; however, the precise mechanism by which soy isoflavones prevent human cancer is not known. The major soy isoflavones, genistein and daidzein, are antioxidant compounds, therefore one possible mechanism of action is through their antioxidant effect(11).

While 17-beta-estradiol may stimulate bone anabolism, in part, by antagonizing TNFalpha-induced NF-kappaB activation, genistein not only fails to prevent cytokine-induced NF-kappa-B activation, but directly promotes NF-kappaB activation in MC3T3 cells, suggesting important mechanistic differences(12) in the mechanisms by which 17-beta-estradiol and genistein promote osteoblast differentiation.

Genistein, but not estradiol or raloxifene, decreased the ratio of alkaline phosphatase mRNA to ectonucleotide pyrophosphatase phosphodiesterase 1 mRNA expression in osteoblasts, which may explain the lack of genistein effect on bone mineralization observed in ovariectomized rats in the in vivo study(13).

Epidemiological associations suggest populations consuming substantial amounts of dietary soy exhibit a lower risk of prostate cancer(14). Greater soy consumption was associated with a lower presence of elevated TC, dyslipidemia, hyperuricemia and less number of cardiometabolic disturbances components in women(15).

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LOW BACK PAIN

Exercises for lower back pain strengthen back, stomach, and leg muscles. They help support the spine, relieving back pain. Depending on the cause and intensity of the pain, some exercises may not be recommended and can be harmful aggravating pain, for example, standing toe touches put stress on the disks and ligaments in the spine and can overstretched lower back muscles and hamstrings. Sit-ups may also put a lot of pressure on the discs in your spine. Lifting both legs together while lying on the back is very demanding on your core, but it can make back pain worse. Consult with a health care professional before doing any exercise for back pain. The following may help strengthen back and stomach muscles:
- Partial crunches
- Hamstring Stretches
- Wall Sits
- Press-up Back Extensions
- Bird Dog
- Knee to Chest
- Pelvic Tilts
Bridging Lifting Weights
Aerobic Exercise
Pilates, Yoga, Tai Chi

Chiropractic’s signature treatment, spinal manipulation, may help relieve back pain. The National Center for Complementary and Alternative Medicine\(^\text{16}\) reports that spinal manipulation “appears to be as effective as conventional treatments.”

Yoga, Pilates and Tai Chi may help with back pain. Tai chi is a series of gentle, flowing movements that aim to improve muscle power, balance, posture and flexibility. Tai chi was associated with an improvement in pain and stiffness in osteoarthritis.

REFERENCES AND NOTES:
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