Willow Bark

url: https://medlineplus.gov/druginfo/natural/955.html  
  
  
Willow Bark  
What is it?  
Willow bark comes from several varieties of willow tree, including white (Salix alba or European), black (Salix nigra or pussy), crack, and purple willow.  
  
Willow bark contains a chemical called salicin, which is similar to aspirin. It has pain and fever reducing effects in the body.  
  
People commonly use willow bark for back pain, osteoarthritis, fever, flu, muscle pain, and many other conditions, but there is no good scientific evidence to support most of these uses. There is also no good evidence to support using willow bark for COVID-19.  
  
  
  
  
  
How effective is it?  
Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.The effectiveness ratings for WILLOW BARK are as follows:Possibly effective for...Back pain. Taking willow bark by mouth seems to reduce lower back pain. Higher doses seem to be more effective than lower doses, and it may take up to a week to help.  
  
There is interest in using willow bark for a number of other purposes, but there isn't enough reliable information to say whether it might be helpful.  
  
  
Is it safe?  
When taken by mouth: Willow bark is possibly safe when used for up to 12 weeks. It might cause diarrhea, heartburn, and vomiting in some people. It can also cause itching, rash, and allergic reactions, particularly in people who are allergic to aspirin.  
  
Special precautions & warnings:  
Pregnancy: There isn't enough reliable information to know if willow bark is safe to use when pregnant. Stay on the safe side and avoid use.   
Breast-feeding: It is possibly unsafe to use willow bark while breast-feeding. Willow bark contains chemicals that can enter breast milk and have harmful effects on the nursing infant. Don't use it if you are breast-feeding.  
Children: Willow bark is possibly unsafe when taken by mouth for viral infections such as colds and flu. There is some concern that, like aspirin, it might increase the risk of developing Reye syndrome. Stay on the safe side and don't use willow bark in children.  
Bleeding disorders: Willow bark might increase the risk of bleeding in people with bleeding disorders.  
Kidney disease: Willow bark might reduce blood flow through the kidneys. This might lead to kidney failure in some people. If you have kidney disease, don't use willow bark.  
Sensitivity to aspirin: People with asthma, stomach ulcers, diabetes, gout, hemophilia, hypoprothrombinemia, or kidney or liver disease might be sensitive to aspirin and also willow bark. Using willow bark might cause serious allergic reactions. Avoid use.  
Surgery: Willow bark might slow blood clotting. It could cause extra bleeding during and after surgery. Stop using willow bark at least 2 weeks before a scheduled surgery.  
  
  
Are there interactions with medications?  
MajorDo not take this combination.Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs)Willow bark might slow blood clotting. Taking willow bark along with medications that also slow blood clotting might increase the risk of bruising and bleeding.ModerateBe cautious with this combination.AcetazolamideWillow bark contains chemicals that might increase the amount of acetazolamide in the blood. Taking willow bark along with acetazolamide might increase the effects and side effects of acetazolamide.AspirinWillow bark contains chemicals similar to aspirin. Taking willow bark along with aspirin might increase the effects and side effects of aspirin.Choline Magnesium Trisalicylate (Trilisate)Willow bark contains chemicals that are similar to choline magnesium trisalicylate. Taking willow bark along with choline magnesium trisalicylate might increase the effects and side effects of choline magnesium trisalicylate.Salsalate (Disalcid)Salsalate is a type of medicine called a salicylate. It's similar to aspirin. Willow bark also contains a salicylate similar to aspirin. Taking salsalate along with willow bark might increase the effects and side effects of salsalate.  
  
  
Are there interactions with herbs and supplements?  
Herbs and supplements that might slow blood clottingWillow bark might slow blood clotting and increase the risk of bleeding. Taking it with other supplements with similar effects might increase the risk of bleeding in some people. Examples of supplements with this effect include garlic, ginger, ginkgo, nattokinase, and Panax ginseng.Herbs that contain chemicals similar to aspirin (salicylates)Willow bark contains chemicals called salicylates. Salicylates are similar to aspirin. Taking it with other supplements that contain salicylates might increase their effects and side effects. Examples of supplements that contain salicylates include aspen, black haw, poplar, and meadowsweet.  
  
  
Are there interactions with foods?  
There are no known interactions with foods.  
  
  
How is it typically used?  
Willow bark has most often been used by adults in doses providing 120-240 mg of salicin by mouth daily for up to 6 weeks. Speak with a healthcare provider to find out what dose might be best for a specific condition.  
  
  
Other names  
Basket Willow, Bay Willow, Black Willow, Black Willow Extract, Brittle Willow, Corteza de Sauce, Crack Willow, Daphne Willow, corce de Saule, corce de Saule Blanc, European Willow, European Willow Bark, Extrait d' corce de Saule, Extrait d' corce de Saule Blanc, Extrait de Saule, Extrait de Saule Blanc, Knackweide, Laurel Willow, Lorbeerweide, Organic Willow, Osier Blanc, Osier Rouge, Purple Osier, Purple Osier Willow, Purple Willow, Purpurweide, Pussy Willow, Reifweide, Salicis Cortex, Salix alba, Salix babylonica, Salix daphnoides, Salix fragilis, Salix nigra, Salix pentandra, Salix purpurea, Saule, Saule Argent , Saule Blanc, Saule Commun, Saule des Viviers, Saule Discolore, Saule Fragile, Saule Noir, Saule Pourpre, Silberweide, Violet Willow, Weidenrinde, White Willow, White Willow Bark, Willowbark, White Willow Extract, Willow Bark Extract.  
  
  
Methodology  
  
 To learn more about how this article was written, please see the Natural Medicines Comprehensive Database methodology.   
   
  
  
References  
Wuthold K, Germann I, Roos G, et al. Thin-layer chromatography and multivariate data analysis of willow bark extracts. J Chromatogr Sci. 2004;42:306-9. View abstract.  
Uehleke B, M ller J, Stange R, Kelber O, Melzer J. Willow bark extract STW 33-I in the long-term treatment of outpatients with rheumatic pain mainly osteoarthritis or back pain. Phytomedicine. 2013 Aug 15;20:980-4. View abstract.  
Beer AM, Wegener T. Willow bark extract (Salicis cortex) for gonarthrosis and coxarthrosis--results of a cohort study with a control group. Phytomedicine. 2008 Nov;15:907-13. View abstract.  
Nieman DC, Shanely RA, Luo B, Dew D, Meaney MP, Sha W. A commercialized dietary supplement alleviates joint pain in community adults: a double-blind, placebo-controlled community trial. Nutr J 2013;12:154. View abstract.  
 Gagnier JJ, VanTulder MW, Berman B, and et al. Botanical medicine for low back pain: a systematic review [abstract]. 9th Annual Symposium on Complementary Health Care, December 4th-6th, Exter, UK 2002.  
 Werner G, Marz RW, and Schremmer D. Assalix for chronic lower back pain and arthralgia: interim analysis of a post marketing surveillance study. 8th Annual Symposium on Complementary Health Care, 6th - 8th December 2001 2001.  
 Little CV, Parsons T, and Logan S. Herbal therapy for treating osteoarthritis. The Cochrane Library 2002;1.  
 Loniewski I, Glinko A, and Samochowiec L. Standardised willow bark extract: a potent anti-inflammatory drug . 8th Annual Symposium on Complementary Health Care, 6th-8th December 2001 2001.  
 Schaffner W. Eidenrinde-ein antiarrheumatikum der modernen Phytotherapie? 1997;125-127.  
 Black A, K nzel O, Chrubasik S, and et al. Economics of using willow bark extract in outpatient treatment of low back pain [abstract]. 8th Annual Symposium on Complementary Health Care, 6th-8th December 2001 2001.  
Chrubasik S, K nzel O, Model A, and et al. Assalix vs. Vioxx for low back pain - a randomised open controlled study. 8th Annual Symposium on Complementary Health Care, 6th - 8th December 2001 2001.  
 Meier B, Shao Y, Julkunen-Tiitto R, and et al. A chemotaxonomic survey of phenolic compounds in Swiss willow species. Planta Medica 1992;58(suppl 1):A698.  
 Hyson MI. Anticephalgic photoprotective premedicated mask. A report of a successful double-blind placebo-controlled study of a new treatment for headaches with associated frontalis pain and photophobia. Headache 1998;38:475-477.  
 Steinegger, E. and Hovel, H. [Analytic and biologic studies on Salicaceae substances, expecially on salicin. II. Biological study]. Pharm Acta Helv. 1972;47:222-234. View abstract.  
 Sweeney, K. R., Chapron, D. J., Brandt, J. L., Gomolin, I. H., Feig, P. U., and Kramer, P. A. Toxic interaction between acetazolamide and salicylate: case reports and a pharmacokinetic explanation. Clin Pharmacol Ther 1986;40:518-524. View abstract.  
Moro PA, Flacco V, Cassetti F, Clementi V, Colombo ML, Chiesa GM, Menniti-Ippolito F, Raschetti R, Santuccio C. Hypovolemic shock due to severe gastrointestinal bleeding in a child taking an herbal syrup. Ann Ist Super Sanita. 2011;47:278-83. View abstract.  
 Cameron, M., Gagnier, J. J., Little, C. V., Parsons, T. J., Blumle, A., and Chrubasik, S. Evidence of effectiveness of herbal medicinal products in the treatment of arthritis. Part I: Osteoarthritis. Phytother.Res 2009;23:1497-1515. View abstract.  
Kenstaviciene P, Nenortiene P, Kiliuviene G, Zevzikovas A, Lukosius A, Kazlauskiene D. Application of high-performance liquid chromatography for research of salicin in bark of different varieties of Salix. Medicina (Kaunas). 2009;45:644-51. View abstract.  
Vlachojannis JE, Cameron M, Chrubasik S. A systematic review on the effectiveness of willow bark for musculoskeletal pain. Phytother Res. 2009 Jul;23:897-900. View abstract.  
Nahrstedt A, Schmidt M, J ggi R, Metz J, Khayyal MT. Willow bark extract: the contribution of polyphenols to the overall effect. Wien Med Wochenschr. 2007;157(13-14):348-51. View abstract.  
 Khayyal, M. T., El Ghazaly, M. A., Abdallah, D. M., Okpanyi, S. N., Kelber, O., and Weiser, D. Mechanisms involved in the anti-inflammatory effect of a standardized willow bark extract. Arzneimittelforschung 2005;55:677-687. View abstract.  
 Kammerer, B., Kahlich, R., Biegert, C., Gleiter, C. H., and Heide, L. HPLC-MS/MS analysis of willow bark extracts contained in pharmaceutical preparations. Phytochem Anal. 2005;16:470-478. View abstract.  
 Clauson, K. A., Santamarina, M. L., Buettner, C. M., and Cauffield, J. S. Evaluation of presence of aspirin-related warnings with willow bark. Ann Pharmacother. 2005;39(7-8):1234-1237. View abstract.  
 Akao, T., Yoshino, T., Kobashi, K., and Hattori, M. Evaluation of salicin as an antipyretic prodrug that does not cause gastric injury. Planta Med 2002;68:714-718. View abstract.  
 Chrubasik, S., Kunzel, O., Black, A., Conradt, C., and Kerschbaumer, F. Potential economic impact of using a proprietary willow bark extract in outpatient treatment of low back pain: an open non-randomized study. Phytomedicine 2001;8:241-251. View abstract.  
Little CV, Parsons T. Herbal therapy for treating osteoarthritis. Cochrane Database Syst Rev. 2001;:CD002947. View abstract.  
 Chrubasik, J. E., Roufogalis, B. D., and Chrubasik, S. Evidence of effectiveness of herbal antiinflammatory drugs in the treatment of painful osteoarthritis and chronic low back pain. Phytother Res 2007;21:675-683. View abstract.  
 Gagnier, J. J., van Tulder, M., Berman, B., and Bombardier, C. Herbal medicine for low back pain. Cochrane.Database.Syst.Rev. 2006;:CD004504. View abstract.  
Mills SY, Jacoby RK, Chacksfield M, Willoughby M. Effect of a proprietary herbal medicine on the relief of chronic arthritic pain: a double-blind study. Br J Rheumatol 1996;35:874-8. View abstract.  
 Ernst, E. and Chrubasik, S. Phyto-anti-inflammatories. A systematic review of randomized, placebo-controlled, double-blind trials. Rheum.Dis Clin North Am 2000;26:13-27, vii. View abstract.  
Gagnier JJ, van Tulder MW, Berman B, Bombardier C. Herbal medicine for low back pain. A Cochrane review. Spine 2007;32:82-92. View abstract.  
Fiebich BL, Appel K. Anti-inflammatory effects of willow bark extract. Clin Pharmacol Ther 2003;74:96. View abstract.  
Coffey CS, Steiner D, Baker BA, Allison DB. A randomized double-blind placebo-controlled clinical trial of a product containing ephedrine, caffeine, and other ingredients from herbal sources for treatment of overweight and obesity in the absence of lifestyle treatment. Int J Obes Relat Metab Disord 2004;28:1411-9. View abstract.  
Krivoy N, Pavlotzky E, Chrubasik S, et al. Effect of salicis cortex extract on human platelet aggregation. Planta Med 2001;67:209-12. View abstract.  
Wagner I, Greim C, Laufer S, et al. Influence of willow bark extract on cyclooxygenase activity and on tumor necrosis factor alpha or interleukin 1 beta release in vitro and ex vivo. Clin Pharmacol Ther 2003;73:272-4. View abstract.  
Schmid B, Kotter I, Heide L. Pharmacokinetics of salicin after oral administration of a standardised willow bark extract. Eur J Clin Pharmacol. 2001;57:387-91. View abstract.  
Schwarz A. Beethoven's renal disease based on his autopsy: a case of papillary necrosis. Am J Kidney Dis 1993;21:643-52. View abstract.  
D'Agati V. Does aspirin cause acute or chronic renal failure in experimental animals and in humans? Am J Kidney Dis 1996;28:S24-9. View abstract.  
Chrubasik S, Kunzel O, Model A, et al. Treatment of low back pain with a herbal or synthetic anti-rheumatic: a randomized controlled study. Willow bark extract for low back pain. Rheumatology (Oxford) 2001;40:1388-93. View abstract.  
Clark JH, Wilson WG. A 16-day-old breast-fed infant with metabolic acidosis caused by salicylate. Clin Pediatr (Phila) 1981;20:53-4. View abstract.  
Unsworth J, d'Assis-Fonseca A, Beswick DT, Blake DR. Serum salicylate levels in a breast fed infant. Ann Rheum Dis 1987;46:638-9. View abstract.  
Food and Drug Administration, HHS. Labeling for oral and rectal over-the-counter drug products containing aspirin and nonaspirin salicylates; Reye's Syndrome warning. Final rule. Fed Regist 2003;68:18861-9. View abstract.  
Fiebich BL, Chrubasik S. Effects of an ethanolic salix extract on the release of selected inflammatory mediators in vitro. Phytomedicine 2004;11:135-8. View abstract.  
Biegert C, Wagner I, Ludtke R, et al. Efficacy and safety of willow bark extract in the treatment of osteoarthritis and rheumatoid arthritis: results of 2 randomized double-blind controlled trials. J Rheumatol 2004;31:2121-30. View abstract.  
Schmid B, Ludtke R, Selbmann HK, et al. Efficacy and tolerability of a standardized willow bark extract in patients with osteoarthritis: randomized placebo-controlled, double blind clinical trial. Phytother Res 2001;15:344-50. View abstract.  
Boullata JI, McDonnell PJ, Oliva CD. Anaphylactic reaction to a dietary supplement containing willow bark. Ann Pharmacother 2003;37:832-5.. View abstract.  
Food and Drug Administration, HHS. Final rule declaring dietary supplements containing ephedrine alkaloids adulterated because they present an unreasonable risk; Final rule. Fed Regist 2004;69:6787-6854. View abstract.  
Dulloo AG, Miller DS. Ephedrine, caffeine and aspirin: "over-the-counter" drugs that interact to stimulate thermogenesis in the obese. Nutrition 1989;5:7-9.  
Chrubasik S, Eisenberg E, Balan E, et al. Treatment of low back pain exacerbations with willow bark extract: a randomized double-blind study. Am J Med 2000;109:9-14. View abstract.  
Dulloo AG, Miller DS. Aspirin as a promoter of ephedrine-induced thermogenesis: potential use in the treatment of obesity. Am J Clin Nutr 1987;45:564-9. View abstract.  
Horton TJ, Geissler CA. Aspirin potentiates the effect of ephedrine on the thermogenic response to a meal in obese but not lean women. Int J Obes 1991;15:359-66. View abstract.