MEDICINAL GARDEN

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VINCRISTINE - PERIWINKLE - CATHARANTHUS ROSEUS

Vincristine and vinblastine are cancer medicines found in Madagascar periwinkle. Vincristine is FDA-approved and appears in American Society of Clinical Oncology guidelines for leukemia, lymphoma, and several pediatric cancers. Vinblastine treats bladder and testicular cancers and Hodgkin's lymphoma. Producing 1 gram once required 500 kg of dried plants, but engineered E. coli can now make the drug. The plant was also used traditionally for diabetes, though large human studies have not shown benefit.

HACK (2022)
JOHN INNES CENTER (2021)
KOVNER (2022)
MIKHAEL, ET AL (2019)
WRHI (2025)

ALOE VERA

From ancient Rome to ancient China and more, aloe vera has been used topically for millennia. The American Academy of Dermatology recommends it as a soothing treatment for sunburned skin.



KLEIN, ET AL (1988)
SAUNDERS, ET AL (2024)



PEPPERMINT OIL- MENTHA PIPERITA

Peppermint—specifically peppermint oil—is supported by American College of Gastroenterology guidelines for global symptoms of irritable bowel syndrome (IBS). Mint extracts have been used across many cultures for digestive concerns.

Marie Holzer, MSW & Nicholas Hamilton MD, MPH (2026)

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PSYLLIUM HUSK - PLANTAGO OVATA

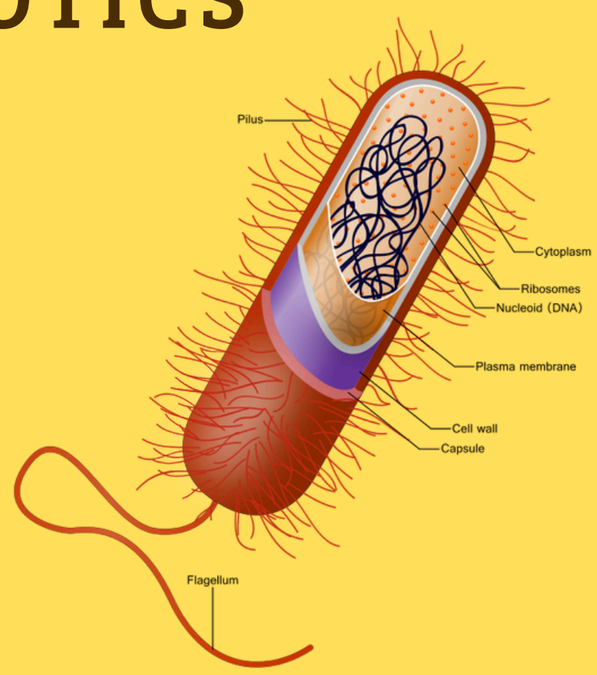
Plantago ovata, native to India, produces psyllium husk from the fiber in its seeds. This fiber laxative is first-line treatment for chronic idiopathic constipation in American Gastroenterological Association guidelines. Higher fiber intake is also linked to lower colon cancer risk.



REED, C. (2023A, MAY 19)

PENICILLIN, AND OTHER ANTIBIOTICS

After returning from vacation, Alexander Fleming noticed a contaminated petri dish where mold had killed nearby bacteria, leading to the discovery of penicillin, the world's first antibiotic. Fungi produce these compounds to defend themselves from bacteria. Today penicillins and related antibiotics like cephalosporins treat infections such as pneumonia, urinary tract infections, and sinus infections, and appear throughout Infectious Diseases Society of America and American College of Physicians guidelines.



AMERICAN CHEMICAL SOCIETY (N.D)
METLAY, ET AL (2019)
LEE, ET AL (2021)

STATINS- PENICILLIUM CITRUM

In the soil we may find Penicillium citrinum, a fungus that led to the cholesterol-lowering drugs called statins. Lovastatin was the first discovered, and newer drugs like atorvastatin and rosuvastatin (Lipitor and Crestor) are among the most prescribed medications and were engineered from it to lower cholesterol more effectively. Lovastatin also occurs in small amounts in red yeast rice. Statins reduce the risk of heart attacks, strokes, and other cardiovascular diseases and are supported by multiple medical organizations.



AMERICAN HEART ASSOCIATION
GHEORGHIADE, ET AL (2006)

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ATROPINE- ATROPA BELLADONNA

Atropa belladonna (“beautiful woman” in Italian), or nightshade, earned its name from women such as Cleopatra using drops from the plant to dilate their eyes. In antiquity it was also used as a poison. Today related compounds treat bradycardia (slow heart rate) and even act as antidotes for some poisons. The same plant family also produced scopolamine, a medicine commonly used for nausea after surgery.



NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION (2026)
GAN, ET AL (2020)
AL (2014)
RUBIKA (2014)

TOPICAL CAPSAICIN- PEPPERS

The heat in peppers does more than add flavor. Capsaicin, the compound that makes peppers hot, is used in topical creams and patches for pain. While used for many aches, it works best for nerve pain and is supported by the American Diabetes Association for painful diabetic peripheral neuropathy.



MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. (N.D.)
CHOI, ET AL (2024)
AL (2014)
RUBIKA (2014)



GINGER- ZINGIBER OFFICINALE

Ginger has been used for centuries across many cultures. Today, the American College of Obstetricians and Gynecologists and the American Academy of Family Physicians recommend it as a safe option for nausea in pregnancy and after surgery. It has also been studied for chemotherapy- and motion-related nausea, with mixed results.

ACOG (2020)
CRICHTON, ET AL (2019)
WHITE (2007)

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SENNA- SENNA HEBECARPA

Sometimes nature's solutions grow together. Senna alexandrina, native to the Arabian Peninsula (where opiates also originate), contains sennosides in its leaves and fruit that act as laxatives when eaten. Senna is a gold-standard treatment for chronic constipation, opioid-related constipation, and prevention of constipation in hospitalized patients. Many varieties exist, including American senna grown here.



SURH, ET AL (2012)
GAN, ET AL (2020)
REED (2023)

DIGOXIN- FOXGLOVE- DIGITALIS PURPUREA

For safety, we grow a cousin of the foxglove used to make Digoxin. Just grams of Digitalis purpurea can cause nausea, vomiting, vision changes, and dangerous heart rhythm problems that may be fatal. In tiny microgram doses, however, it can treat abnormal heart rhythms and improve heart function in heart failure (per American Heart Association guidance). Because of its potency, it requires routine monitoring.



AMERICAN HEART ASSOCIATION
GHEORGHIADE, ET AL (2006)

TAXOL- YEW TREE - TAXUS BREVIFOLIA

Bark from the Pacific Yew Tree, used by Chehalis and Cowlitz peoples for wound care, was later found to fight cancer through research funded by the National Cancer Institute. Today it appears in American Society of Clinical Oncology guidelines for breast, ovarian, lung, and pancreatic cancers. Early production required thousands of trees per kilogram, but labs now convert related compounds into the drug, greatly reducing environmental impact.



NIH
PORTLAND.GOV
SUBBAN, ET ALL (2023)
THOMAS, ET AL (2025)
ŻWAWIAK (2014)

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MORPHINE- POPPIES- PAPAVER SOMNIFERUM

Poppies are one of the oldest cultivated plants, grown in Mesopotamia as early as 3400 BC and possibly earlier. Their latex produces opiates, powerful medicines used to treat pain. Because they can be addictive, guidelines recommend using them sparingly, including those from the American College of Emergency Physicians. This plant is a poppy relative that does not produce opium.



NDEA (N.D.)
ACEOP (N.D.)
SUBBAN, ET ALL (2023)
THOMAS, ET AL (2025)
ŻWAWIAK (2014)

ZICONATIDE- CONE SNAIL

Research on cone snails may seem abstract—until it produces medicines. In 1979, researchers at the University of Utah isolated ziconotide from the venom of a deadly cone snail. Today it is FDA-approved to treat severe, refractory chronic pain.



DEER, ET AL (2017)
SAFAVI-HEMAMI, ET AL (2019)
EDUCATION IN CHEMISTRY (2016)

ASPIRIN - WILLOW TREE



Aspirin comes from willow tree bark and was used in ancient Sumerian and traditional Chinese medicine to treat pain and fever. Today, low doses help prevent heart attacks and strokes in higher-risk patients (per American Heart Association guidelines). Higher doses treat pain —but the difference between helping your heart and causing bleeding can be about the weight of a penny, so it's rarely used for pain alone today.

AHA(2022)
MEDICAL DISCOVERY NEWS (2021)
LEVINE, ET AL (2021)

Marie Holzer, MSW & Nicholas Hamilton MD, MPH (2026)