

# Featured Topic: Andrographis (8 slides)

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# Andrographis – History of Use

- Andrographis is a plant native to India and south Asia
- Widely used in Ayurvedic medicine since ancient times and in Traditional Chinese Medicine for over 1000 years
- Known as the “King of Bitters”
  - Bitters are bitter tasting herbs – used traditionally for digestion and other illnesses
  - Other bitter herbs are dandelion, wormwood, and goldenseal

# Andrographis is the “King of Bitters” because it does it all...

- Antibacterial
- Antiviral
- Liver protectant
- Anti-cancer
- Immune stimulating
- Anti-inflammatory
- Anti-diarrhea
- Anti-diabetic
- Anti-hypertensive (lowers blood pressure)

# Best Known Use – Immune System (cold and flu prevention)

- In a clinical study, andrographis relieved the intensity of key symptoms (fatigue, sore throat, runny nose, sleeplessness) in **just two days**
  - By the 4<sup>th</sup> day, there was a significant decrease in all symptoms (including headache, earache, phlegm production and the frequency/intensity of coughing attacks)
- In a study of 223 people with upper respiratory infections, the andrographis group saw a dramatic decrease in cough, headache, sore throat, and disturbed sleep on day 3 – the placebo group had no improvement and some had their symptoms get worse
- COVID-19: immense amount of interest in andrographis – preliminary research shows it is extremely effective at preventing the virus from attaching to cell receptor sites and blocking it from replicating.

# Antiviral and Anti-Bacterial

- Researchers in Thailand found that a compound in andrographis inhibited the herpes simplex virus (causes cold sores) even 12 hours after infection
  - Also found to work well with acyclovir – a drug commonly used for cold sores, shingles, and genital herpes
- Andrographis can also stop the growth of harmful bacteria
- Prevents the bacteria from replicating and boosts the body's own natural antibacterial and antiviral defenses
  - Cytotoxic T cells, natural killer (NK) cells, and phagocytes

# Anticancer

- Up to 90% inhibition of breast cancer cells (cell study) without harming normal cells
- 40% reduction in tumor growth in an animal model of esophageal cancer
- Showed a 60-90% inhibition of prostate cancer cells, and up to an 80% reduction in the ability of prostate cancer cells to spread (cell study)
- Human clinical trials are now in progress to study andrographis' effects on colon cancer AND bronchitis, tonsillitis, rheumatoid arthritis, multiple sclerosis, and type 2 diabetes (all listed in the [clinicaltrials.gov](https://clinicaltrials.gov) database)

*Oncol Lett.* 2018 Apr;15(4):5301-5305. doi: 10.3892/ol.2018.7941. Epub 2018 Feb 2.

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*Toxicol Lett.* 2013 Sep 12;222(1):23-35.

*Oncotarget.* 2017 Nov 11;8(62):105860-105872

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# Liver Protection

- Andrographis versus silymarin from milk thistle in an animal model of liver damage – andrographis decreased free radical activity in the liver by 55% - better results than silymarin!
- Inhibited hepatitis C virus by almost 90% (cell study)
- Reduced elevated liver enzymes by 62% (animal model of liver damage)

# Joint Support

- Reduces activity of inflammatory enzymes including COX
- In an animal model of arthritis, andrographalide from Andrographis reduced arthritis symptoms (measured by a standardized arthritis score) by 80%
- In a placebo-controlled clinical study on patients with rheumatoid arthritis, andrographis reduced joint swelling and tenderness, and reduced the inflammatory factors associated with arthritis

# Andrographis – how to use it

- Take 400 mg of andrographis, standardized to 80 mg andrographolides, daily
- Use for
  - Arthritic joint pain
  - Cancer
  - Cold and flu prevention and treatment
  - Energy
  - Mental function
  - And almost everything else
- No significant adverse have been reported

# **Make the Most of Your Time for Exercise (1 slide)**

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# Kick Up Your Metabolism - Efficiently

- High Intensity Interval Training Workouts (HIIT)
  - Short periods of intense physical activity alternating with rest or active rest
- Clinical study of 20 overweight women with insulin resistance who followed a HIIT program for 10 weeks
  - Results: 8% reduction in fasting glucose levels, and a 25% reduction in insulin resistance
- In a comparison of HIIT (10, 1 minute sessions of running to 80-90% max heart rate, alternating with 1 minute of rest) versus 50 minutes of continuous moderate exercise (60-70% max heart rate) after 10 weeks, both groups had the same amount of fat loss (23%)
  - **HIIT group got the same results with less than half the time invested in exercise**

# Olive Oil for Stroke Prevention (1 slide)

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# Olive oil for reduced risk of stroke

- Researchers divided 63 adults with obesity, but no history of heart disease, diabetes, or smoking, into groups based on how often they consumed olive oil
  - Once a week or less
  - 1-3 times a week
  - 4 or more times per week
- Researchers measured each participant's level of platelet activation
  - Platelet activation is one of the first steps in blood clotting
  - Clotting for wound healing = necessary and beneficial
  - Abnormal clotting in blood vessels = increased risk of heart attack/stroke
  - Obesity is associated with increased levels of platelet activation – one study found platelet activation was **77% higher** in obese women versus normal weight women
- Results: obese people with the highest intake of olive oil had lowest platelet activation, meaning reduced risk of heart attack!

# **Don't Wipe Out Your Exercise with Sugar (1 slide)**

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# Do you 'exercise more so you can eat more'?

- Do you tell yourself that if you exercise today you can “treat yourself” to something tonight?
- **Researchers found that increasing your sugar intake wipes out the benefits of exercise**
- Overweight mice with diabetes were fed a standard American (high carb) diet and compared to mice on a control diet when both groups got the same amount of exercise
  - Results – despite being active, the overweight animals with high blood sugar did not see significant improvements in their aerobic fitness
  - The researchers found that the unhealthy animals had collagen deposits in their muscles that prevented the formation of new muscle fibers and any improvement in their fitness
  - Conclusion: “constantly bathing your tissues in sugar is just not a good idea.”

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