



Accurate Clinic

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Accurate Education

Nutraceuticals: Resveratrol

Resveratrol is a natural compound that is found in blueberries, grape skins, red wine and peanuts. It has powerful antioxidant and anti-inflammatory properties and is effective for mild to moderate arthritis of the knees and other joints. It also enhances the benefits of physical activity on muscles in older individuals, improving muscle mass and energy to help with frailty in the aged. Preclinical research strongly supports the pain benefits of Resveratrol, although human research remains very limited.

Dietary Sources

- The amount of Resveratrol in food is quite low (0.2–2 mg per serving)
- The Resveratrol in food has poor bioavailability - only 1% of what one eats actually reaches the blood in active form.
- Nutraceutical supplements with enhanced formulations are needed to improve bioavailability

INDICATIONS and DOSING

1. **Osteoarthritis (OA):** Knees and hips are the best studied
2. **Intervertebral Disc Degeneration:** Resveratrol protects nucleus pulposus cells in the inner disc

PAIN PROCESSING VS PAIN CONDITION

Pain processing refers to how pain signals are processed from the initial damaged tissue source of pain through the nerves and spinal cord to the brain and then down the spinal cord again. Nutraceuticals offer potential benefit for reducing the severity of the pain experience by acting at various levels of pain processing. These benefits are independent of the benefits the nutraceutical may offer at the source of pain.

- For resveratrol, **Pain Processing** mechanisms appear to be the dominant therapeutic target, with more consistent evidence supporting its effects on neuroinflammation, oxidative stress, and central sensitization than on direct tissue repair.

BENEFITS FOR PAIN SENSITIZATION

- **Peripheral Sensitization:** Rating of LOW quality evidence due to lack of human studies
- **Central Sensitization:** Rating of LOW quality evidence due to lack of human studies

RESVERATROL'S IMPACT ON THE 4 DRIVING FORCES OF CRONIC PAIN

1. **Systemic Inflammation:** Resveratrol has robust evidence for reducing inflammation both in pain processing in the nervous system as well as in local tissues in joints. Resveratrol has potent anti-inflammatory effects through multiple mechanisms. It is cardioprotective, liverprotective, neuroprotective and it has anticancer properties.
2. **Neuroinflammation:** Resveratrol reduces inflammatory compounds in the spinal cord that impact pain processing, thereby suppressing the development of central sensitization
3. **Oxidative Stress:** Resveratrol is a potent antioxidant that activates multiple pathways that enhance the body's natural antioxidant defense systems
4. **Mitochondrial Dysfunction:** Resveratrol promotes new growth of mitochondria. In intervertebral disc cells, Resveratrol protects against oxidative stress-induced mitochondrial dysfunction

TIMING AND ADMINISTRATION

- **Dosing:** For most conditions, **250-500 mg/day** is optimal; Doses up to 1,000 mg/day) are safe.
- **Take with meals - *but not high-fat meals*** which may impair absorption
- **Frequency:** Can be taken once daily or split into two doses (morning and evening)
- **When to Expect Results:** Within 2–4 weeks, but it may require 8–12 weeks of consistent use

FORMULATION CONSIDERATIONS:

- **Trans-resveratrol:** This is the active form - *avoid cis-Resveratrol*
- **Micronized Resveratrol:** Smaller particles absorb better and cross into the brain and spinal cord to reduce neuroinflammation and central sensitization. These formulations are preferred for chronic pain.
- **Lipid-based formulations:** Products using lipid dispersion technology increase absorption 2–3 fold, but they do not penetrate into the nervous system as well as micronized formulations.

SYNERGIES WITH OTHER PAIN TREATMENTS

Resveratrol works synergistically with:

- **Curcumin (turmeric):** Both target similar, but different inflammatory pathways
- **Omega-3 fatty acids:** Offer anti-inflammatory benefits through different mechanisms
- **Vitamin D:** May supplement anti-inflammatory benefits
- **NSAIDS** - When combined with meloxicam/Mobic, it reduces pain & inflammation in knee OA
- **Opioids:** May enhance the body's natural opioids (endorphins) to reduce pain
- **Cannabinoids:** May enhance the body's natural cannabinoids anti-inflammatory benefits
- **Exercise:** Studies show Resveratrol, when combined with exercise, enhances improvement in muscle mass, muscle function and physical performance in older adults

DRUG INTERACTIONS

Resveratrol may increase blood levels of these medications:

- **Warfarin** (blood thinner): monitor blood levels (INR)
- **Statins** (cholesterol medications): monitor for muscle pain
- **Benzodiazepines** (Valium, Xanax, Klonopin etc): monitor for drowsiness

SAFETY

- **Common side effects:** GI symptoms (nausea, diarrhea) at high doses (>1 gm/day)
- **Serious side effects:** Rare, associated with high doses

CONTRAINDICATIONS

- Pregnancy / lactation
- Severe liver impairment
- High-dose anticoagulation

STORAGE

- Resveratrol may be sensitive to light and heat; Store in cool, dry place in opaque bottles

Review Resveratrol on www.AccurateClinic.com for more extensive information:



Resveratrol



Resveratrol
Pain Processing