

Repair Arthritic Joints

(6 slides)

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3 Step Plan for Fixing Arthritic Joints

Step #1: Reduce Inflammation

The **synovium** is the lining of the inner surface of the joint, where lubricating fluid – synovial fluid – is produced.

Inflammation of the synovium is the first step in the development of arthritis – it **happens even before any visible cartilage degeneration** occurs!

- In a recent study, inflammatory leukotriene levels were **5 times higher** in arthritic joints versus healthy joints
- Multiple studies have found significantly higher levels of **inflammatory c-reactive protein** in people with arthritis versus healthy controls

Vicious Circle: Chronic inflammation in the joints leads to tissue damage, which leads to more inflammation.

Boswellia: the answer to arthritis inflammation

- Boswellia reduces inflammatory leukotriene and c-reactive protein levels
- Four month clinical trial of boswellia versus placebo in people with arthritis
 - Results: **43% reduction in pain** for the boswellia group versus no change for the placebo group
- In a study comparing boswellia plus physical therapy versus physical therapy alone in people with arthritis in their hands, the boswellia group experienced a faster and better relief of pain, and their ability to use their hands increased more than the physical therapy group only
 - Additionally, **no one in the boswellia group chose to take additional medication** while 35% of the physical therapy group chose to take NSAIDs or steroids to control pain and stiffness

Step #2: Stop Cartilage Destruction

- Cartilage is smooth and slippery – it is the cushion between bones
- When the cartilage becomes damaged and wears away, it leads to pain and stiff joints
- What causes cartilage damage?
 - Trauma/injury (think athletes!)
 - Low levels of the building blocks for new cartilage formation
 - Immune system malfunction – immune system mistakenly attacks the body's own cartilage cells

Stop Cartilage Destruction with Native Type II Collagen

Collagen is very important for cartilage formation

Native Type II collagen 'teaches' the immune system to stop attacking the joints so they can be repaired/rebuilt

Clinical Study: Acetaminophen versus Acetaminophen **plus** Type II Collagen in patients with knee osteoarthritis

Parameter	Acetaminophen	Acetaminophen + Type II Collagen
Pain (overall)	22% increase in pain	25% decrease in pain
Pain while walking	No change	50% decrease in pain while walking
Time to walk a set distance	No change	7% decrease in time needed to walk a set distance

Step #3: Provide the building blocks for healthy joints

- **Hyaluronic acid:** acts as a lubricator and shock absorber in joints
- **Glucosamine and chondroitin:** the basic building blocks for collagen and cartilage
 - Chondroitin has been shown in clinical studies to decrease cartilage loss in joints; glucosamine has been found to reduce pain and stiffness associated with arthritis
 - In a comparison study, glucosamine + chondroitin reduced pain and swelling from arthritis as effectively as an NSAID drug (celecoxib) without significant adverse effects

Keep your Joints Healthy

- According to recent data, 80% of people with arthritis have movement limitations, and 25% cannot perform major activities of daily living (for example, brushing hair, using a toilet, picking up something from the floor)
- To keep your joints moving easily, take daily
 - 40.5 mg of native type II collagen, 450 mg of boswellia, and 1740 mg of glucosamine/chondroitin/hyaluronic acid

More kids on the road to diabetes (2 slides)

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Rising Tide of Diabetes

- Researchers collected data from almost 6,000 young Americans (ages 12-34) from 2005-2016
- Results
 - 1 in 4 young adults (25%) and 1 in 8 adolescents (18%) had blood sugar levels high enough to be considered pre-diabetic (not quite full blown type 2 diabetes)
 - Those with high blood sugar were also more likely to have high blood pressure, more abdominal fat, and lower insulin sensitivity
- The numbers are even worse for adults – about 30% of US adults have prediabetes
- Up to 60% of people with prediabetes will go on to develop Type 2 diabetes

Reduce Blood sugar levels with Hintonia

- Extremely safe – research going back over 60 years has found it is very well tolerated with no significant adverse effects
- The sooner it is used the better it works – best results were seen in people with mild to moderate increases in blood sugar levels
- In clinical trials, Hintonia was used safely in combination with insulin and oral antidiabetic medications (but always keep your doctor informed)
- Dosage: 20 mg polyphenols from Hintonia (copalchi) one to three times daily, along with essential vitamins and minerals

Why do statin drugs cause muscle pain? (3 slides)

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Side effect of statin drugs: muscle pain

- Statin drugs – prescribed to reduce LDL cholesterol levels
- Side effects include: headache, sleeping problems, dizziness and nausea, liver damage, high blood sugar, memory loss
 - that people receiving statin drugs are **250% more likely to develop diabetes** than those who don't take them
 - Statin users are **14 times more likely to become overweight or obese**
- One commonly reported side effect is **muscle pain**
 - Pain can range from mild muscle weakness to life-threatening muscle damage (rhabdomyolysis)

Why do statin drugs cause muscle pain?

- Answer: It's complicated
- Researchers think a number of factors are at play
 - Some people have genetic variations that increase their risk of muscle problems
 - Statin drugs alter muscle protein synthesis
 - Statin drugs can trigger an autoimmune reaction
 - OR it may be due to something that has yet to be discovered
- For most people, muscle pain begins within a month of starting statin drugs, and will go away after a few weeks if statin drug use is stopped
- **If the pain and weakness is severe**, seek treatment immediately – this could be the sign of a serious autoimmune reaction

Do you really need to reduce your cholesterol levels?

- Researchers analyzed data from 47,000 people aged 75 and older with no history of heart disease who were taking statin drugs
- **Results: Statin drugs were not associated with a reduced risk of heart disease or death from any cause *except* for one specific group: people ages 75 to 84 with type 2 diabetes**
 - After age 85 no benefit for statin drugs was found, including in people with diabetes
 - Widespread use of statin drugs, especially in otherwise healthy people, **is of no benefit**

**No excuses, You DO Have time to
exercise!
(2 slides)**

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Yes, you do have time for exercise

- #1 Most Common New Year's Resolution – **Exercise More**
- #1 Excuse for NOT exercising? **“I don't have time”**
- The United States Census Bureau has been collecting reports from thousands of Americans about how they spend their time (it is called the American Time Use Survey)
- Researchers focused on data from 32,000 people collected between 2014 and 2016 to determine **how much free time people actually have**
- Results: after subtracting time on required activities – work, education, sleeping, cooking, childcare... - everyone had **at least** 4.5 hours of free time daily
- What did people do with those 4.5 hours? **Watch a screen.** Most common leisure time activity was watching television, or in front of a phone or computer. Not exercising.

The benefits of turning off the screen

- **10 minutes of high intensity exercise** daily (clinical trial participants used an exercise bike) reduced blood sugar levels and increased insulin sensitivity as effectively as 45 minutes of moderate exercise
- Running (high intensity) on a treadmill for **4 minutes** three times a week, increased endurance (maximum oxygen uptake) by 10%, and reduced blood sugar and blood pressure levels
- One study of 55,000 adults found that **5 minutes of aerobic exercise daily** reduces risk of heart disease by 45% AND the risk of dying of any cause by 30%
- A study in Australia found that **sprint training for 10 minutes daily** is as effective in burning male body fat as **jogging for an hour**