

# Featured Topic: Arteries (5 slides)

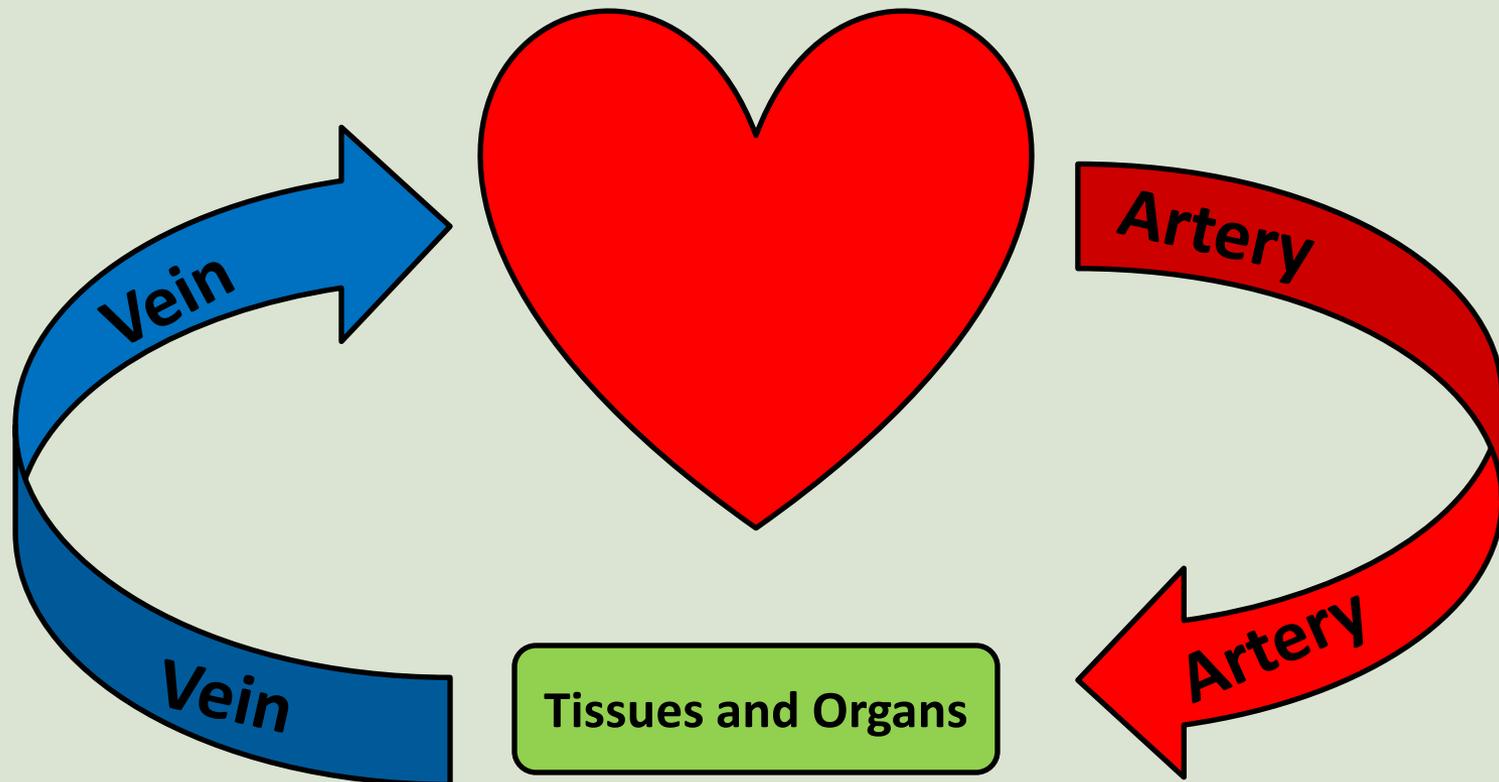
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# Arteries are blood vessels

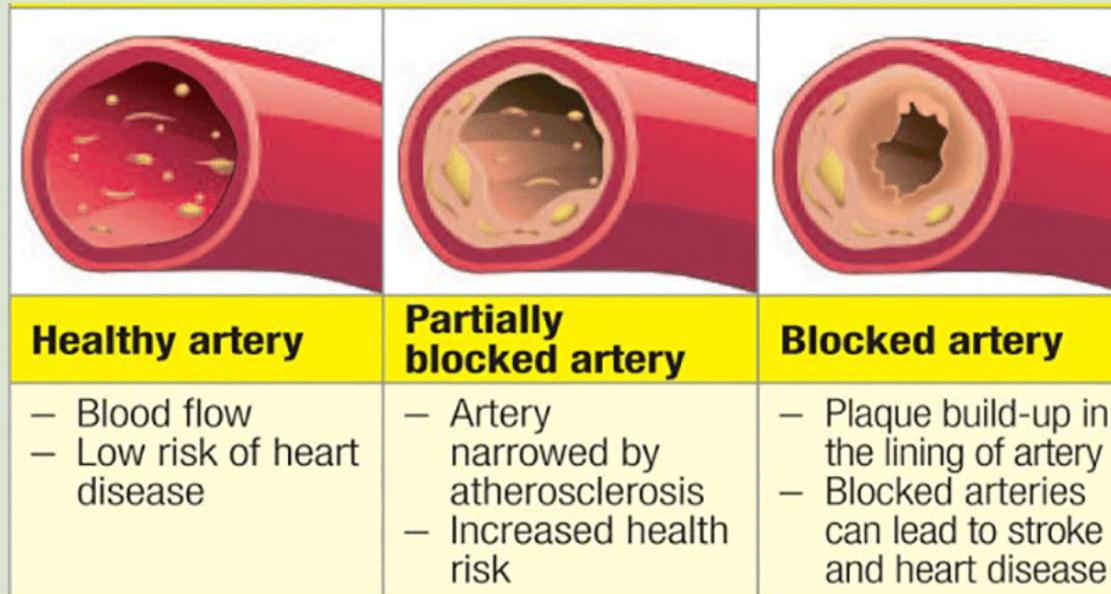
**Arteries** carry oxygenated blood **away** from the heart

**Veins** carry oxygen depleted blood **back** to the heart



# The diseased artery

- Healthy arteries are like soft, clean, rubber tubes with flexible sides
- Diseased arteries are stiff, thick, and clogged with plaque
- Your diseased arteries mean a 10 times increased risk of health problems such as stroke or heart attack, and a 22% increased risk of death



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# Key Vitamins for Healthy Arteries and Hearts

- **Vitamin A** (retinol)
  - Slows the progression of inflammation leading to heart disease
- **Vitamin D3** (cholecalciferol)
  - Keeps arteries flexible and reduces inflammation; blocks a hormone that increases blood vessel constriction (which can lead to increased blood pressure)
- **Vitamin K2** (menaquinone)
  - Helps direct calcium away from blood vessels (where it can lead to hardening of the arteries or “arterial calcification”) and into bones where it is needed

## A Look at the Research

- Five year study of over 400 adults in Australia; those with the **highest plasma retinol (Vitamin A) levels** had the **lowest risk of heart disease**
- Heart disease patients receiving 25,000 IU **Vitamin A as retinyl palmitate** daily versus placebo group - Vitamin A group had a **.87 fold decrease** in markers of inflammation associated with heart disease, while the placebo group had a **1.17 increase** in those same inflammatory markers
- A study of over 26,000 people found that compared to high D levels, those with low D levels had a **41% increased risk of death from heart disease** if they were healthy at the start of the study; if they already had heart disease they has a **65% increased risk of death**
- A diet high in Vitamin K as K2 (menaquinone) has been found to **reduce arterial calcification by 50%, reduce risk of heart disease by 50%, and reduce overall risk of dying by 25%**

# What to know

- To keep arteries smooth, flexible, and free of clogs and blockages, take daily a combination of:
  - 10,000 IU vitamin A as retinyl palmitate
  - 5,000 IU of vitamin D3 (cholecalciferol)
  - 45 mcg of vitamin K2 (menaquinone-7)

# **Folic Acid for Autism Prevention**

**(and other important nutrients during pregnancy)**

**(2 slides)**

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# Folic acid during pregnancy prevents autism

- Researchers in Israel studied over 45,000 children born between 2003 and 2007
- They also kept records on whether their mothers took multivitamin and folic acid supplements
- Results
  - Mothers who took a multivitamin, a folic acid supplement, or both, were 73% less likely to have a baby with autism than women who didn't take a supplement
  - Mothers taking supplements (including a multivitamin) during the 2 years prior to their pregnancy reduced overall risk of developmental disorders by 61%

# Other key nutrients during pregnancy

- **Iron:** carries oxygen to both mother and baby, and is critical for baby's growth
  - taking supplemental iron reduced risk of low birth weight in babies by 3% and risk of anemia in mothers by 12%
- **Iodine:** essential for baby's brain development
  - Lack of iodine during pregnancy can lead to irreversible brain damage and mental retardation in baby
- Multivitamins before pregnancy are very important: looking only at the earliest weeks of pregnancy, **daily vitamin use reduced risk of miscarriage by 79%**

# Controlling Pain without Opioids (4 slides)

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# Americans have a lot of pain

- Chronic pain affects more Americans than diabetes, cancer, and heart disease COMBINED
- Because there is a serious lack of effective long term pain control, too many people turn to opioids for pain relief
- In fact: the United States only makes up 5% of the global population but **consumes 80% of all the opioids** produced in the world

# Opioids are Dangerous

- Opioids (examples are Vicodin and OxyContin) flood the body with dopamine which alleviates pain and produces euphoria
- With chronic use, prescription opioids can lessen the body's production of its natural painkillers (endorphins and enkephalins) which leads to ***increased pain***
- Additionally
  - Opioids are addictive – they act on the same parts of the brain as heroin and morphine
  - Opioids relieve pain BUT they do nothing for underlying inflammation
  - The majority of opioids are in a base of Tylenol – acetaminophen – which depletes the body of glutathione and can cause serious liver issues

# Pain relief without Danger

- **Curcumin** and **hemp oil (with CBD)** are natural, safe, and effective pain relievers that do not lead to addiction, liver damage, or other adverse effects
- **Curcumin** from turmeric has been shown to target multiple inflammation pathways to relieve pain AND inflammation as well as prescription drugs without adverse effects or dangerous addictions
  - Arthritis, back pain, muscle pain, migraine, nerve pain, and more
- **Cannabidiol (CBD)** from hemp reduces pain sensation through its effects on the endocannabinoid system, and also limits inflammation, especially in the brain and nervous system
  - Cancer pain, nerve pain, arthritis and more

# What to know

- Curcumin, not turmeric
  - Blending with turmerones from turmeric essential oil increases absorption and efficacy
- Hemp oil, not marijuana
  - CBD is found in hemp oil – does not cause a “high” because is low in THC, the compound in marijuana that causes euphoria
  - CBD is only one of the important compounds in hemp choose a full spectrum hemp oil
- Dosage:
  - 50 mg of hemp oil (full spectrum)
  - OR 25 mg of hemp oil with 250 mg of curcumin with turmeric essential oil