The New Class of Blood Thinners:

What You Need to Know and Natural Alternatives

What prompted this topic?

A client with a single episode of AFIB prescribed Eliquis. Though her doctor said she had a 2% risk of stroke, she would need to be on this medication for the rest of her life. She is bruising easily. I told her I had just seen an in-depth article on the newer Direct Oral Anticoagulants, Eliquis, Xarelto, and Pradaxa.

I am presenting an overview of the article published in the most recent edition of **Wise Traditions**:

ANTICOAGULANTS: SKATING ON THIN ICE

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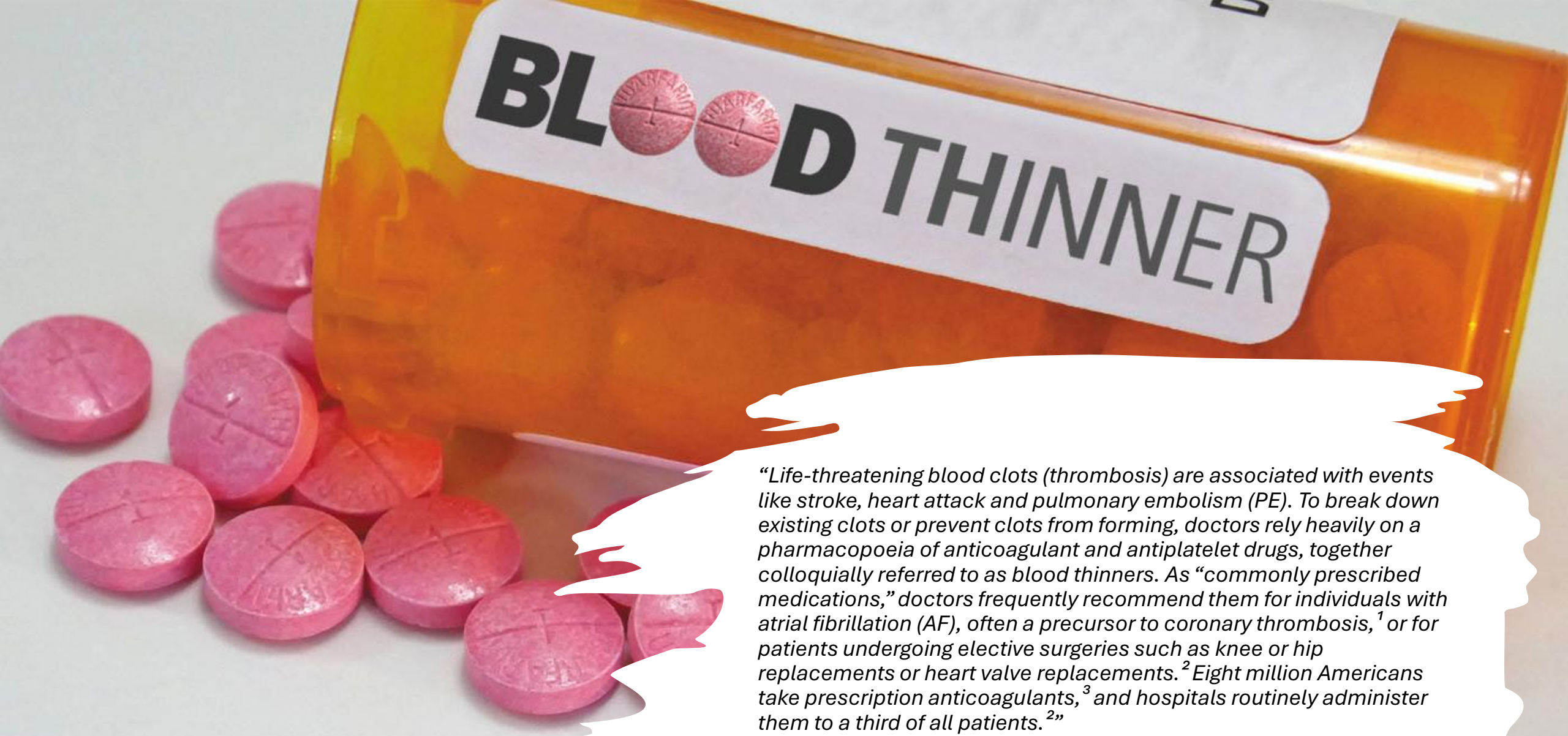
Why Anticoagulants Are Used

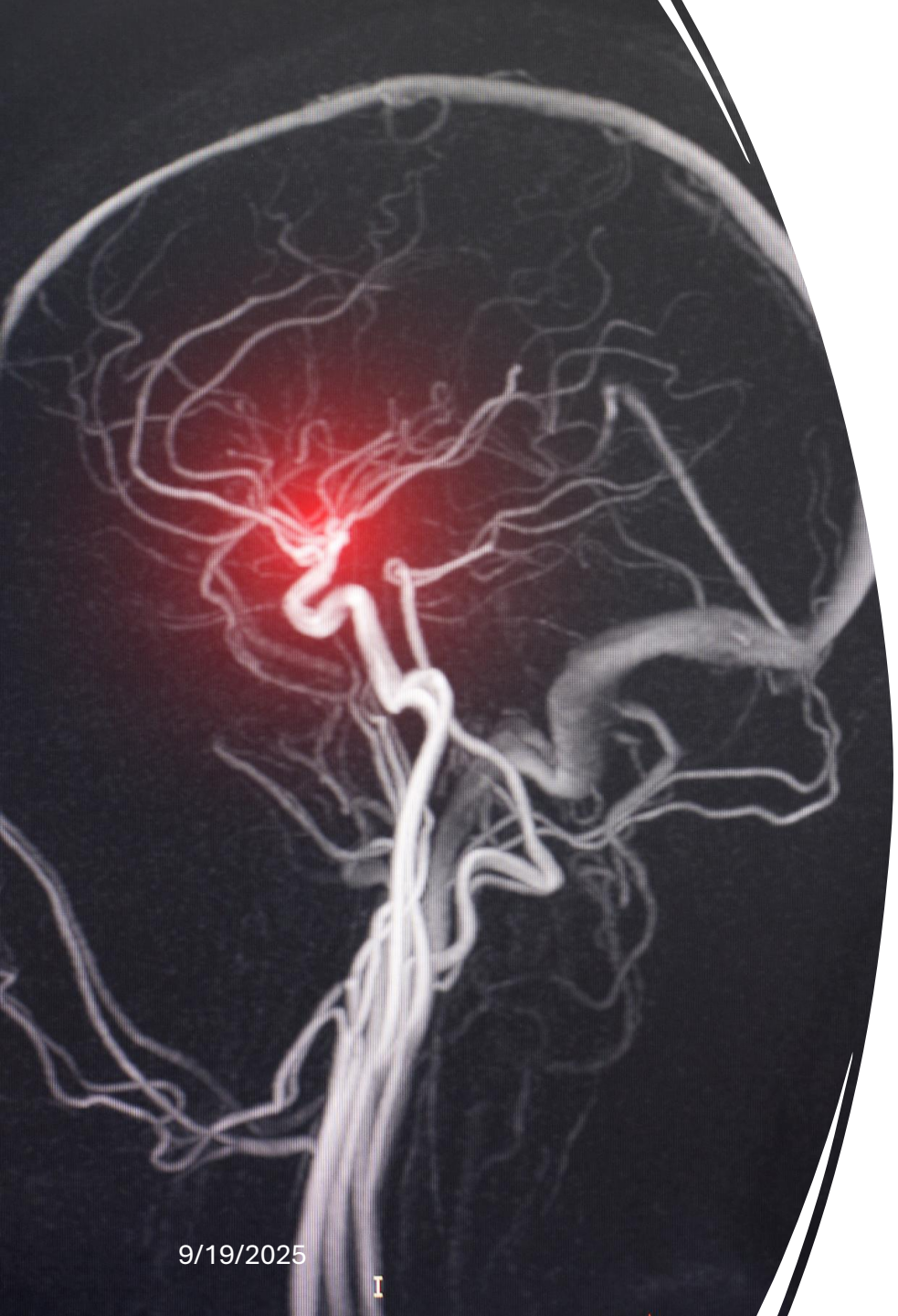
- Blood clots (thrombosis) can cause strokes, heart attacks, pulmonary embolism (PE).
- Anticoagulants (“blood thinners”) are prescribed to prevent or treat clots, especially after atrial fibrillation (AF), joint replacements, or heart valve surgeries.
- About 8 million Americans take them; hospitals use them for ~⅓ of patients.
- Risk: deep vein thrombosis (DVT) and PE together (venous thromboembolism, VTE), which affects ~900,000 Americans yearly; 100–300k die.



“Life-threatening blood clots (thrombosis) are associated with events like stroke, heart attack and pulmonary embolism (PE). To break down existing clots or prevent clots from forming, doctors rely heavily on a pharmacopoeia of anticoagulant and antiplatelet drugs, together colloquially referred to as blood thinners. As “commonly prescribed medications,” doctors frequently recommend them for individuals with atrial fibrillation (AF), often a precursor to coronary thrombosis,[1] or for patients undergoing elective surgeries such as knee or hip replacements or heart valve replacements.[2] Eight million Americans take prescription anticoagulants,[3] and hospitals routinely administer them to a third of all patients.[2]”

Why is stroke a risk factor if you have AFIB?

- When the heart is in **atrial fibrillation (AFib)**, the upper chambers (atria) **quiver instead of contracting strongly**. Because of this, blood isn't pumped out efficiently and can **pool in pockets of the atria**, especially in the **left atrial appendage**. Pooled, stagnant blood increases the chance of **clot formation**. If a clot breaks free, it can travel through the bloodstream to the brain and block an artery, causing an **ischemic stroke**.
- So, in short:
  👉 **AFib → irregular heartbeat → blood pooling in the atria → clot formation → risk of stroke if a clot travels to the brain.**



Why AFib Increases Stroke Risk

Atrial fibrillation (AFib)
⬇
Heart's atria **quiver instead of pumping strongly**
⬇
Blood **pools in the atria** (especially left atrial appendage)
⬇
Pooling = **stagnant blood** → clot formation more likely
⬇
A clot can **break loose** and travel through circulation
⬇
If clot reaches the **brain → blocks an artery**
⬇
Ischemic stroke

Anti-Coagulants & The Bleeding Dilemma

- Main side effect: dangerous bleeding.
- The “Goldilocks” problem: too little → clots, too much → bleeding; it’s hard to find the “just right” dose.

A little history…

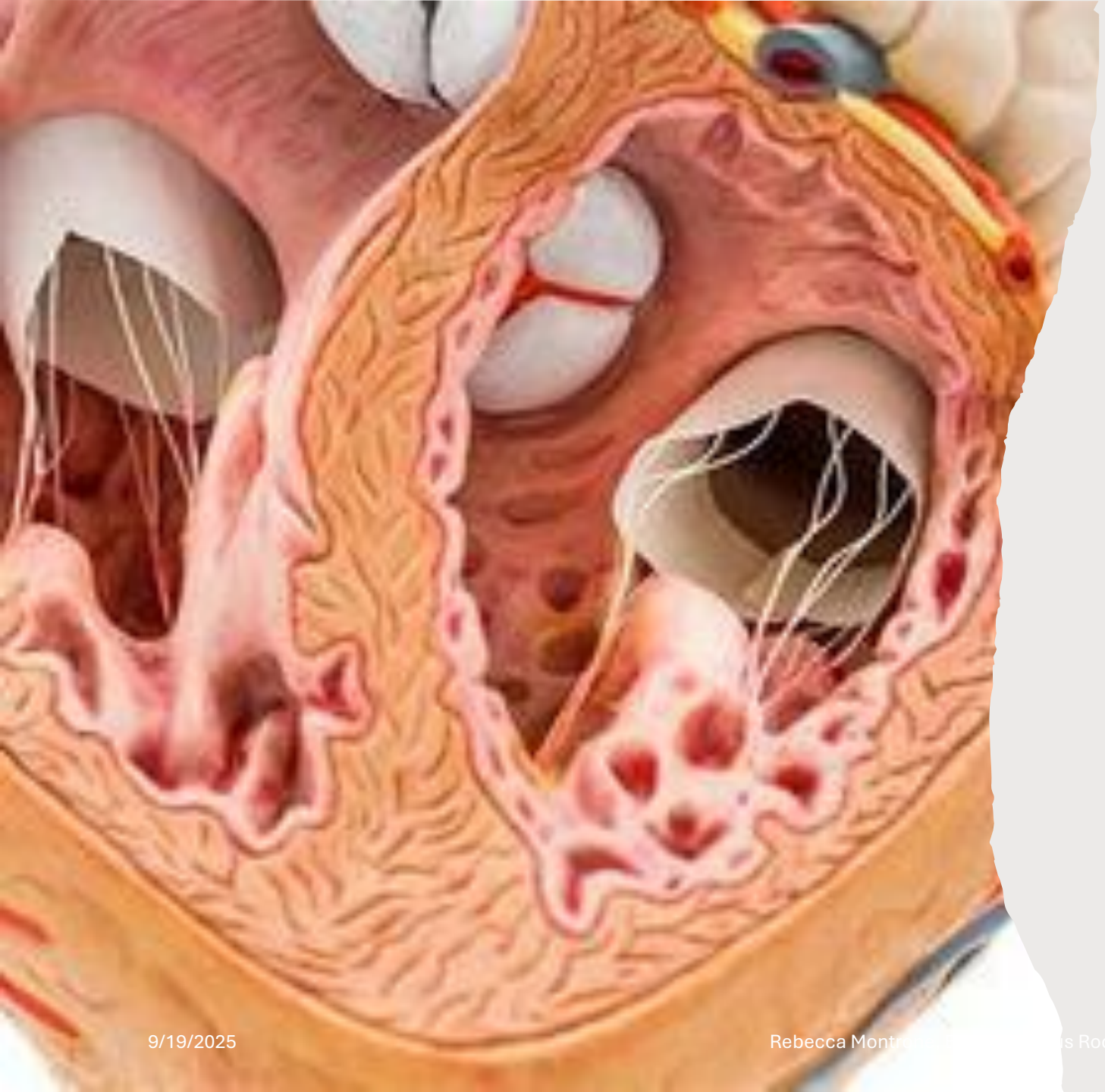
From Heparin to the new DOACs

Heparin (1930s Onward)

- Unfractionated heparin (UFH): effective but unpredictable, requires constant monitoring.
- Low-molecular weight heparin (LMWH): more predictable, self-injectable at home.
- Both can cause heparin-induced thrombocytopenia (HIT), triggering dangerous clotting.
- Considered “high-risk” drugs.
- Scandal: 2008 Chinese-made contaminated heparin caused deaths; highlighted risks of overseas pharmaceutical manufacturing.

Warfarin (Coumadin, 1940s–50s)

- Derived from rat poison research, inhibits vitamin K.
- Became standard anticoagulant by 1960s.
- High risk of “over-anticoagulation,” bad interactions (e.g., antibiotics).
- Difficult to monitor; dubbed “the most dangerous drug in America” because small dosing errors can be fatal.
- Adding aspirin to warfarin worsens bleeding risk.



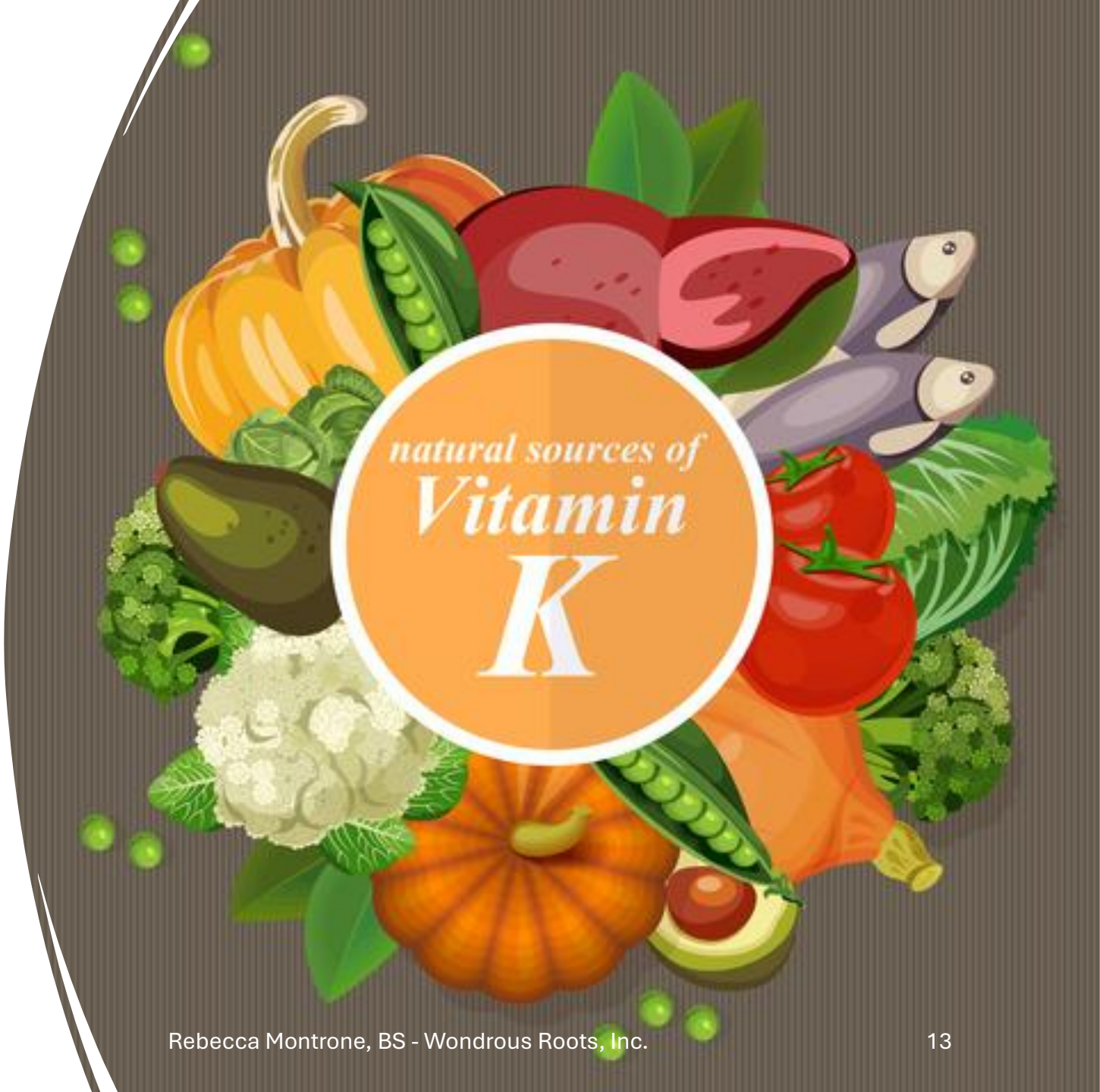
Vitamin K, Warfarin & Heart Health

- **Warfarin works** by blocking vitamin K → slows clotting.
- **Problem:** Vitamin K isn't just for clotting — it's also essential for
  - Activating proteins that **keep calcium out of blood vessels**
  - Supporting **bone strength**.
- **Restriction of vitamin K** = calcium builds up in arteries → **vascular calcification**.
- Result: **Higher risk of heart disease and arterial stiffening** in patients on long-term warfarin.

Bottom line: *Blocking vitamin K may thin the blood, but it also **weakens vessels and bones.***

Another Downside of Warfarin

- Patients must **avoid or limit vitamin K–rich foods**
  - Leafy greens (spinach, kale, broccoli, Brussels sprouts)
  - Many herbs, seaweeds, and other nutrient-dense foods
- These are some of the **healthiest foods for heart and overall wellness**
- Creates a paradox: *to prevent clots, patients are asked to avoid the very foods that protect the heart and vessels*



Direct Oral Anticoagulants (DOACs, 2010s–)

- New class: Eliquis (apixaban), Xarelto (rivaroxaban), Pradaxa (dabigatran).
- Directly inhibit clotting enzymes (Factor Xa or thrombin).
- Prescribing has skyrocketed: by 2020, DOAC use rose tenfold; warfarin use dropped.
- Eliquis (Pfizer/BMS) dominates the market; heavily marketed, especially to seniors.

Thrombin Time Test

Drlogy

Test

The Thrombin Time Test is a medical test that helps evaluate how well our blood can clot.
It's used to check for bleeding or clotting problems.

Thrombin
Time
Test

Purpose | Prep...

“Direct” does not mean “better”

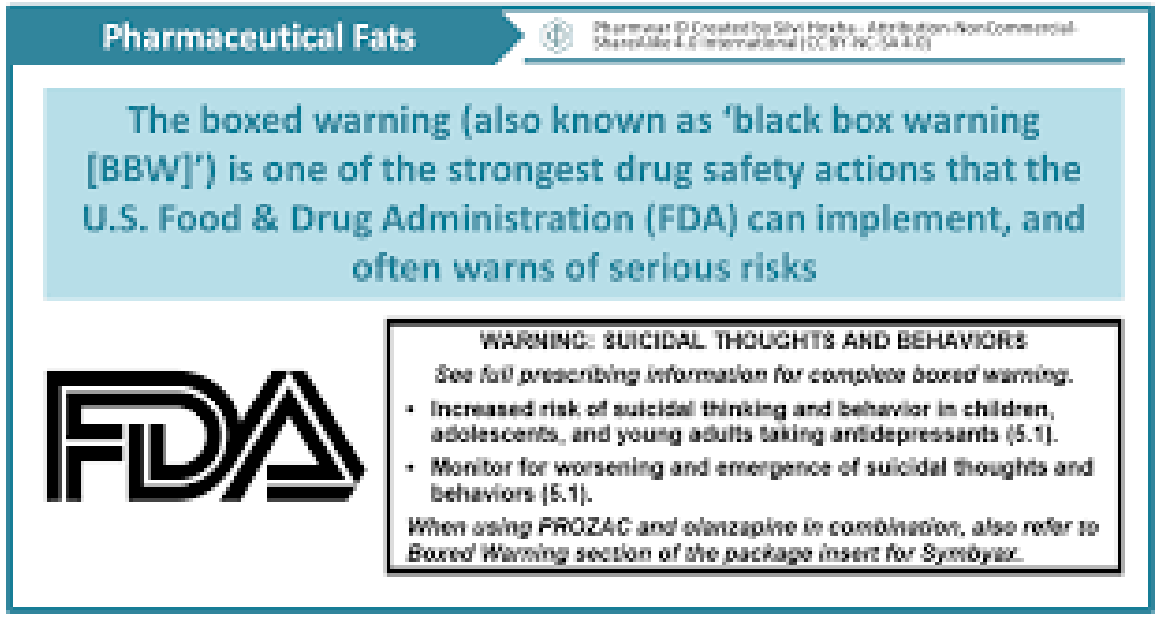
*The 2010s introduced further dangers when pharma brought a new class of drugs called **“direct oral anticoagulants” (DOACs**) to market. The word “direct” refers to the fact that through the biotech trick of “fabricat[ing] small molecules designed to fit into the active component of clotting enzymes, like a key into a lock**,” the drugs directly inhibit coagulation proteins.**[24] Leading drugs in the DOAC category include Eliquis (apixaban), co-owned by Bristol Myers Squibb (BMS) and Pfizer,[31] and Xarelto (rivaroxaban), jointly developed by Johnson & Johnson (J&J) and Bayer; both work by inhibiting an enzyme called **activated factor X** (FXa), an important blood clotting enzyme.[32] Pradaxa (dabigatran), made by German manufacturer Boehringer Ingelheim, inhibits **thrombin**, deemed “the key enzyme in the coagulation cascade.”[33]*

Eliquis - Big Pharma Blockbuster

According to trade rag *Fierce Pharma*, Eliquis has been a “reliable growth driver” for its two owners ever since its debut in 2012 for AF and then with expanded indications in 2014 for DVT and PE.[39] The drug’s steadily rising sales gave it (as of 2021 when it was competing with Covid injections) the enviable status of being the fifth top-selling pharma product worldwide.[39] In the U.S. that year, an estimated four million patients filled an Eliquis prescription, causing the drug to jump fifteen ranks in a single year to become the thirty-third most prescribed medication in the American market.[40] By 2023, Eliquis had claimed 41 percent of the U.S. anticoagulant sector, settling in as a “preferred choice” over options such as Coumadin[41] and beating out Xarelto despite the latter’s earlier market entry

Key Figures on DOAC / Eliquis Sales & Market Size

Item	Value / Detail
Eliquis global sales (2022)	~$10 billion USD. DrugPatentWatch
Eliquis recent quarterly revenue	~$3.2 billion in one quarter for Bristol-Myers (up 11% year-over-year). CSRxP+1
DOACs market size (2024)	~US$44.3 billion globally. Market.us
Forecasted DOACs market (2034)	Expected to reach ~US$96.5 billion by 2034. Market.us
Anticoagulants market overall (2024)	~$35-$36 billion (all anticoagulants, including DOACs and older drugs) globally. P&S Intelligence+2Grand View Research+2

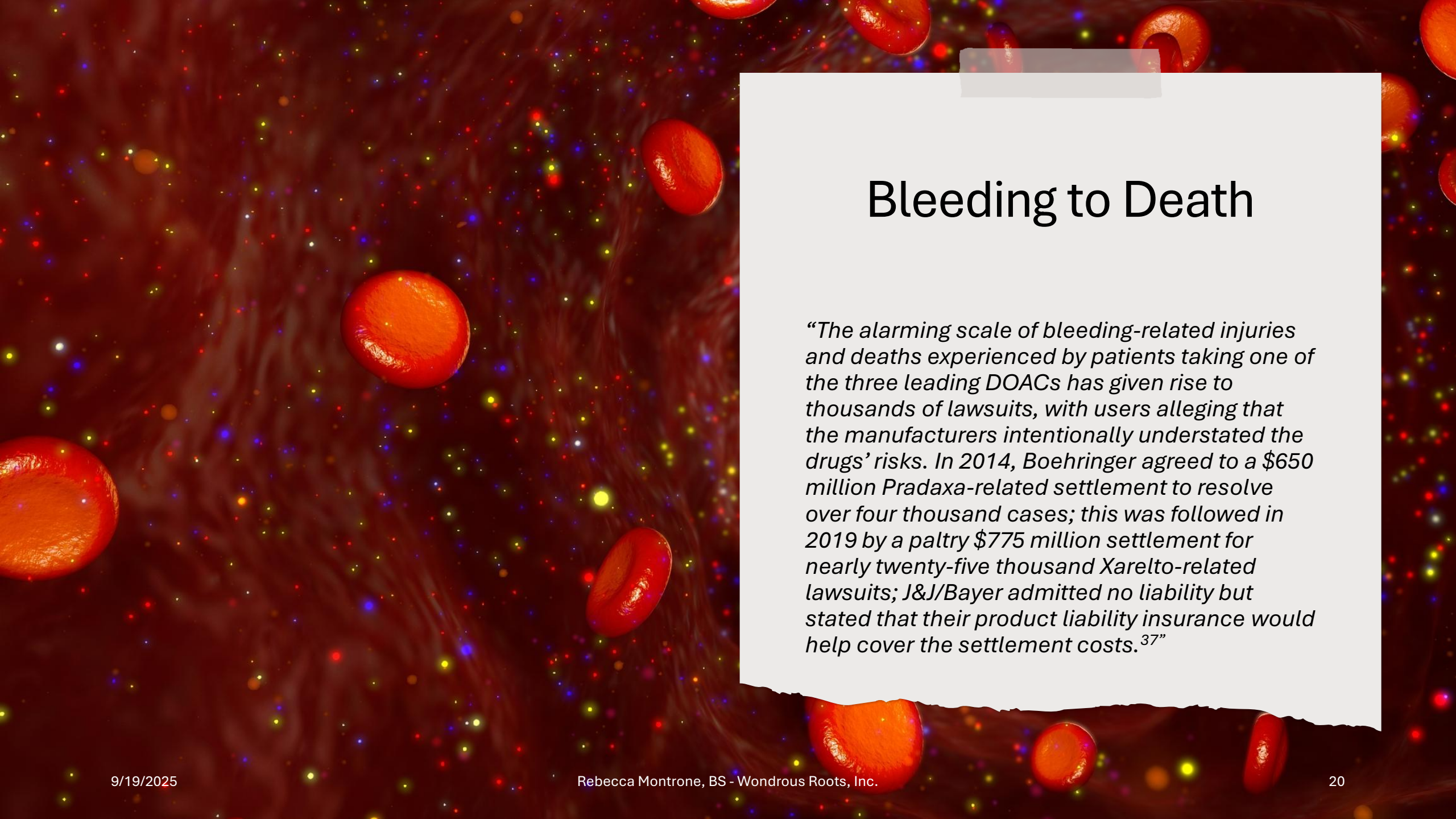


Safety Concerns

- DOACs carry FDA "boxed warnings":
  - Risk of spinal/epidural blood clots (possible paralysis).
  - Risk of stroke/PE when stopping abruptly.
- Data integrity issues: Eliquis's ARISTOTLE trial had missing/altered data, but FDA still approved it.
- Major bleeding: ~100,000 cases annually in US/EU; mortality remains high even with reversal agents.
- Some studies show warfarin, with careful monitoring, may have lower overall mortality.

Lawsuits and Antidotes

- Pradaxa, Xarelto, Eliquis all faced lawsuits over bleeding risks.
- Eliquis initially had no antidote; now Andexxa is available but comes with serious side effects and FDA concerns.
- Other reversal drugs (Kcentra, Praxbind) also have risky profiles.
- Overall, antidotes are imperfect and sometimes dangerous.



Bleeding to Death

"The alarming scale of bleeding-related injuries and deaths experienced by patients taking one of the three leading DOACs has given rise to thousands of lawsuits, with users alleging that the manufacturers intentionally understated the drugs' risks. In 2014, Boehringer agreed to a $650 million Pradaxa-related settlement to resolve over four thousand cases; this was followed in 2019 by a paltry $775 million settlement for nearly twenty-five thousand Xarelto-related lawsuits; J&J/Bayer admitted no liability but stated that their product liability insurance would help cover the settlement costs.[37]"

Antidote Side Effects

- **Andexxa** (for Eliquis & Xarelto)
- Serious side effects common: anxiety, confusion, breathing problems, chest pain, fast heartbeat, swelling, dizziness, vision changes, weakness, speech/movement difficulties
- Adverse events affect **many body systems** (cardiac, nervous, immune, respiratory, hematologic, GU)
- **High mortality**: up to 15% of patients died within 30 days
- **Kcentra** (used off-label for Eliquis/Xarelto)
- Risks include **serious blood clots** (thromboembolism)
- **Severe allergic/anaphylactic reactions** also reported
- **Praxbind** (for Pradaxa)
- Side effects overlap with Andexxa
- Additional risks: **bone pain, seizures, hives, nightmares, sudden loss of coordination, coma**

Key Point:
While marketed as “reversal agents,” these antidotes carry their own **serious and sometimes life-threatening risks**.

Look Before You Leap!

The DOAC Dilemma

- Starting DOAC therapy can feel like a one-way street
- **Stopping suddenly** may trigger dangerous rebound clotting
- Manufacturers even warn of **increased stroke and embolism risk** if discontinued
- Patients can become **locked in long-term**, even when risks or side effects appear

Bottom line: Beginning a DOAC is not just a prescription — it's a commitment that can be very difficult to reverse.

Starting a DOAC is like merging onto a busy highway with no easy exit — once you're on, it's hard to get off safely.

Also to Consider...

Quality of Life

- Patients fear bleeding (55% report anxiety).
- Many avoid routine activities (gardening, exercise, shaving, cooking, traveling).
- Lifestyle restrictions reduce overall well-being.

Ongoing Issues

- Prescribing continues despite risks, driven by marketing and limited patient education.
- Alternatives like nattokinase, cayenne, ginger are rarely mentioned in medical circles.

Sidebars

- **Covid-era clots** – Reports of unusual clots after Covid vaccines and infections increased demand for anticoagulants, especially Eliquis.
- **Liver toxicity** – Reports of DOAC-related liver injury (jaundice, hepatitis); not fully studied.

Critics Note:

There is no “perfect” anticoagulant—safe, easy, effective, and reversible.

Bottom Line

Anticoagulants save lives by preventing dangerous clots but carry serious, sometimes fatal, risks of bleeding.

- **Heparin**: effective but unpredictable.
- **Warfarin**: powerful, but dosing errors and interactions make it dangerous.
- **DOACs (Eliquis, Xarelto, Pradaxa)**: convenient, widely prescribed, but bleeding risks remain high, antidotes are imperfect, and marketing hype oversells safety.
- Patients often live with fear and restrictions, and safer, natural alternatives are seldom acknowledged.

What About Daily Aspirin?

- Once hailed as a “miracle drug” for heart protection
- Still recommended by many doctors for prevention
- **But studies show mixed or negative results:**
  - *Diabetics without heart disease* → **no benefit** in preventing events
  - *Prior aspirin use before a heart event* → **worse outcomes, more recurrent heart attacks**
  - *Women over 65* → **higher stroke risk**, both ischemic and hemorrhagic
- Even in some secondary prevention cases, risks remain high

Downsides of Daily Aspirin

- **Bleeding risk** → GI bleeds, hemorrhagic strokes
- **Hearing loss** → especially in younger men with regular use
- **Gut damage** → even low doses can cause significant GI injury
- **Crohn's disease** → linked to daily aspirin use
- May restrict quality of life while offering little to no benefit

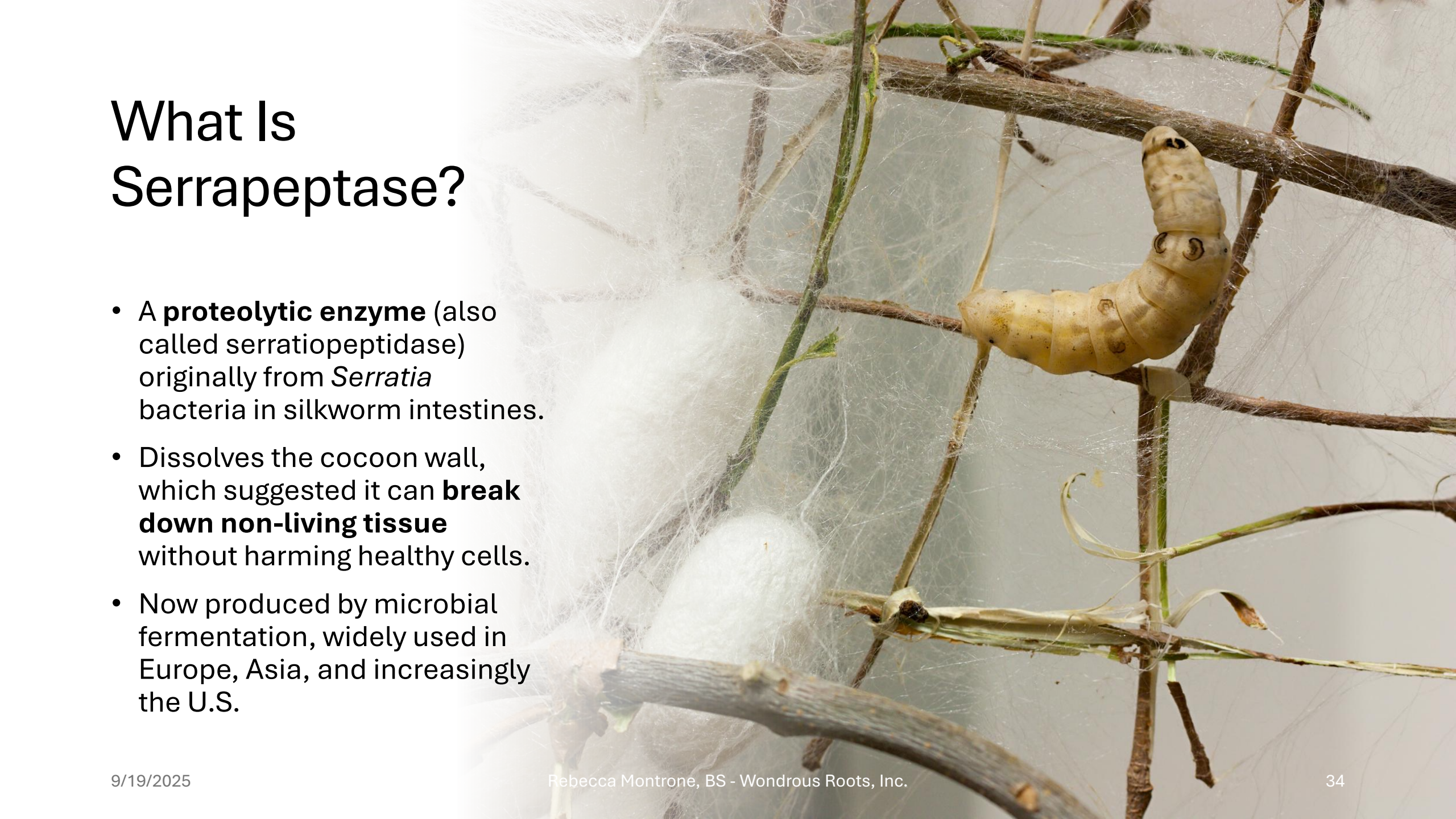
See this article by Tom Cowden, MD, for further detail.

Natural Alternatives

Safe, Effective & Supporting Whole-Body Health

What Is Serrapeptase?

- A **proteolytic enzyme** (also called serratiopeptidase) originally from *Serratia* bacteria in silkworm intestines.
- Dissolves the cocoon wall, which suggested it can **break down non-living tissue** without harming healthy cells.
- Now produced by microbial fermentation, widely used in Europe, Asia, and increasingly the U.S.



How It Works

- **Breaks down proteins** (proteolytic).
- **Reduces pain & inflammation** through three main actions:
  - Thins inflammatory fluids for faster drainage.
  - Blocks **bradykinin**, a pain-triggering protein.
  - Breaks down **fibrin**, the protein central to clotting and scar tissue.
- Absorbed via intestines/lymph system, circulates in bloodstream, targets inflammatory debris.

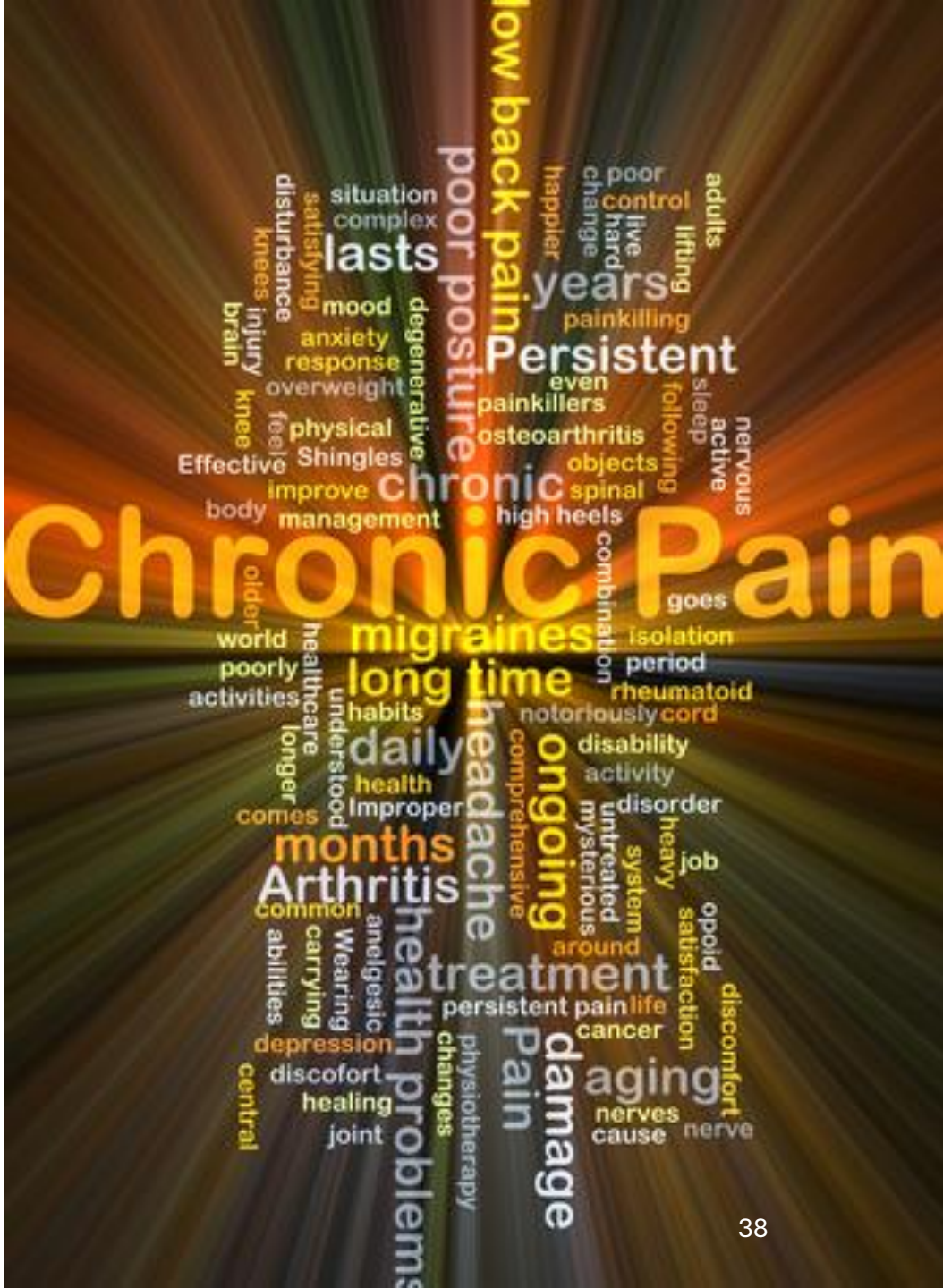
Key Therapeutic Properties

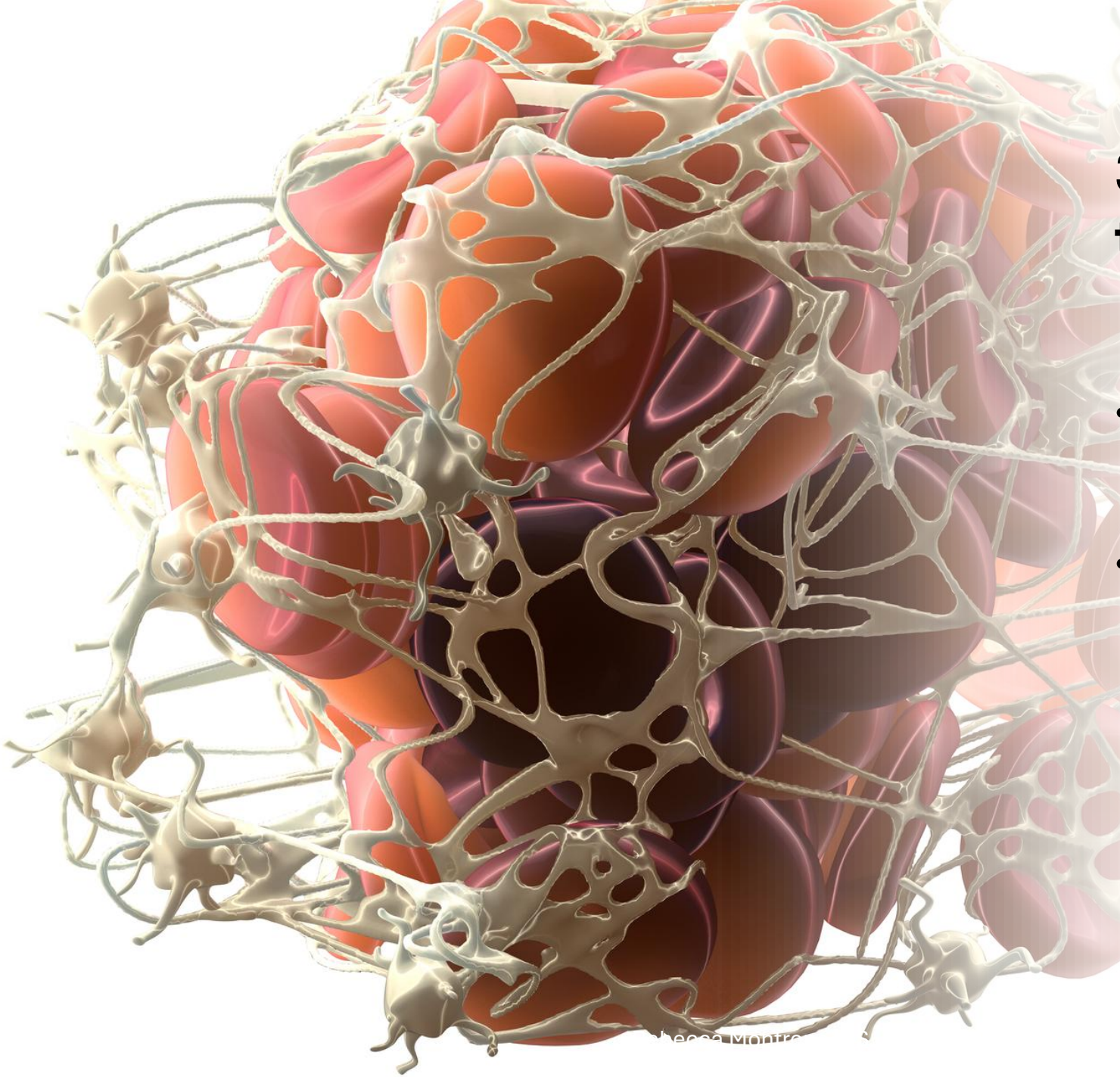
1. Anti-inflammatory

- Rapidly reduces pain, swelling, and tissue damage.
- Safer than steroids/NSAIDs (no delayed healing or adrenal suppression).
- Clears inflammatory proteins and dead proteins at injury sites.

2. Analgesic

- Inhibits bradykinin → reduces pain sensitivity and soreness.





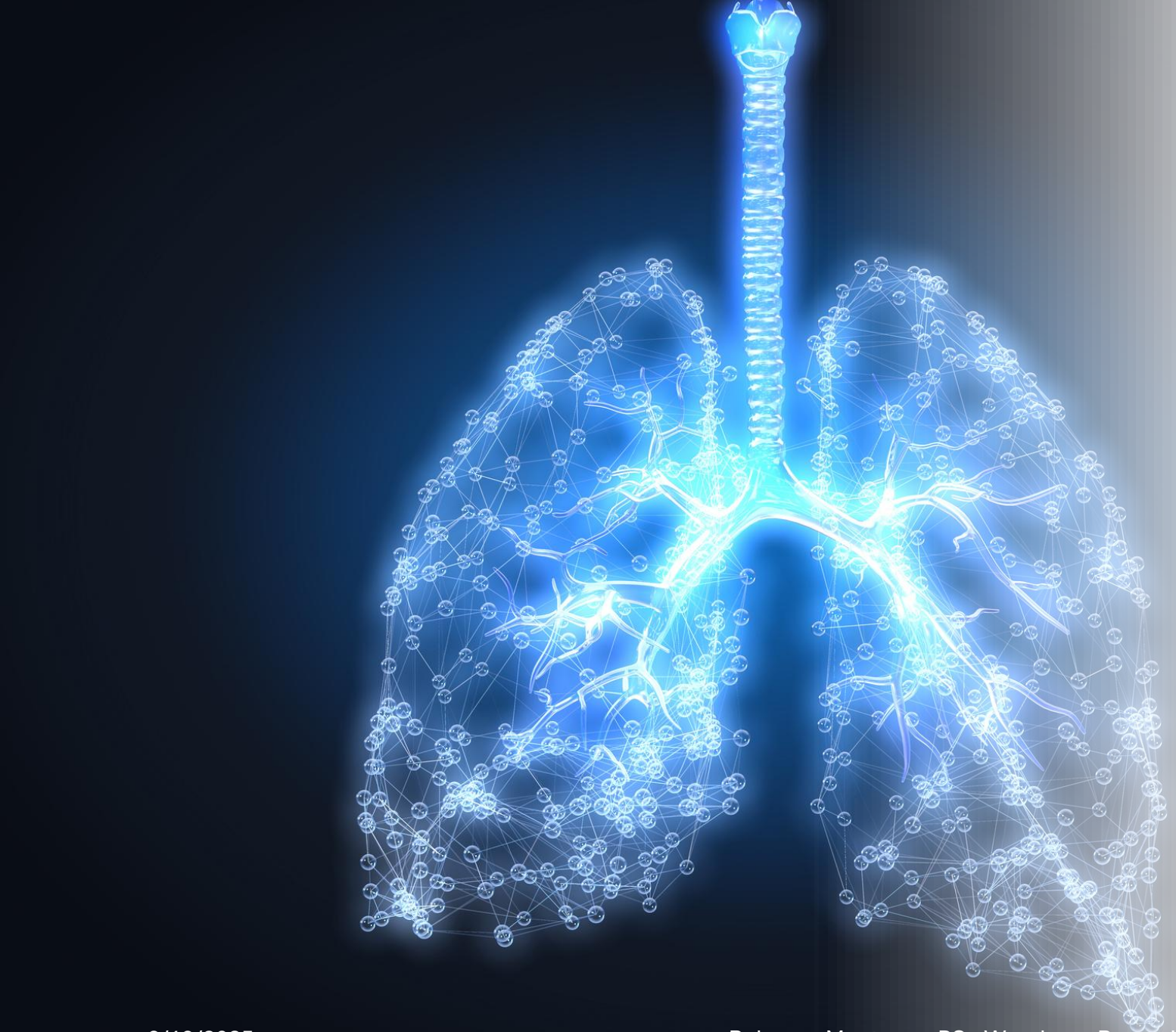
3. Fibrinolytic / Anti-thrombotic

- Dissolves fibrin, reducing risk of **blood clots, arterial plaque, and scar tissue**.
- May help prevent heart attacks, strokes, DVT, and conditions linked to fibrosis (Alzheimer’s, endometriosis, fibrocystic breast disease).

4. Anti-edemic

- Reduces **fluid buildup (edema)** after injury or surgery.

Health Applications

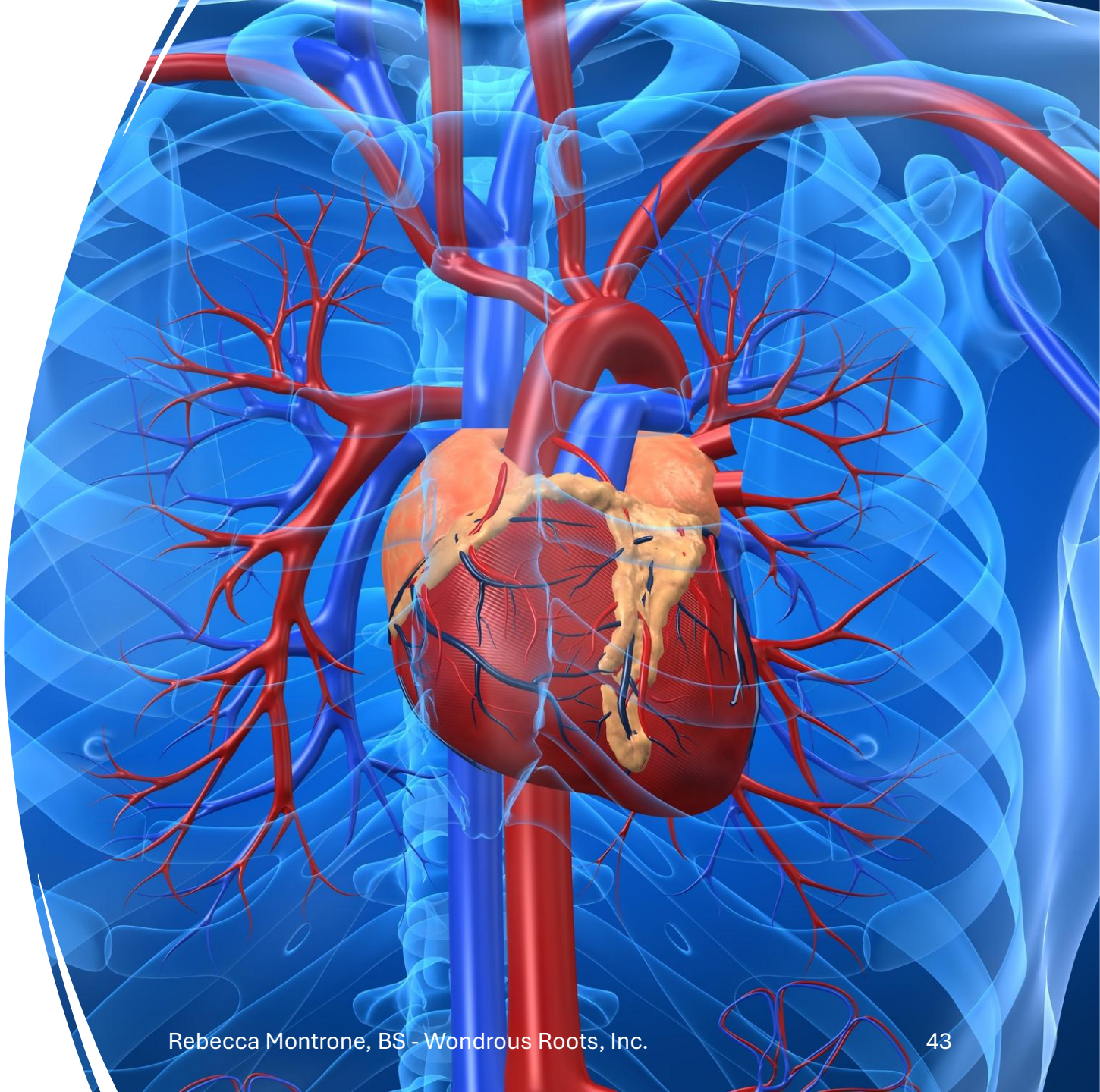


Respiratory health:

- Improves mucus clearance, thins sputum, reduces neutrophil-driven lung inflammation.
- Helpful in bronchitis, sinus issues, mucus buildup

Cardiovascular health:

- Breaks down plaque components (fat, fibrin, cholesterol, calcium) without harming healthy arterial cells.
- Supports atherosclerosis prevention and improved circulation.

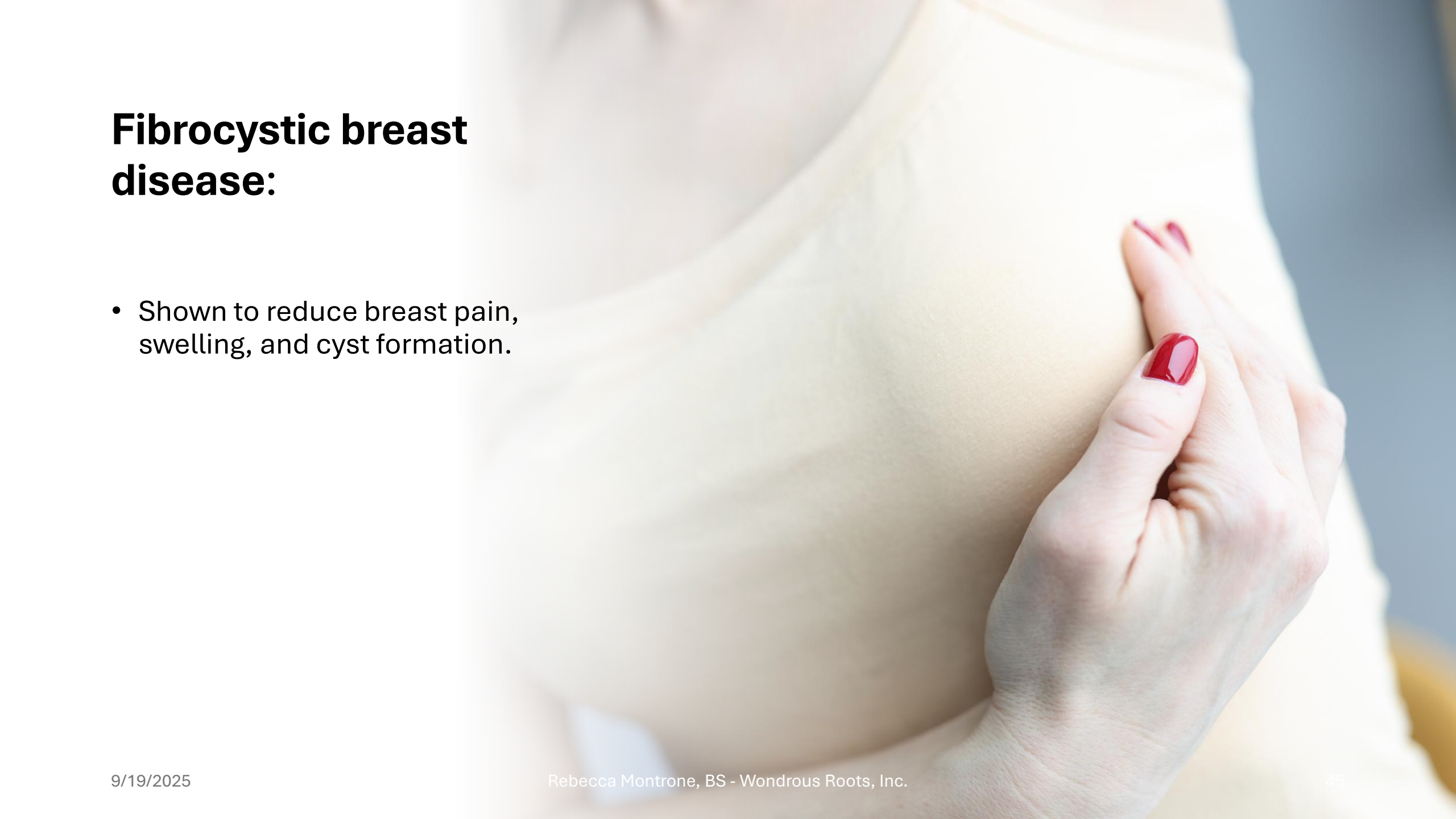


Arthritis & pain:

- Large clinical experience (over 700 patients in one study).
- Reduced pain, swelling, and improved recovery in both osteoarthritis and rheumatoid arthritis.

Fibrocystic breast disease:

- Shown to reduce breast pain, swelling, and cyst formation.



Muscle inflammation (myositis):

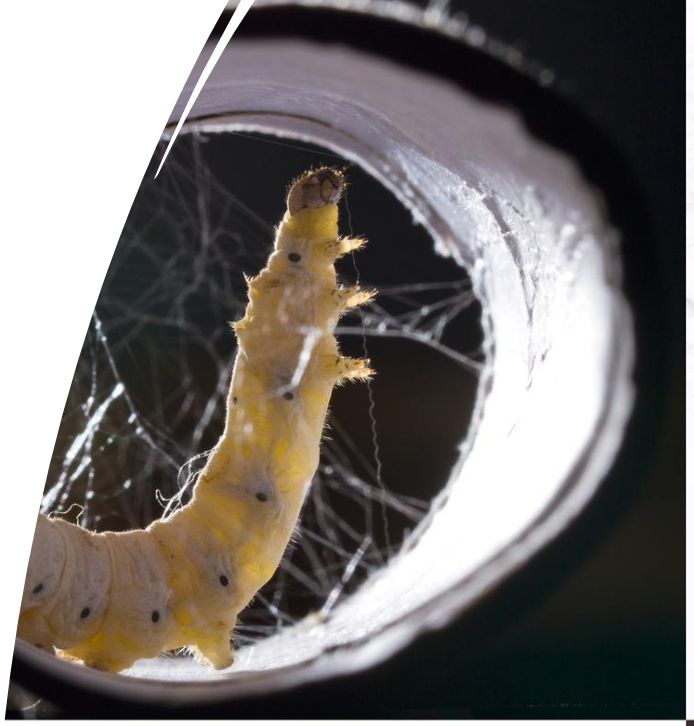
- Eases swelling, pain, and weakness in inflammatory muscle conditions.

Practical Use & Safety

- Best taken on an empty stomach (1 hr before or 2 hrs after meals).
- Daily use is common; higher doses sometimes used for chronic inflammation.
- Should be used cautiously with other drugs (especially anticoagulants, even though direct interactions aren’t well documented).

Bottom Line

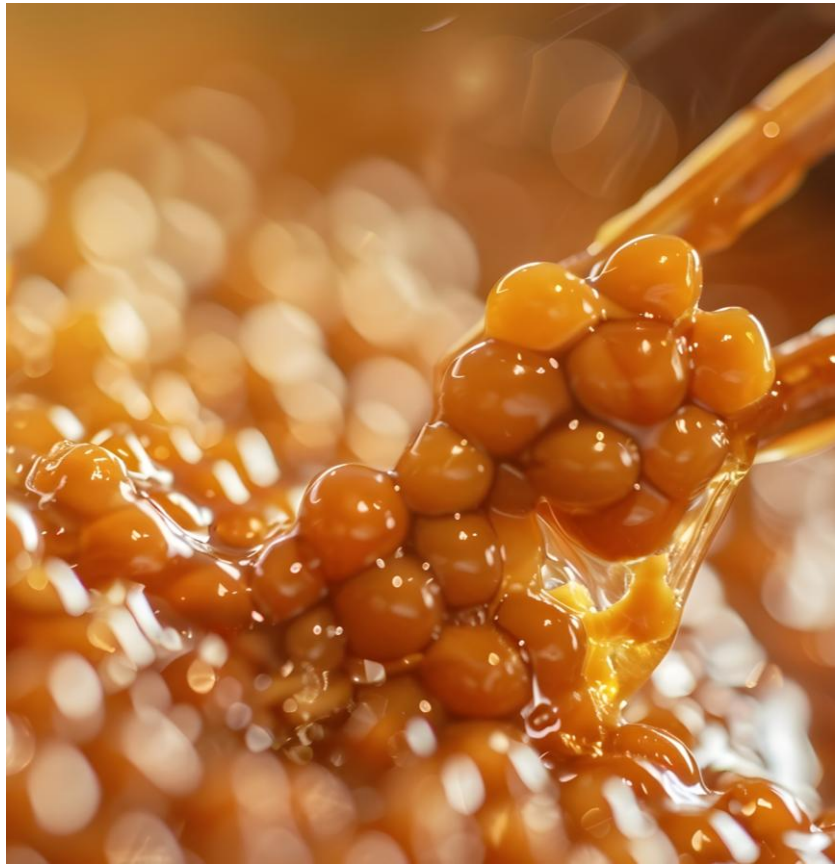
- Serrapeptase is a **multi-functional enzyme** with:
- Anti-inflammatory, analgesic, fibrinolytic, and anti-edemic effects.
- Clinical evidence in respiratory health, arthritis, cardiovascular health, fibrocystic breasts, and post-surgical swelling.
- Promising role as a **natural alternative** to blood thinners and anti-inflammatory drugs — with the added bonus of supporting broader whole-body health.



Meet Superhero Nattokinase

Nattokinase in a Paragraph

Nattokinase is a remarkable enzyme with broad cardiovascular benefits. Derived from the traditional Japanese food natto, it has been shown to gently dissolve fibrin and support the body's own clot-dissolving systems, helping to reduce the risk of dangerous blockages. Unlike synthetic blood thinners, nattokinase doesn't just target clotting — it also improves blood flow by reducing viscosity, lowers blood pressure, and helps maintain a healthier cholesterol balancing lipids. In essence, nattokinase doesn't simply prevent one problem; it works on multiple fronts to promote smoother circulation and a stronger cardiovascular foundation.

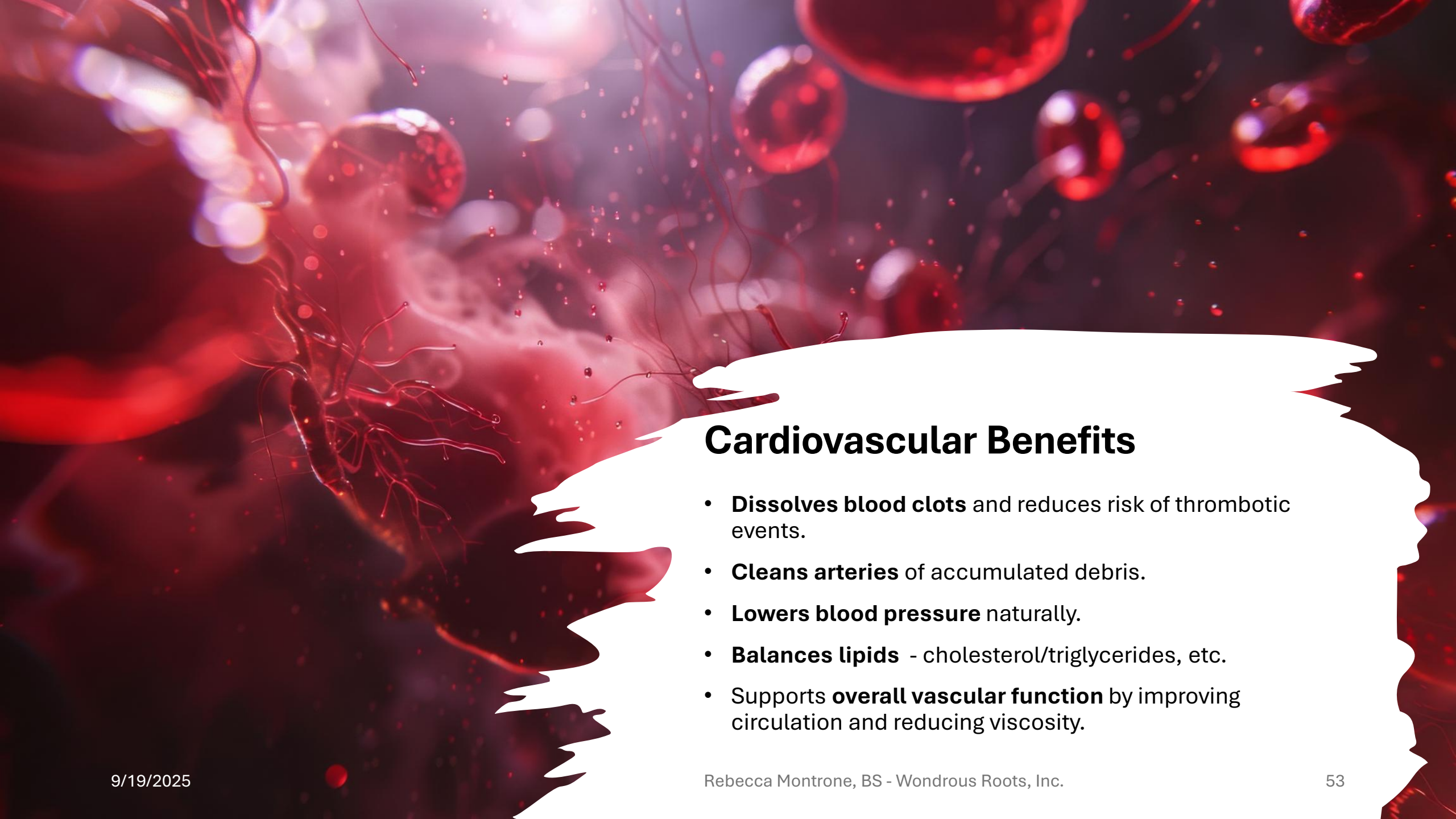


What It Is

- **Enzyme from natto** (fermented soybeans with *Bacillus natto*).
- Staple of Japanese culture for **1,000+ years** as a remedy for heart and vascular health.
- Brought to medical research in the 1980s, showing remarkable cardiovascular effects.

How It Works

- **Potent fibrinolytic enzyme** — breaks down fibrin, the protein that drives clot formation.
- **4x more fibrinolytic activity than plasmin**, the body's own clot-busting enzyme.
- Keeps blood from becoming "sticky" by improving **viscosity** (blood flow dynamics).
- **Orally active**: unlike clot-busting drugs (e.g., urokinase, streptokinase), nattokinase can be taken by mouth with effects lasting longer.



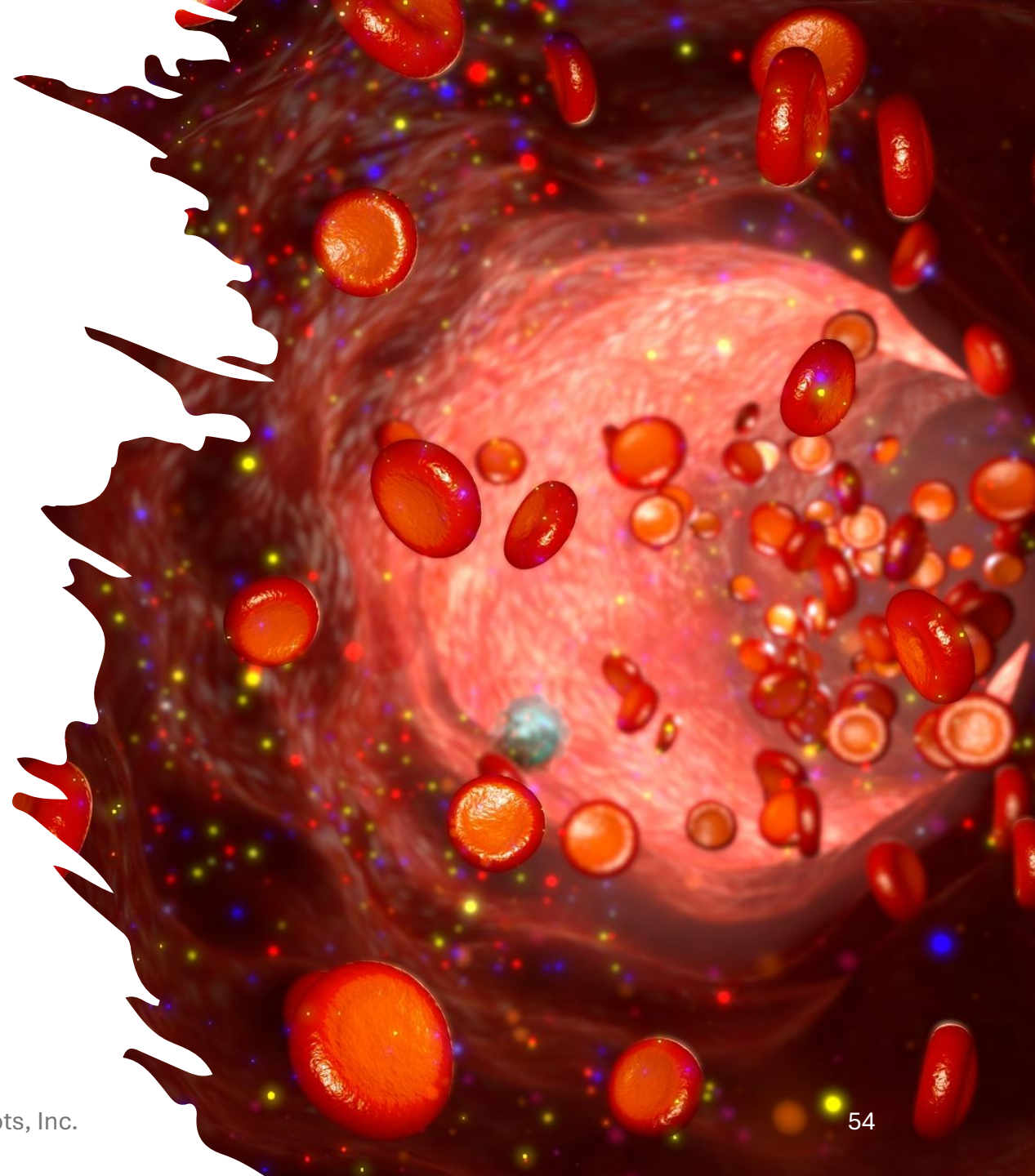
Cardiovascular Benefits

- **Dissolves blood clots** and reduces risk of thrombotic events.
- **Cleans arteries** of accumulated debris.
- **Lowers blood pressure** naturally.
- **Balances lipids** - cholesterol/triglycerides, etc.
- Supports **overall vascular function** by improving circulation and reducing viscosity.

The Importance of Blood Viscosity

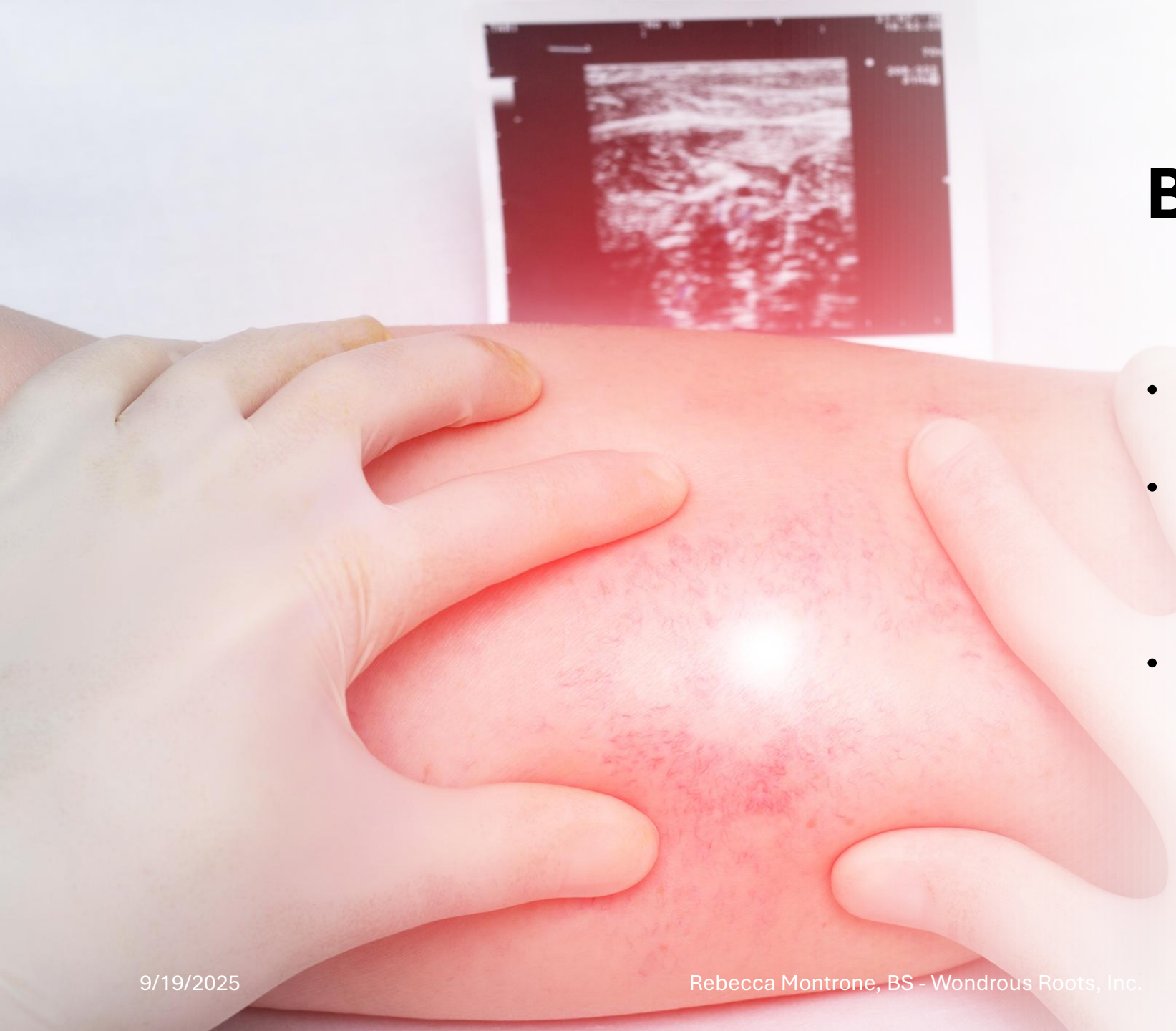
- **Definition:** Viscosity = the “thickness” or resistance of blood to flow.
- **Why it matters:**
  - High viscosity = sluggish blood flow → higher risk of clots, heart attack, stroke.
  - Low viscosity = blood too “thin” → higher risk of bleeding.
- **Optimal viscosity** keeps blood moving smoothly, delivering oxygen and nutrients efficiently.
- **Strong correlations** with cardiovascular risk: viscosity ties into *all known factors* — blood pressure, cholesterol, glucose, inflammation.
- **Modifiable:** Lifestyle, hydration, diet, and natural enzymes (like nattokinase) can improve blood viscosity without the harsh trade-offs of pharmaceuticals.

Bottom line: Healthy blood flow isn’t just about preventing clots — it’s about striking the right balance in viscosity for whole-body health.



Blood Viscosity: The Overlooked Factor

- Rarely discussed in a physician’s office
- Yet strongly linked to **all major cardiovascular risks**
- Plays a central role in **stroke, heart attack, and vascular disease**
- Easy to influence with **diet, lifestyle, and natural therapies**
- Deserves far more attention in mainstream medicine



Big Picture

- Nattokinase = **nature's clot-buster**.
- Long cultural history + modern validation makes it a powerful, natural alternative to synthetic anticoagulants.
- Pairs beautifully with serrapeptase: one focuses more on **inflammation/edema/scar tissue**, the other squarely on **fibrin breakdown and circulation.**

Two Natural Enzymes, Different Superpowers

Serrapeptase

- Origin: From silkworm bacteria (*Serratia*).
- Primary strengths:
  - **Anti-inflammatory & analgesic** (blocks bradykinin, reduces swelling).
  - **Fibrinolytic** (breaks down fibrin → helps reduce clots & scar tissue).
  - **Anti-edemic** (drains fluids, reduces post-surgical swelling).
- Clinical uses: arthritis pain, fibrocystic breasts, respiratory mucus, scar tissue, recovery after injury/surgery.
- Big picture: *"The inflammation & scar tissue buster."*

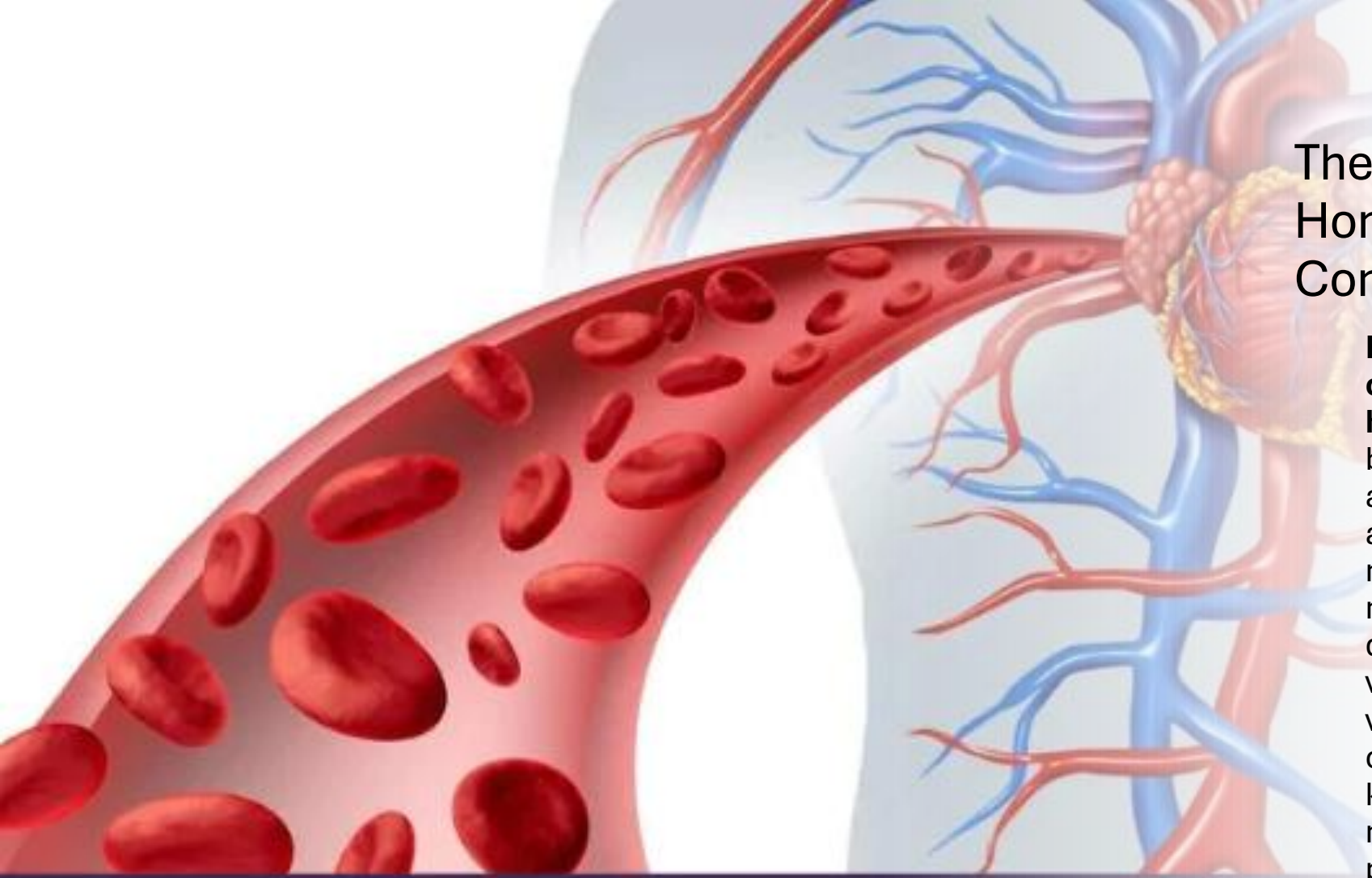
Nattokinase

- Origin: From natto (fermented soy with *Bacillus natto*).
- Primary strengths:
  - **Powerful fibrinolytic** (4x plasmin activity).
  - **Circulation booster** (reduces blood viscosity, “unsticks” blood).
  - **Cardiovascular protector** (lowers BP, reduces LDL, raises HDL).
- Clinical uses: clot prevention, heart & vascular health, blood pressure support, cholesterol balance.
- Big picture: *“The circulation & clot-busting superhero.”*

How Long Do Enzymes Take to Work?

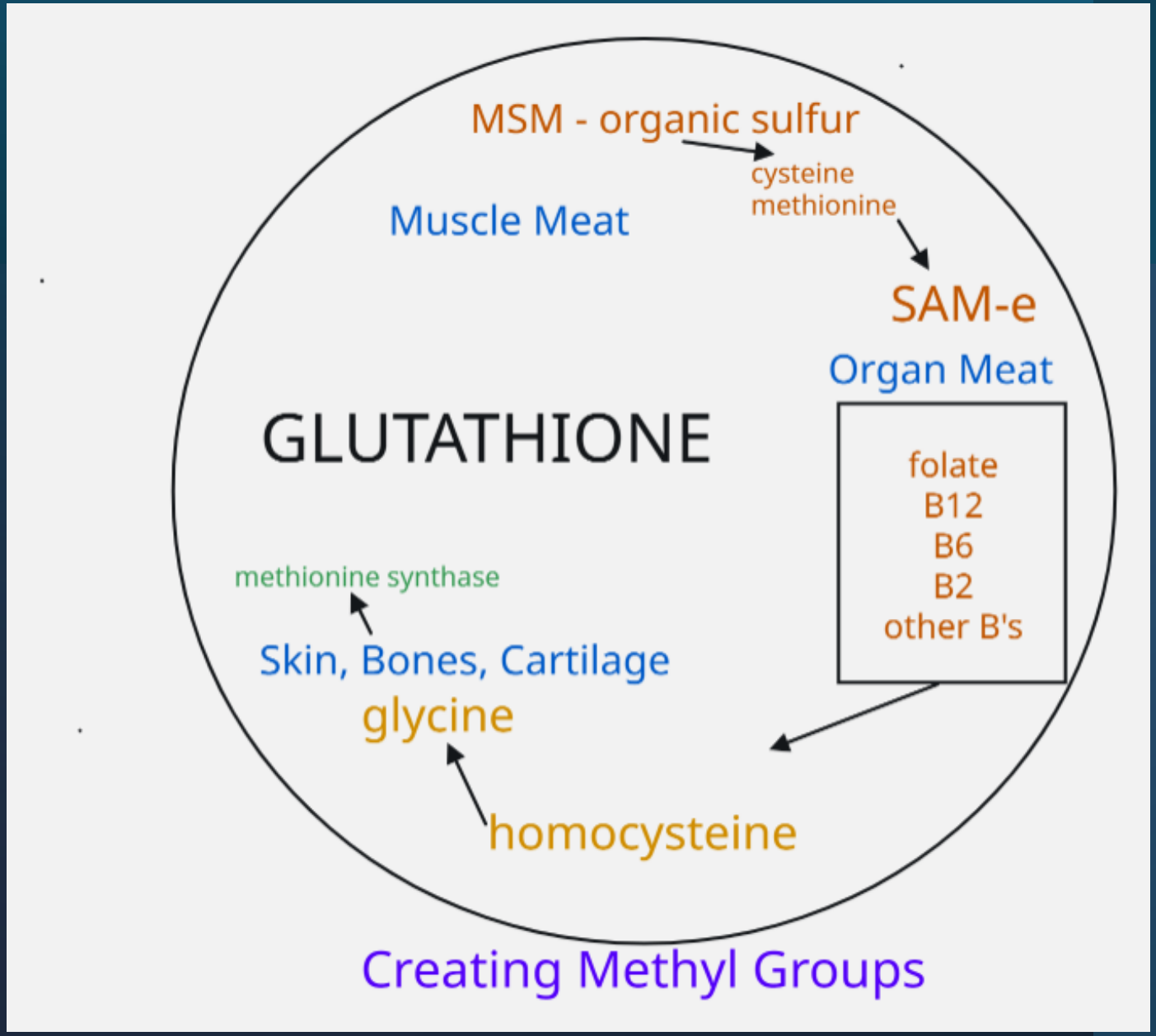
- **Nattokinase**
  - Studies show clot-dissolving effects can begin **within hours** of administration.
  - Because benefits are short-lived, it is best used as a **daily preventative** to keep blood flowing smoothly.
- **Serrapeptase**
  - For **pain and inflammation**, relief may be felt **quickly, even almost immediately**.
  - For **blocked arteries/atherosclerosis**, research (Dr. Hans Nieper, 1997) suggests **6–8 months for reliable results**, with continued improvement observed **up to 18 months**.
- **General Guidance**
  - Effects vary by individual and condition.
  - Think of these enzymes as **long-term support tools** rather than "quick fixes."
  - Cardiovascular disease develops slowly, and **reversal also takes time and consistency**.

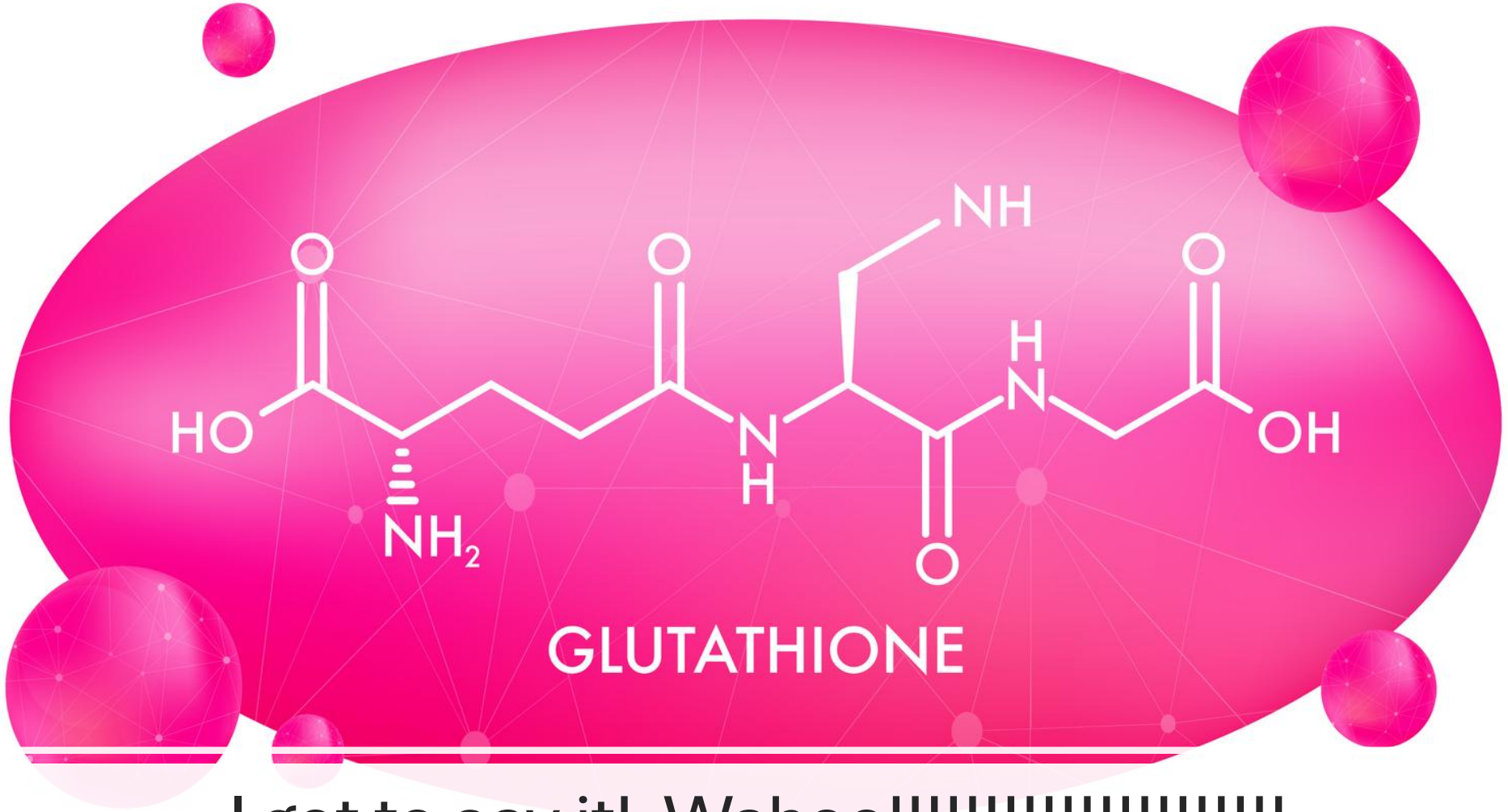
  Transitioning away from prescription blood thinners should always be done **under guidance of the prescribing physician**.



The Homocysteine/Methylation Connection

Homocysteine is a key marker in cardiovascular risk, particularly for hyperthrombosis. When levels rise, blood becomes more prone to clotting and blood vessels suffer damage that accelerates atherosclerosis. The body normally recycles homocysteine through methylation pathways, a process heavily dependent on nutrients like folate, vitamin B12, and vitamin B6. These B vitamins, often best taken as part of a complete B complex, work together to keep homocysteine in check and maintain healthy blood flow. Glycine also plays a valuable role by supporting methylation balance and acting as a buffer against excess homocysteine. Together, these nutrients provide a simple but powerful way to reduce thrombotic risk while also supporting overall vascular and metabolic health.


MSM - organic sulfur
cysteine
methionine
Muscle Meat
SAM-e
Organ Meat
GLUTATHIONE
folate
B12
B6
B2
other B's
methionine synthase
Skin, Bones, Cartilage
glycine
homocysteine
Creating Methyl Groups



I got to say it! Wahoo!!!!!!!!!!!!!!!!!!!!!

Wrap-Up!

We've seen that anticoagulant drugs are often medically indicated, necessary, and at times truly life-saving. But they also come with serious, even life-threatening side effects.

Being informed empowers you to make better decisions about what's right for your own health.

And as for atrial fibrillation — if we can prevent or address *that* itself, then one of the most common reasons for prescribing blood thinners disappears.

That's a topic we'll dive into *next* time!

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