

## **Food and Drug Interactions**

Major drug class to watch: anticoagulants / antiplatelets (warfarin, DOACs, aspirin, clopidogrel)  
— several foods or supplements can affect bleeding risk or INR.

**Warfarin** is an anticoagulant medication used to prevent and treat blood clots, such as those caused by deep vein thrombosis or pulmonary embolism. It works by decreasing the blood's ability to clot, which helps reduce the risk of serious conditions like heart attacks and strokes.

**(Direct Oral Anticoagulants (DOACs))** are a type of medication used to prevent blood clots. They work by inhibiting specific factors in the blood clotting process, and include drugs like rivaroxaban, apixaban, dabigatran, and edoxaban.)

**Clopidogrel** is an antiplatelet medication used to reduce the risk of heart attacks and strokes in individuals at high risk, often prescribed alongside aspirin. It works by preventing blood clots from forming by inhibiting platelet aggregation.

**INR, or International Normalized Ratio**, is a blood test that measures how long it takes for your blood to clot. It is commonly used to monitor patients taking anticoagulant medications like warfarin to ensure they are within a safe and effective range for preventing blood clots.

Other common concerns: **interactions with blood-sugar drugs**, immunosuppressants/chemotherapy, and drugs whose absorption is altered by high-fiber foods or by enzyme (CYP) inhibition/induction.

U.S. Food and Drug Administration

The cytochrome P450 (CYP) enzyme family is the most important enzyme system catalyzing the phase 1 metabolism of pharmaceuticals and other xenobiotics such as herbal remedies and toxic compounds in the environment.

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### **1) Turmeric / Curcumin**

#### **Main cautions**

Bleeding risk / antiplatelet effect: curcumin can inhibit platelet function and slow clotting — taking concentrated turmeric/curcumin supplements together with anticoagulants (warfarin, DOACs) or antiplatelet drugs (aspirin, clopidogrel) may increase bleeding risk.

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Drug-metabolism interactions: curcumin (and piperine in black pepper extracts) can affect liver enzymes and alter blood levels of some drugs (e.g., immunosuppressants, some chemotherapies, certain statins or other CYP-metabolized drugs).

PMC +1 other source

Glucose lowering: curcumin may lower blood glucose modestly — caution with insulin or oral hypoglycemics (risk of hypoglycaemia).

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#### **Practical advice**

Culinary turmeric (in food) is generally safe.

- Avoid high-dose curcumin supplements if on blood thinners or complex drug regimens unless supervised by their prescriber.
- If a patient starts/stops a curcumin supplement, advise their prescriber and consider closer INR or drug-level monitoring.

### **2) Leafy Greens (spinach, kale, chard)**

#### **Main cautions**

Vitamin K and warfarin: leafy greens are high in vitamin K, which can decrease warfarin's anticoagulant effect (lower INR) if intake changes suddenly. The important issue is consistency—not elimination.

Canada +1 other source

#### **Practical advice**

- Patients on warfarin should keep their usual intake of vitamin-K foods consistent day to day and inform their anticoagulation clinic of any major diet changes.
- No need to avoid leafy greens entirely for most people — just avoid large, sudden changes in intake.

### **3) Berries (blueberries, strawberries, raspberries) — and cranberry note**

#### **Main cautions**

Generally safe in food amounts. Most berries have no strong, consistent interactions with common prescription drugs.

Cranberry exception: cranberry products have been implicated in case reports with warfarin (mixed evidence); regulatory guidance has at times cautioned warfarin users to avoid high intake of cranberry products. The evidence is mixed, but prudence is reasonable for patients on warfarin.

PMC+1 other source

**Practical advice**

- Berries are safe for most people in normal dietary amounts.
- For patients on warfarin, avoid sudden, large increases in cranberry juice/cranberry product intake and inform the anticoagulation clinic if you do start them.

**4) Fatty Fish / Omega-3 (salmon, sardines, mackerel)**

**Main cautions**

Bleeding risk when combined with anticoagulants/antiplatelets: High-dose fish-oil supplements can have additive anti-platelet effects and have been reported to increase bleeding risk when used with warfarin in some case reports (evidence mixed). Culinary fish is less a concern; the main caution is supplement dose.

PubMed +1 other source

**Practical advice**

- Eating fatty fish regularly is generally beneficial and safe.
- If a patient is taking high-dose omega-3 supplements (typically >2–3 g/day) and is on anticoagulants or antiplatelet drugs, advise review with the prescribing clinician and possible monitoring.

**5) Nuts & Seeds (walnuts, almonds, flaxseed, chia)**

**Main cautions**

Generally safe as food.

Flaxseed and some herbal components have been listed in reviews as having theoretical or reported interactions with warfarin (mostly case reports or theoretical mechanisms). High-fiber seeds (flax) can also affect absorption of oral drugs if taken at the same time (e.g., thyroid hormone levothyroxine).

cjhp-online.ca +1 other source

**Practical advice**

- Encourage normal dietary use of nuts and seeds.
- For patients on narrow-therapeutic-index drugs (e.g., warfarin, levothyroxine, certain immunosuppressants), avoid starting large quantities of concentrated seed supplements without clinician review; space high-fiber foods away from meds like levothyroxine (take meds as directed, usually 30–60 minutes before food).

### **Practical Checklist**

- If you are on anticoagulants or antiplatelet drugs (warfarin, DOACs, aspirin, clopidogrel), talk with your prescriber before starting turmeric/curcumin supplements, high-dose fish-oil, or large new herbal products (including concentrated berry extracts or citrus concentrates). PMC +1 other source
- If you are on warfarin, keep vitamin-K intake consistent (don't make large sudden changes in leafy-green consumption) and report diet changes to your anticoagulation service. Canada
- If you are on blood sugar lowering drugs, discuss starting high-dose turmeric or concentrated supplements because these may further lower glucose. PMC
- If you take narrow-therapeutic-index oral drugs (e.g., levothyroxine), avoid taking large amounts of high-fiber foods or seeds right at the same moment—space them. health.ucsd.edu
- Food (normal amounts) is usually safe and encouraged; the primary risks arise from supplements, extracts, or sudden large dietary changes. The FDA and other agencies caution that “natural” does not mean risk-free. U.S. Food and Drug Administration

### **Sources (selected, high-value)**

- Turmeric (curcumin) review — interactions and bleeding risk. PMC
  - Mayo Clinic / WebMD patient guidance on turmeric and interactions. Mayo Clinic +1 other source
  - Warfarin patient guidance (Vitamin K & diet) — Health Canada / provincial guidance. Canada +1 other source
- Fish oil and anticoagulant bleeding risk (case reports and reviews).
  - PubMed +1 other source
- Cranberry-warfarin case reports and reviews (mixed evidence; caution advised).
  - PMC +1 other source
  - FDA consumer warning on mixing medications and supplements.
  - U.S. Food and Drug Administration

### **Final Takeaways**

- Encourage whole foods from the Top-5 list — they're beneficial and usually safe in normal amounts.
- Be cautious with supplements or concentrated extracts, and always check with the patient's prescribing clinician when patients take anticoagulants, antiplatelets, insulin/oral hypoglycemics, immunosuppressants, chemotherapy, or thyroid medication.