ROOT HEALTH, LLC.

THE SOLINGER METHOD
by Root Health L.L.C.

Dr. Sarah Solinger, PhD, ND, MSc, FCN
Naturopathic Doctor | FunctionalClinical Nutritionist | MasterHerbalist
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What high β-glucuronidase means (fast)

- **Function:** Bacterial enzyme that **de-conjugates** glucuronidated compounds in the gut, causing **enterohepatic recirculation** of estrogens, bile acids, xenobiotics, and some meds.
- **Clinical signals:** Estrogen-dominant symptoms, cholestatic complaints, dysbiosis, skin flares, headaches, sluggish detox, constipation, bloating.

Root-Cause Flow (quick map)

Dysbiosis/Low Fiber → ↑ β-glucuronidase → De-conjugation in lumen → Reabsorption via portal vein
→ ↑ Estrogen & Tox Load, Bile Acid Irritation → PMS/menorrhagia, breast tenderness, acne, pruritus, headaches, fatigue

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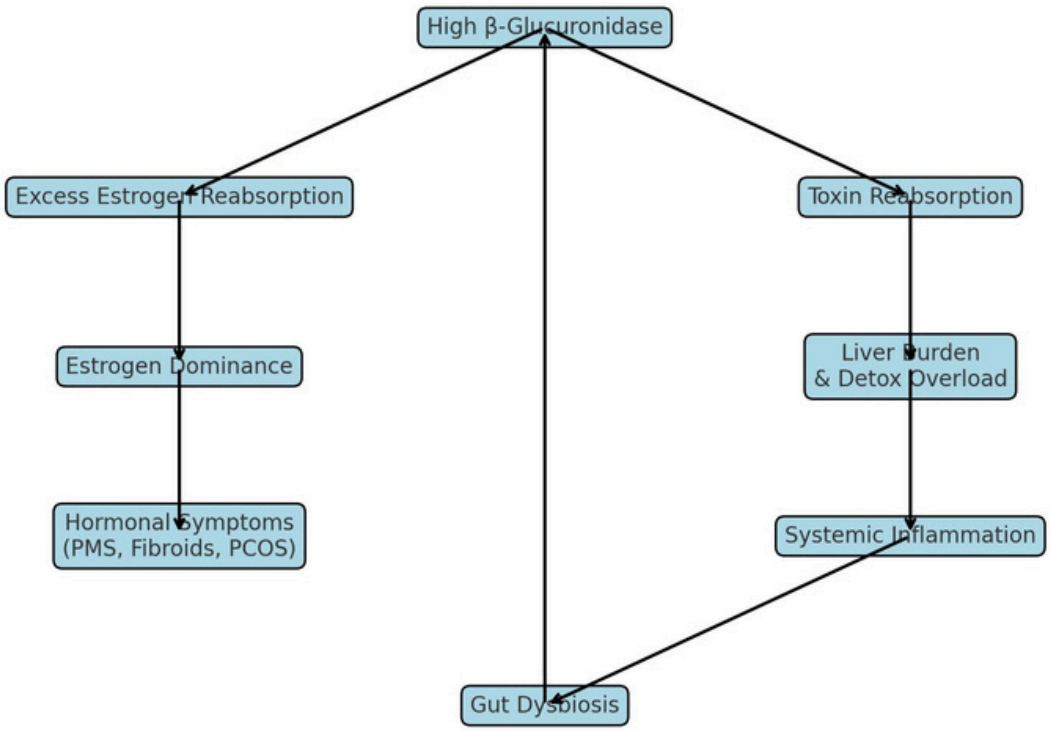
High β-Glucuronidase Root Cause Map



Common drivers

- **Microbial:** Clostridia spp., some **E. coli**,Bacteroides overgrowth, low **Lacto/Bifido** keystones.

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- **Dietary:** Low fermentable fiber and lignans,high alcohol,highprocessedfat/meat,low brassicas.
- **Motility:** Constipation, low bile flow, low MMC.
- **Liver burden:**High xenobiotics, poor Phase II (esp. **glucuronidation**).
- **Medications:**Recent antibiotics, chronic NSAIDs; consider drug–glucuronidation interactions.

Phase 1, 0–4 weeks: Foundations and Motility

Goals: RegularBMs1–2/d, fiber repletion, bile flow, symptom relief.

Nutrition

- **Fiber target:** 30–40 g/day total, at least **15 g soluble**.
  Sources: oats, chia, ground flax (2 Tbsp/day), psyllium (start ½ tsp, work to 1 tsp BID if tolerated), cooked lentils/beans, kiwi, pears.
- **Brassica daily:** 1–2 cups cooked or raw (broccoli, kale, cauliflower, Brussels).
  Rationale: supports Phase II (indirectly), bile acid binding, microbiome diversity.
- **Protein:** 1.2–1.6 g/kg/day to support conjugation enzymes.
- **Hydration + minerals:** Aim clear urine, add **magnesium glycinate 200–400 mg HS** for motility if not contraindicated.

Bowel regularity playbook

- Morning: warm water+ lemon or ginger.
- **Aloe vera inner fillet**2–4 oz HS if constipated.
- **Kiwi** 2/day or **prunes**4–6/day.

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Lifestyle

- Post-prandial 10-minute walks x3/day, diaphragmatic breathing, minimum **7 hours** sleep to normalize MMC and cortisol.

Phase 2, 4–12 weeks: Lower β-glucuronidase + Rebuild Microbiome

Keep Phase 1, then add:

1) Calcium-D-Glucarate (CDG)

- **Dose:** 500–1,000mg **BID** with meals x 8–12 weeks.
- **Why:** Providesglucarate→ supports **UDP-glucuronyl transferase** pathway and **reduces de-conjugation** by shifting equilibrium.
- **Caution:** Maylowercirculating estrogens. Avoid in pregnancy, use caution with estrogen-sensitivepatients or those on estrogen therapy.

2) Targeted probiotics (rotateor combine)

- **Lactobacillus rhamnosus GG** 10–20B CFU daily.
- **Bifidobacterium longum** (e.g., BB536) 10–20B CFU daily.
- **Rationale:** Thesestrainstendto **lower β-glucuronidase activity** and improve barrier function.

3) Prebiotic substrate (ifnoSIBOsymptoms)

- **Partially hydrolyzed guar gum** 3–5 g/day or **inulin** 2–3 g/day, titrate slowly.
- **Resistant starch** 1–2tsppotatostarch in water HS, titrate up.

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4) Liver-bile support

- **Artichoke extract** 320–640mg/dayor **milk thistle (silymarin)** 150–300 mg BID.
- **N-acetylcysteine** 600mgBIDifoxidativestress/skinflarespresent.

5) Estrogen clearance support (if clinically indicated)

- **Ground flax** 2 Tbsp/day(lignanshelpbindandmodulateestrogen).
- **Cruciferous concentrate** (sulforaphane-richbroccolisprout)per label.
- **DIM** 100–200 mg/dayonlyifclearestrogen-dominancephenotype; avoid if under-estrogenized.

6) If dysbiosis is significant

- Consider a **targeted antimicrobial phase** (e.g., berberine, oregano, allicin) based on stool/urine findings, followed by a **reseed** period. Keep motility robust.

Quick Interaction Map: "How the recs lower β-G"

- **Fiber + flax + brassicas** → bind bile/estrogens, feed SCFA producers → ↓ luminal β-G signal, ↑ transit.
- **Probiotics (LGG, B. longum)** → restore keystones, ↓ β-G producers, tighten junctions.
- **Prebiotics/RS** → ↑ butyrate → improves mucosa, down-regulates enzyme expression.
- **CDG** → favors conjugation and excretion → ↓ enterohepatic recycling.
- **Bile/liver supports** → better Phase II throughput, smoother bile flow → less irritation, better clearance.
- **Magnesium + movement** → improved stool frequency → less time for de-conjugation.

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Foods to emphasize

- **Daily:** Brassicas, onions/garlic/leeks, berries, citrus zest, leafy greens, legumes, oats, chia/flax, olive oil.
- **Weekly:** Fermented foods (if tolerated), broccoli sprouts, cold potatoes/rice for RS, artichoke.
- **Fluids:** Green tea, ginger/turmeric infusions.

Foods to limit for 8–12 weeks

- Alcohol, processed meats, refined sugar, ultra-processed snacks, high charred meats, excessive dairy if constipated, high-fat meals without fiber.

Symptom targets to track

- BMs 1–2/day formed, minimal straining.
- PMS/menstrual symptoms down 30–50 percent by week 8.
- Less bloating, skin calmer, fewer headaches, improved energy and sleep.

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Medication & safety notes

- **CDG** may alter levels of drugs relying on glucuronidation (e.g., certain NSAIDs, benzos, some statins). Coordinate with the patient's prescriber, monitor for effect changes.
- **Avoid pregnancy/lactation** for CDG, DIM, and strong antimicrobials.
- If **loose stools** on prebiotics, reduce dose or switch to PHGG.

Retest

- **GI-MAP** (or repeat enzyme marker set) at **8–12 weeks** after Phase 2 starts. Adjust plan per symptoms and retest trend rather than a single value.

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