# PE-DETOXPPRO-0324

# **Detoxification Support Protocol**

DEVELOPED IN COLLABORATION WITH DR. PENNY KENDALL-REED, N.D.+



Designed by Dr. Penny Kendall-Reed, N.D. in collaboration with Pure Encapsulations®, the Detoxification Support Protocol is meant to help you deliver the most effective care and support for your patients' detoxification pathways. Products from other trusted Atrium Innovations brands such as Genestra Brands® have been added to provide a complete and robust protocol.

Many patients and doctors have insufficient understanding about the hazards associated with using off-the-shelf detox kits. These one-size-fits-all options disregard an individual's personal physiology and genetics. Standardized kits imply that everyone requires the same detox strategy. We know this does not apply to cardiovascular, metabolic or immune health, so why should it apply to detoxification.

Consequently, it is imperative to critically evaluate the appropriateness of such kits for detoxification purposes, as they typically enhance both Phase 1 and Phase 2 detoxification pathways. This is not ideal for everyone and can in fact be harmful.

## Fast Phase 1, Slow Phase 2

Patients with accelerated Phase 1 detoxification pathways can expel toxins from cells rapidly. However, this speed also leads to an overproduction of inflammatory and highly toxic Phase 1 substrates. If the subsequent Phase 2 detoxification is slow, these highly toxic substrates from Phase 1 linger in the bloodstream for extended periods. Consequently, patients may endure prolonged detox reactions and face a heightened risk of inflammation and certain cancers, as the toxins are not effectively eliminated from the body.

### Slow Phase 1, Fast Phase 2

Patients with a slow Phase 1 detoxification pathway lack sufficient CYP 450 enzymes, which are crucial for effective toxin removal from cells. As a result, toxins stay within the cells for extended periods, potentially leading to extensive damage. If Phase 2 detoxification is rapid, it will efficiently eliminate any available substrates from Phase 1. However, with a slow Phase 1, there will be fewer substrates for Phase 2 to clear out.

# Slow Phase 1, Slow Phase 2

These patients are slow in both expelling toxins from cells and eliminating them from the body completely. Consequently, they may carry a heavy toxic burden.

MAIN CLINICAL CONCERN & PATIENT SYMPTOMS	PRODUCT RECOMMENDATIONS	RECOMMENDED DOSE	CLINICAL INSIGHTS & CONSIDERATIONS
Fast Phase 1 and Slow Phase 2:  • Fast clearance of medications, often needs higher doses.  • Frequent nausea in polluted environments or with	Pure Encapsulations®  CurcumaSorb  (Order Code: MCU9C-C)  OR  Genestra Brands®  Curcumin Complex  (Order Code: 07496)	1 capsule 2X daily on an empty stomach*	To slow Phase 1 pathways.
medications.  • Frequent inflammation in polluted environments or with	Pure Encapsulations®  Liposomal Glutathione  (Order Code: LSG6C-C)	1 capsule 2X daily with or without food	To increase Phase 2 detoxification and reduce inflammation.
medications  • Frequent headaches in polluted environments or with medications.	Pure Encapsulations®  NAC 900 mg  (Order Code: NA91C-C)  OR	1 capsule 2X daily on an empty stomach*	To increase Phase 2 detoxification and reduce inflammation.
• Not aggravated by caffeine (as long as adrenals are okay).	Pure Encapsulations®  NAC + Glycine Powder  (Order Code: NGY1C-C)	1 scoop daily in water on an empty stomach*	and reduce inflammation.
<ul> <li>Fatigue, especially upon exercise.</li> <li>Puffiness and significant weight gain despite a clean diet.</li> </ul>	Pure Encapsulations®  Astaxanthin  (Order Code: AST6C-C)	1 capsule 2X daily on an empty stomach*	To increase Phase 2 detoxification specifically in the mitochondria.
Fatty liver or elevated liver enzymes despite a clean diet.	increase phase 1 detoxificat	avoid mint, milk thistle, St. John's Wo tion). Have 1 -2 caffeinated beverages 1 detox and is anti-inflammatory for	s per day depending on adrenals.





■ Liver Ultrasound

☐ Genetic Testing: CYP1A2, CYP3A4, GSTP1, NQ01, SOD2

■ Blood work: Alk Phosphatase, ALT, ESR, CRP, Lipid panel

MAIN CLINICAL CONCERN & PATIENT SYMPTOMS	PRODUCT RECOMMENDATIONS	RECOMMENDED DOSE	CLINICAL INSIGHTS & CONSIDERATIONS		
Slow Phase 1 and Fast Phase 2:  • Frequent tissue inflammation-especially intracellularly.  • Frequent headaches  • Fatigue, less than above.  • Delayed nausea  • Bad breath and acne	Genestra Brands®  D.I.M.  (Order Code: 10474)  OR  Pure Encapsulations®  DIM & Detox  (Order Code: DD6C-C)	1 capsule 2X daily on an empty stomach* 2 capsules 2X daily on an empty stomach*	To increase Phase 1 pathways.		
	Genestra Brands®  Milk Thistle Tincture  (Order Code: 11689)	5 mL 2X daily on an empty stomach*	To increase Phase 1 pathways.		
	Pure Encapsulations®  Liposomal Glutathione  (Order Code: LSG6C-C)	1 capsule daily with or without food	Especially important when in polluted environments to reduce inflammatory load and increased burden on Phase 2 pathways.		
	Pure Encapsulations®  NAC 900 mg (Order Code: NA91C-C)  OR  Pure Encapsulations®  NAC + Glycine Powder (Order Code: NGY1C-C)	1 capsule 2X daily on an empty stomach* ½ scoop daily in water on an empty stomach*	Especially important when in polluted environments to reduce inflammatory load and increased burden on Phase 2 pathways.		
	Do not use products with curcumin, they slow phase 1 detoxification. <sup>3</sup> Consume raw cruciferous veggies, increase mint and milk thistle, can use echinacea (all of these will increase phase 1 detoxification). Avoid caffeine and curcumin since they slow  Phase 1 detoxification and increase inflammation. <sup>1,2</sup>				
Adjunct Tests: Fast Phase 1 and Slow Phase 2  Genetic Testing: CYP1A2, CYP3A4, GSTP1, NQ01, SOD2  Blood work: Alk Phosphatase, ALT, ESR, CRP, Lipid panel  Liver Ultrasound					





MAIN CLINICAL CONCERN & PATIENT SYMPTOMS	PRODUCT RECOMMENDATIONS	RECOMMENDED DOSE	CLINICAL INSIGHTS & CONSIDERATIONS		
	Genestra Brands®  D.I.M.  (Order Code: 10474)  OR  Pure Encapsulations®  DIM & Detox  (Order Code: DD6C-C)	1 capsule 2X daily on an empty stomach* 2 capsules 2X daily on an empty stomach*	To increase Phase 1 pathways		
Slow Phase 1 and Slow Phase 2:  • Frequent tissue inflammation-especially intracellularly.	Genestra Brands®  Milk Thistle Tincture  (Order Code: 11689)	5 mL 2X daily on an empty stomach*	To increase Phase 1 pathways.		
Frequent nausea in polluted environments or with medications.      Frequent inflammation in polluted environments or with	Pure Encapsulations®  Liposomal Glutathione  (Order Code: LSG6C-C)	1 capsule daily with or without food	To increase Phase 2 detoxification and reduce inflammation.		
medications  • Frequent headaches in polluted environments or with medications.  • Significant puffiness and increased weight gain.  • Fatty liver or elevated liver enzymes even on a clean diet.	Pure Encapsulations® NAC 900 mg (Order Code: NA91C-C) OR Pure Encapsulations® NAC + Glycine Powder (Order Code: NGY1C-C)	1 capsule 2X daily on an empty stomach*  1/2 scoop daily in water on an empty stomach*	To increase Phase 2 detoxification and reduce inflammation.		
	Pure Encapsulations®  Astaxanthin  (Order Code: AST6C-C)	1 capsule 2X daily on an empty stomach*	To increase Phase 2 detoxification, especially in the mitochondria.		
	Do not use products with curcumin, they slow phase 1 detoxification. <sup>3</sup> Consume raw cruciferous veggies, increase mint and milk thistle, can use echinacea (all of these will increase phase 1 detoxification). Have 1 -2 caffeinated beverages per day depending on adrenals.  Caffeine slows Phase 1 detox and is anti-inflammatory for this detoxification combo. <sup>1,2</sup>				
Adjunct Tests: Fast Phase 1 and Slow Phase 2  Genetic Testing: CYP1A2, CYP3A4, GSTP1, NQ01, SOD2  Blood work: Alk Phosphatase, ALT, ESR, CRP, Lipid panel  Liver Ultrasound					

### REFERENCES:

- 1. El-Sohemy A, Cornelis MC, Kabagambe EK, Campos H. Genes Nutr. 2007 Oct;2(1):155-6.
- 2. Farzaei MH, Zobeiri M, Parvizi F, El-Senduny FF, Marmouzi I, et al. Nutrients. 2018 Jul 1;10(7):855.
- 3. Muhammad I, Wang H, Sun X, Wang X, Han M, et al. Front Pharmacol. 2018 May 25;9:554.

\*For clinical reference only - not for public use. The information in this document is for educational purposes only and has not been evaluated by the Natural and Non-prescription Health Product Directorate of Canada (NNHPD). The information and products mentioned are not intended to diagnose, treat, cure, mitigate, or prevent any disease. The doses are suggested based on clinical experience and it is up to the healthcare practitioner to apply the information to their patients. Please refer to the label for safety data, cautions and interactions. Always read and follow the label. Contact us for more information.



