

## Herxheimer Protocol Treatment Plan

Herxheimer, or Jarisch-Herxheimer reactions, occur during treatment of infections that produce toxins during treatment (cell death of bacteria or other organism from treatment).

The body over-reacts to the toxin load, producing too much inflammation and hence an increase in disease symptoms as the body tries to rid itself of the toxins. These reactions can be mild or very severe. They are very severe when the patient's body cannot remove the toxins well or quickly. The following protocol is designed to use as many avenues as possible to speed up toxin removal and reduce the intensity of the Herxheimer reaction (or "herx" as some people call it).

1. Improve clearance via liver, kidney and anti-oxidant neutralization of cytokines
  - Drink 2-3 quarts of water per day (with lemon juice)
  - Take Alka-seltzer Gold, 3-4 times a day
  - Quercetin 1500 mg per day in divided doses (histamine and kinase inhibitor)
  - Milk Thistle (Silymarin) 900-1800 mg/day in divided doses ( Improves liver clearance) Vitamin C powder 4-6 grams per day, to bowel tolerance (can cause diarrhea)
  - Glutathione IV 1-2 grams
  - Prescription drugs such as Actos and Singulaire can decrease production of cytokines. Can also increase Glutathione with N-Acetylcysteine 600mg 2x.day,
  - Alpha-lipoic acid, 600 mg day (divided doses or Sustained release)
  - Pekana Drainage Remedies: Relenix, Apohepat and Itires 5-10 drops twice a day
2. Bind toxins in the intestine so they aren't reabsorbed and re-circulated. Take these separate from other supplements and medications, so they can be absorbed. Use one of these, not all:
  - Cholestyramine (prescription) 1-4 packets per day (can cause constipation) taking with Vitamin C powder helps.
  - Welchol (prescription) same mechanism as cholestyramine but pills instead of powder. 3-4 tabs per day, divided.
  - Bentonite Clay Tablets (over the counter) binds toxins 6-8 tabs, divided dose.
  - Activated Charcoal capsules. (over the counter) binds toxins, 6-8 caps/day divided doses.
3. Other routes that can remove toxins.
  - Work up a sweat, but not by aerobic activity: (sauna or steam is good, dry sauna is best)
  - Epsom Salt Baths
  - Magnesium 800-1400 mg/day (can cause diarrhea)
  - Eat magnesium rich foods, such as greens, nuts, figs, apricots, bran, beans or oats, unless you have an allergy or intolerance to these foods.
    - If pain and fatigue are severe, rest. Trying to work or attend to usual activities while in severe pain or with severe symptoms will only delay recovery.
4. Notify your doctor if Herxheimer reactions are so severe that you have difficulty functioning. You should stop antibiotics or treatment that initiated severe Herxheimer reaction if it is severe, until reaction has subsided and you have talked to your doctor. Too much inflammation from toxins can be damaging to your body, just as the infection is.
5. You must sleep. If you don't get deep restful sleep, cytokines will only increase. Talk to your doctor about trying other options if you are still not sleeping well. Some options are Melatonin, Glycine, Nutrasleep (all over the counter) and prescription options: Lyrica, Trazadone, Gabitril, Seroquel, Amitryptiline, Zolpidem or possibly Xyrem (highly controlled rx)