

# **The 5R Program for Restoring Gastro-Intestinal and Brain Health (Leaky gut > leaky blood brain barrier > brain inflammation)**

## **REMOVE**

### **Pathogenic bacteria, yeast, or parasites**

Often a stool culture and sensitivity test is needed to determine what pathogens are present.

**Foods that cause an immune response** and G-I inflammation (leaky gut) also need to be avoided, sometimes permanently, sometimes only temporarily. Whether the immune system will tolerate them eventually depends on the type of immune reaction.

Gluten sensitivity (celiac and/or non-celiac gluten sensitivity) is best tested through EnteroLab or Cyrex. MCT/LEAP testing is a more comprehensive method for determining other immune reactivities to foods than is IgE/IgG food sensitivity testing. Lactose intolerance can be tested with a hydrogen breath test (or by noticing if Lactaid reduces gas, bloating, pain and diarrhea.)

## **RE-INOCULATE**

Friendly bacteria and yeast (probiotics) perform so many beneficial functions that good intestinal microflora are sometimes considered to be another 'organ' of the body. Reintroducing friendly flora may be a simple or a complex process. This depends on the severity and number of challenges that have disrupted them. Often a sequence of different strains works better than just taking one kind. Prebiotics may also be necessary (food for the good guys). Stress can knock them out, as do antibiotics. A poor diet promotes the growth of the wrong bacteria and yeast.

## **REPLACE**

Restoring optimal digestion may require short or long-term support with hydrochloric acid, pancreatic enzymes, and bile enhancers.

It is important to determine the causes of chronic deficiencies in gastric secretions/function:

1. Thyroid and/or pituitary hypo-function
2. Unresolved GI pathogens, including H. Pylori (sound familiar?)
3. GI food sensitivities " "
4. Vitamin/mineral cofactor deficiencies (especially zinc)
5. Reactive hypoglycemia/insulin resistance
6. Eating on the run, not chewing properly
7. History of over-eating, eating too many refined foods
8. Liver /gall bladder problems -- sludgy bile, gall stones, gall bladder removal
9. Genetic tendencies activated by lifestyle or environmental challenges
10. Liver detoxification difficulties. Some are genetic, some due to lack of nutrients
11. Lack of or need for extra dietary fiber

## **REPAIR**

Nutritional support helps to repair the gastrointestinal lining and secretory IgA (the mucous membranes' first line of defense against invading pathogens).

This only makes sense after removing the pathogens and foods that have been harming the gut.

Stress reduction is part of the repair process as excess stress hormones also contribute to gut inflammation and poor digestive ability as well as to blood sugar imbalances.

## **RESTORE BRAIN INTEGRITY and FUNCTION**

Inflammation in the brain doesn't switch off without extra support. So, even though the sources

of the inflammation in the gut have been removed, the resulting brain inflammation will continue until quenched by anti-inflammatory nutrients that cross the blood-brain barrier. So, REMOVE, RE-INOCULATE, REPLACE, and REPAIR are necessary first steps to restoring brain function, but they are often not sufficient.

Specific brain support is often necessary to RESTORE brain integrity as much as possible. Brain fatigue and brain fog respond well to this protocol, but additional support may be needed for memory loss, difficulty with focus and motivation, depression, anxiety and other issues related to specific neurotransmitter imbalances.