

## Remove, Replace, Reinoculate, Repair, Rebalance: The Five “Rs”

A properly functioning digestive system is critical to good health. In fact, problems with the gastrointestinal (GI) tract can cause more than just stomach aches or diarrhea. GI issues may underlie several other chronic health problems that seem unrelated to digestive health, including autoimmune diseases such as rheumatoid arthritis and type 1 diabetes, skin problems such as eczema and acne rosacea, and heart disease (just to name a few). So in the bigger picture, how can we deal with all that can go wrong “down there”? In functional medicine we use a program that goes by the simple acronym of the ‘5Rs’: remove, replace, reinoculate, repair, and rebalance. When applied to various chronic problems, the 5R program can lead to dramatic improvement in symptoms, and sometimes even complete resolution of the problem. The elements of the 5R program are described briefly below.

### 1. **Remove**

Remove stressors: get rid of things that negatively affect the environment of the GI tract including allergic foods and parasites or other bad bugs such as bacteria or yeast. This might involve using an allergy “elimination diet” to find out what foods are causing GI symptoms or it may involve taking drugs or herbs to eradicate a particular bug.

### 2. **Replace**

Replace digestive secretions: add back things like digestive enzymes, hydrochloric acid, and bile acids that are required for proper digestion and that may be compromised by diet, drugs, diseases, aging, or other factors.

### 3. **Reinoculate**

Help beneficial bacteria flourish by ingesting **probiotic** foods or supplements that contain the so-called “good” GI bacteria such as *bifidobacteria* and *lactobacillus* species, and by consuming the high soluble fiber foods that good bugs like to eat, called “**prebiotics.**” **Probiotics** are beneficial microorganisms found in the gut that are also called “friendly bacteria.” Use of antibiotics kills both good and bad bacteria. Probiotics in the form of supplements or food are needed to re-inoculate the gut. Fermented foods, such as yogurt, miso, and tempeh are food sources of probiotics. **Prebiotics** are nondigestible food ingredients that selectively stimulate the growth of beneficial microorganisms already in the colon. In other words, prebiotics feed probiotics. Prebiotics are available in many foods that contain a fiber called inulin, including artichokes, garlic, leeks, onion, chicory, tofu, and other soy products. Grains such as barley, flax, oats, and wheat are also good sources of prebiotics. Another good prebiotic source is a supplement called “fructo-oligosaccharide” or FOS.

### 4. **Repair**

Help the lining of the GI tract repair itself by supplying key nutrients that can often be in short supply in a disease state, such as zinc, antioxidants (e.g. vitamins A, C, and E), fish oil, and the amino acid glutamine.

### 5. **Rebalance**

Pay attention to lifestyle choices – sleep, exercise and stress can all affect the GI tract.