

4R gut healing protocol

[The 4R protocol](#) is a common four-step intervention designed to support gastrointestinal (gut) healing. Gut health can be negatively impacted by several mechanisms, such as gut [microbiota](#) imbalance (i.e., dysbiosis) and [inflammation](#), leading to increased intestinal permeability. Increased intestinal permeability, commonly referred to as [leaky gut syndrome](#), occurs when the tight junctions between cells of the intestinal lining are altered, enabling potentially harmful substances to pass through the intestinal wall.

The four steps outlined below help to minimize factors associated with inflammation and increased intestinal permeability while introducing foods and supplemental nutrients that support gut healing.

- 1. Remove** pathogens and inflammatory triggers that are associated with increased intestinal permeability.
- 2. Replace** these factors with nutrients in the diet that help to reduce inflammation and optimize digestive health.
- 3. Reinoculate** (reintroduce) the intestinal microbiota with beneficial bacteria.
- 4. Repair** the intestinal lining with specific nutrients and medicinal herbs known to decrease intestinal permeability and inflammation.

Health benefits of the 4R protocol

Maintaining [digestive health](#) is essential to ensure proper absorption of nutrients and support the function of other body systems, such as the [immune system](#). The health of the gastrointestinal system, particularly the gut microbiota, even impacts mental health through its connection with the central nervous system, often referred to as the [gut-brain axis](#).

The 4R protocol may be recommended for individuals with leaky gut, and certain conditions that may be associated with leaky gut, including:

- [Celiac disease](#)
- [Chronic fatigue syndrome](#)
- Inflammatory bowel disease (IBD)
- Multiple sclerosis (MS)
- Rheumatoid arthritis
- [Type 1 diabetes](#)



Following the 4R protocol

The following table provides an overview of the foods, beverages, and other lifestyle factors involved in the 4R protocol.

Remove	<ul style="list-style-type: none">• Alcohol• Food additives (e.g., artificial colors, emulsifiers, salt, solvents)• Food sensitivities• Gluten, a protein found in certain grains (e.g., wheat, barley, rye)	<ul style="list-style-type: none">• Refined starches and sugar• Saturated and trans-fatty acids (e.g., vegetable shortening, margarine, certain baked goods, fried foods)
Replace	<ul style="list-style-type: none">• Anti-inflammatory herbs and spices (e.g., turmeric, rosemary, garlic)• Extra-virgin olive oil• High-fiber foods (e.g., vegetables, fruits, nuts)	<ul style="list-style-type: none">• Mushrooms• Omega-3 fatty acids, found in oily fish (e.g., salmon, mackerel, herring, trout)
Reinoculate	<ul style="list-style-type: none">• Fermented foods, such as:<ul style="list-style-type: none">• Cultured dairy (e.g., yogurt, kefir, sour cream)• Fermented beverages (e.g., kombucha, kvass, water kefir)	<ul style="list-style-type: none">• Fermented soy products (e.g., miso, tempeh, natto)• Fermented vegetables (e.g., sauerkraut, kimchi, unpasteurized pickles)• Probiotic supplements
Repair	<ul style="list-style-type: none">• Dietary supplements, such as:<ul style="list-style-type: none">• Aloe vera• Chios mastic gum• Deglycyrrhizinated licorice (DGL)• L-glutamine• Marshmallow root	<ul style="list-style-type: none">• Omega-3 fatty acids• Polyphenols (e.g., quercetin, myricetin, curcumin)• Vitamin D• Zinc

Special considerations

The recommended duration of the 4R protocol varies based on personal health status and goals. Speak with your integrative healthcare practitioner for guidance on dietary modifications and supplement recommendations for your individual health goals.

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