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HCl & Enzymes:

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https://pubmed.ncbi.nlm.nih.gov/22525304/

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A growing number of studies show correlations between PPIs—and lower stomach acid—and lower nutrients status for many vitamins and minerals:

- Vitamin B12 (39, 40, 41, 42)
- Iron (43, 44, 45, 46)
- Magnesium (47, 48, 49, 50)
- Calcium (51, 52, 53)
- Folate (54, 55)
- Vitamin C (56)
- Zinc (57)

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https://chriskresser.com/how-to-cure-gerd-without-medication/

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https://www.ibgard.com/ibgardr-difference

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4965625/#!po=82.6923

https://practicalgastro.com/2020/07/01/three-year-safety-data-analysis-indicates-no-pattern-of-heartburn-with-ibgard-an-advanced-technology-peppermint-oil-in-contrast-to-the-heartburn-issues-with-older-technologies/

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[2] Micronutrients, Agriculture and Nutrition: Linkages for Improved Health and Well Being

[3] How Modern Life Depletes Our Gut Microbes

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[17] Anti-candida effect of bacillomycin D-like lipopeptides from Bacillus subtilis B38

[18] Probiotic Bifidobacterium longum NCC3001 Reduces Depression Scores and Alters Brain Activity: A Pilot Study in Patients With Irritable Bowel Syndrome

[19] The Intestinal Life Cycle of *Bacillus subtilis* and Close Relatives

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https://www.amymyersmd.com/article/soil-based-probiotics-sibo/

Prebiotics:

We recommend Partially Hydrolyzed Guar Gum as a prebiotic! This is safe from those recovering from SIBO! Take with your probiotics. See the research below and the product link below:

Sources

Ohashi Y, Sumitani K, Tokunaga M, Ishihara N, Okubo T, Fujisawa T. Consumption of partially hydrolysed guar gum stimulates Bifidobacteria and butyrate-producing bacteria in the human large intestine. Benef Microbes. 2015;6(4):451-5. doi: 10.3920/BM2014.0118. Epub 2015 Feb 12. PMID: 25519526.

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1. Anaeroglobus geminatus

Research:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8539185/

“Recent papers have demonstrated substantial alterations in the gut and oral microbiota in patients with rheumatoid arthritis (RA)…”

“RA has long been associated with periodontal disease [**19**], and recent evidence on the oral microbiome has emphasized its role in the arthritis.”

“RA is an autoimmune disease affecting the synovium and cartilage with bony erosion. Recently, the relationship between the oral microbiome and systemic diseases has been explored [**21**,**22**]. Sher et al. demonstrated that overall exposure to *Porphyromonas gingivalis* was similar between patients with RA and controls. These authors found an abundance of ***Anaeroglobus geminatus*** that correlates with the

Sources

presence of rheumatoid factors, and *Prevotella* and *Leptotrichia* species are the only taxa that have been observed in patients with new-onset RA [**22**]."

https://www.mdpi.com/2077-0383/8/10/1753

Lactobacillus casei

https://www.mdpi.com/2077-0383/8/10/1753

"Anaeroglobus geminatus were later added to the list of microbes associated with increased disease severity in RA (Rheumatoid Arthritis)."

"Prevotella copri (Pc) was discovered in new-onset, untreated RA (NORA) patients, as an intestinal microbe correlated with disease activity [32]. Increases in Pc abundance correlated with a reduction in Bacteroides and a loss of beneficial microbes in NORA patients."

In human subjects with RA, supplementation of Lactobacillus acidophilus, Lactobacillus casei, and Bifidobacterium bifidum for eight weeks exhibited an improvement in disease activity score, a significant decrease in serum insulin, and high sensitivity C- reactive protein (hsCRP) levels

https://www.cureus.com/articles/55978-microbiome-in-rheumatoid-arthritis-and-celiac-disease-a-friend-or-foe?score_article=true#!/

2. Burkholderia pseudomallei

https://journals.asm.org/doi/10.1128/Spectrum.00102-21

3. Blastomyces gilchristii

Verdict: blastomyces gilchristii is a fungi which is mold spores are converted into a pathogenic yeast once the spores are inhaled.

Eradication: GI Synergy (contains 3 products in 1 - one of which is called Paristonal which is a product that fight fungal overgrowth)

Probiotics to fight fungal infections:

Sources

Lactobacillus acidophilus, Lactobacillus casei, Saccharomyces boulardii, *Lactobacillus rhamnosus*

Research:

https://www.frontiersin.org/articles/10.3389/fmicb.2022.814831/full

https://journals.asm.org/doi/10.1128/JCM.02078-20Campylobacter (C. jejuni, C. coli and C. lari only)

L. salivarius and L. reuteri

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8150830/

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4. Campylobacter (C. jejuni, C. coli and C. lari only)

L. salivarius and L. reuteri

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8150830/

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5. Candidiasis Albicans

Lactobacillus acidophilus, Lactobacillus casei, Saccharomyces boulardii

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4603435/

https://pubmed.ncbi.nlm.nih.gov/6762128/

https://pubmed.ncbi.nlm.nih.gov/8228371/

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0012050

https://pubmed.ncbi.nlm.nih.gov/17885943/

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6. Overgrowth of Citrobacter

Sources

L. plantarum, L. salivarius, L. casei, L. acidophilus, B. animalis subsp. lactis and B. bifidum, Lactobacillus helveticus,Lactobacillus rhamnosus

https://pubmed.ncbi.nlm.nih.gov/22430833/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5609747/

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7. Clostridiodes difficile (C. Diff):

Saccharomyces boulardii, Lactobacillus rhamnosus

Na, Xi, and Ciaran Kelly. "Probiotics in Clostridium difficile infection." *Journal of clinical gastroenterology* 45.Suppl (2011): S154.

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C44&q=Probiotics+in+Clostridium+difficile+Infection&btnG=#d=gs_qabs&u=%23p%3DyL1_mJJXCK4J

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https://scholar.google.com/scholar?hl=en&as_sdt=0%2C44&q=Probiotics+in+Clostridium+difficile+Infection&btnG=#d=gs_qabs&u=%23p%3DyL1_mJJXCK4J

Lactobacillus reuteri

https://www.frontiersin.org/articles/10.3389/fmicb.2021.689958/full

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8. Enterotoxigenic E. coli (ETEC) LT/ST

Lactobacillus Plantarum, Saccharomyces: *Pediococcus acidilactici* and *S. cerevisiae boulardii*, Lactobacillus rhamnosus, L. reuteri*, Lactobacillus johnsonii*, bacillus licheninformis

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5510153/#!po=69.9219

Sources

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9. Escherichia coli (E. coli) O157:H7

L. rhamnosus, L. acidophilus, bifidobacterium breve, Saccharomyces boulardii, Bifidobacterium animalis, Lactobacillus reuteri, Lactobacillus acidophilus, Lactobacillus plantarum, Lactobacillus rhamnosus, Bifidobacterium longum Bifidobacterium infantis

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6069398/

https://pubmed.ncbi.nlm.nih.gov/10424093/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1201237/

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10. Enterobacter hormaechei

Here's the verdict: enterobacter hormaechei is a bacterial pathogen related to Enterobacter cloacae.

Eradication: GI Synergy (antibacterial herbs)

Probiotic Strain Needed: Lactobacillus Plantarum

Products:

Lactoprime Plus

https://klaire.com/k-lpp-lactoprime-plus

Research:

https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/enterobacter-hormaechei

https://www.liebertpub.com/doi/abs/10.1089/jmf.2018.4329

https://bmcvetres.biomedcentral.com/articles/10.1186/s12917-019-2207-z

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11. Enterococcus (faecium …)

Sources

L. rhamnosus

https://journals.asm.org/doi/10.1128/AEM.01243-16

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12. H. Pylori

Research:

Lactobacillus gasseri

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6711431/pdf/bmjgast-2019-000314.pdf

Bifidobacteria

Saccaromyces boulardii

“Lactobacilli and other such probiotics including Bifidobacterium, Bacillus licheniformis, and saccharomyces are currently in use and are proven to be effective in managing the gastrointestinal symptoms related to H. pylori.”

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9338786/#:~:text=Lactobacilli%20and%20other%20such%20probiotics,pylori.

https://pubmed.ncbi.nlm.nih.gov/29358890/

Lactobacillus johnsonii

https://pubmed.ncbi.nlm.nih.gov/12921879/

Lactobacillus casei

https://pubmed.ncbi.nlm.nih.gov/28681177/

Bacillus claussi

Sources

https://www.longdom.org/open-access/bacillus-clausii--the-probiotic-of-choice-in-the-treatment-of-diarrhoea-2157-7595-1000211.pdf

Other studies:

https://pubmed.ncbi.nlm.nih.gov/12425542/

https://pubmed.ncbi.nlm.nih.gov/27723762/

https://pubmed.ncbi.nlm.nih.gov/17229240/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6711431/pdf/bmjgast-2019-000314.pdf

https://drruscio.com/h-pylori-probiotics/#:~:text=Notable%20research%20about%20Lactobacillus%20(lactic,of%20standard%20treatment%20%5B23%5D.

13. Klebsiella pneumoniae, Klebsiella

Bifidobacterium longum, L. plantarum, L. salivarius, L. casei, L. acidophilus, B. animalis subsp. lactis and B. bifidum

https://www.sciencedirect.com/science/article/pii/S1286457915002312

https://pubmed.ncbi.nlm.nih.gov/19462517/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5609747/

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14. Methanobrevibacter Smithii (M Smithii)

L. plantarum, Lactobacillus reuteri, L. salivarius, L. casei, L. acidophilus, B. animalis subsp. lactis and B. bifidum

https://pubmed.ncbi.nlm.nih.gov/28429333/

Sources

https://www.scientificwellness.com/blog-view/probiotic-for-methane-dependant-constipation--635

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5609747/

https://www.nature.com/articles/s41598-021-84641-8

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15. Overgrowth of Prevotella Copri

Lactobacillus acidophilus, Lactobacillus casei, Bifidobacterium bifidum

Guerreiro, Catarina Sousa, et al. "Diet, microbiota, and gut permeability—the unknown triad in rheumatoid arthritis." *Frontiers in Medicine* (2018): 349.

https://www.frontiersin.org/articles/10.3389/fmed.2018.00349/ful

https://scholar.google.com/scholar_lookup?author=B.+Zamani&author=HR.+Golkar&author=S.+Farshbaf&author=M.+Emadi-Baygi&author=M.+Tajabadi-Ebrahimi&author=P.+Jafari+&publication_year=2016&title=Clinical+and+metabolic+response+to+probiotic+supplementation+in+patients+with+rheumatoid+arthritis%3A+a+randomized,+double-blind,+placebo-controlled+trial&journal=Int+J+Rheum+Dis&volume=19&pages=869-79#d=gs_qabs&t=1656476603882&u=%23p%3DJfnBolQAfsoJ

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16. Overgrowth of Proteus spp

Lactobacillus casei, Lactobacillus reuteri, Lactobacillus Plantarum

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7355612/

https://jmb.tums.ac.ir/index.php/jmb/article/view/335

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17. Streptococcus spp.

Sources

Lactobacillus rhamnosus GG,[10] Lactobacillus reuteri, Bifidobacterium

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6519182/#!po=9.57447

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18. Streptococcus agalactiae

Lactobacillus salivarius, L. jensenii, *L. crispatus*, *L. rhamnosus*, *L. gasseri*

https://www.nature.com/articles/s41598-020-76896-4

https://www.sciencedirect.com/science/article/abs/pii/S0266613821002837

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6521265/#abstract-1title

19. Streptococcus suis:

Lactobacillus plantarum

https://www.sciencedirect.com/science/article/abs/pii/S0882401017308677

20. Salmonella typhimurium:

Saccaromyces Boulardii, Bacillus Subtilis, Lactobacillus Plantarum, Bifidobacterium Bifidus

https://pubmed.ncbi.nlm.nih.gov/10424093/

https://www.sciencedirect.com/science/article/abs/pii/S0034528811003419

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“probiotic *Bifidobacterium bifidum* inhibits growth of *S. enterica* [24]. These authors suggest that *Bifidobacter*-derived factors interfere with expression of *S. enterica* virulence genes encoded on the *Salmonella* pathogenicity islands 1 and 2.”

Wagner, R. Doug, and Shemedia J. Johnson. "Probiotic bacteria prevent Salmonella–induced suppression of lymphoproliferation in mice by an immunomodulatory mechanism." *BMC microbiology* 17.1 (2017): 1-12.

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“probiotic *Bifidobacterium bifidum* inhibits growth of *S. enterica* [24]. These authors suggest that *Bifidobacter*-derived factors interfere with expression of *S. enterica* virulence genes encoded on the *Salmonella* pathogenicity islands 1 and 2.”

Wagner, R. Doug, and Shemedia J. Johnson. "Probiotic bacteria prevent Salmonella–induced suppression of lymphoproliferation in mice by an immunomodulatory mechanism." *BMC microbiology* 17.1 (2017): 1-12.

https://bmcmicrobiol.biomedcentral.com/articles/10.1186/s12866-017-0990-x

22. Overgrowth of Salmonella enteric

https://pubmed.ncbi.nlm.nih.gov/10424093/

https://www.sciencedirect.com/science/article/abs/pii/S0034528811003419

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“probiotic *Bifidobacterium bifidum* inhibits growth of *S. enterica* [24]. These authors suggest that *Bifidobacter*-derived factors interfere with expression of *S. enterica* virulence genes encoded on the *Salmonella* pathogenicity islands 1 and 2.”

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https://bmcmicrobiol.biomedcentral.com/articles/10.1186/s12866-017-0990-x

23. Shigella boydii

https://archive.hshsl.umaryland.edu/handle/10713/4621

Sources

Overgrowth of Shigella dysenteriae

24. Shigella dysenteriae

(Lactobacillus Rhamnosus, Bifidobacterium Lactis)

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644304/

https://ijml.ssu.ac.ir/browse.php?a_id=318&sid=1&slc_lang=en&html=1

25. Shigella sonnei

Lactobacillus paracasei, Lactobacillus rhamnosus, Lactobacillus casei

https://www.sciencedirect.com/science/article/pii/S0944501311000206

26. Shigella flexneri

Lactobacillus reuteri, Lactobacillus casei

https://www.spandidos-publications.com/10.3892/etm.2020.8469

https://journals.aai.org/jimmunol/article/176/2/1228/73611/Anti-Inflammatory-Effect-of-Lactobacillus-casei-on

https://www.spandidos-publications.com/10.3892/etm.2020.8469

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644304/

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27. Overgrowth of Shiga-like Toxin producing E. coli (STEC) stx1/

Bifidobacterium, Pediococcus, and Lactobacillus

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4364364/#!po=11.6162

Sources

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28. Overgrowth of Parasites

Probiotics strains to fight overgrowth:

L. reuteri, *Lactobacillus casei …*

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3182331/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6799552/

29. Pseudomonas aeruginosa

Lactobacillus rhamnosus, Bifidobacterium longum

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7556188/

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30. Tryanosoma Cruzi

Here is the verdict: It's a Parasite. Tryanosoma cruzi is a flagellate protozoan.

Eradication Plan: Do the Parasite protocol and recipe plan. Weeks 1-4 you will follow the eradication supplements based on if you have SIBO or not. Then in weeks 5-8 you will swap out GI Synergy for the parasite supplement (either R.U.G. or SCRAM and follow the directions on the back of the bottle, slowly increasing pills as instructions on back of bottle)

Probiotic strains needed:
Lactobacillus casei

Research:

https://www.researchgate.net/publication/51687710_Probiotics_for_the_Control_of_Parasites_An_Overview

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Sources

31. Vibrio cholerae, cholera toxin gene (ctx)

Lactobacillus rhamnosus, Bifidobacterium longum

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3763660/

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32. Serratia marcescens

Lactobicillus acidophilus, Lactobacillus plantarum

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5825935/

Sources