

Myth Busters: Antibiotic Edition



MYTH: Bactrim cannot be used as monotherapy for nonpurulent skin and soft tissue infections (SSTI)



NOT TRUE!

Organisms of concern: *Streptococcus* spp.

Here's why:

- Sulfamethoxazole-Trimethoprim (Bactrim) disrupts folic acid synthesis & utilization.
- This prevents the biosynthesis of the nucleic acid thymidine by bacteria and causes them to die.
- Some species of *Strep*, including *S. pyogenes*, are able to utilize exogenous sources of thymidine to continue their life cycle.
- Guess what? The laboratory media that was originally used to test *Strep* spp. susceptibility to Bactrim contained thymidine - therefore the bacteria were able to use it and did not die!
- When tested using thymidine-depleted media, all 370 *S. pyogenes* isolates tested were highly susceptible to Bactrim!

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TRUTH: Bactrim can be used as monotherapy for nonpurulent skin and soft tissue infections (SSTI)



References:

1. Bowen, Asha C et al. "Is *Streptococcus pyogenes* resistant or susceptible to trimethoprim-sulfamethoxazole?." *Journal of clinical microbiology* vol. 50,12 (2012): 4067-72. doi:10.1128/JCM.02195-12
2. Coll, P F et al. "Exogenous thymidine and reversal of the inhibitory effect of sulfamethoxazole-trimethoprim on streptococci." *European journal of clinical microbiology* vol. 3,5 (1984): 424-6. doi:10.1007/BF02017363
3. McCreary, Erin K et al. "Antibiotic Myths for the Infectious Diseases Clinician." *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* vol. 77,8 (2023): 1120-1125. doi:10.1093/cid/ciad357