Bactrim (TRIMETHOPRIM-SULFAMETHOXAZOLE) Severe Acute Respiratory Failure

TMP-SMX is a commonly prescribed antibiotic. However, we find it imperative to share this relatively rare but life-threatening condition with clinicians as the mortality rate approaches 40%.



2017

• 15-year-old Zei Uwadia is hospitalized with acute respiratory failure of unknown origin and is placed on the highest form of life support, ECMO.

https://www.childrensmercy.org/childrens-mercy-research-institute/news-and-stories/childrens-mercy-physicians-investigation-prompts-revised-fda-labeling-for-bactrim-septra/

2018

- A CNN Health piece on Zei's ECMO journey draws interest from those with similar experiences.
- Dr. Jenna Miller, Zei's pediatric intensivist, joins forces with Dr. Jennifer Goldman to study severe respiratory failure cases linked to Bactrim.



https://www.cnn.com/2019/02/14/health/zei-uwadia-life-support-death/index.html



2019

- Dr. Miller and Dr. Goldman publish five pediatric cases of Bactrim ARDS in Pediatrics.
- Bactrim-linked respiratory failure sparks global demand for patient evaluations.

2021

• Drs. Miller & Goldman publish Bactrim-induced acute respiratory failure pathology in *ATS Journals*.



• Colleagues at Massachusetts General first reported the novel pathology, Diffuse Alveolar Injury with Delayed Epithelialization.

DOI: 10.1164/rccm.202009-3421LE

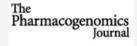


2021

• Notably, this work prompts the FDA to update the drug label to include this identified disease process.

2022

- Dr. Jenna Miller and Dr. Jennifer Goldman publish an associated genomic HLA marker in *The Pharmacogenomics Journal*.
- A genetic link to Bactrim ARDS is established.



DOI: 10.1038/s41397-022-00266-8



2023

Critical Care Medicine publishes their three-part definition for TMP-SMX
 Severe Acute Respiratory Failure encompassing clinical, pathology, and genomics aspects.

If you or a family member have experienced a negative reaction to Bactrim, talk to your doctor about adding this medication to your allergy list.



Infographic crafted by Brie Kerschen, independent of any affiliation with Children's Mercy Hospital.

