

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 Zeï 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-sepra/>

2018

- A CNN Health piece on Zeï's ECMO journey draws interest from those with similar experiences.
- Dr. Jenna Miller, Zeï'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>



DOI: 10.1542/peds.2018-3242

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



DOI: 10.5863/1551-6776-26.6.655a

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



DOI: 10.1097/CCM.00000000000006002

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.

<https://www.jennamillermmd.com/bactrim>

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

