

March 18, 2024  
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The Anesthesia Company  
(Luminis Health)  
Anne Arundel Medical Center  
2001 Medical Parkway  
Annapolis, MD 21401

To Whom It May Concern:

I am writing this letter to support ZEM Life Device Company's proposal to be submitted to the NIH's SBIR program.

I am anesthesiologist and have been in practice for 30 years. I have administered fentanyl and other powerful narcotic medications to tens of thousands of patients for the relief of pain routinely throughout my career. These medications are essential for achieving and maintaining adequate pain control for patients undergoing surgical procedures, or who are suffering from painful medical conditions, be it trauma, labor and delivery, or a host of painful maladies. The way that these medications are administered safely, is under the vigilant, watchful eye of dedicated anesthesia provider or other qualified medical personnel who are continuously present to monitor their patients. These potent drugs have found their way into society at large where people are experiencing the dangers of these medications in unmonitored settings. Whether encountered by intentional or accidental exposure, these drugs are potentially lethal even when taken in the small doses that are usually needed for the control of pain in a clinical setting. Taken in uncontrolled doses in unmonitored settings, the risk of fatal respiratory depression due to narcotic overdose is nearly a certainty. It is terrifying to contemplate the massive amount of fentanyl that has flooded into our country illegally in recent years. The tragic ongoing loss of life due to the opioid crisis is staggering. As a mother of three young adults, the existence of such dangerous substances in our environment, where there can be accidental exposures by such a simple thing as attending a party on a college campus is chilling.

The ZEM Life product, is a sophisticated medicine delivery system that can potentially provide the monitoring and rapid intervention that is required to save countless lives from the devastating effects of potent synthetic opioids. There has been a proliferation of availability of naloxone (Narcan) to address this need, but there is one critical problem that has not been addressed. When an opioid overdose is occurring, many people are alone. Because of the rapid loss of consciousness and ability to respond, even though they may be carrying naloxone on their person, they are unable to give it to themselves. The ZEM Life Band is an earth-shaking revolutionary solution to the immediate need for diagnosis and treatment of opioid overdose for victims who without it would die alone.

The ZEM Life Device can act as if there is a vigilant anesthesiologist watching over the wearer, ready to save the wearer's life.

I have known Joanna Meston, MD for more than 30 years. She is a caring and dedicated anesthesiologist with a great deal of experience with patients suffering from addictions. Dr. Meston conceived of this device after Steven Muth told her that he wished there was something that he could have put on his son, Zachary Ernest Muth, to tell Steve that there was a problem, and save Zach's life from the fentanyl that he unknowingly ingested. Dr. Meston's sons Christopher Sawyer, a Mechanical and Computer Engineer specializing in Robotics, and James Sawyer, an Electrical and Computer Engineering student, then began developing the technology behind the ZEM Life Device.

This device can be the God-send that our country and the world needs to stop the devastation of the opioid crises.

Sincerely,

*Diane B. Gill MD*

**(J.)Diane B. Gill, M.D.**