A new machine is designed to provide anesthesia safely without oxygen tanks or stable electricity

Almost 32 million surgeries are performed globally each year without a proper supply of oxygen and anesthesia, predominantly in developing nations. Many more surgeries are canceled or delayed because anesthesia isn’t available. One of the issues that plague hospitals in low income countries is that traditional anesthesia machines need electricity and oxygen tanks to function, both of which can be in short supply. A new design, called the Universal Anesthesia Machine (UAM), can operate without electricity or oxygen if necessary and is proving to be a practical solution to this difficult problem.

The UAM was invented by a doctor, Dr. Paul Fenton, who worked as an anesthesiologist at Queen Elizabeth Central Hospital in Blantyre, Malawi where he saw the problems with providing adequate anesthesia first hand. He designed his machine to use electricity when it is available, but to continue to function if power is lost so that the patient can continue to be monitored. It also uses a compressor and air from the room so oxygen tanks aren’t required.

In an effort to make the UAM as practical to use as possible, it doesn’t use specialized parts. Parts needed to maintain the machine should be available through a typical auto supply shop. It’s also a flexible design that is compatible with all standard adult and pediatric breathing systems.