User-friendly Medical Device For Minimizing Complications Due to Unsafe Manual Ventilation Technique and Human Error

safeBVM™

Project

SafeBVM Corp.

Team

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Background

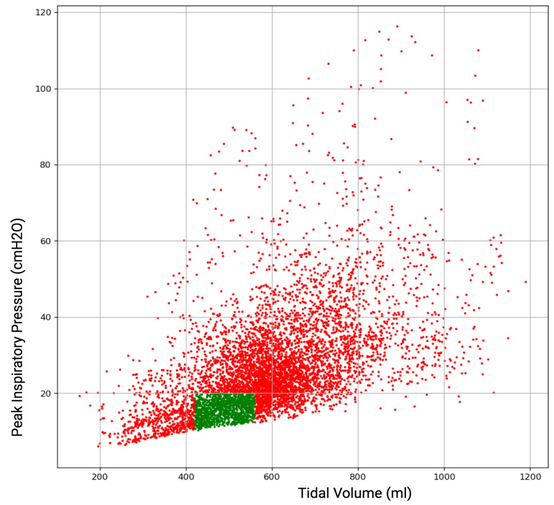
13.1 million resuscitator bags are used in the USA annually to manually ventilate patients unable to breathe on their own. Providers deliver unsafe breaths 81% of the time resulting in life-threatening complications with a mortality rate of up to 40% and healthcare costs up to $140,000 per patient. SafeBVM's mission is to ensure that manual ventilation with the resuscitator bag is patient-centric, minimizing complications.

Large Unmet Need

Study by University of Tennessee, and Georgia State University showed that 97% of providers delivered at least 1 breath that was outside of the recommended safe zone.

Red: Unsafe Breaths
Green: Safe Breaths

6300 breaths delivered by 350 Respiratory Therapist & EMS providers with a standard **BVM alone** on a simulated test lung,



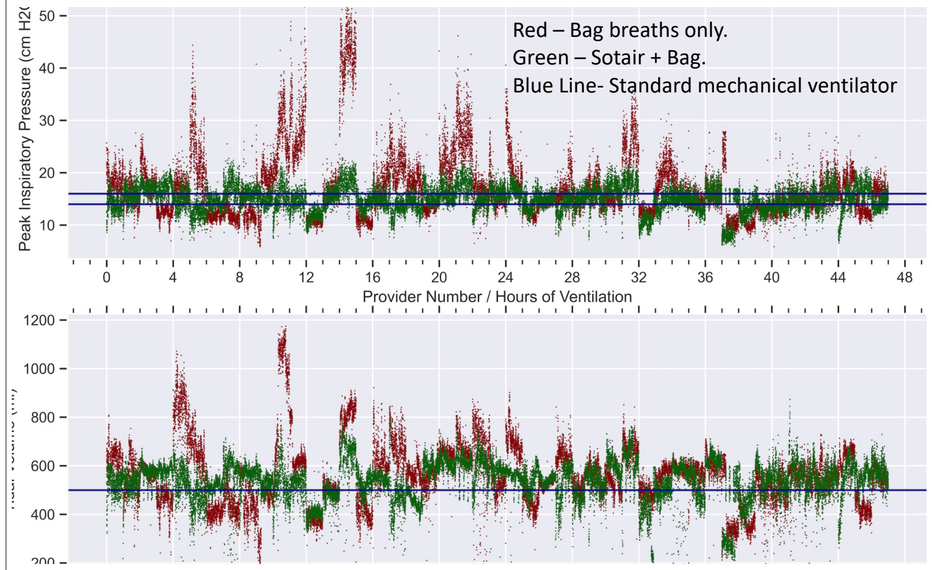
Proposed Solution: Sotair Device

Our product eliminates the inconsistencies of manual ventilation for resuscitation teams (both in and out of hospital) with a simple to use device that optimizes the quality of ventilation delivery.

Phase I SBIR — American Heart Association EmPOWERED to Serve Grants — Phase I SBIR

Research

BMJ



Results: Wide variability in tidal volume and peak pressure in unmitigated manual breaths despite prior training and independent exploration of the resuscitation equipment prior to testing. **Peak pressures (p<.0001) and tidal volumes (p<.0001) were significantly improved with the safety device.**

Conclusions: While extended manual ventilation cannot replace mechanical ventilation, **it is feasible with a safety device, which may reduce barotrauma, underventilation, and overventilation.**

Value Propositions:

-Positive trend in cardiac arrest survival rates with good neurological outcome
-Parameter of 10-22 cm H2O peak pressure and 400-800 ml tidal volume delivered across all adult patients
-Manual ventilation closer to a mechanical ventilator