Automated First Response System for Airway Burns

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Technology description

Market Opportunity

Undesirable, dangerous fires can and do occur during surgery. These surgical fires occur in both the patient’ s airway and under surgical drapes due to gas build-ups. Surgical drapes alone are used in 90% to 95% of all major surgeries. Annually, 650 surgical department fires are reported in the U.S. with as many as 20% resulting in serious injuries or death. True incidence levels are even higher as many incidents go unreported for medicolegal reasons.

USC Solution

USC researchers have developed a clip-on, emergency medical device capable of delivering an oxygen-carrying gas into the airway, a fire detection system, a specialized-molding drape, and a fire suppression system. The response system is capable of handling the three types of flames possible during a surgical outburst of fire, and mitigates harm to the patient by reducing response time.

Application area

Emergency medicine
Pulmonology

Advantages

Real-time monitoring
Increasing response time and patient care
Reduce time lost due to instinctive self-protective responses

Institution

University of Southern California

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