Smart Bag® Mo

“Improving ventilation, one breath at a time”!

Ordering information:

01BM3100-MO  Silicone SMART BAG® MO (Adult) c/w Facemask and Reservoir System (Each)
01BM3110-MO  Silicone SMART BAG® MO (Child) c/w Facemask and Reservoir System (Each)
01BM3400-MO  Cold Chemical Sterilizable SMART BAG® MO (Adult) c/w Facemask and Reservoir System (Each)
01BM3410-MO  Cold Chemical Sterilizable SMART BAG® MO (Child) c/w Facemask and Reservoir System (Each)
01BM3201-MO-Cs Disposable SMART BAG® MO (Adult) c/w Facemask and Reservoir System (Case/6)
01BM3211-MO-Cs Disposable SMART BAG® MO (Child) c/w Facemask and Reservoir System (Case/6)

Your Representative is:
Since its introduction, the Bag-Valve-Mask resuscitator (or BVM) has been the mainstay of emergency ventilation in both pre-hospital and hospital environments. However, the clinical evidence regarding the performance of these devices however shows a resolved lack of control over the ventilation parameters in the hands of the majority of users. More recent research has compounded this lack of supporting evidence regarding the efficacy of these devices with studies that have shown the clinically detrimental effects of what is now termed, Inadvertent Hyperventilation.

This common phenomenon is defined as the unintentional (involuntary, accidental or not deliberate) delivery of an excessive minute volume. It is likely to have detrimental hemodynamic and survival consequences in patients in low flow states such as during CPR or hypovolemia due to trauma.

Gastric insufflation and the associated risk of aspiration of stomach contents, decreased coronary perfusion pressure and increased brain ischemia are all shown to be caused by inadvertent hyperventilation.

The decrease in coronary perfusion pressure is a result of the mechanical “squeezing” of the heart by either too large a tidal volume delivered or “breath stacking” (insufficient expiratory time allowed for the lungs to fully empty resulting in the subsequent breath being “stacked” on a residual volume from the preceding breath). Increased brain ischemia is a function of excessive CO removal creating an increase in intracranial vasospasm.

Due to these issues poor oxygenation and the affect on patient outcomes are significant, even to the point of contributing to the currently poor survival rates from Cardiac Arrest.

By responding to the rescuers squeeze and release of the BVM, the SMART BAG® MO limits the excessive flow of gas into the patients airway, significantly reducing the risk of gastric insufflation by effectively lowering the airway pressure generated. In a normally compliant and resistant airway, the airway pressure generated is limited to below the lower esophageal sphincter opening pressure of 19 cm H2O. The response by the SMART BAG® MO is proportional to the rescuers squeeze. The harder the rescuer squeezes the greater the restriction to flow. This adds to the pressure in the patient’s airway. The SMART BAG® MO senses the change in the patient’s condition and balances the resistance to flow through the valve allowing the rescuer to apply higher flows to the airway and adequately ventilate the patient. Due to the patient’s airway condition a higher pressure than normal is required to overcome the poor compliance/high airway resistance. SMART BAG® MO senses the change in the patients condition and balances the resistance to flow through the valve allowing the rescuer to apply higher flows to the airway and adequately ventilate the patient. SMART BAG® MO responds like a normal BVM if the patients airway is less compliant or more restrictive (as in patients with COPD or asthma), higher airway pressures will be required to provide adequate ventilation.

Providing Controlled Ventilation

By “self adjusting” to both the patient and the rescuer, the SMART BAG® MO optimizes the ventilations, controlling the inspiratory time and keeping the delivered flowrate and subsequent airway pressure to the minimum required for adequate ventilation to occur. This results in a significant reduction in the risk of gastric insufflation and its associated complications.

Using the SMART BAG® MO

Using the SMART BAG® MO is EASY! Just let the SMART BAG® MO compress under your gentle, slow, one-handed squeeze. A one or two-handed squeeze can be used.

The Inspiratory time should be 1 second in accordance with the current international resuscitation guidelines.

Training and Skill Retention

Many references exist as to the ability of rescuers to adequately perform practical skills. In addition, the retention of those skills and the ability to adequately perform them over time, decreases without frequent retraining and education.

By imparting a degree of control for the rescuer the SMART BAG® MO helps to train the rescuer to provide slow consistent ventilations. In addition, the SMART BAG® MO ensures that every time they use the device by imparting that same degree of control during resuscitation.

The US E of Manual Override Control

Current research indicates that, for all patient conditions, the Manual Override control should NOT BE USED, and the “SMART VALVE” should be left in the “ENABLED” position. This recommendation maintains operation of the SMART BAG® MO in strict compliance with the current Guidelines for CPR and ECC as published by the American Heart Association and the European Resuscitation Council.

Should the operator decide to use the manual override control, it is important not switch into the disabled mode while squeezing the bag. Using the SMART BAG® MO in the “SMART VALVE” ENABLED” mode may result in “inadvertent hyperventilation” with all its associated risks.

References:
9. Pitts and Ferdinand. Editorial in the Critical Care 2005

NOTES:
[1] Because of the unique nature of the SMART BAG® MO, rescuers will require minimal orientation in the use of the device.
[2] The rescuer is not intended for use during spontaneous breathing. Due to the nature of these devices, they may only provide a restricted flow of air to the patient and little or no supplemental oxygen.