

## VENTILATIONS

### A Valuable Skill that You Can Perfect

Bag valve mask ventilation is an essential skill for anyone who provides care to patients who are not breathing adequately. Although it is considered basic, it requires proper training to perform correctly.

There is a natural tendency to provide too much volume too quickly.

1. If unsure of seal you may overcompensate by squeezing the bag a harder or faster.
2. In an emergency a full second can feel like a long time to deliver a single breath.
3. It might seem that if some oxygen is helpful then more should be better.

This hyperventilation can actually be harmful. Too fast an inspiration or too large a volume will increase airway pressures and push much of the air into the stomach, increasing the risk of regurgitation and aspiration. It will also increase pressure in the chest and force venous blood out, worsening low blood pressure and reducing circulation. Too rapid a ventilation rate will lower the blood carbon dioxide, which reduces blood flow to the brain.

The opposite can also be a problem. Too low a volume may not provide enough oxygen and too slow a ventilation rate will increase the blood carbon dioxide and lower the blood oxygen.

### Without feedback, how do you perfect ventilations?

Studies have reported that even professionals frequently perform BVM ventilations incorrectly. Rapid rates of up to 30+ a minute are common, and the result has been called "Death by Hyperventilation". Other studies have shown slow low-volume ventilations also worsening patient outcomes.

### SmartMan Feedback Works!

Inadequate BVM training results in poor performance. BVM instruction is usually brief, and rate and volumes are never measured. Independent research has shown that with just minutes of practice on SmartMan, EMTs and paramedics improved their performance substantially. Correct duration of inspiration increased from 34% to 80%, and volume of inspiration and ventilation rate improved to 93%.

#### 1. OPEN THE AIRWAY

Head Tilt-Chin Lift  
or Jaw Thrust

#### 2. PROPER SEAL

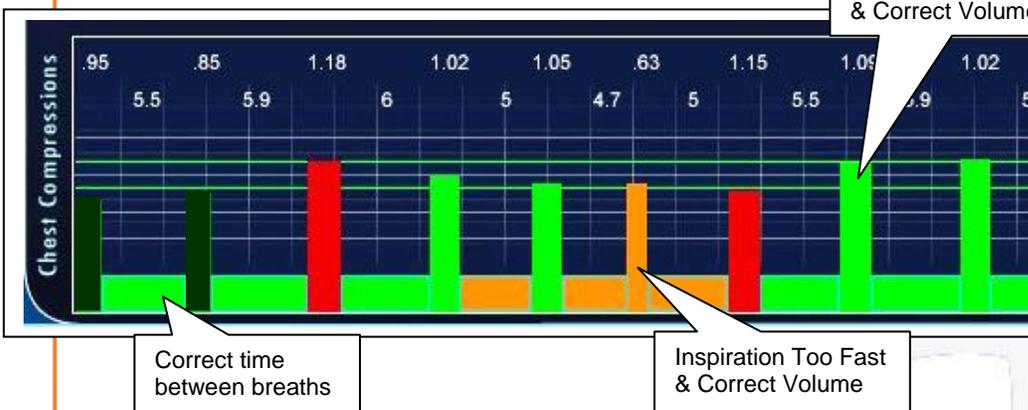
Lift face into mask

#### 3. INSPIRATION

500 – 600 ml  
1 full second  
Quick Release  
of the Bag

#### 4. PROPER INTERVAL

breath-to-breath  
each 5 to 6  
seconds



#### Ambu Inc.

6740 Baymeadow Drive  
Glen Burnie, MD 21060  
Tel.: 1 410 768 6464  
1 800 262 8462  
Fax: 1 800 262 8673  
www.ambu.com

#### V4EMS Inc.

1171 S Robertson Blvd,  
#121, Los Angeles,  
California 90035  
Tel: 1 877-774-4323  
Fax: 1 707-929-0079  
www.ambusmartman.com

**REAL TIME FEEDBACK** is the ONLY way to learn how to do ventilations. It allows you to develop a feel for the time of inspiration, the volume you are providing, and the ventilation rate. **With only a few minutes on SmartMan you will know that you can perform BVM ventilations to provide the best patient care.**

TRAINING

