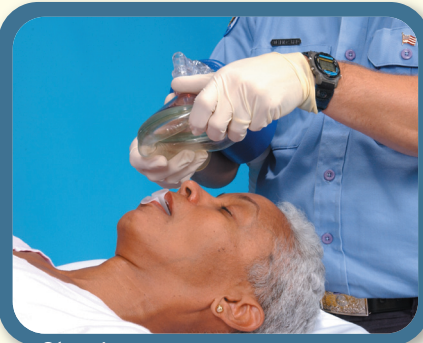


## Skill Drill 11-18: One-Person Bag-Valve-Mask Ventilation



Step 1

Choose the proper mask size to seat the mask from the bridge of the nose to the chin.



Step 2

Position the mask on the patient's face and ensure an adequate seal.



Step 3

Open the patient's airway and hold the mask in place with one hand as you squeeze the bag with the other hand. Allow the bag to reinflate slowly and completely.

**Table 11-9** Ventilation Rates

### Adult\*

- Apneic with a pulse: 10 to 12 breaths/min
  - With or without an advanced airway in place (eg, ET tube, LMA)
- Apneic and pulseless: 8 to 10 breaths/min
  - After an advanced airway has been inserted
- Ventilations can be asynchronous with chest compressions

### Infant and Child\*

- Apneic with a pulse: 12 to 20 breaths/min
  - With or without an advanced airway in place (eg, ET tube, LMA)
- Apneic and pulseless: 8 to 10 breaths/min
  - After an advanced airway has been inserted
- Ventilations can be asynchronous with chest compressions

\*Avoid hyperventilating any patient. Hyperventilation may lower carbon dioxide levels in the blood, which may be injurious. In addition, hyperventilated lungs will increase intrathoracic pressure and impede venous return, lowering cardiac output. Hyperventilation also increases the risk of regurgitation and aspiration.

Ventilation effectiveness is best determined by watching the patient's chest rise and fall and feeling for resistance of the patient's lungs as they expand. You should also hear and feel air escape as the patient exhales. If the patient is in cardiac arrest, your breaths do not need to be synchronized to chest compressions. Make sure that you provide the correct number of breaths per minute for the patient's age [Table 11-9](#) ▲.

### One-Person Bag-Valve-Mask Ventilation

The [bag-valve-mask device](#) is the most common device used to ventilate patients in the prehospital environment [Figure 11-34](#) ▶. With an oxygen flow rate of 15 l/min and a reservoir attached, the bag-valve-mask device can deliver almost 100% oxygen to the patient. Bag-valve-mask ventilations are indicated for apneic patients and for patients who are breathing inadequately, as long as they can tolerate the device.



**Figure 11-34** Bag-valve-mask device.

This technique provides an excellent barrier from blood and other body fluids and allows the rescuer to ventilate the patient for extended periods of time without fatigue.

A major challenge is maintaining an effective mask-to-face seal. The single person operating a bag-valve-mask device must be able to perform three tasks with only two hands: keeping the airway properly positioned, maintaining a mask seal, and squeezing the bag. Complications associated with the one-person bag-valve-mask ventilation technique are typically related to inadequate tidal volume delivery, which usually occurs secondary to poor technique, inadequate mask-to-face seal, or gastric distension.

The steps for performing the one-person bag-valve-mask ventilation technique are listed here and shown in

#### **Skill Drill 11-18** ▲

1. Choose the proper mask size to seat the mask from the bridge of the nose to the chin [Step 1](#).
2. Position the mask on the patient's face and ensure an adequate seal [Step 2](#).