

# Respiratory Emergencies

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# Respiratory Emergencies

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## INTRODUCTION

“Shortness of breath” is one of the most common calls to which EMTs respond, but the evaluation, assessment, and treatment of such patients is anything but mundane. Respiratory problems can range from mild dyspnea to life threatening respiratory failure, and can originate from many different etiologies. By knowing these etiologies and understanding respiratory anatomy and physiology, the EMT can apply treatment methodologies such as airway adjuncts, oxygen therapy, and assisted ventilations – treatments that often mean the difference between life and death.

## ANATOMY OF THE RESPIRATORY SYSTEM

### Respiratory System Anatomy

Having knowledge of the function and location of the structures that make up the respiratory system is critical in providing treatment to someone with an airway issue. The respiratory system is divided into two sections, the upper respiratory tract and the lower respiratory tract.

The upper tract is composed of the structures located above the vocal cords (glottis), and includes the nose and nasal passages, paranasal sinuses, the pharynx (nasopharynx, oropharynx and laryngopharynx), and the portion of the larynx above the vocal cords.



The lower portion of the respiratory tract includes the portion of the larynx below the vocal cords and continues on down through the lungs. It consists of the trachea, bronchi (primary, secondary and tertiary), bronchioles (including terminal and respiratory), and lungs (including alveoli).

## PHYSIOLOGY OF THE RESPIRATORY SYSTEM

Respiratory impairment can occur in a variety of situations for many different reasons. The fundamental challenge in understanding, assessing, and treating respiratory emergencies is recognizing that not all respiratory impairment will be seen as “shortness of breath”. Having a basic understanding of respiratory physiology will help guide your treatment decisions.

A summary of the respiratory physiology process includes:

- Normal aerobic metabolism requires oxygen.
- A metabolic byproduct of this metabolism is carbon dioxide (CO<sub>2</sub>).

- Carbon dioxide (CO<sub>2</sub>), through its interaction with water (H<sub>2</sub>O) in the body produces carbonic acid, one component of the chemical reaction that regulates the amount of acid in our blood.
- In balancing oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) the respiratory system also balances acids and bases in a buffer system.
- The respiratory system seeks to maintain a constant pH/acid level in the blood.
- The body constantly seeks to maintain equilibrium, called homeostasis.

## Normal Aerobic Metabolism

Oxygen (O<sub>2</sub>) is essential to survival. To function normally, every cell requires a steady supply of oxygen. This allows the cell to metabolize aerobically (meaning "with oxygen").

The act of breathing, also referred to as respiratory drive, is an autonomic and involuntary function controlled by centers in the brain. Specialized brain cells constantly monitor and react to the levels of oxygen and carbon dioxide in the blood. When the body is deprived of oxygen it attempts to compensate by increasing the rate and depth of respirations.

## Metabolism Produces Carbon Dioxide

Metabolism is the process by which the body breaks down or "burns" stored fuel to create energy. The cells use oxygen to transform stored glucose into energy. You can think of glucose as "fuel" and oxygen as the "match" that releases the energy. A byproduct of metabolism is carbon dioxide (CO<sub>2</sub>).

Carbon dioxide is produced by the cells and carried by the circulatory system to the lungs where it is expired. If a person's ventilation is compromised, carbon dioxide builds up in their blood. This excess carbon dioxide then combines with water in the blood to produce an acid, lowering the pH level.

The body's response to increased carbon dioxide in the blood is to "blow off" carbon dioxide by increasing the rate and depth of respirations.

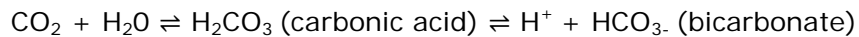
## Homeostasis

In balancing oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) levels the respiratory system also balances acids and bases in a buffer system.



Acidity in a solution such as blood is measured by what is called the potential of Hydrogen or pH. The body must maintain a relatively narrow pH range (neither too acidic nor too basic) in order to function properly.

The acid base buffer system follows the equation:



Besides the respiratory system, there are two other mechanisms by which the body maintains a constant pH. One is a buffer system, which uses chemicals in the blood to soak up extra acid or make more acid available if necessary, in a rapid chemical reaction. The other is the renal system, which regulates the amount of acid produced or assimilated, but does so fairly slowly, over a period of several hours to days.

## Blood pH

The body attempts to maintain a balance or homeostasis. If the blood pH becomes too low (acidic), the respiratory system will attempt to fix this by making the lungs breathe more deeply and rapidly, thus excreting more carbon dioxide. Because the respiratory system helps regulate carbon dioxide excretion or retention, it is an important mechanism for regulating pH.

The respiratory system seeks to maintain a pH within a very narrow range (7.35 to 7.45).

The respiratory response to changes in the pH is relatively rapid. You may see a person's respiratory rate increase or decrease in response to pH just a few minutes after the change in pH has occurred.

## Hypercarbia

Hypercarbia is a state of excessive carbon dioxide in the body. This results in acidosis as the carbon dioxide causes a chemical reaction producing carbonic acid. When hypercarbia occurs it affects the body chemistry causing a pH imbalance. Hypercarbia can occur through:

- Metabolic processes that form acids
- Muscle exertion
- Shivering

Hypercarbia also can occur through decreased elimination of carbon dioxide, for example with:

- Airway obstruction
- Inability to exhale fully (e.g., asthma or emphysema)
- Depressed respiratory drive (e.g., overdose of sedative drugs)

## Hypoxia

Hypoxia (hypo=low, oxia=oxygen) is a decreased supply of oxygen. Hypoxia can be caused by a variety of conditions including:

- Decreased oxygen in the air (smoke inhalation, breathing of poison gasses)
- Decreased ability of the respiratory system to carry oxygenated air to the alveoli (trauma to the chest, blood in the airway, fluid in the lungs [congestive heart failure])

- Decreased ability of the blood to carry oxygen (anemia)
- Decreased functioning of the lung (chronic lung problems, lung infection)
- Decreased perfusion to the tissues (shock)
- Decreased respiratory drive (central nervous system impairment due to head injury, overdose, and so on)

The amount of carbon dioxide in the blood is the primary stimulus for breathing. A secondary stimulus for breathing is hypoxia, a decrease in oxygen.

While less important for regulation of breathing in the average person, in some individuals, this so-called hypoxic drive is the primary stimulus for respiration. This occurs in a small percentage of COPD patients whose expirations are so inefficient that their bodies have become accustomed to higher than normal levels of carbon dioxide. A decrease in oxygen, rather than an increase in carbon dioxide, provides the primary stimulus for taking a breath.

## **Metabolic Problems Affect Respirations**

Metabolic imbalances affect the chemistry of the body affecting pH and other measures of body chemistry. While this is not a respiratory problem, the respiratory system often tries to compensate to maintain equilibrium by changing the depth and/or rate of respirations.

A person who is hyperventilating for psychological reasons is breathing deeply and rapidly. This is a very efficient way of ridding the body of carbon dioxide which in turn may alter the body's equilibrium and cause what is known as alkalosis (meaning very "basic"). Symptoms of respiratory alkalosis may include faintness, numbness around the lips, and tingling and cramping in the extremities.

## **PATIENT ASSESSMENT FOR RESPIRATORY EMERGENCIES**

### **Primary Assessment**

As part of your primary assessment of a patient in respiratory distress, you should determine where he or she falls on the spectrum that runs from normal breathing to respiratory distress to respiratory failure and finally respiratory arrest.

### **Normal Breathing**

The characteristics of normal breathing include:

- normal rate (12 to 20 times per minute in an adult)
- a regular pattern
- clear and equal lung sounds
- adequate tidal volume
- oxygen saturations greater than 95%

In addition, you would expect this patient to be calm, conversant, and able to speak full complete sentences without pausing to gasp for breath.

## Respiratory Distress

A patient in mild respiratory distress may show:

- mild anxiety or restlessness
- a slight increase in respiratory rate
- abnormal lung sounds (depending on the type of respiratory problem)
- oxygen saturations may still be normal.

As respiratory distress increases, the patient may become agitated or combative due to hypoxia. You may also see:

- abnormally slow or fast breathing
- use of accessory muscles in breathing
- decreased, noisy, unequal, or absent lung sounds (depending on the type of problem)
- cyanosis
- decreasing oxygen saturations

## Respiratory Failure

If untreated, a person in severe respiratory distress may progress to respiratory failure, which is characterized by an inability of the person's compensatory mechanisms to maintain normal oxygenation. Respiratory failure is a short stop on the path to respiratory arrest. A person in respiratory failure may show:

- decreasing level of consciousness as the patient becomes hypoxic or hypercarbic
- decreasing, gasping or irregular respirations
- cyanosis
- low or unmeasurable oxygen saturations

## Respiratory Arrest

The end point of respiratory failure is respiratory arrest in which the person becomes unresponsive and respiratory effort ceases. Only immediate intervention will prevent death.

Normal respiratory status	Mild respiratory distress	Severe respiratory distress	Respiratory failure/ arrest
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**Not sick -----> Sick -----> Death**

As you evaluate and treat a person in respiratory distress, always be cognizant of where he or she is on this continuum, so that you can be prepared to intervene if needed.

## Patient History

While all aspects of the patient history can be important, some questions are particularly relevant to the respiratory patients you may encounter.



Time of onset and duration may help you distinguish types of respiratory distress. Spontaneous pneumothorax, acute MI, and pulmonary embolus frequently have a very acute onset of shortness of breath, often measured in minutes. Asthma and CHF may come on more slowly, over minutes to hours, whereas COPD exacerbations and respiratory infections may brew for days before they finally cause the person to seek help.

Associated symptoms are also important to note. A patient with an acute MI may have chest pain and nausea along with respiratory distress; a patient with COPD or pneumonia may relay a history of several days of fever and a productive cough.

Prior medical history is critical in understanding the etiology of the patient's symptoms. Has he had similar symptoms in the past, and what was the diagnosis? If the patient has a long respiratory history, what is the normal progression of his respiratory distress episodes? Specifically, has the patient been hospitalized or intubated for prior episodes? If yes, there should be red flags waving to warn the EMT of the patient's potential decline and possible need for a medic unit.

What medications does the patient take, and has she tried any medications for this episode? A patient with asthma or COPD who has already used her inhaler multiple times without improvement is a sick patient. Look at the patient's other prescription medications for clues to history. A patient with medications for high blood pressure, for example, may be prone to congestive heart failure, while a patient on nebulizers likely has a history of asthma or COPD.

## Secondary Assessment

A physical exam for a patient with a suspected respiratory problem or respiratory complaint is usually focused on the following components:

- level of consciousness
- position
- vitals
- exam of head, neck, chest
- extremities
- skin
- lung sounds

Evaluation of these features of the exam will help you determine whether the patient is in mild or severe respiratory distress, or even imminent respiratory failure. (A physical exam of other parts of the body, such as the back and the abdomen, may be done depending on the patient's chief complaints or the EMT's judgment.)

## Level of Consciousness

Level of consciousness (LOC) and mental status is a key component of identifying the degree of respiratory distress. Usually a person who is calm, alert, and oriented is not in significant distress, compared to a person who is agitated, combative, or disoriented. Be aware that level of consciousness in a person with increasing respiratory distress may fall on a curve – calm initially, then agitated and combative, then becoming exhausted or even sleepy as oxygen

levels fall and carbon dioxide levels rise. A patient in severe respiratory distress who suddenly becomes “calm” may be about to go into respiratory arrest.

## **Position**

Position along with level of consciousness helps you determine the severity of the patient’s distress. A conscious patient who is lying flat talking to you is usually in minimal respiratory distress compared to the person sitting up in bed, or even standing and supporting himself to try to improve his ventilatory status.

## **Vital Signs**

Vital signs, particularly sequential vitals, paint the picture of the patient’s level of distress and also their improvement or deterioration. Warning signs in a respiratory patient may include either a very fast OR very slow respiratory rate. Blood pressure may be elevated in some conditions such as CHF, but low in others, such as a large pulmonary embolus. The heart rate in respiratory distress is often elevated, but remember that some medications (e.g. beta blockers taken for high blood pressure) may limit the patient’s heart rate. A normal blood pressure and heart rate do not rule out a significant problem!

## **Pulse Oximetry**

Pulse oximetry is available to some agencies and can provide additional clues. A low pulse oximetry reading suggests hypoxia. However, because many patients compensate by increasing their heart rates and respiratory rates, a normal pulse oximetry reading does NOT rule out a serious respiratory problem.

## **Head, Neck, and Chest**

Your exam of the head, neck, and chest may show significant anomalies in the respiratory patient. Most commonly, you may see use of accessory muscles in the neck and chest in patients with respiratory distress, as they try to improve ventilation. You may also notice distended jugular veins in the neck, which may occur in patients with congestive heart failure and sometimes COPD. Patients with a long history of respiratory problems such as end-stage COPD show changes to the anatomy of their bodies, including emaciation and a barrel chest.

Respiratory patients with traumatic injuries to the chest can show other signs, such as air bubbles under the skin from a punctured lung (subcutaneous air) or rarely, a shift in the trachea away from the midline in a patient with a tension pneumothorax. Of course, you may also notice actual injuries to the patient’s chest, such as deformities, bruising, or a flail segment.

## **Extremities**

Moving along in our exam, although they seem a long distance from the lungs, a quick check of the extremities can also provide some clues. For the patient with a respiratory problem, checking the nail beds for cyanosis and for capillary refill can give you a good idea of the patient’s respiratory and circulatory status.

Sometimes other problems masquerade as respiratory issues. Are the fingers curled in spasm and does the patient complain of fingers, lips, and tongue tingling? If the patient is anxious and has no objective signs of impaired respiratory function, he may be hyperventilating.

## **Skin**

We list skin last, but you'll notice it as soon as you start your exam. Is the patient cyanotic? Check mucus membranes in a person of color. Is the skin hot to the touch, indicating the patient is febrile? Is the patient cool and diaphoretic, indicating whole body stress? All these signs help paint the picture as you evaluate the patient's level of respiratory distress.

## **Lung Sounds**

Lung sounds should be auscultated in all patients, but have special relevance to the respiratory patient.

The proper technique for auscultating the chest using a stethoscope includes:

- Listen at six locations on the back
- Listen at four locations on the front
- Instruct the patient to take a deep breath through the mouth then exhale
- Listen to one or two inspiration/expiration cycles per location
- Avoid listening through clothing

Sometimes the realities of treating patients in the field may compromise this ideal technique. You may not always have easy access to both sides of a patient, you may be unable to quickly remove that last layer of clothing, and you may not have the time to listen to all ten locations. You can, and should, revisit breath sounds later in your exam, particularly if the patient's respiratory status changes or you are able to get better access.

## **TREATMENT & AIRWAY MANAGEMENT FOR RESPIRATORY EMERGENCIES**

Treatment decisions for respiratory emergencies are based on the suspected injury or disease process. The wrong treatment may worsen the patient's condition. Once a patient who is in respiratory distress calls 911 they are already in a deteriorating state. Respiratory emergencies are dynamic, and sometimes improvement or deterioration may be subtle. Treatment of these patients is not straightforward and requires appropriate airway management. Patients unable to maintain their own airway require ALS intervention and transport.

Airway management is one of the most important skills for an EMS provider. You should be well versed in the following airway management techniques:

### **Head Tilt / Chin Lift**

The head tilt/chin lift is the easiest way for the EMT to manually open a person's airway. In a person who is deeply unconscious, the tongue relaxes and can fall against the back of the

throat, blocking the airway. Tilting the head back helps align the axis of the airway to improve ventilation, however the tongue may still be a problem. Since the base of the tongue is attached to the lower jaw, lifting the jaw also lifts the tongue away from the back of the throat. The most effective way to do this is to place the palm of both hands against the patient's cheeks, and then use the fingers in the angle of the jaw side to lift the jaw upward. While this opens the airway, if the patient needs to be ventilated, you will need a second rescuer. If you are by yourself and need to ventilate the patient, you can modify your technique by lifting the jaw from the front, holding the mask firmly with that hand, and then squeezing the bag of the BVM with the other.

## **Jaw Thrust**

The jaw thrust can be used in a patient for whom the head cannot be tilted back due to a possible neck injury. Keeping the neck in a neutral position, use both hands on either side of the patient's face, palms on the cheekbones, fingers at the angle of the jaw, and push the jaw anteriorly without moving the neck or tilting the head back. If you are by yourself, you will need to modify this technique by holding the jaw up with one hand and ventilating the BVM with the other.

For both the head tilt/chin lift and the jaw thrust, make sure that your actions are firm and deliberate, putting enough force in lifting the jaw and holding the mask onto the face, that the patient is actually being ventilated. If you hear or feel air escaping, readjust until you are feeling good lung compliance and are getting good chest rise.

## **Patient Positioning**

Positioning your respiratory patient is an important part of treatment. For the most part, patients in respiratory distress should be positioned sitting up. This provides your patient the best anatomical position for ventilation; patients who are conscious will usually be sitting up themselves. You may sometimes encounter patients who are so exhausted that they will require your assistance to sit up; an example might be a patient with pneumonia who also has altered mental status (such as a patient with dementia in a nursing home).

An exception to the upright positioning would be a patient who is hypotensive, or a patient who has respiratory distress from trauma who must be immobilized on a backboard. Apneic, unresponsive patient who must be ventilated with a BVM are usually treated supine, however you can certainly assist ventilations in a sitting patient.

## **Suctioning**

The purpose of suction is to remove vomit, blood, excretions and other matter from the airway. Here are some guidelines to use for suctioning:

Measure the tip the same as for an oropharyngeal airway—from the corner of the mouth to the ear lobe or from the center of the mouth to the angle of the jaw. Insert the tip only to the base of the tongue.

If the situation permits (e.g., there is no significant airway threat), give at least 30 seconds of oxygen before suctioning. Administer oxygen after suctioning and consider assisting ventilations with a bag-valve mask to help provide extra oxygen.

Do not apply suction while inserting the tip. This can rob the airway of oxygen.

Apply suction for no more than 15 seconds at a time. In rare cases, copious vomiting that threatens the airway may require more suctioning. In infants and children, suction for shorter periods of time (e.g., no more than 5 seconds).

If there are secretions or emesis that you cannot easily remove with suction, position the patient, (e.g., by using the log roll) so that gravity and a finger sweep can quickly clear the airway.

## **Airway Adjuncts**

Airway adjuncts are designed to help treat those patients in respiratory distress. These devices support and protect the patient's airway by keeping the airway open and allowing for better ventilation and oxygenation. Adjuncts also help prevent vomiting by reducing the amount of air that goes into the stomach.

Three different types of commonly used airway adjuncts include:

- Bag-valve mask (BVM)
- oropharyngeal airway (OPA)
- nasopharyngeal airway (NPA)

## **Bag-valve Mask Ventilation**

Apneic patients and those in respiratory failure must be ventilated with a bag-valve mask (BVM) hooked up to supplemental oxygen. A patient in respiratory arrest has only minutes to live, so this is one of the EMT's most critical skills.

Done properly, BVM ventilation can save a life. Done improperly, the patient will be poorly ventilated and insufficiently oxygenated, and will run the risk of vomiting and aspirating from a distended stomach. This is a skill that must be practiced; since patients are not always lying supine but are sometimes trapped upright or in other difficult situations, practice on a maniken before you need to use the skill on a real patient. Keep the following points in mind when ventilating a patient with a BVM:

- Maintain a good seal and ask another EMT to assist if needed.
- Consider an oropharyngeal airway if the patient is unconscious and has no gag reflex.
- Deliver just enough volume to make the chest rise (about 1-second duration).
- Do not over-ventilate as this will increase the risk of vomiting.
- Provide approximately 10 to 12 ventilations per minute (1 breath/5 seconds).

An even greater challenge is that of assisting a spontaneously breathing patient. This might be a patient who has overdosed and has a respiratory rate of 4, or it might be a patient in congestive heart failure who is tiring and approach respiratory arrest.

If the patient is conscious, explain what you are doing; be firm and confident, but gentle, in your actions. A conscious patient may be frightened by the mask, so try holding it an inch or so away at first, then gently place the mask over the mouth and nose. Watch the patient's respirations carefully; every time you see the very beginning of an inhalation, start to squeeze the bag. If your timing is good, you will be supplementing the patient's own inspirations with positive pressure ventilation. If the patient's ventilatory rate is too slow (such as the overdose patient with a respiratory rate of 4), you will need to add ventilations as well as providing synchronized assisted ventilations.

The importance of your role in this task can't be overestimated. When you are ventilating a patient or assisting ventilations, this should be your only task and you must give it your complete attention.

### **Oropharyngeal Airway**

The oropharyngeal airway is used in an unconscious patient with no gag reflex, where it keeps the tongue from blocking the airway. It is inserted in the mouth of an unconscious patient.

### **Nasopharyngeal Airway**

The nasopharyngeal airway is used in an unconscious patient or a patient with altered mental status. Because it does not trigger the gag reflex, it can be used in a patient with an intact gag reflex, unlike the oropharyngeal airway. It is inserted in the nose of the patient.

### **Oxygen Therapy**

The amount of oxygen you administer to a patient and the method of administration depend on many factors including medical history and the cause of respiratory problem. Refer to your agency's guidelines or protocols on the use of oxygen.

First, assess the patient's level of distress. A patient in no respiratory distress with oxygen saturations of 95 or above does not generally require oxygen. In fact, oxygen has been shown to be detrimental in some patients (such as those with stroke) if their oxygen saturation is normal and they have no respiratory complaints.

A patient with mild distress may be given low flow oxygen with a nasal cannula. Do not hesitate to bump up the oxygen or switch to a non-rebreather if the patient's respiratory distress increases. A patient in significant distress should be started on a non-rebreather; consider assisting with a BVM and 100% oxygen if the patient appears to be deteriorating, tiring, or approaching respiratory failure. Likewise, any apneic patient should be ventilated with a BVM and 100% oxygen.

Consider the etiology of the patient's distress as well as the patient's medical history. For example, a patient with end-stage COPD may always appear to be short of breath and may always have low oxygen saturations. It's important to ask about the patient's normal presentation.

Here are delivery rate guidelines for various devices:

Rate	Volume (liters/min)	Device
Low flow	2 – 6	Nasal cannula
Low flow	2 – 6	Blow by
High flow	10 – 15	Non-Rebreather mask
High flow with ventilation	15+	Bag-valve mask with reservoir

## Relief of Foreign Body Airway Obstruction

A foreign body that completely obstructs the airway should be addressed during the primary survey, since it is immediately life-threatening. A complete obstruction is characterized by the inability of the patient to speak or breathe; if the patient is unconscious, you will be unable to effectively ventilate the patient.

Treatment of an obstructed airway follows an algorithm that includes abdominal thrusts, chest thrusts, and attempts to ventilate. Follow your department's guidelines and accepted standards of care when treating an obstructed airway.

A patient with a mild or incomplete obstruction may be able to cough and speak; don't interfere with this patient as you might make the obstruction worse. The patient should be encouraged to cough, provided with oxygen, and transported.

## Transport Considerations

There are many options for destination for respiratory patients, ranging from a clinic to a private doctor's office to an emergency room. They may be transported by private auto, taxi, aid car, ambulance, or medic unit. In some cases, for patients with very mild symptoms that are resolved, the patient may choose to stay at home.

Any patient with significant respiratory distress should be seen in an emergency room, with the exception of a patient with an advance directive designating no transport. In those cases if you are unsure, request an ALS evaluation.

It is also worth making a point here about patient movement. At some point, most patients in respiratory distress will need to be transported to the hospital. However patients in borderline respiratory failure are extremely fragile, and if you ask this patient to walk from the bedroom to the front door, they may decompensate very quickly. Medics will often treat these patients and provide some stabilization before even attempting to move the patient to a waiting stretcher.

Even if the patient's respiratory distress is mild, the exertion of walking can make it much worse. If you need to move a patient, do so to the least extent necessary, increase the inhaled oxygen, and be prepared to stop and put a chair behind the person if he or she needs to sit down.

## SPECIAL CONSIDERATIONS / SPECIAL POPULATIONS

### Pediatric Patients

Due to both physical and developmental differences, a pediatric patient experiencing a respiratory emergency may require a modified assessment and treatment delivery than would be provided to an adult patient; obviously children are simply not small adults.

Children are less likely to have chronic medical problems such as COPD or congestive heart failure. They are more likely to have infectious respiratory problems such as croup or RSV (respiratory syncytial virus). Management of pediatric patients requires knowledge of the pediatric anatomy. The head is larger and rounder, requiring more careful positioning; the tongue is proportionately larger and can easily block the airway. In addition, the trachea is narrower, allowing the airway to become clogged with secretions or blood, complicated by the fact that infants and very young children do not have a well-developed cough reflex compared to adults.

Most ominous, because children have resilient respiratory and circulatory systems, they often appear to compensate well until just before they experience respiratory failure. Pediatric patients require careful watching and constant re-evaluation.

### Geriatric Patients

Geriatric patients can offer their own unique set of challenges when it comes to responding to a respiratory emergency.

Older patients are more likely to suffer from chronic diseases such as COPD or heart disease. They are more likely to be taking a variety of different medications that may complicate their treatment and presentation (as an example, beta blockers may lower the heart rate, masking the normal increase in heart rate that accompanies hypoxia). They are often medically more fragile, having less reserve with which to resist medical problems; a minor respiratory infection in an older person may cause significant distress. Some older people are reluctant to call 911, meaning that their disease process may be further along by the time you arrive to help.

Lastly, many older patients have DNR forms, POLST forms, or other directives that dictate their care if they are unable to speak for themselves. Consider the patient's wishes before intervening, particularly if the patient has a "do not resuscitate" order and is progressing to respiratory or cardiac arrest. In most cases, comfort measures such as oxygen, positioning, and suctioning are permitted, whereas BVM ventilation and CPR are not. Check the wording on the paperwork or ask family members/powers of attorney so you can be sure you are honoring the patient's wishes.