

## Deliver the right care for respiratory conditions

You work hard to give the best in care to your patients and residents each day. And to do that, you need resources to help you manage common diseases, right at your fingertips.

This guide was designed to help you understand the various respiratory diseases, common treatments and the products your patients need for the best possible outcomes. We also included a list of clinical resources to help educate you and your staff on a range of respiratory products and conditions.

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# Overview of Disease States



## **Overview of Disease States**

## **About respiratory diseases**

- These diseases affect the lungs and other parts of the respiratory system
- Respiratory diseases may be caused by infection, by smoking tobacco, or by breathing in secondhand tobacco smoke, radon, asbestos or other forms of air pollution
- Respiratory diseases include but aren't limited to asthma, chronic obstructive pulmonary disease (COPD), pulmonary fibrosis, pneumonia and lung cancer.
   These kinds of diseases are also called lung disorder and pulmonary disease.

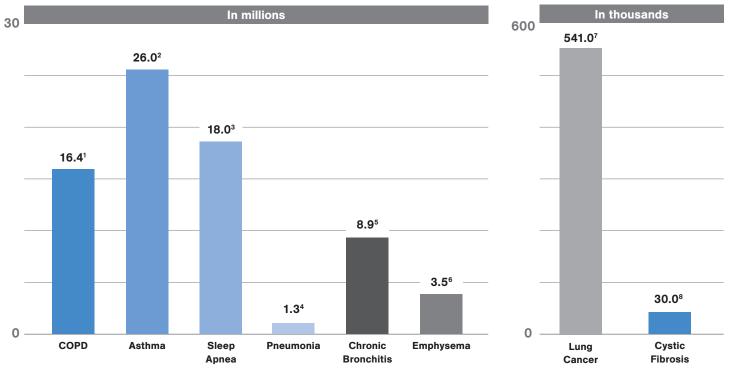
### **Common respiratory conditions**

		Devices	
Disease	What It Is	Commonly Used for Treatment	For More Information
Asthma	A condition in which a person's airways become inflamed, narrow and swell, and produce extra mucus, making it difficult to breathe.  Asthma can usually be managed with rescue inhalers (albuterol) to treat symptoms and controller inhalers that prevent symptoms (steroids). Severe cases may require longer-acting inhalers that keep the airways open (formoterol, salmeterol, tiotropium), as well as oral steroids.	Nebulizer, Oxygen	lung.org
COPD	A group of lung diseases that block airflow and make it difficult to breathe.  Emphysema and chronic bronchitis are the most common conditions that make up COPD. Treatments include quitting cigarette smoking and avoiding air-borne bronchial irritants. Medical treatments include bronchodilators, steroids, antibiotics and oxygen therapy.	Nebulizer, Oxygen, Mechanical Ventilation	COPDFoundation.org
Chronic Bronchitis	Chronic bronchitis is one type of COPD. The inflamed bronchial tubes produce a lot of mucus. This leads to coughing and difficulty breathing.  Treatment includes quitting cigarette smoking and avoiding airborne bronchial irritants. Medical treatments include bronchodilators, steroids, and oxygen therapy.	Nebulizer, Oxygen	lung.org
Cystic Fibrosis	A hereditary disease that affects the lungs and digestive system. The body produces thick and sticky mucus that can clog the lungs and obstruct the pancreas.  Treatments include antibiotics to prevent and treat chest infections, medications to make the mucus in the lungs easier to cough up, medications to widen the airways and reduce inflammation and special techniques and devices to help clear mucus from the lungs.	Nebulizer, Oxygen, Mechanical Ventilation	cff.org
Emphysema	Emphysema is a long-term, progressive disease of the lungs that primarily causes shortness of breath due to over-inflation of the alveoli (air sacs in the lung).  Common treatments include bronchodilator medications, steroids and antibiotics.	Nebulizer, Oxygen, Mechanical Ventilation	lung.org

## Common respiratory conditions (continued)

Disease	What It Is	Devices Commonly Used for Treatment	For More Information
Influenza (Flu)	A contagious respiratory illness infecting the nose, throat, and sometimes lungs. It can cause mild to severe illness. There are two main types: Influenza A and Influenza B.		cdc.gov
	Common treatments include anitviral drugs, fever-reducing medicine, and rest.		
Lung Cancer	Cancer that begins in the lungs and may spread to lymph nodes or other organs in the body, such as the brain.  Patients suffering from small cell lung cancer are usually treated with radiation therapy and/or chemotherapy.	Nebulizer, Oxygen, Tracheostomy, Mechanical Ventilation	lung.org
Pleural Effusion	A buildup of fluid between the tissues that line the lungs and the chest.  Common treatments for this condition include antibiotics, water pills (diuretics) and removal of the fluid (chest tube).	Nebulizer, Oxygen	lung.org
Pneumonia	Infection that inflames air sacs in one or both lungs, which may fill with fluid.  The most common treatment for this condition is the use of antibiotics. Some types of pneumonia, however, can be prevented by vaccines.		lung.org
Reactive Airway Disease (RAD)	A condition in which the bronchial tubes of the lungs overreact to an irritant, triggering wheezing and shortness of breath.  If a person has reactive airway disease but the underlying cause is unknown, the best way to reduce symptoms is to avoid the irritant. Allergy medication, like antihistamines, may help.	Nebulizer	lung.org
Respiratory Syncytial Virus (RSV)	A common respiratory virus that usually causes mild, cold-like symptoms. Children under 1 years of age and adults over 65 may experience more severe illness.  Treatment includes managing fevers and pain with over-the-counter fever reducers and providing hydration. In severe cases, a person may require additional oxygen or intubation.	Oxygen or intubation	cdc.gov
Sleep Apnea	A potentially serious sleep disorder in which breathing repeatedly stops and starts.  Treatment often includes lifestyle changes, like weight loss and the use of breathing assistance devices at night, such as a continuous positive airway pressure (CPAP) machine.	CPAP Machine	sleepfoundation. org/sleep-apnea
SARs- CoV-2 (COVID-19)	An illness that includes a variety of symptoms: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomitting, and diarrhea.		cdc.gov

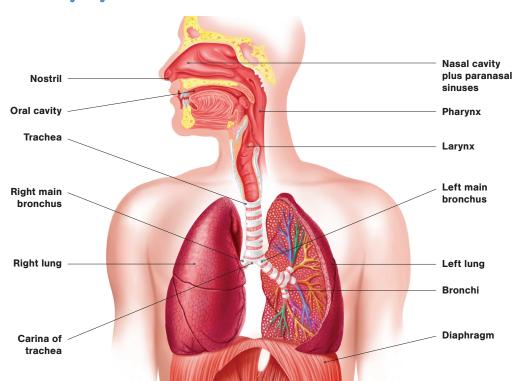
## Prevalence of common respiratory conditions



#### Sources:

- <sup>1</sup> lung.org.lung-health-and-diseases/ lung-disease-lookup/copd/learn-aboutcopd/how-serious-is-copd.html
- <sup>2</sup> lung.org
- <sup>3</sup> sleepfoundation.org/sleep-apnea <sup>4</sup> https://www.cdc.gov/nchs/fastats/pneumonia.html
- $^{\rm 5,\,6}$  healthline.com/health/copd/facts-statistics-infographic
- 7 https://www.lung.org/lung-health-and-diseases/lung-disease-lookup/lung-cancer/resource-library/lung-cancer-fact-sheet.htmls
- 8 cff.org

## The respiratory system



## Section 2 Nebulizers

#### What is a nebulizer?

A nebulizer creates a mist to inhale medication. It works in conjunction with a small air compressor.



## Section 2 Nebulizers

#### How a nebulizer works

It turns liquid medicine into a very fine mist that a patient can inhale through a face mask or mouthpiece. This allows the medication to go straight into the lungs and the respiratory system where it is needed.

#### Who needs a nebulizer?

People with respiratory conditions. These include asthma and chronic obstructive pulmonary disease (COPD), where breathing treatments are needed to help improve the airflow in the lungs.

## Conditions where a nebulizer is required:

- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)

#### Care of a nebulizer

- Change the nebulizer filter as directed in the manufacturer guidelines
- Clean the outside of the tubing and replace as directed in the manufacturer guidelines
- Replace any part or accessory that is cracked or worn as directed in the manufacturer guidelines
- Keep extra tubing, mouthpieces, and masks on-hand in case they become damaged or worn

## Prevalence of patients using nebulizers in the U.S.

- Asthma, the leading chronic illness among US children, affects approximately 6.2 million children younger than 18 years<sup>1</sup>
- According to the Centers for Disease Control and Prevention (CDC), 1 in 13 people have asthma<sup>2</sup>
- More than 25 million Americans have asthma. This
  is 7.7% of adults and 8.4% of children. Each day, ten
  Americans die from asthma, and in 2017, 3,564 people
  died from asthma. Many of these deaths are avoidable
  with proper treatment and care<sup>3</sup>
- Adults are four times more likely to die from asthma than children<sup>4</sup>

#### Source

1,3,4 www.aafa.org/asthma-facts

<sup>2</sup> www.cdc.gov/asthma

ADULT					
Treatment					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
	Compressors	E0570	McKesson	16-3655LT	
MARKAGON CONTROL CONTR			Drive Medical	18081	
			Respironics	1110063	
	Disposable Nebulizer Kits	A7003	McKesson	32645	
			Drive Medical	3655D-621	
			Respironics	HS800	

Treatment (continued)				
Product Image	Item Description	HCPC Codes	MFR	MFR #
PROVIDED TO SERVICE OF THE PROVIDED TO SERVICE O	Reusable Nebulizer Kits	A7005	Respironics	HS860
			Drive Medical	18254
64	Masks	A7015	McKesson	32633
			Vyaire Medical	001201
			Teleflex Medical	1041

Accessories				
Product Image	Item Description	HCPC Codes	MFR	MFR #
MODERN AND ADMITT	Compressor Filters	A7013	McKesson	16-3655LTF
MICKESSON  MICKESSON  TO SERVICE FILTER  WE TE SOURCE  MICKESSON  Service Statement  MICKESSON  MIC			Respironics	483677
######################################	Peak Flow Meters	A4614	Respironics	HS740-012
Too to t			Vyaire Medical	510
	Spacers	A4627	Smiths Medical	11-1120
PHILIPS RESPIRONICS			Respironics	1077478

Section 2: Nebulizers (continued)

PEDIATRIC					
Treatment					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
WASHINGTON TO SECURITY TO SECU	Non-Character Compressors	E0570	McKesson	16-3655LT	
	Character Compressors	E0570	Drive Medical Respironics	MQ6006 1082456	
	Disposable Nebulizer Kits		McKesson	32645	
			Allied Medical  Teleflex Medical	64095 1707	
	Reusable Nebulizer Kits		Respironics	HS860	
			Drive Medical	18254	
	Infant Nebulizer Kit	A7003	McKesson	32641	

Treatment (continued)					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
	Masks	A7015	McKesson  Vyaire Medical	32632 001266	

Accessories				
Product Image	Item Description	HCPC Codes	MFR	MFR #
MERESON, 16-3488,77 Nebudirer Filters	Compressor Filters	A7013	McKesson Brand	16-3655LTF
			Respironics	929-4
### ### ### ### ### ### ### ### ### ##	Peak Flow Meters	A4614	Respironics	HS740-012
200 iii ii			Vitalograph	43602
DHILIPS RESPIRONICS	Spacers	A4627	Respironics	1077478
RESPIN			Smiths Medical	11-1010

## Section 3 Oxygen

#### What is oxygen?

Oxygen is a colorless, odorless reactive gas. It's the life-supporting component of the air.



## Oxygen

#### How does oxygen work?

Oxygen gets into our cells and tissues through the lungs. The lungs breathe in oxygen, then pass the oxygen into the bloodstream through millions of tiny air sacs called alveoli.

## Conditions where oxygen is required:

- Chronic Obstructive Pulmonary Disease (COPD)
- · Pneumonia
- · Asthma
- Bronchopulmonary Dysplasia (BPD), Underdeveloped Lungs in Newborns
- Heart Failure (HF)
- Cystic Fibrosis (CF)
- · Sleep Apnea
- · Lung Disease

#### Care of oxygen equipment

- Wash your cannula or mask with a liquid soap and warm water 1 or 2 times a week or per manufacturer guidelines
- Replace cannula and mask every 2 to 4 weeks or per manufacturer guidelines
- If you have a cold, change the nasal prongs when your cold symptoms are done or per your physician's recommendation
- If you have an oxygen concentrator, unplug the unit and wipe down the cabinet with a damp cloth daily

#### Who is the patient using oxygen?

Someone who suffers from a range of breathing related conditions, such as COPD, asthma, pneumonia, heart failure, cystic fibrosis, sleep apnea and lung disease

#### **Prevalence of Americans using oxygen**

There are an estimated 1.5 million supplemental oxygen users in the U.S .

#### Source:

https://www.ucsfhealth.org/education/supplemental-oxygen-more-resources

Oxygen Concentrators				
Product Image	Item Description	HCPC Codes	MFR	MFR #
	1-5 LPM (liters per minute)	E1390	Drive Medical	525DS
			Respironics	1020001
			Invacare	RC5PO2V
Down its	Transfilled Devices (Home fill, I-fill, conversing mechanism)	K0738	Drive Medical	535D

Section 3: Oxygen (continued)

Oxygen Concentrators (continued)				
Product Image	Item Description	HCPC Codes	MFR	MFR #
	Portable Oxygen (cylinders)	E0431	Drive Medical	535D-M6-870
			Mada Medical	1202
	Portable Oxygen Concentrator (POC)	E1392	Drive Medical	306DS

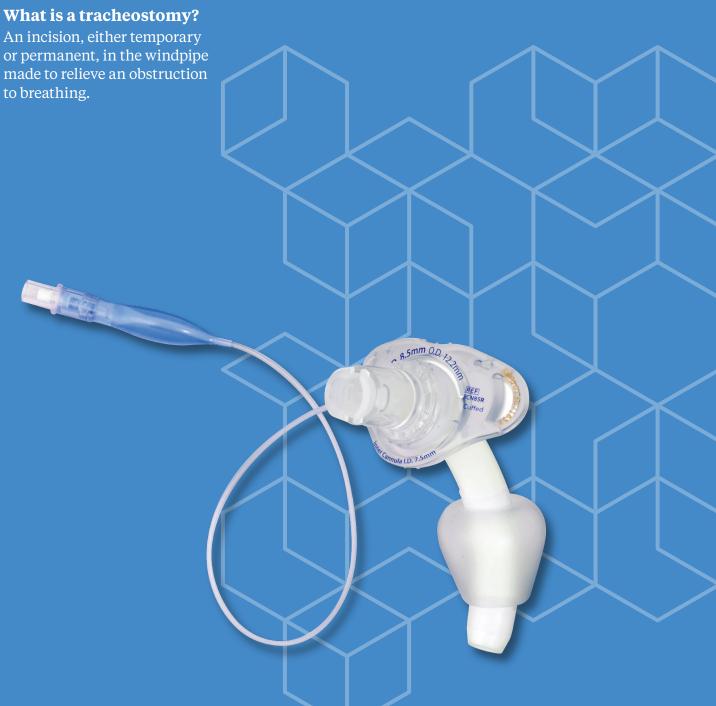
Accessories				
Product Image	Item Description	HCPC Codes	MFR	MFR #
	25 ft Tubing	A4616	McKesson	32646
			Salter Labs	2025G-25-25
			Teleflex Medical	1119
			Vyaire Medical	001305GRN
	50 ft Tubing	ubing A4616	Salter Labs	2050G-50-20
			Teleflex Medical	1120
			Vyaire Medical	001306GRN
Mccesson ■ Nasal Cannula	Nasal Cannulas (1 ft, 7 ft, 25 ft)	ulas	McKesson	32637
Nosal Comula ADULT (CONTOURED TIP  Far promote the control of the			Salter Labs	16SOFT-7-50
			Teleflex Medical	1870
			Vyaire Medical	001325

Accessories (continued)				
Product Image	Item Description	HCPC Codes	MFR	MFR #
	Humidifier Bottles	N/A	McKesson	32630
	or prefill)	empty r prefill)	Salter Labs	7100-0-50
			Teleflex Medical	003-40
			Vyaire Medical	002620
	Swivel/ Connector	N/A	Vyaire Medical	001841
	Adapters		Salter Labs	1220-0-25
			Teleflex Medical	1623
	Wing Adapter/ Christmas Tree Adapters		Vyaire Medical	001840
			Teleflex Medical	2555
			Salter Labs	1205-0-50
	Ear Cushions	N/A	McKesson	32648
			Salter Labs	1016-0-50
			Vyaire Medical	002016
	Oxygen Masks	sks enti, n-rebreather,	McKesson	32633
3.33	non-rebreather, face tent)		Salter Labs	1114-7-10
			Vyaire Medical	001201
			Teleflex Medical	1041
Mixesson  Handheld Pulse Oximeter  ADULT  The state of th	Handheld Pulse Oximeter	E0445	McKesson	16-834V2

Section 3: Oxygen (continued)

Accessories (continued)					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
MCKESSON	Finger Oximeter	E0445	McKesson	16-93651	
	Oxygen Regulators	E1353	Drive Medical	18302GMN	
drive			McKesson	3510M	
			Mada Medical	M1935-15GB	
-4000350035002500250025001500100010005001000 -	Spirometers	A9284	Teleflex Medical  Vyaire Medical	8884719025 001901A	
NO SMOKING NO FUMAR OXYGEN IN USE	No Smoking Sign	N/A	Mada Medical	02SIGN	

## Section 4 Suction/Tracheostomy Therapy



## **Suction/Tracheostomy Therapy**

#### How a tracheostomy works

A tracheostomy tube is placed through the hole and directly into your windpipe to help the patient breathe.

#### Why a tracheostomy is needed

To relieve an obstruction of breathing, bypassing the mouth, nose and throat.

## Conditions where a tracheostomy is required:

- Restricted airways
- It may also be done during an emergency when the airway is blocked. Or it could be applied when a disease or other problem makes normal breathing impossible

#### Care of a tracheostomy

- Always wash your hands with soap and water before cleaning
- · Wear gloves
- You should clean the skin around the stoma twice a day with a 50:50 mixture of sterile water and hydrogen peroxide

#### Who is the tracheostomy patient?

Someone who had:

- · Obstruction of the mouth or throat
- Breathing difficulty caused by edema (swelling), injury or pulmonary (lung) conditions
- Airway reconstruction following tracheostomyeal or laryngeal surgery
- Airway protection from secretions or food because of swallowing problems
- · Airway protection after head and neck surgery

## Prevalence of tracheostomy patients in the U.S.

The average number of tracheostomies performed annually in the United States is now > 100,000.

Source: http://rc.rcjournal.com/content/59/6/895

PRODUCTS NEEDED FOR SUCTION/TRACHEOSTOMY THERAPY					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
	Cuffed Tracheostomy Tubes	A7521	Shiley (Medtronic)	6CN75H	
			BiVona (Smiths Medical)	670160	
			Portex (Smiths Medical)	503070	
Company O.O. 12. In the second of the second	Non-Cuffed Tracheostomy Tubes		Shiley (Medtronic)	6UN75H	
			BiVona (Smiths Medical)	60PFSS35	
			Portex (Smiths Medical)	502070	
	Inner Cannulas	A4623	Shiley (Medtronic)	4DIC	
			Smiths Medical	526060	

Product Image	Item Description	HCPC Codes	MFR	MFR #
	Tracheostomy Care Kits (gloves, gauze dressings)	A4625	McKesson	16-715
		A4629	Vyaire Medical	3T4691
MORESSON  Spit Sponges  C'AC' 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IV Split Dressing (4x4)	A6402	McKesson	16-4226
	Tracheostomy Adapters	N/A	Smiths Medical	525350
	Adaptoro		Teleflex Medical	1623
			Vyaire Medical	77AA05
	Speaking Valve	L8501	Shiley (Medtronic)	ssvo

SUCTION/TRACHEOSTOMY HUMIDIFICATION TOOLS						
Product Image	Item Description	HCPC Codes	MFR	MFR #		
one drive	50 PSI Compressor	E0565	Drive Medical	18450		
	Large Volume Nebulizers	A7007	Teleflex Medical	1770		
			Vyaire Medical	002002		

SUCTION/TRACHEOSTOMY HUMIDIFICATION TOOLS (continued)					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
	Corrugated Tubing	A7010	Teleflex Medical	1680	
			Vyaire Medical	001450	
	Tubing Adapters	N/A	Vyaire Medical	441H	
			Teleflex Medical	1640	
	Tracheostomy Masks	A7525	McKesson	32635	
			Teleflex Medical	1075	
			Vyaire Medical	001225	
	Heat Moisture Exchangers	A4483	Vyaire Medical	003003	
	(HMEs)		Teleflex Medical	41312	
			Medtronic	353U5413	
			McKesson	16-6216	

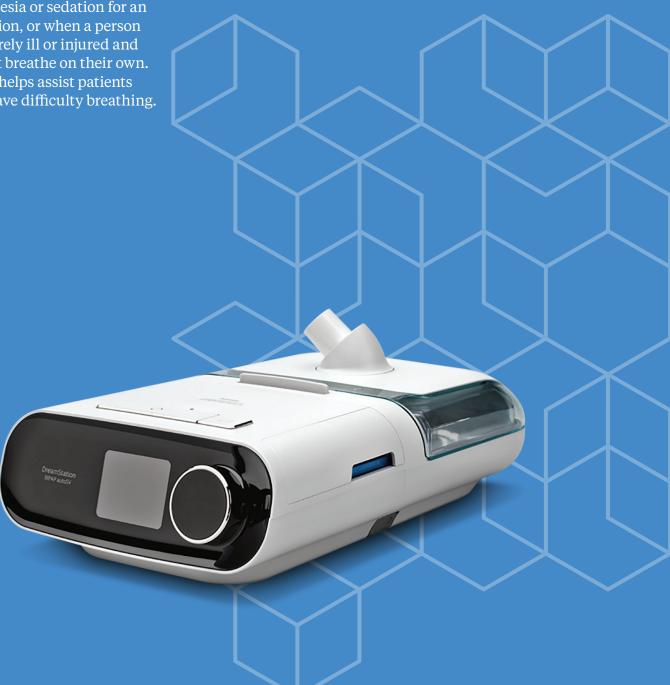
TRACHEOSTOMY SUCTION TOOLS						
Product Image	Item Description	HCPC Codes	MFR	MFR #		
	Suction Pumps	E0600	Drive Medical	18600		
			Allied Medical	G180		
	Suction Cannisters	A7000	Bemis Healthcare	484410		
			Drive Medical	610-12b		
			Allied Medical	20-08-004		

Tracheostomy Suction Tools (continued)				
Product Image	Item Description	HCPC Codes	MFR	MFR#
MCCESSON  Succion Connocting Tubing  Succion Tubing  10° x 1 10 1 1  When the success of the suc	Connective Tubing	A7002	Drive Medical  McKesson	SUCP Tubing 10 16-66306
	Suction Catheter	A4624	Vyaire Medical	T60C
	Closed Suction Catheters	A4605	Vyaire Medical	T160C
			Avanos	220135
MEXESSON    Marker Suction Instrument	Yankauer (oral suction tube)	A4628	McKesson	16-66201
	Resuscitator Bags	S8999	Vyaire Medical	2K8005
			Teleflex Medical	5372
	Drainage Device	A7048	BD PleurX	50-7510

## Section 5 **Mechanical Ventilation**

#### What is a ventilator?

A ventilator is used to assist with breathing during anesthesia or sedation for an operation, or when a person is severely ill or injured and cannot breathe on their own. It also helps assist patients who have difficulty breathing.



## **Mechanical Ventilation**

#### How does a ventilator work?

The ventilator pushes air into the lungs to deliver a breath, then allows the air to come back out, just as the lungs would do if they were able to.

#### Why a ventilator is needed

A ventilator is necessary when the patient is unable to breathe well enough on their own to provide oxygen to the brain and body.

#### Conditions that require a ventilator:

When a patient is having difficulty breathing and needs assistance.

#### Care of a ventilator

- Wipe down ventilator as directed in the manufacturer guidelines
- Change out bacteria filters, circuits, tracheostomy adapters and water chambers as directed in the manufacturer guidelines

#### Who is the ventilator patient?

Anyone who suffers from a range of conditions, including:

- Chronic Obstructive Pulmonary Disease (COPD)
- ALS
- · Multiple Sclerosis
- Cystic Fibrosis (CF)
- · Muscular Dystrophy
- Any restrictive and neuromuscular diagnosis

## Prevalence of ventilator patients in the U.S.

790,257 hospitalizations involving mechanical ventilation in 2005, representing 2.7 episodes of mechanical ventilation per 1,000 population; estimated national costs were \$27 billion representing 12% of all hospital costs.

**Source:** https://www.ncbi.nlm.nih.gov/pubmed/20639743

NON-INVASIVE AND INVASIVE VENTILATORS					
Ventilator					
Product Image	Item Description	HCPC Codes	MFR	MFR #	
	Non-Invasive Ventilator	EO466	Respironics Bi Pap	H5-DSX700H11	
	Invasive Ventilators	EO465	Vyaire Medical (Care Fusion)  Medtronic	18984-001 HT70PM-WW-NA	

Section 5: Mechanical Ventilation (continued)

Ventilator Accessories				
Product Image	Item Description	HCPC Codes	MFR	MFR #
	Heat Moisture Exchangers	A4483	Vyaire Medical	003003
	(HMEs)		Teleflex Medical	41312
			Medtronic	353U5413
			McKesson	16-6216
	Ventilator Circuits	N/A	Vyaire Medical	AH180
			Medtronic	BCD20801P
			Respironics	1073228
	Tracheostomy Swivel Adapter	N/A	Vyaire Medical	332113
	Bacteria Filters	N/A	Vyaire Medical	1851
			Teleflex Medical	1605
The state of the s	Sterile Water		Vyaire Medical	2D0737
			Teleflex Medical	200-51

Product Image	Item Description	HCPC Codes	MFR	MFR #
CO X	Pap Masks	A7034	Respironics	1050091 62111
	Resuscitator Bags	S8999	Vyaire Medical  Teleflex Medical	2K8005 5372

## Section 6 Resources



## Resources

#### Non-profit/advocacy

#### **American Lung Association**

www.lung.org

#### **American Association for Respiratory Care**

www.aarc.org

#### **COPD Foundation**

www.COPDFoundation.org

#### **Cystic Fibrosis Foundation**

www.cff.org

#### **Sleep Foundation**

https://www.sleepfoundation.org/sleep-apnea

#### **McKesson**

#### COVID-19/Coronavirus/SARS-CoV-2 Resources:

https://mms.mckesson.com/content/coronavirus-update/

#### **Lab Testing Resources:**

https://mms.mckesson.com/content/clinical-resources/laboratory-resources/

#### McKesson Academy™

mms.mckesson.com/mckesson-academy

#### McKesson Clinical Connections™ Webinars

https://mms.mckesson.com/content/clinical-resources online-education/educational-webinars-2/

#### McKesson FluWise®

https://mms.mckesson.com/content/clinical-resources/flumanagement/

#### McKesson Readmissions Resource™

https://mms.mckesson.com/content/clinical-resources/care-management/reducing-hospital-readmissions/

#### McKesson SupplyManager™

mms.mckesson.com

#### Vaccine Resources:

https://mms.mckesson.com/content/shop-products/product-resources-2/vaccine-recommendations-adults/

#### **Manufacturers**

#### Allied Medical Healthcare Products, Inc.

http://www.alliedhpi.com/

#### **Avanos Medical**

https://avanos.com/

#### RD

https://www.bd.com/en-us

#### **Drive Medical**

https://www.drivemedical.com/us/en/Products/c/Products

#### Mada

https://www.madamedical.com/

#### Medtronic

https://www.medtronic.com/us-en/healthcare-professionals/products.html

#### **Philips Respironics**

http://www.respironics.com/us\_en

#### ResMed

https://www.resmed.com/us/en/index.html

#### Salter Labs

https://www.salterlabs.com/

#### **Smiths Medical**

https://www.smiths-medical.com/products

#### Teleflex Medical

https://www.teleflex.com/emea/en/product-areas/

#### Vitalograph

https://vitalograph.com/

#### **Vyaire Medical Medical**

https://vyaire.com/products



#### **McKesson Medical-Surgical**

9954 Mayland Drive Richmond, VA 23233 mms.mckesson.com / 888.822.8111

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