

Respiratory Equipment & Products

Bi-Level - Bi-Level system makes breathing easier and more natural for adult patients with Obstructive Sleep Apnea (OSA) who are having difficulty complying with continuous positive airway pressure therapy.

Continuous Positive Airway Pressure (CPAP) – One of the most common sleep disorders is sleep apnea - a disorder that causes a person's airway to close several times during one night's sleep. For those with sleep apnea, relief usually comes with continuous positive airway pressure (CPAP). Continuous Positive Airway Pressure (CPAP) devices deliver a prescribed level of positive pressure non-invasively to the upper airway for the treatment of sleep apnea. Extremely easy to use, CPAPs come with different features such as ramping to allow comfortable adjustment to the pressure; software to capture specific usage and breathing events; and automated altitude adjustment. Accessories, such as nasal interface applications and humidification devices are provided to afford maximum comfort to ensure patient compliance.

Liquid oxygen systems - consist of a large main tank and one or two portable units. The portable units are used as needed for travel outside of the home. When they are empty, they can be refilled from the large tank. Portable units can be carried with a shoulder strap or cart. Liquid oxygen will evaporate if not used frequently. Therefore the portable units should be filled just prior to use.

Cylinders - are available in various sizes. Carrying cases or carts are used for the different size tanks.

M2 - Weighs less than 2 pounds and only 7.9 inches in length, this extremely lightweight, compact medical oxygen cylinder is the perfect solution for anyone who needs a convenient, easily transportable medical oxygen supply for a short amount of time. This cylinder is the smallest aluminum oxygen cylinder in the world yet can supply up to 2 hours of oxygen.

M4 - medical oxygen cylinder is a great solution for anyone who needs a convenient, easily transportable medical oxygen supply for a short amount of time. This cylinder weighs under 3 pounds and is only 12 inches in length. This cylinder can supply up to 7 hours of oxygen.

M6 – extremely popular medical oxygen cylinder is the perfect balance between portability and oxygen supply duration.

The M6 cylinder is less than 15 inches in length and weighs only 3 pounds and can supply up to 10 hours of oxygen.

ML6 - Similar to the M6 cylinder, the ML6 is a great balance between portability and oxygen supply duration. This cylinder weighs under 4 pounds and is shorter and wider than the M6 cylinder. This cylinder can provide up to 10 hours of oxygen.

M9 – a popular cylinder is a great balance between portability and oxygen supply duration. The M9 is less than 16 inches in length and weighs only 4.5 pounds yet can supply up to 14 hours of oxygen.

Portable E Tanks - Portable smaller units called E tanks are used for transport. A key is required to turn the tank on and off. The portable tanks must be replaced when empty. Therefore, the family must plan ahead for trips outside of the home. Portable E tanks may be used for backup in case of power failure.

Nebulizer - is a type of inhaler that provides a fine mist of medication to the lungs. This is performed by breathing the medicated mist through a mouthpiece or mask attached to the nebulizer device, which is driven via a plastic tubing, attached to the compressor unit. The medications used in nebulizers help you by loosening the mucus in the lungs so it can be coughed out more easily, and by relaxing the airways so that more air can move in and out of the lungs. Nebulizer treatments take approximately 15 minutes to deliver the medication and are prescribed by your physician.

Pediatric Nebulizer - A special breathing device usually used 3 or 4 times daily as needed; or as directed by your doctor. It works in the lungs by opening breathing passages to make breathing easier. This device is intended for use in children but may also be used for adults requiring smaller doses.

Oxygen Concentrators - electronically powered device with a series of filters that extract oxygen from room air. Also, a backup system, usually a stationary compressed gas system. Must always accompany a concentrator in case of power failure or other emergency. Regular household current is sufficient for its use. In limited cases, a humidifier bottle may be necessary to increase moisture to the oxygen as it passes through the tubing to the mask or cannula.

Common Diagnoses:

- Chronic Obstructive pulmonary diseases (COPD)
- Emphysema
- Asthma
- Chronic Bronchitis
- Lung Cancer
- Acute Myocardial Infarction

- Acute Pulmonary Heart Disease
- Congestive Heart Failure
- Viral Pneumonia
- Bacterial Pneumonia
- Bronchiectasis

Oxygen Conservers - are types of regulators, which conserve the amount of gaseous oxygen in portable cylinders. Oximetry testing is required to ensure proper oxygen saturation during use of a conserver.

Portable Oxygen Systems - incorporate either the electronic conserving device, the pneumatic conserving device, or standard flow regulators. These systems provide individuals with a convenient, lightweight supply of oxygen. Systems are available with one or multiple M4, M6, M9, MD, or ME cylinders, fiber-wrapped cylinders, shoulder, horizontal, backpack, or fanny pack style carrying bags, cart, regulator, cannula, and supply tubing. All systems are also available with a straight post valve, handtight or a toggle CGA870 valve.

Ventilators - An automatic mechanical/pneumatic device designed to reduce or provide the work required to move gas into and out of the lungs.

Mobility Products

Canes – adjustable height canes can improve balance and reduce fatigue. Travel canes can fold up and be carried in a travel case. Standard crook canes are lightweight and durable to help improve balance and reduce fatigue. Quad canes are used when there is a need for additional stability. Quad canes have a base with four legs affording greater stability than straight canes. Quad canes can be ordered with narrow or wide bases.

Crutches – Standard adjustable crutches are lightweight and easily adjust to size. Forearm crutches have contoured arm cuffs for extra comfort and stability.

Lifts/Seating Systems - Power lift chairs gently moves the person to a standing, seating, or reclined position.

Patient Lifts – (power or hydraulic) for assistance with patient transferring. Lift/commode is a FDA registered medical device, ideal for people with musculo-skeletal or neuromuscular limitations. It is motorized and designed to operate as a lift system and as an adjustable height commode. It can be used as a bedside commode (helps reduce bedpan use) or as a transfer system to move a person from a bed to a seated or standing position.

Ramps - portable ramps for wheelchairs and scooters roll up for easy carrying with storage bag. Scooter ramps have side rails and center panels that slide easily into place, locking securely to provide a solid drive surface. Suitcase ramps are convenient and compact, fold up easily and have a built-in carrying handle. Telescopic channel ramps each extend to be used on steps, vans, or curbs. For storage, simply pick up each rail and depress the guide buttons to collapse. Chair lifts allow you to lift and carry your power chair fully assembled.

Walkers – are available in a variety of styles to meet individual needs. Folding, adjustable walkers can be easily transported in vehicles. Hemi-walkers allow for one-hand utilization. Wheeled walkers minimize lifting. Many accessories, such as walker trays, baskets or pouches are available.

Disease States:

Hypertension: Blood pressure greater than or equal to 140/90 mmHg.

COPD: Chronic obstructive pulmonary disease (COPD) is a catch-all term for a number of respiratory diseases. The diseases of COPD include chronic bronchitis, pulmonary emphysema, asthma and bronchiectasis (a chronic inflammatory or degenerative condition of one or more bronchi or bronchioles marked by dilatation and loss of elasticity of the walls).

Asthma: Hyper-responsive airways manifested by a narrowing of the airway.

Sleep Apnea: a breathing disorder characterized by brief interruptions of breathing during sleep.

- a. Central Sleep Apnea: Occurs when the brain fails to send the appropriate signals to the breathing muscles to initiate respirations.
- b. Obstructive Sleep Apnea: Occurs when air cannot flow into or out of the person's nose or mouth, although efforts to breath continue.

Diabetes: Disease in which blood glucose levels are above normal

- a. Type 1 diabetes: diabetes of a form that usually develops during childhood or adolescence and is characterized by a severe deficiency of insulin secretion resulting from atrophy of the islets of Langerhans and causing hyperglycemia and a marked tendency toward ketoacidosis -- *called also insulin-dependent diabetes, insulin-dependent diabetes mellitus, juvenile diabetes, juvenile-onset diabetes, type 1 diabetes mellitus*
- b. Type 2 diabetes: a common form that develops especially in adults and most often in obese individuals and that is characterized by hyperglycemia resulting from impaired insulin utilization coupled with the body's inability to compensate with increased insulin production -- *called also adult-onset diabetes, late-onset diabetes, maturity-onset diabetes, non-insulin-dependent diabetes, non-insulin-dependent diabetes mellitus, type 2 diabetes mellitus*

CHF: heart failure in which the heart is unable to maintain adequate circulation of blood in the tissues of the body or to pump out the venous blood returned to it by the venous circulation

Urinary Incontinence: Incontinence is the inability to control the passage of urine. This can range from an occasional leakage of urine, to a complete inability to hold any urine. Urinary incontinence affects approximately 13 million people in the United States and is more common in women than in men. It occurs in 10 percent to 25 percent of women younger than age 65 and in 15 percent to 30 percent of women older than age 60 who do not live in nursing homes. Among nursing home residents, incontinence is even more common, affecting more than 50 percent of female patients.

Cystic Fibrosis (CF): a life-threatening disorder that causes severe lung damage and nutritional deficiencies. CF is an inherited (genetic) condition affecting the cells that produce mucus, sweat, saliva and digestive juices. Normally, these secretions are thin and slippery, but in CF, a defective gene causes the secretions to become thick and sticky. Instead of acting as a lubricant, the secretions plug up tubes, ducts and passageways, especially in the pancreas and lungs. Respiratory failure is the most dangerous consequence of CF. Each year approximately 3,200 white babies are born in the United States with CF. The disease is much less common among black and Asian-American children. Most babies born with CF are diagnosed by age 3, although mild forms of the disease may not be detected until the third, fourth or fifth decade of life. In all, about 30,000 American adults and children are living with the disorder. Although there's still no cure, the emerging field of gene therapy may someday help correct lung problems in people with CF.

Hepatitis C HCV (Hepatitis C Virus): is an inflammation of the liver causing soreness and swelling. It is the most common chronic blood borne infection in the United States. The hepatitis C virus usually is transmitted through contact with infected blood, most commonly by sharing needles during intravenous drug use, or getting a blood transfusion before 1992. Hepatitis C also may be spread through unprotected sexual intercourse, but this is uncommon. Most people don't feel sick when they are first infected with hepatitis C. Instead, the virus stays in their liver and causes chronic liver inflammation.

Multiple Sclerosis: is a chronic, potentially debilitating disease that affects your brain and spinal cord (central nervous system). The illness is probably an autoimmune disease, which means your immune system responds as if part of your body is a foreign substance. In MS, your body directs antibodies and white blood cells against proteins in the myelin sheath surrounding nerves in your brain and spinal cord. This causes inflammation and injury to the sheath and ultimately to your nerves. The result may be multiple areas of scarring (sclerosis). The damage slows or blocks muscle coordination, visual sensation and other nerve signals. The disease varies in severity, ranging from a mild illness to one that results in permanent disability. Treatments can modify the course of the disease and relieve symptoms. An estimated 400,000

Americans have MS. It generally first occurs in people between the ages of 20 and 50. The disease is twice as common in women as in men.

Muscular Dystrophy: is a group of rare inherited muscle diseases in which muscle fibers are unusually susceptible to damage. Muscles, primarily your voluntary muscles, become progressively weaker. In the late stages of muscular dystrophy, fat and connective tissue often replace muscle fibers. In some types of muscular dystrophy, heart muscles, other involuntary muscles and other organs are affected. There are many forms of muscular dystrophy, some noticeable at birth (congenital muscular dystrophy), others in adolescence (Becker MD), but the 3 most common types are Duchenne, facioscapulohumeral, and myotonic. The various types of the disease affect more than 50,000 Americans. There's no cure, but medications and therapy can slow the course of the disease.

Osteoporosis: is a disease in which the density and quality of bone are reduced, leading to weakness of the skeleton and increased risk of fracture, particularly of the spine, wrist, hip, pelvis and upper arm. Osteoporosis and associated fractures are an important cause of mortality and morbidity.

In many affected people, bone loss is gradual and without warning signs until the disease is advanced. Osteoporosis is also known as "the silent crippler" because a person usually doesn't know they have it until it's too late. Unfortunately, in many cases, the first real "symptom" is a broken bone. Loss of height – with gradual curvature of the back (caused by vertebral compression fractures) may be the only physical sign of osteoporosis.

In the United States, osteoporosis causes more than 1.5 million fractures every year — most of them in the spine, hip or wrist. And although it's often thought of as a women's disease, osteoporosis affects many men as well. About 8 million American women and 2 million American men have osteoporosis, and nearly 18 million more Americans may have low bone density. Even children aren't immune.

Parkinson's Disease: Parkinson's disease belongs to a group of conditions called movement disorders. It is both chronic, meaning it persists over a long period of time, and progressive, meaning its symptoms grow worse over time.

Parkinson's disease occurs when a group of cells, in an area of the brain called the substantia nigra, that produce a chemical called dopamine begin to malfunction and eventually die. Dopamine is a neurotransmitter, or chemical messenger, that transports signals to the parts of the brain that control movement initiation and coordination. When Parkinson's disease occurs, for unexplained reasons, these cells begin to die at a faster rate and the amount of dopamine produced in the brain decreases. The four primary symptoms are:

- tremor of the hands, arms, legs, jaw, and face;
- rigidity or stiffness of the limbs and trunk;
- bradykinesia or slowness of movement, and
- postural instability or impaired balance and coordination.

Wheelchairs and Components:

Manual Wheelchairs

Lightweight/Sports Chairs - The most popular type of wheelchair for everyday use for a person with good upper body mobility is the lightweight manual wheelchair. Lightweight chairs provide maximum independence of movement with a minimum of effort. Many active wheelchair users also prefer the sportier look of the lightweights compared with the more standard looking everyday chair. It should be noted, however, that heavy or obese persons may be unable to use these types of chairs because the lighter weight of the frame results in a reduced user capacity as compared to standard everyday chairs. Once used primarily by wheelchair athletes, the lightweight chair today is used by people in virtually all

walks of life as a preferred mode of assisted mobility. Three-wheeled chairs, also developed for such sports as tennis and basketball, are also an everyday chair alternative.

Standard/Everyday Chairs - Some wheelchair users still prefer or require a standard wheelchair, which is characterized by a cross-brace frame, built-in or removable arm rests, swing-away footrests, a mid- to high-level back, and push handles to allow non-occupants to propel the chair.

Child/Junior Chairs - Children and young adults need chairs that can accommodate their changing needs as they grow. In addition, it is important that wheelchairs for children or teens be adaptable to classroom environments and be "friendly looking" to help the user fit more readily into social situations. Manufacturers today are becoming increasingly sensitive to these market demands and are attempting to address them with innovative chair designs and a variety of "kid-oriented" colors and styles.

Specialty Chairs - Because of the diverse needs of wheelchair users, wheelchairs have been designed to accommodate many lifestyles and user needs. Hemi chairs, which are lower to the floor than standard chairs, allow the user to propel the chair using leg strength. Chairs that can be propelled by one hand are available for people who have paralysis on one side. Oversized chairs and chairs designed to accommodate the weight of obese people are also offered. Rugged, specially equipped chairs are available for outdoor activities. Aerodynamic three-wheeled racing chairs are used in marathons and other racing events. Manual chairs that raise the user to a standing position are available for people who need to be able to stand at their jobs, or who want to stand as part of their physical conditioning routine. These and other specialized chair designs generally are manufactured by independent wheelchair manufacturers who are trying to meet the needs of specific target markets.

Institutional/Nursing Home/Depot Chair - The least expensive type of chair available, an institutional chair, is designed for institutional usage only, such as transporting patients in hospitals or nursing homes. It is not an appropriate alternative for anyone who requires independent movement, as the institutional chair is not fitted for a specific individual. These types of chairs are now also used as rental chairs and by commercial enterprises (such as grocery stores and airports) for temporary use.

Other Home Medical Equipment

Bariatric products are designed to have a weight capacity of 300 pounds (or more) for those who need that extra support. Bariatric chairs maximize the patient's ability to sit and stand with reduced effort, and lessens the chance of lifting injury to the caregiver.

Bariatric beds have extra bracing integrated into the home care bed frame, along with a wider surface and truss assembly, in order to provide maximum support.

Portable lifting cushions - provide that extra lift needed to help you get in and out of any armchair on your own by shifting your weight forward and pushing off gently with your arms and/or legs. The pneumatic lift will help to gently raise you up to an almost standing position. The cushion is portable and weighs approximately 9 pounds and flattens quickly for easy transport.

Commodes - 3 in 1 Commodes are adjustable and include back, pail w/lid, toilet seat and cover. Some can be used as a free standing commode or a raised toilet seat. Lift/commode is a FDA registered medical device, ideal for people with musculo-skeletal or neuromuscular limitations. It is motorized and designed to operate as a lift system and as an adjustable height commode. It can be used as a bedside commode (helps reduce bedpan use) or as a transfer system to move a person from a bed to a seated or standing position.

Continuous Passive Motion (CPM) - devices are available for synovial joints (hip, knee, ankle, shoulder, elbow, wrist, and TMJ) following surgery or trauma (including fracture, infection, etc). The device moves the affected joint continuously on a 24-hour basis, without patient assistance. The device is held in place across the affected joint by Velcro straps. An electrical power unit is used to set the variable range of motion and speed. The speed and range of motion can be adjusted depending on joint stability, patient comfort level, and other factors assessed intraoperatively.

Diabetic Supplies – Blood glucose monitoring – there are a variety of systems available that allow testing on arms, fingers or thighs, with fast and accurate results and minimal cleaning required.

Environmental Control Units - permits remote control of electronic devices in the immediate surroundings. A person can independently turn lights, radio, and television on and off, answer or initiate phone calls, and unlock a door. Essentially any aspect of the environment can be controlled depending upon the system's complexity. For more information and products: <http://www.makoa.org/ecu.htm>

Hospital Beds - allow for positioning and safety, not possible with standard beds. There are basically three (3) types of hospital beds available for home use: Semi-Electric Beds – allows for raising and lowering the head and the knee break through the use of an automatic hand-held control. Raising the entire bed height is accomplished through use of a manual crank. Manual Beds – allows for raising and lowering the head of the bed and the knee break, through the use of a manual crank. Full or half-side rails are available. Full-Electric Beds – allows for the raising and lowering functions of the head and knee break, along with the entire bed height adjustment is operated by a hand-held control.

T.E.N.S. dual channel units – a transcutaneous electro-nerve stimulator; pain control that goes where you do. A small medical device slightly larger than a beeper, attaches to your pants or belt and helps alleviate pain while you wear it.

T.E.N.S. units have been dispensed by doctors to their patients for home use. They operate on a 9v. transistor battery and have small wires and pads that adhere to a painful area and alleviate pain. Tiny free nerve endings secrete a chemical called "substance P" that transmits pain signals to our brain. T.E.N.S. units artificially stimulate free nerve endings, thereby depleting them of substance P, literally stopping the pain signal in its tracks.

Wound V.A.C Therapy - or negative pressure wound therapy uses negative pressure through a controlled suction device to close large wounds and promote faster healing. This patented, FDA-approved device is composed of a sophisticated pump, hoses and monitoring system held within a portable compact case weighing less than 20 pounds. It is recognized as an advanced line therapy alternative for patients where traditional dressing changes are not effective. It is a method that is considered among recovering patients in hospitals, nursing homes and other home health care settings. It meets the needs of most cost-effective modalities and an estimated 5 million American patients suffering from chronic or acute wounds.

For more information on Wound V.A.C Therapy & wound care management reference – <http://www.kci1.com/87.asp>