Sample Policies and Procedures

Patient Discharge and Portable Concentrator Non-Delivery Setups for Oxygen Prescribed Patients

INTRODUCTION

These Sample policies and procedures are provided to your office and facility from HomeCare Provider Services, LLC. Many of these policies and procedures are required by Home Medical Equipment suppliers, Durable Medical Equipment suppliers and oxygen equipment suppliers. They are offered as templates to assist you with your office policy and procedure development. We strongly encourage you to review, modify and implement as needed to improve your current oxygen discharge program as well as your utilization of non-delivery patient setups in regards to the utilization of portable oxygen concentrators. These Samples include Oxygen Equipment Manufactured by CHART INDUSTRIES / CAIRE Medical, the manufacturers of AirSep and SeQual Technologies.

Disclaimer:

These policies are provided as samples only. Review and modify as needed for your office.

Document ID **O2-DOC**	Title **New o2 Patient Discharge & Non-Delivery Setup for Oxygen**	Print Date **04/30/2017**
Revision **1.0**	Prepared By **Preparer's Name/Title**	Date Prepared **mm/dd/yyyy**
Effective Date **01/01/2018**	Reviewed By **Reviewer's Name/Title**	Date Reviewed **mm/dd/yyyy**
	Approved By **Final Approver's Name/Title**	Date Approved **mm/dd/yyyy**

Table of Contents

1. Cost Analysis
- 1.1 Purpose
- 1.2 Equipment Cost Analysis Based on Servicing Tanks & Stationary Concentrator (E0431 & E1390)
- 1.3 Equipment Cost Analysis Based on Transportable Oxygen Concentrator (E1390 & E1392)
- 1.4 Equipment Cost Analysis Based on Portable Oxygen Concentrator & Stationary Concentrator (E1390 & E1392)

2. Hospital Discharge Program with Transportable Oxygen Concentrator
- 2.1 Purpose
- 2.2 Transportable Oxygen Concentrator
  - 2.2.1 SeQual Eclipse 5 Transportable Concentrator (.5 – 3L Continuous Flow / 1-9 Pulse Dose Settings)
- 2.3 Patient Discharge Setup
- 2.4 Patient Scheduling for Primary Oxygen Equipment Setup
- 2.5 Policy (Hospital Discharge)
- 2.6 Procedure (Hospital Discharge)

3. Oxygen Patient Assessment
- 3.1 Purpose
- 3.1 Sample Patient Evaluation Assessment Tool
- 3.2 Sample Flow Chart

4. Oxygen Patient Setup with Portable Oxygen Concentrator & Stationary Oxygen Concentrator
- 4.1 Purpose
- 4.2 Portable Oxygen Concentrator
  - 4.2.1 Freestyle 3 Portable Oxygen Concentrator (1-3 Pulse Dose Settings)
  - 4.2.2 Freestyle 5 Portable Oxygen Concentrator (1-5 Pulse Dose Settings)
- 4.3 Stationary Oxygen Concentrator
  - 4.3.1 Companion 5L with OCSI Monitor (.5 – 5L Continuous Flow)
- 4.3 Patient Evaluation Assessment Tool
- 4.4 Patient Scheduling for Primary Oxygen Equipment Setup
- 4.5 Policy (Portable Oxygen Concentrator & Stationary Concentrator)
- 4.6 Procedure (Portable Oxygen Concentrator & Stationary Concentrator)

5. Scheduled Patient Visits and Oxygen Equipment Maintenance Schedules
- 5.1 Purpose
- 5.2 Documentation (Quick Reference Guides, Sample Oxygen Equipment Check List)
- 5.3 Policy (Patient Visits and Oxygen Equipment Maintenance Schedules)
- 5.4 Procedures (Patient Visits and Oxygen Equipment Maintenance Schedules)

1. Cost Analysis

1.1 Purpose:

The cost analysis for each new and existing oxygen patient is important in determining the most cost effective equipment profile to utilize for each patient's needs. Please utilize the calculator provided below to determine the equipment profile best suited for the patient based on oxygen tank utilization. The three types of equipment profiles that we will be comparing:

Service Tanks & Stationary Concentrator
Portable Oxygen Concentrator & Stationary Concentrator
Transportable Oxygen Concentrator

***Most important factor is determining Minimum Tank Delivery Based on Patient (Suggest 6+ Tanks for Non-Delivery Model)**

Sequal 5 Transportable (E1390 $ E1392)	**Rural Area**	**CBA**
Bill Stationary Concentrator E1390	$86.61	$80.56
Also Bill Portable Concentrator E1392	$42.16	$37.79
Medicare Revenue (Monthly)	**$128.77**	**$118.35**
Price for Sequal Eclipse 5 Transportable	$1,600.00	$1,600.00
Driver Cost for 5 Annual Visits (5 @ $35.00)	$175.00	$175.00
Price for Annual Filter (5 Filters @ $25.00)	$125.00	$125.00
Additional Battery Upgrade if Requested $200.00		
60 Month Total Equipment Cost	$1,900.00	$1,900.00
Amortized monthly cost over 36 months	**$44.44**	**$44.44**
Monthly Profit $$	**$84.33**	**$73.91**
Monthly Profit %	**65%**	**62%**
Total Reimbursement 36 Months	$ 4,636	$ 4,261
Total Profitability Per Patient	**$2,735.72**	**$2,360.60**

CAIRE Medical Bundle Package (Companion 5L Stationary with Freestyle 3 Dual Battery)

Bill Stationary Concentrator E1390	$86.61	$80.56
Also Bill Portable Concentrator E1392	$42.16	$37.79
Medicare Revenue (Monthly)	**$128.77**	**$118.35**
Price for Companion 5 / Freestyle Bundle	$1,400.00	$1,400.00
Price For Extra Freestyle Battery $130.00	$130.00	130.00
Price for Extended Warranty 5YR $420.00	-	-
Delivery Driver Charge Annual Visit (5 x $35.00)	$175.00	$175.00
Stationary Concentrator Filters (2 @ $4.00)	$8.00	$8.00
60 Month Total Cost	$1,713.00	$ 1,713.00
Amortized monthly cost over 36 months	**$47.58**	**$47.58**
Monthly Profit	**$81.19**	**$70.77**
Monthly Direct Margin	**63%**	**60%**
Total Reimbursement 36 Months	**$4,635.72**	**$4,260.60**
Total Profitability Per Patient 60 Months	**$2,922.72**	**$2,547.60**

Servicing Tanks & Stationary Concentrator

Stationary Concentrator E1390	$86.61	$80.56
Tank Delivery E0431	$19.19	$17.54
Monthly Revenue	**$105.80**	**$98.10**
Stationary Concentrator Cost	$395.00	$395.00
Stationary Concentrator Filter (2 Filters @ $8.00)	$16.00	$16.00
Conserving Device	$115.00	$115.00
Regulator Device	$15.00	$15.00
Total Cost to Buy Cylinders (15 units @ $25.00)	$90.00	$75.00
Out of Warranty Repairs on Equipment	$0.00	$0.00
60 Month Total Equipment Cost	**$631.00**	**$632.69**
Driver Cost for a Single Stop	$35.00	$35.00
Cost to fill a Cylinder	$3.00	$3.00
Patient Profile		
Deliveries per Month	1	1
Cylinders per Delivery	**6**	**5**
60 Month Total Cost	**3,811**	**3,633**
Monthly Operating Cost Deliveries & Content	**$53.00**	**$50.00**
Monthly Profit First 36 Months	**$42.28**	**$37.58**
Monthly Profit Last 24 Months	**$(42.48)**	**$(42.46)**
Monthly Profit % First 36 Months	**40%**	**38%**
Monthly Profit % Last 24 Months	**-40%**	**-43%**
60 Month Profit Average %	**0%**	**-2%**
Total Reimbursement 36 Months	**$3,808.80**	**$3,531.60**
Total Profitability Per Patient 60 Month	**$(2.20)**	**(101.09)**

***SEE ATTACHMENT COST CALCULATOR IN EXCELL SPREADSHEET TO UTILIZE FOR COST ANALYSIS IN YOUR MARKET**

Based on current analysis, the maximum amount of tank deliveries for profitability <u>should not exceed 5 or 6 tanks</u> per month based on Rural or CBA area.

2. Hospital Discharge Program with Transportable Oxygen Concentrator

2.1 Purpose:

The Purpose of a Hospital Discharge Program is for improving clinical outcomes with patients requiring oxygen therapy. Current hospital discharge programs are labor intensive which require a technician and RT visit within 24-48 hours which are costly to manage. Studies have shown that new oxygen patients are sometimes non-compliant to current discharge programs in hospitals which cause higher readmission rates. Single device, complete 24/7 transportable oxygen concentrators eliminate the need for same day in-home setup requirements as well as eliminate after hours and weekend setups. It also avoids oxygen setups in inclement weather conditions and better utilizes respiratory therapist and driver resources. It also optimizes inventory with small transportable discharge fleet. It creates better route planning for drivers which offers convenient patient setups based on staff availability. Also allows technicians to improve patient setups with existing delivery routes. More importantly patient setups can be scheduled when caregivers are present to improve patient outcomes and compliance.

2.2 Transportable Oxygen Concentrator

SeQual Eclipse 5 Transportable Concentrator with *autoSAT (.5 – 3L Continuous Flow / 1-9 Pulse Settings)

The Sequal Eclipse 5 is the latest generation of continuous flow portable oxygen concentrators. This device combines portability with clinical efficacy to treat a wide variety of patients in a wide range of activity levels. The SeQual Eclipse 5 produces up to 3LPM continuous flow and with pulse settings 1-9 with a bolus size up to 192 ml, which is the highest of any portable concentrator in the market which can cover a wide variety of oxygen users at high levels of ambulation.

- Engineered for years of trouble free operation
- Continuous flow .5 – 3.0 LPM
- Pulse Settings 1-9
- Use at home, nocturnal, and with 50’ cannula
- Use anywhere via AC, DC and rechargeable battery
- Only 18.4 lbs and transportable
- Rolling cart with adjustable handle
- Battery life 2 hours at 2 LPM, 5+ hours at 2 Pulse Dose
- Bill both E1390 & E1392 codes
- ***autoSAT technology***
    - **autoSAT Technology helps maintain a consistent Fi02 by adjusting the device to meet the patients changing respiratory rate. Like cruise control adjusts a car’s performance to maintain constant speed, autoSAT adjust oxygen concentrator performance to guarantee the prescribed amount of oxygen is delivered with each breath. The variable speed compressor adjusts speed based on a patients breathing rate, while keeping saturation levels up as activity increases and ensures fixed bolus size is always delivered with every breath.**

2.3 Patient Discharge Setup

The discharging hospital would provide a closet program if available to store and discharge the SeQual Eclipse 5 for each patient upon discharge as well as provide a Quick Reference guide to help with patient setup and adjust portable concentrator for first time use. The SeQual Eclipse is a single O2 device which is easy to explain, teach and operate. Reduces worry by eliminating additional task of in-home setup in fear of running out of oxygen. During discharge, patient is no longer overwhelmed by tank and learning curve to use oxygen therapy device.

2.4 Patient Scheduling for Primary Oxygen Equipment Setup

Patient scheduling for Primary Oxygen Setup can be arranged by having the Respiratory Therapist contact the patient and discussing their lifestyle and presenting the patient assessment evaluation form **(presented in section 3.1)** Once the evaluation has been completed the Respiratory Therapist can plan the patient setup with the Inventory manager, service or delivery department based on existing delivery routes during normal business hours and preferably when a caregiver is present.

2.5 Policy (Hospital Discharge)

The office and facility train all respiratory therapist and service technicians on hospital closet program for new patient discharges utilizing a transportable oxygen concentrator. If a closet program is not available all delivery drivers should be educated on utilizing a transportable oxygen concentrator for patient discharges from the hospital. The respiratory therapist, inventory manager, service technicians, and delivery drivers are responsible for providing **Quick Reference Guides** for the hospital with each delivery. The office and facility are required to maintain closet if available in hospital. Respiratory Therapist contacts patient to review Patient Evaluation Assessment form upon discharge. All staff that are currently engaged in new patient setups from the hospital should be educated and understand the basic settings of the transportable oxygen concentrator including:

- Turn On/Off
- Adjust Flow
- Charge Battery of Device
- Included Accessories for each Hospital Discharge Patient Setup

2.6 Procedure (Hospital Discharge)

1. Schedule Appointment with Hospital to discuss Transportable Closet for Patient Discharge
2. Schedule training for discharge planner for equipment utilization and Quick Reference Guide
3. If closet is not available, have delivery driver drop off transportable concentrator / Quick Reference Guide.
4. Respiratory Therapist contacts oxygen patient to evaluate their current oxygen needs and review Patient Evaluation Assessment tool with patient to determine best equipment profile to utilize.
   - 4.1 Tanks & Stationary Concentrator
   - 4.2 Portable Oxygen Concentrator & Stationary Concentrator
   - 4.3 Transportable Oxygen Concentrator
5. Once Therapist reviews Patient Evaluation form and recommends best equipment profile, they contact Inventory Manager and/or Service Department to schedule patient setup.

3.0 Oxygen Patient Assessment

3.1 Purpose:

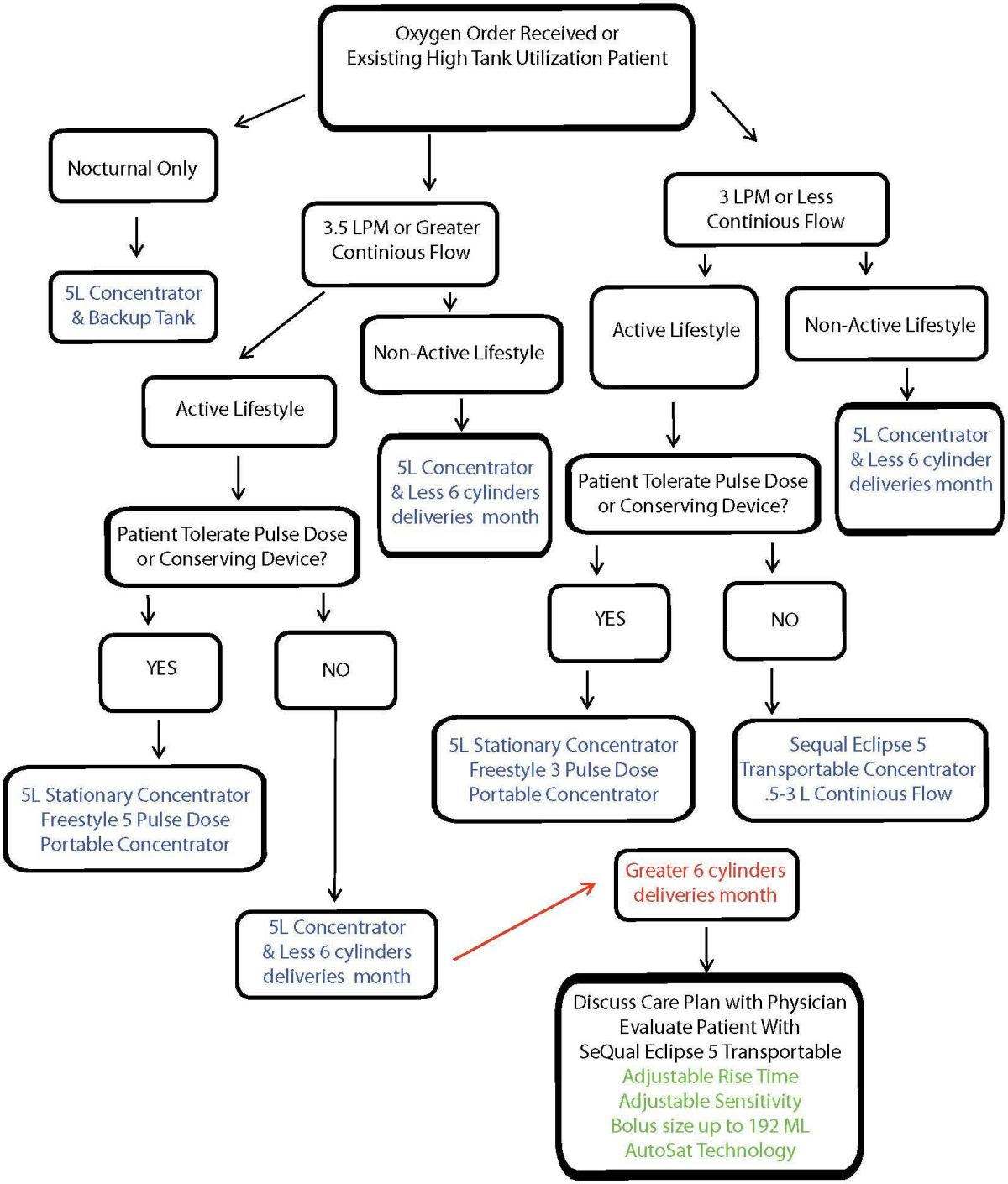
The Purpose of the Oxygen Patient Assessment determines the patient's activity level and can help in determining the most cost effective equipment profile to utilize from initially onboarding a new oxygen patient. With this sample, based on current market conditions and reimbursement rates we have determined that if a patient is going to utilize 6+ or more tanks per month then we need to setup a portable oxygen concentrator and stationary oxygen concentrator. This patient assessment can be utilized on existing patients to help determine if a portable oxygen concentrator should be used as well.

3.2 Sample Template Questions

O2 Patient Evaluation Assessment Tool

Questions to Ask Patient Check the "X" for each matching answer	Answer	TANKS & SOC	X	POC & SOC	X	TRANSPORTABLE	X
What is Current Liter Flow Prescription?		.5 LPM – 5 LPM+		.5 LPM – 5 LPM		.5 LPM – 3 LPM	
Can you utilize Pulse Flow or Conserving Device?		YES / NO		YES		YES / NO	
Do you only use Oxygen at Night?		YES		NO		YES	
Do you consider yourself active?		NO		YES		YES	
Do you drive a car?		NO		YES		YES	
Do you travel by car with overnights?		NO		YES		YES	
Do you leave the house more than one a week?		YES		YES		YES	
Do you leave the house more than twice a week?		NO		YES		YES	
Do you actively work in the yard?		NO		YES		NO	
Do you have more than 4 doctor's appointments per month?		NO		YES		YES	
How many hours are you out of the house a week?		Less than 4 Hours		More than 4 Hours		More than 4 Hours	
Do you travel more than once a year		NO		YES		YES	
Do you fly more than once a year?		NO		YES		YES	
Do you use oxygen at night?		YES		YES		YES	
Do you have more than one home?		NO		NO		YES	
Can you lift at least 20 pounds up into a car?		NO		NO		YES	
Are you confined by a wheelchair or mobility device?		YES		YES		NO	
Did your physician request a POC?		NO		YES		YES	
Have you ever owned a POC?		NO		YES		YES	
Do you use CPAP/BiPAP devices?		YES		YES		YES	
Do you travel with your CPAP/BiPAP device?		NO		NO		YES	
TOTAL "X" Score for Evaluation and Assessment							
***Add any additional Qualifying Questions**							

3.3 Sample Flow Chart



Active Lifestyle -Out of the house more than (2) times a week or active yearly traveler
*More than 6 cylinders a month

Non Active Lifestyle - Does not leave the house more than (1) a week
*Less than 6 cylinders a month

4. Oxygen Patient Setup with Portable Oxygen Concentrator & Stationary Oxygen Concentrator

4.1 Purpose:

The Purpose of utilizing a portable oxygen concentrator is to provide providers the ability to improve clinical outcomes for patients that are ambulatory and live an active lifestyles. Utilizing a portable oxygen concentrator helps improve patient compliance by offering a device that provides simple and worry free operation. When using a portable concentrator the patient now has unlimited ambulation and can use and charge the device at the same time, which enhances the patients quality of life and allows more patient freedom since there are no time restrictions for using a portable oxygen concentrator. There is no complicated process involved in exchanging regulators or conservers as well as to transport dangerous tanks in vehicles, or worrying about running out of oxygen.

When utilizing a portable oxygen concentrator & stationary oxygen concentrator the provider eliminates expensive deliveries, which reduces operating cost and improves profitability **(SEE COST ANALYSIS SECTION 1 FOR EXAMPLES)** based on current reimbursements rates for oxygen**.** Many back-office expenses can be eliminated such as content charges, tank recertification fees, regulators, conserving devices and delivery equipment and fuel.

When reviewing the total cost of suppling oxygen to an active and ambulatory patient that exceeds **(6+ Tank Month)** a portable oxygen concentrator and stationary concentrator "Non-Delivery Patient Setup", should be considered to improve profitability and patient outcomes.

The office or facilities should consider leaving a back-up source of tanks for emergency situations if tanks are available.

4.2 Portable Oxygen Concentrator

CAIRE Medical AirSep Freestyle 3 Lightweight Portable Concentrator (1-3 Pulse Settings 4.9 LBS)
CAIRE Medical AirSep Freestyle 5 Lightweight Portable Concentrator (1-5 Pulse Settings 6.7 LBS)

4.2.1 CAIRE Medical AirSep Freestyle 3 with *UltraSense (1-3 Pulse Settings 4.9 LBS)

The AirSep Freestyle 3 with UltraSense technology offer pulse settings 1-3 for active patients on moderate flow. The Freestyle 3 covers the majority of new oxygen patients without the added weight or cost of a heavier and higher setting device. Its small profile is easily carried or worn with a backpack or shoulder strap.

- Designed and engineered for robust quality and durability
- Time proven sieve bed design backed by standard 3 year warranty
- Pulse-dose settings 1-3 cover the majority of early to moderate oxygen patients without limiting their ambulation with added weight
- User replaceable click style battery and attractive carry case
- Weighs only 4.9 Lbs with battery pack installed
- Runs on AC/DC or rechargeable and user replaceable battery pack
- Can be charged and operated at the same time
- FAA approved for flight
- Battery duration 3.5 hours at Setting 2
- ***UltraSense Technology**
    - **UltraSense Technology provides a more sensitive pulse dose trigger than any other device on the market in standard operating mode. By detecting your patient's breath with less effort, UltraSense helps ensure a pulse of oxygen is delivered with each breath, and guarantee's the pulse is delivered in the first stage of their breath, when it is most critical. UltraSense Technology allows a wider variety of patients to use pulse dose oxygen effectively.**

4.2.2 CAIRE Medical AirSep Freestyle 5 with *UltraSense(1-5 Pulse Settings 6.7 LBS)

The AirSep Freestyle 5 with UltraSense technology provides up to 1000ml of oxygen production in pulse settings 1-5 to cover a wide variety of patients and disease states. Its small profile can be carried with a handle or worn with a backpack or shoulder strap.

- Designed and engineered for robust quality and durability
- Time proven sieve bed design backed by standard 3 year warranty
- Pulse-dose settings 1-5 cover the widest range of patients as their disease progresses
- User replaceable click style battery and attractive carry case
- Weighs only 6.7 Lbs with battery pack installed
- Runs on AC/DC or rechargeable and user replaceable battery pack
- Can be charged and operated at the same time
- FAA approved for flight
- Battery duration 2.5 hours at Setting 2
- ***UltraSense Technology**
    - **UltraSense Technology provides a more sensitive pulse dose trigger than any other device on the market in standard operating mode. By detecting your patient's breath with less effort, UltraSense helps ensure a pulse of oxygen is delivered with each breath, and guarantee's the pulse is delivered in the first stage of their breath, when it is most critical. UltraSense Technology allows a wider variety of patients to use pulse dose oxygen effectively.**

4.3 Stationary Oxygen Concentrator

CAIRE Companion 5L with OCSI Stationary Concentrator with *autoFLOW

4.3.1 CAIRE Companion 5L with OCSI Stationary Concentrator

The CAIRE Companion 5L is the most reliable and technologically advanced stationary concentrator ever developed from Chart Industries. The Companion 5L is a high performing stationary concentrator with advanced design, built specifically with longevity and durability in mind. The Companion 5L is not only simple to use for patients, but with its advanced technology offers a low total cost of ownership and was built to last.

- High capacity compressor
- Operates from .5 – 5.0 L continuous flow with built in Low Oxygen Sensor
- High Capacity Sieve Beds engineered with moisture resistant MGB SecoBlend sieve mixture
- Eco Friendly technology drawing only 285 watts at 2 LPM offers electric cost savings
- Lengthy 2 year maintenance intervals
- Large easy to ready hour meter
- Displays diagnostic alarm codes for easy troubleshooting
- Visual light indicators for proper operation for patient navigation
- **autoFLOW Technology**
    - **autoFLOW Technology was created specifically to help optimize performance and extend the life of major components with variable valve timing based of flow rates. This technology reduces the wear on compressor by 25% at 2LPM, decreases the operating temperatures to improve cooling which significantly reduces power draw and improves the overall life of the concentrator.**

4.4 Patient Evaluation Assessment

The Patient Evaluation Assessment should be performed by the Respiratory Therapist once a patient has been referred to the provider and/or discharged from the hospital or referring physician within 24-48 hours. The Patient Evaluation Assessment Form can be used and modified as needed to help determine the best equipment profile to be used during patient setup. Please see **(3.2 Sample Patient Evaluation Assessment for Reference).** To help assist further, a sample flow chart has been provided **(3.3 Sample Flow Chart).**

4.5 Patient Scheduling for Primary Oxygen Equipment Setup

Patient Scheduling is based on having a Transportable Oxygen Concentrator discharged from Hospital

Once the Respiratory Therapist contacts the patient, and reviews the Patient Evaluation Assessment with her Director of Respiratory or Administration team. The facilities and provider can best determine which equipment profile to be used during the initial patient setup. Once the equipment profile has been selected the Inventory manager is notified to schedule a driver or delivery technician to set up the equipment based on the best route and during normal office hours. The scheduling should occur within 48-72 hours after the Patient Evaluation Assessment.

4.6 Policy (Portable Oxygen Concentrator & Stationary Concentrator)

The office and facility train all respiratory therapists on utilizing a patient evaluation assessment and flow charts for the best equipment profile to be utilized with a new patient setup. Also the office and facility provide all respiratory therapist, inventory managers, service technicians, and delivery drivers hands on training on all portable and stationary oxygen concentrators utilized in current market. The office and facility will also train all staff on quick reference guides and patient handouts that are to be left with the patient.

The office and facility must designate a Director of Respiratory or Administration Team to review the assessment performed by the respiratory therapist and approve the best equipment profile to be used, samples have been provided below.

- 4.6.1 Tanks & Stationary Concentrator
- 4.6.2 Portable Oxygen Concentrator & Stationary Concentrator
- 4.6.3 Transportable Oxygen Concentrator

Once the equipment profile has been approved from the Director if Respiratory and/or Administration team it is submitted to the Inventory manager for processing and scheduling. The Director of Respiratory and/or Administration team should consider leaving a back-up tank for emergency use based on patient condition and disease state.

The inventory manager should designate the best equipment profile and confirm that it is setup in the home. The office and facility will provide **Quick Reference Guide** documentation to the patient as well as demonstrate operation and run a quick diagnostic on all equipment to confirm operation and oxygen concentration levels. The inventory manager should also make arrangements for a back-up tank of oxygen if ordered with the equipment profile.

Delivery driver and/or Service Technician will document patient equipment setup and provide to Inventory manager for processing.

Respiratory Therapist will follow up with patient within 24-48 hours of equipment setup to review for compliance.

4.7 Procedure (Portable Oxygen Concentrator & Stationary Concentrator)

1. Respiratory Therapist will review Patient Evaluation Assessment with Patient
2. Respiratory Therapist with review Assessment with Director of Respiratory and/or Administration team
3. Director of Respiratory and/or Administration team will approve best equipment profile
4. Director of Respiratory and/or Administration team will submit new patient equipment profile to inventory manager for scheduling patient setup
5. Inventory manager will process and schedule delivery of best equipment profile to delivery driver
6. Delivery driver and/or Service Technician will setup new patient equipment profile during normal business hours within 48-72 hours based on routes and availability
7. Delivery driver and/or Service Technician will review equipment quick reference guide with patient and document equipment setup with available forms and documentation
8. Delivery driver and/or Service Technician will submit all documentation to Inventory manager for processing
9. Inventory manager will process all documentation and schedule future service checks based on annual basis.
10. Inventory manager will notify respiratory therapist of equipment setup for patient follow up
11. Respiratory Therapist will contact patient within 24-48 hours of notification of equipment setup for questions

5. Scheduled Annual Patient Visits and Oxygen Equipment Maintenance Schedules

Portable & Stationary Oxygen Concentrator Patients Only

5.1 Purpose:

The purpose of scheduling annual patient visits for each new oxygen patient utilizing portable oxygen concentrators is to review and document the functionality and performance of the equipment being used. It also provides an opportunity to spot check the oxygen concentration levels of each device and provides a filter change if needed. Also this provides an outline on how to handle service issues resulting from equipment that may need to be serviced in the field.

5.2 Documentation (Quick Reference Guides, Sample Oxygen Equipment Maintenance Checklist)

5.2.1 Sample Quick Reference Guide Freestyle 3 (See Attachment)
5.2.2 Sample Quick Reference Guide Freestyle 5 (See Attachment)
5.2.3 Sample Quick Reference Guide Companion 5L (See Attachment)
5.2.4 Sample Quick Reference Guide SeQual Eclipse 5 (See Attachment)
5.2.4 Sample Maintenance Log SeQual Eclipse 5 (See Attachment)
5.2.5 Sample Maintenance Log Freestyle 3/5 (See Attachment)
5.2.6 Sample Maintenance Log Companion 5L (See Attachment)

5.3 Policy (Scheduled Annual Patient Visits / Oxygen Equipment Maintenance Schedule)

The office and facility will provide a minimum of one annual appointment and equipment check for patients that have portable oxygen concentrators and/or bundled with a stationary concentrator and/or back up tank of oxygen. The office and facility is required to train Inventory Manager, Service Technicians and Delivery Drivers on Equipment maintenance and troubleshooting procedures for all portable and stationary concentrators being utilized for new patient setups. Also Service Technicians and Delivery drivers will be provided Quick Reference Guides and Maintenance Schedules for the portable oxygen concentrators and stationary concentrators being utilized. All Service Technicians, Delivery Drivers will be responsible for processing and filing all requested documentation. In case of equipment servicing or failure this policy will provide the outline to review and repair as needed.

5.4 Procedure (Scheduled Annual Patient Visits / Oxygen Equipment Maintenance Schedule)

1. The office and facility will issue Quick Reference Guides / Equipment Maintenance Logs to Inventory Manager
2. The office and facility will train and educate Inventory Manager, Service Technicians, and Delivery Drivers on Quick Reference Guides / Maintenance Logs that will be used for Annual visits and scheduled equipment check
3. Inventory Manager will be responsible to maintain and provide Quick Reference Guides / Maintenance Logs to Service Technicians, and Delivery Drivers
4. Inventory Manager will be responsible to document all new oxygen equipment setups for annual review of equipment based on date of initial setup
5. Service Technicians, and Delivery Drivers will be responsible to provide new oxygen patients with Quick Reference Guides and review with each patient upon initial setup of equipment profile being used
6. Service Technicians, and Delivery Drivers will be responsible to document and file Equipment Maintenance Schedules upon request of annual visits and request from Inventory Manager
7. Service Technicians, and Delivery Drivers will provide completed documentation to Inventory Manager upon completion and handle any equipment service issues that need addressed upon inspection
8. Inventory Manager will be responsible for equipment repair and servicing which includes working with manufacturing equipment partners to handle product repairs for equipment under warranty.

CAIRE®
A Chart Industries Company

CHART®

Quick Reference Guide

FreeStyle™

Portable Oxygen Concentrators with UltraSense™

Flow Rates
Pulse Settings 1, 2, 3

Weight (with battery pack)
4.9 lb (2 kg)

Battery Life

Battery Pack	#1 – 6.5 hrs	#2 – 3.5 hrs	#3 – 3.0 hrs

Recharge Time (fully discharged)
Battery pack will completely recharge in 4-5 hours.

Battery Gauge
The FreeStyle has a 4 light battery gauge built into the control panel with a push-button control. It will indicate the following in 25% increments:

1. Battery life – if the battery pack is installed in the FreeStyle, push the BATT button on the control panel to see how much capacity is remaining in the battery. If the battery pack is removed from the concentrator, press the TEST button on the back of the battery.
2. Charging status – when charging the battery, the lights will flash and illuminate to indicate how much of the battery is charged.

On/Off
On the control panel you will see flow settings 1 – 2 – 3. To turn the unit on, simply push the button of the desired flow rate. To change the flow setting, push the appropriate flow button. To turn the unit off, push the button of the flow rate that is currently in use.

Oxygen Concentration
The FreeStyle POC is designed to produce 90% oxygen at all three (3) settings (-3% / +5.5%).

Power Supplies

1. Each FreeStyle unit comes with an AC (wall outlet) and DC (automotive style) power cord that each connect to the Universal Power Supply. You may operate the FreeStyle and/or charge the battery from either power source.
2. The FreeStyle Universal Power Supply is rated for 100-240VAC and 50-60Hz. When traveling, the power supply will automatically adjust to the specific power voltage for each country. If needed, you may use outlet adaptors. They can be purchased directly from CAIRE or your local electronics store.

Alarm/Light Indicators

When a pulse of oxygen is sent through the nasal cannula, the green light above the selected flow setting flashes each time a breath is detected.

Start-Up: A brief alarm sounds at start-up.

Low Battery: As battery power approaches a low level, a brief alarm sounds intermittently, and the yellow 25% BATT light also flashes intermittently.

Cannula Disconnected: When unit is operating but does not sense breathing, (15 minutes) a constant alarm sounds with the red light.

FreeStyle's Capacity is Exceeded: If breathing rate causes the capacity of unit to be exceeded, a rapid alarm sounds with the red light. (When this occurs, the concentration of oxygen is dropping below unit specifications.)

General Malfunction: If unit has a general malfunction, a rapid alarm sounds, and the red alarm light illuminates continuously. (When this occurs, the concentration of oxygen is dropping below unit specifications.)

Filter—Air intake

At least one time each week, remove the inlet cover on the lower front of the unit, and wash the air intake filter. Allow to dry thoroughly.

Checking Oxygen Concentration

1. Connect the FreeStyle to AC power (plug it into the wall).
2. Open the cover of the control panel and press flow setting [2].
3. Activate the unit's test mode by pressing flow setting [1] and [3] simultaneously for 10 seconds. After 10 seconds, the alarm will beep and the unit will then start to auto pulse in flow setting 3.
4. Verify FreeStyle is pulsing, (you should be able to hear the pulse of oxygen and see the Light turn off momentarily above the flow setting). Allow FreeStyle to run for 5 minutes before connecting the oxygen analyzer.
5. With a short length of tubing, connect a calibrated oxygen analyzer to the oxygen outlet and record the unit's concentration. The concentration specification in test mode is 90% -3%/+5%. Note: Fast response fuel cell analyzer are recommended.

Nasal Cannula & Tubing

The FreeStyle unit uses a standard nasal cannula. Tubing and/or cannula should not exceed 25 feet (7.62 m).

Sleep Mode

There may be times when the unit will not power on from battery power even though the battery shows that it is still charged. Most likely, the unit has gone into Sleep Mode. All new and refurbished FreeStyle units are shipped from the factory in Sleep Mode. Sleep mode can also occur if the unit has been unused and sitting for some time. To bring the unit out of Sleep Mode, simply plug the unit into AC power, this will awaken the unit and allow it to run normally under battery power.

Hour Meter

The FreeStyle contains a digital hour meter that is mounted internally on the circuit board. It is visible by removing the front case of the unit. The hour meter is dual function. It contains a setting to display both total hours and maintenance hours. The maintenance hours are indicated by a wrench on the display. A button to the right of the meter is used to toggle between the two modes. Holding the button for 3 seconds resets the maintenance hours.

Routine Maintenance

The FreeStyle POC requires minimal maintenance. Perform the following steps below to ensure proper maintenance and function.

1. Concentration Check – Schedule the unit for purity/concentration checks according to your company policy.
2. Air Intake/Gross Particle Filter – located on the lower front panel, this filter should be washed weekly. Allow to dry thoroughly.
3. Product Filter – This internal filter must be replaced every 10,000 hours.

CAIRE®
A Chart Industries Company

CHART®

QUICK REFERENCE GUIDE

FreeStyle™ 5

Portable Oxygen Concentrators with UltraSense™

Flow Rates
Pulse Settings 1, 2, 3, 4, 5

Weight (with battery pack)
6.7 lb (3.0 kg)

Battery Life
Battery Pack	#1 – 4.25 hrs	#2 – 2.5 hrs	#3 – 2.0 hrs	#4 – 1.75 hrs	#5 – 1.25 hrs

Recharge Time (fully discharged)
Battery pack will completely recharge in 4-5 hours.

Battery Gauge
The FreeStyle 5 has a 4 light battery gauge built into the control panel with a push-button control. It will indicate the following in 25% increments:

1. Battery life – If the battery pack is installed in the concentrator, push the BATT button on the control panel to see how much capacity is remaining in the battery. If the battery pack is removed from the concentrator, press the TEST button on the back of the battery.
2. Charging status – when charging the battery, the light's will flash and illuminate to indicate how much of the battery is charged.

On/Off
On the control panel you will see flow settings 1 – 2 – 3 – 4 – 5. They are push-button switches, to turn the unit on, simply push the button of the desired flow rate. To change the flow setting, push the appropriate flow button. To turn the unit off, push the button of the flow rate that is currently in use.

Oxygen Concentration
The FreeStyle 5 POC is designed to produce 90% oxygen at all five (5) settings (-3% / +5.5%).

Power Supplies
Each FreeStyle 5 comes with a separate AC Power Supply (wall outlet) and DC Power Supply (automotive style). You may operate the FreeStyle 5 and/or charge the battery from either power source.
The AC Power Supply is rated for 100-240VAC and 50-60Hz. When travelling, the power supply will automatically adjust to the specific power voltage for each country. If needed, you may use outlet adaptors. They can be purchased directly from CAIRE or your local electronics store.

Alarm/Light Indicators

When a pulse of oxygen is sent through the nasal cannula, the green light above the selected flow setting flashes each time a breath is detected.

Start-Up: A brief alarm sounds at start-up.

Low Battery: As battery power approaches a low level, a brief alarm sounds intermittently, and the yellow 25% BATT light also flashes intermittently.

Cannula Disconnected: When unit is operating but does not sense breathing, (15 minutes) a constant audible alarm sounds, and the yellow alarm service light illuminates.

FreeStyle's Capacity is Exceeded: If breathing rate causes the capacity of unit to be exceeded, a rapid beeping audible alarm sounds, and the yellow alarm indicator light flashes intermittently. (When this occurs, the concentration of oxygen is dropping below unit specifications.)

General Malfunction: If unit has a general malfunction, a rapid audible beeping alarm sounds, and the red alarm light illuminates continuously. (When this occurs, the concentration of oxygen is dropping below unit specifications.)

Filter—Air intake

At least one time each week, remove the inlet cover on the lower front of the unit, and wash the air intake filter. Allow to dry thoroughly.

Checking Oxygen Concentration

1. Connect the FreeStyle 5 to AC power (plug it into the wall).
2. Open the cover of the control panel and press flow setting [2].
3. Activate the unit's test mode by pressing flow setting [1] and [5] simultaneously for 10 seconds. After 10 seconds, the alarm will beep and the unit will then start to auto pulse in flow setting 5.
4. Verify FreeStyle 5 is pulsing, (you should be able to hear the pulse of oxygen and see the Light turn off momentarily above the flow setting). Allow FreeStyle 5 to run for 5 minutes before connecting the oxygen analyzer.
5. With a short length of tubing, connect a calibrated oxygen analyzer to the oxygen outlet and record the unit's concentration. The concentration specification in test mode is 90% -3%/+5.5%.

Nasal Cannula & Tubing

The FreeStyle 5 unit uses a standard nasal cannula. Tubing and/or cannula should not exceed 25 ft (7.62 m).

Sleep Mode

There may be times when the unit will not power on from battery power even though the battery shows that it is still charged. Most likely, the unit has gone into Sleep Mode. All new and refurbished FreeStyle units are shipped from the factory in Sleep Mode. Sleep Mode can also occur if the FreeStyle has been unused and sitting for some time. To bring the unit out of Sleep Mode, simply plug the unit into AC power, this will awaken the unit and allow it to run normally under battery power.

Hour Meter

1. Hours may be obtained by connecting the FreeStyle 5 to a USB port on a computer using the Data Interface Kit (KI406-1).
2. Hours may be obtained using the following procedure:
   a. Turn the FreeStyle 5 on and wait until the startup tone is complete.
   b. Press and hold the 1 and 3 buttons for three seconds to enter the Time Reading Mode. Once in this mode, all 5 LEDs will light up and the unit will beep.
   c. After the unit has entered this mode, the hours will be displayed in the following manner.
      1) Flow Setting LED 1 will display the digit in the ones place.
      2) Flow Setting LED 2 will display the digit in the tens place.
      3) Flow Setting LED 3 will display the digit in the hundreds place.
      4) Flow Setting LED 4 will display the digit in the thousands place.
      5) For each number, the LED will flash and there will be an audible tone.

   Note: If the LED flashes but there is no tone, the number of hours for that corresponding digit is zero.

      6) To exit Time Reading Mode, press flow selector button 5.

Routine Maintenance

The FreeStyle POC requires minimal maintenance. Perform the following steps below to ensure proper maintenance and function.

1. Concentration Check – Schedule the unit for purity/concentration checks according to your company policy.
2. Air Intake/Gross Particle Filter – located on the lower front panel, this filter should be washed weekly. Allow to dry thoroughly.
3. Product Filter – This internal filter must be replaced every 10,000 hours.

Go to www.CAIREmedical.com for more information.

CAIRE®
A Chart Industries Company

CHART®

QUICK REFERENCE GUIDE

CAIRE Companion 5™

5 LPM Compact Stationary with autoFLOW™ Technology

Flow Rates
0.5 LPM – 5.0 LPM

Weight
36.0 lb (16.3 kg)

Sound Level
45 dB(A) at 2.0 LPM

Power Consumption
285 Watts at 2.0 LPM,
350 Watts Maximum

ON/OFF
With the unit plugged in, press the power switch upward in the ON (I) position. The audible alarm will sound briefly and all LED lights will be illuminated for 4 seconds. Then only the Green Light will remain on to show normal operation. If the unit has OCSI (Oxygen Monitoring), its alarm (yellow light) is disabled for up to 10 minutes while the concentrator warms up.

To turn the unit off, press the power switch downward in the OFF (0) position. All lights will turn off and oxygen flow will cease.

Nasal Cannula and Tubing
Standard oxygen tubing and nasal cannulas can be used with the Companion 5. Maximum tubing length is 50 ft (15.2 m) to be used in addition to a 7' (2.1m) nasal cannula.

Humidifier Bottle
A humidifier bottle may be used with the Companion 5 at all flow settings. It sits on the stand underneath the outlet barb on the humidifier stand and is secured with an elastic strap.

Air Flow and Placement
The Companion 5 features a unique airflow pattern that draws ambient air into the device at 3 locations. The vents on the back draw in air for cooling purposes. Air enters the flow path in 2 locations - from the handle on the top of the device, and from the filter door location underneath the device.

Exhaust air exits the Companion 5 through the vents on the lower sides of the case.

All intake and exhaust locations should remain un-obstructed. Ensure the Companion 5 is located at least 12 in (30.5 cm) away from all walls, draperies, furniture, etc.

Air Intake Filter
The air intake filter is located underneath the Companion 5. It should be replaced once every 2 years as part of preventative maintenance or more frequently as needed. It is accessed through a filter door on the bottom of the unit. A single screw must be removed with a Phillips screwdriver to unlock the filter door.

Gross Particle Filters:

There is a gross particle (foam) filter located at the bottom of the device at the filter door. This filter does not require any patient maintenance or cleaning, but should be replaced every 2 years as part of preventative maintenance or more frequently as needed.

An OPTIONAL gross partcile filter can also be used in the handle of the device. This is not required for proper operation, but can be utilized for harsh environments or provider requirements. If this is in use, the patient should inspect and clean it once weekly.

HEPA Filter

The HEPA filter is located inside of the Companion 5 on the front case half of the unit. It is designed to last the life of the unit and does not have a requirement for replacement.

Preventative Maintenance

Preventative Maintenance (PM) should be performed every 2 years. It can be performed more frequently as required by the provider based on their requirements or dirty operating environments. Preventative Maintenance consists of:

- Replace the Air Intake Filter
- Replace the gross partcile filter at the bottom of the device.

Maintenance should not be performed by patients. Note: Step-by-step instructions for these maintenance procedures can be found in the Provider Technical Manual.

Oxygen Concentration

The Companion 5 will produce oxygen at 90% (+5.5/-3%) at all flow rates.

Oxygen concentration should be tested upon delivery to a patient and at periodic intervals determing by the equipment provider.

Hour Meter

The LCD hour meter is clearly visible to the right of the flow meter on the front of the Companion 5. It displays the cumulative hours to the nearest tenth and cannot be re-set.

The hour meter will display a diagnostic alarm code if the Companion 5 is in an alarm condition.

Alarms

Condition	Visual Indicator	Audible Indicator	Alarm Code
None	Green Solid Light	None	None
System Malfunction	Red Solid Light	Continuous Alarm	AL-P01
Power Loss	Red Solid Light	Continuous Alarm	AL-P02
Low Flow	Red Flashing Light	Beeping	AL-P20
High Flow	Red Flashing Light	Beeping	AL-P40
Low O2 Concentration (<85%)**	Yellow Flashing Light	Beeping	AL-P08
Low O2 Concentration (<70%)**	Yellow Solid Light	Continuous	AL-P04

***Only for OCSI units**.*

autoFLOW™ Technology

Companion 5 features a patent-pending variable valve timing system that adjusts the valve cycle timing based on flow rate.

- Reduces power below 300W @ 3.0LPM below.
- Reduced operating temperatures, system pressures, sound levels, and component strain at lower flow rates.
- Reduces compressor lead by 25%

Go to www.CAIREmedical.com for more information.

CAIRE®
A Chart Industries Company
AirSep® SeQual®

CHART®

Quick Reference Guide

Eclipse 5™

Transportable Oxygen Concentrator with autoSAT®

Eclipse 5 New Features

- **NEW:** All continuous flow and pulse flow settings available while operating on DC power
- **NEW:** Battery cartridge will re-charge when unit is connected to DC power for all continuous flow settings up to 2.0 LPM and all pulse flow settings 1 to 9
- **NEW:** Next generation internal components enhance unit reliability

Weight

Eclipse 5 Only: 15.0 lb (6.8 kg); Eclipse 5 w/ Battery Installed: 18.4 lb (8.4 kg)

Flow Rates

Continuous Flow		Pulse Flow			
0.5 LPM	2.0 LPM	1.0 (16 mL)	3.0 (48 mL)	5.0 (80 mL)	8.0 (160 mL)
1.0 LPM	2.5 LPM	1.5 (24 mL)	3.5 (56 mL)	5.5 (88 mL)	9.0 (192 mL)
1.5 LPM	3.0 LPM	2.0 (32 mL)	4.0 (64 mL)	6.0 (96 mL)	
		2.5 (40 mL)	4.5 (72 mL)	7.0 (128 mL)	

Battery Life

Continuous Flow		Pulse Flow		
0.5 LPM – 4.4 Hours	2.0 LPM – 2.0 Hours	1.0 (16 mL) – 5.4 Hours	4.0 (64 mL) – 4.0 Hours	7.0 (128 mL) – 2.5 Hours
1.0 LPM – 3.7 Hours	3.0 LPM – 1.3 Hours	2.0 (32 mL) – 5.1 Hours	5.0 (80 mL) – 3.7 Hours	8.0 (160 mL) – 2.0 Hours
		3.0 (48 mL) – 4.9 Hours	6.0 (96 mL) – 3.5 Hours	9.0 (192 mL) – 1.7 Hours

NOTE: Pulse flow times are calculated based on 12BPM. Higher breath rates will decrease battery times on pulse mode only.

Recharge Time

1. The typical time to recharge the battery inside the Eclipse on AC or DC power is between 2 - 5 hours, dependent upon the flow setting. The battery may be re-charged while the Eclipse is either ON or OFF.
2. The battery will recharge using the optional desktop charger in approximately 3 hours.
3. It is acceptable to leave the Eclipse plugged into AC power at all times while it is OFF. Note that while the unit remains plugged in and OFF, the internal fan may continue to run while the battery is charging and produce a faint humming noise.

Battery Gauge

The Eclipse 5 has a battery status gauge on the right side of the display screen. Each of the 5 horizontal gray bars represents approximately 20% of the total battery charge. When a battery is being charged, the indicator bars will blink in a waterfall-type fashion. If a battery is not installed, or is improperly installed, the battery status gauge will not appear on the screen.

On/Off

Press and hold the ON/OFF button (top left Blue Button) for two seconds to power on the Eclipse 5. Upon power up, the audible alarm should sound for 3 seconds, and all three lights on above the display screen should illuminate. It is normal for the yellow and/or red lights may remain on for up to 5 minutes during warm-up. Once warm-up is complete, only the green light should be on.
Press and hold the ON/OFF button for two seconds to power off the Eclipse 5.

Changing Flow Mode

Press the flow mode button (bottom left blue button) to toggle between pulse and continuous flow. The light adjacent to the button will illuminate when in pulse mode and will blink with each breath detection and delivery. If the unit is in pulse mode but does not detect a breath, it will switch to continuous mode.

Oxygen Concentration

The Eclipse 5 is designed to produce 90% oxygen (-3%, +5.5%) at all continuous and pulse flow settings.

AC Power Supply

1. The Eclipse 5 will run at all flow rates and recharge a battery while connected to AC power.
2. Each AC Power supply has a removable cord. If the AC power supply is plugged into and receiving power from a wall outlet, a green LED light on the power supply brick will illuminate.
3. If the AC Power Supply is properly connected to the Eclipse 5, the external power light on the far right side of the control panel will illuminate green.
4. The Eclipse AC Power supply is rated for 100-240VAC and 50-60Hz. When traveling, the power supply will automatically adjust to the specific voltage for each country. If needed, you may use outlet adapters that can be purchased from CAIRE or from a local electronics store.

DC Power Supply

1. Each Eclipse 5 comes with a DC power supply that will allow the unit to be powered from an automotive-style power outlet.
2. The Eclipse can operate at all flow settings while using DC power.
3. The Eclipse battery will recharge while in use and connected to DC power at 2.0 LPM or lower, and at all pulse flow settings. There is not sufficient power to run the Eclipse and recharge the battery on DC power at 2.5 LPM and 3.0 LPM settings.
4. If the DC power supply is plugged into and receiving power from a DC outlet, and the power supply is properly plugged into the side of the Eclipse, a green LED on the power supply brick will illuminate.
5. If the DC Power Supply is properly connected to the Eclipse 5, the external power light on the far right side of the control panel will illuminate green. The Eclipse DC power supply is rated between 11.5-16 VDC.
6. It is suggested to always have a motor vehicle cranked and running before inserting the DC power supply into the accessory outlet.

Maintenance

1. The Air Intake filter must be removed and cleaned by the patient at least once weekly. The air intake filter is located on the upper rear of the Eclipse 5 and can be removed and cleaned with soap and water. Allow to dry thoroughly before re-installing the filter.
2. The power cartridge (battery) must be calibrated once monthly. Battery calibration consists of fully discharging the battery to zero and re-charging fully from an empty state. The patient can still breathe off of the Eclipse while the battery is being calibrated. This procedure ensures the longest possible battery durations.
3. The Eclipse 5 should run for a minimum of 2 hours each month. This helps to ensure and prolong the life of the Eclipse 5.
4. Annual Preventative Maintenance should be performed by the equipment provider. This should be done a minimum of once per year, regardless of the hours of operation. Preventative Maintenance consists of:
    a. Replace the Air Intake Filter
    b. Replace the Compressor Filter
    c. Replace the HEPA Filter
    d. Replace the 9V Battery

Note: Step-by-step instructions for all of these maintenance procedures can be found in the Provider Technical Manual.

Nasal Cannula and Tubing

The Eclipse 5 uses a standard nasal cannula. Tubing length should not exceed 50 ft (15.2 m) on a continuous flow setting, or 7 ft (2.1 m) on a pulse flow setting or when using a humidifier bottle on continuous flow.

Humidifier Bottle

A humidifier bottle may be used with the Eclipse on CONTINUOUS FLOW SETTINGS ONLY, and ONLY WHEN THE UNIT IS STATIONARY. If the unit is to be transported or moved, the humidifier bottle MUST be removed.

Hour Meter

The Eclipse 5 hour meter is accessible through the provider menu. Press the "no smoking" icon on the left side of the display panel until the screen reads "HRS xxxxx".

Alarm/Light Indicators

Condition	Green Light	Yellow Light	Red Light	Audible Alarm	Alarm Code*
Low Battery	ON	FLASHING	OFF	2 Beeps	010
Warm (Hot) Battery	ON	FLASHING	OFF	1 Beep	002
Low 9V Battery	OFF	OFF	OFF	3 Beeps @ Start-up	-
Concentration < 85%	OFF	FLASHING	OFF	-	008
Concentration < 70%	OFF	OFF	FLASHING	3 Beeps	004
Flow Rate Error/Blocked Flow	OFF	FLASHING	OFF	1 Beep	020
Cannot Charge Battery	Dependent on Eclipse Power	ON	OFF	OFF	001
Battery Communication Error	Dependent on Eclipse Power	FLASHING	OFF	1 Beep	100
No Breath Detected	ON	OFF	OFF	OFF	200

***Alarm Codes are accessed by pressing the no-smoking icon once when the unit is in an alarm state. When this button is pressed, the screen will display a 3 digit alarm code "ALRM = xxx" for 10 seconds. This is an extremely useful troubleshooting tool.*

FAIL Codes and Power Loss Alarm

FAIL codes will display on the screen if the Eclipse 5 undergoes a system malfunction. When a FAIL code is displayed, the unit will stop running and the red light will be illuminated. To clear this code, remove the battery and any external power source, wait 5-10 seconds, re-install the power, and re-start the Eclipse. If the FAIL code occurs again, contact technical support.

If the Eclipse 5 experiences a power loss (via battery or external power) the red light will illuminate and the audible buzzer will sound. The screen may display *******. To clear this alarm, it may be necessary to remove the battery cartridge and disconnect external power from the Eclipse. Re-connect to external power or install a charged battery to re-start the machine.

Contact Customer Support 1-800-482-2473 or Technical Service 770-721-7759

PROVIDER SERVICE AND MAINTENANCE RECORD

Whenever maintenance or service is performed on an Eclipse 5 unit, an entry should be made in the service log for that concentrator or recorded in accordance with your company's standard procedure. Whenever the case of the Eclipse 5 is opened, the flow rate, purity, and alarm status should be verified per the Test Procedures in this manual.

EDAT may be utilized to record Eclipse 5 device status and dates of service.

NOTE:	Use the "Save As" function under the "File" section and save the file as the SN and/or the date serviced (example: 08D0110xxxx 08012000).

Eclipse 5 Serial Number _____

Date	Hour meter Reading	Initials	Service Performed	System Checkout			Comments
				Purity	Flow	Alarms	

Table 13: Sample Eclipse 5 maintenance record

FREESTYLE SERVICE & MAINTENANCE CHECK LIST

Whenever maintenance or service is performed on a Freestyle Concentrator unit, an entry should be made in the service log for that concentrator or recorded in accordance with your company standard procedures. Whenever the case of an AirSep Freestyle is opened, the flow rate, purity and intake compressor filters and alarm status should be reviewed and noted.

ALARMS CODES:

FreeStyle		
Solid Amber Light	Solid amber light.	Service Required (5,000 Hours): arrange for service in the near future – no need for emergency pick-up
Low Battery Warning	Blinking 25% amber battery light (light illuminates on for ½ second every 5 seconds).	FreeStyle should be plugged in an AC/DC power outlet as the Battery needs to be charged.
Low Battery Alarm	Constant amber 25% (light illuminates on for ½ second then off for ½ second), rapid beeping audible alarm.	FreeStyle should be plugged in an AC/DC power outlet as the Battery needs to be charged.
Cannula Disconnect Alarm (15 minute delay)	Continuous red light, constant audible alarm.	Patient forgot to turn FreeStyle off, cannula is disconnected, patient could be a mouth breather.
Overdraw Alarm	Intermittent red light, intermittent audible alarm ½ second on, ½ second off.	Patients respiratory rate exceeds capability of Freestyle. Very uncommon alarm.
Malfunction (Low O_2, High/Low Pressure)	Constant red light, intermittent audible alarm, ½ second on, ½ second off.	POC maintenance required; equipment pick-up is necessary.

PREVENTIVE MAINTENANCE CHECK LIST

A) Check Gross Particle Filter on front Case and clean in necessary

B) Press (1 & 3 Flow Button) to Auto Pulse Freestyle connect analyzer

*Allow machine to run 5 minutes for accurate readings (Specifications 1-3 Pulse @ 90% + 5.5/-3%)

C) Open Front Case with (3) screws

D) Check Hour Meter and Press Black Button on Hour Meter to reset PM

E) Reassemble Front Case

F) Open Rear Case with (4) screws

G) Check Compressor Filter and clean or replace if necessary

*Compressor Filter FI143-2 @ $3.66 Each (1 required)

H) Check Clear Tubing for Discoloration due to smoke damage

*If clear lines are brown a suggested HEPA Filter change is suggested TA115-1S @ $25.00 Each (1 required)

I) Reassemble Rear Case

MAINTENANCE RECORD & SERVICE LOG Date in Service:

Whenever a new unit has been received into inventory it is important to perform the following test to ensure no damage occurred in shipping or handling of the machine. This also allows time to start the maintenace and service log information for future use. Please fill ou this form and check all boxes during initial inspection.

Manufacturer:	**Serial#:**
Product#:	**Manufactured Date:**
Initial Oxygen Concentration Level:	**Technician Signature:**

- ☐ **A) Open and inspect packaging upon delivery, Unpack unit and inspect concentrator for damage, if damaged note on freight bill signed by driver.**
- ☐ **1) Plug in power cord to unit to wake up batteries**
- ☐ **2) Press (1 & 3 Flow Button) to auto pulse and check Oxygen Purity**
- ☐ **3) Perform an oxygen concentration test by hooking up oxygen analyzer**

*Allow machine to run 5 minutes for accurate readings (Specifications 1-3 Pulse @ 90% + 5.5/-3%)

DATE	HOUR METER READING	TECH. INITIALS	SERVICE PERFORMED	SYSTEM CHECKOUT			COMMENTS
				PURITY %	FILTERS CLEANED	ALARM CODES	

Maintenance–Patient

Clean and Care for Tubing and Cannula

Provide your patient instructions on cleaning, disinfection and/or replacement information for the tubing and cannula.

Clean the Cabinet

To clean the cabinet do the following:

1. Turn OFF the Companion 5 and disconnect from AC power before any cleaning or disinfection activity.
2. Use mild detergent and water solution.
3. Use a damp (not soaking wet) cloth or sponge.
4. Spray or wet the cloth or sponge with the mild detergent solution. DO NOT spray the cabinet.
5. Wipe down the cabinet.
6. To disinfect the Companion 5, use Lysol® Brand II disinfectant (or equivalent). Spray or wet a cloth or sponge with the disinfectant. DO NOT spray the cabinet or the LED/LCD display. Proceed as directed by the manufacturer.

Patient Training Checklist

Use the following checklist as a guide to assist in setup and training a patient on the use of the Companion 5 and its accessories.

Patient Name:	
Companion 5 Serial #:	
Training Topic	**Initials**
Pre-Delivery Check List	
Indications for Use	
Contraindications	
Basic Concept Training	
Advise to read the Users Manual	
Safety Guidelines and Operational Safety Warnings/Cautions	
Locating the Companion 5	
Indicators	
Alerts and Alarms	
Companion 5 Maintenance	
Clean and Care for the Cannula per manufacturer's instructions.	
Clean the Cabinet as needed.	
Schedule Intake Filter Replacement Every 2 Years	
Trained By:	**Date:**

Companion 5 | Provider Service and Maintenance Record

Companion 5 Serial Number _____

Date	Hour meter Reading	Initials	Service Performed	System Checkout			Comments
				Concentration	Flow	Alarms	

The table below shows all of the alarm conditions that can be experienced by the CAIRE Companion 5:

Alarm Code	Audible Alarm	Colored LED	Possible Cause	Patient Action
None	Off	Green Solid	The Companion 5 is working properly	None
AL-P01	Continuous	Red Solid	System Malfunction	Turn the power switch in the "OFF" position immediately. Disconnect the AC Power from the wall outlet. Wait 5 minutes. Connect the AC Power back into the wall outlet and turn the concentrator back on again. If the alarm continues, service is required. Connect to a backup oxygen supply and contact your healthcare provider immediately.
AL-P02	Continuous	Red Solid	The concentrator has lost power but the power switch is still in the "ON" (I) position.	Verify that the concentrator's electrical cord is plugged into an outlet and that the outlet has power. Try a different outlet. If the problem continues, connect to a back-up oxygen supply and contact your healthcare provider.
AL-P20	Beeping	Red Flashing	Low Product Flow Rate	1. Ensure that the cannula is not kinked or blocked. If used with a humidifier bottle, ensure that it is filled properly and not creating a blockage. 2. Ensure that the Companion 5 has proper ventilation. Make sure there are at least 12 inches between the back and sides of the Companion and any obstructions (furniture, curtain, etc.) 3. If the problem persists, switch to an alternate source of oxygen and contact healthcare provider for assistance.
AL-P40	Beeping	Red Flashing	High Product Flow Rate	
AL-P04	Beeping	Yellow Flashing	Failed O2 Alarm Condition (O2 Levels Less Than 70%)	1. Ensure the air intake filter is not is not clogged or restricted. 2. Ensure the Companion 5 is in a well-ventilated area. Make sure there are at least 12 inches between the back and sides of the Companion 5 and any obstructions (furniture, curtain, etc.) 3. If the condition persists, switch to an alternate source of oxygen and contact your healthcare provider immediately.
AL-P08	Continuous	Yellow Solid	Poor O2 Alarm Condition (O2 Levels Between 70% and 85%)	