

CARELINC MEDICAL EQUIPMENT & SUPPLY  
APNEA MONITOR SET-UP CHECKLIST

Account #: \_\_\_\_\_ Branch: \_\_\_\_\_

Patient: \_\_\_\_\_ Caregiver: \_\_\_\_\_

Brand: \_\_\_\_\_ Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

Apnea Alarm: \_\_\_\_\_ Low Hr Alarm: \_\_\_\_\_ High Hr Alarm: \_\_\_\_\_

**Installation & Safety**

- \_\_\_ Environmental and electrical safety checks
- \_\_\_ Always plug power cord into monitor before plugging into wall
- \_\_\_ Always unplug power cord from wall before unplugging from monitor
- \_\_\_ Leave monitor plugged in at all times except when cleaning or traveling
- \_\_\_ Monitor to be placed so that it can't fall on infant, wires & cable directed away from baby's head and not left dangling
- \_\_\_ Keep young children away
- \_\_\_ Skin preparation, use of soap, lotion, and powder
- \_\_\_ Place at nipple or at point of most chest wall movement, mid-auxiliary, secure belt snugly
- \_\_\_ When to clean skin with alcohol, when to apply a drop of water to electrode
- \_\_\_ Agree to 24hr use except when under direct observation or bathing, internal rechargeable battery

**Care of Monitor**

- \_\_\_ Hand wash belt as needed and rinse well, air dry
- \_\_\_ Clean electrodes daily with damp cloth
- \_\_\_ Clean monitor and electrode wires weekly with damp cloth
- \_\_\_ Protect lead wires from pulling
- \_\_\_ Battery charging procedure

**Parents Demonstrate**

- \_\_\_ Working telephone available
- \_\_\_ Assemble wires, patient cable, electrodes, belt, and charges
- \_\_\_ Electrode placement, when electrodes lose effectiveness call CareLinc for replacement
- \_\_\_ Correct fit of belt
- \_\_\_ Mock emergency includes who to call and what to do, Electric Co., 911, etc.

**Teaching**

- \_\_\_ Apnea monitor educational materials
- \_\_\_ Have complete CPR class or are enrolled in one
- \_\_\_ Demonstrate and feel confident operating the monitor

**Notice to parents**

The apnea monitors that we use are checked prior to use to verify that they are in working order. When used in accordance with the instructions, monitor will alarm when it senses that your child's heart rate isn't within the parameters set or that the apnea delay has been exceeded. The monitor's sole purpose is to alarm so that you can take appropriate action. If this equipment doesn't operate properly, call us to correct the problem or replace the unit. Your treatment using this equipment is determined by your physician. Distributor and manufacturer make no claim or representation concerning the effectiveness of this equipment in the treatment and assume no responsibility for the success or failure of any treatment performed with this equipment. We recommend you call your physician or 911 if you have a medical emergency.

Patient/Parent: \_\_\_\_\_ Date: \_\_\_\_\_

CareLinc Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Account #: \_\_\_\_\_

## **Apnea Monitor Alarms**

### **Responding to Alarms**



# Responding to Alarms

## Patient Alarms

A Patient Alarm indicates that your baby's breathing or heart activity is outside the limits prescribed by your physician. The information in this section can help you respond appropriately to patient alarms. Read this section carefully. If you have any questions, please contact your dealer.

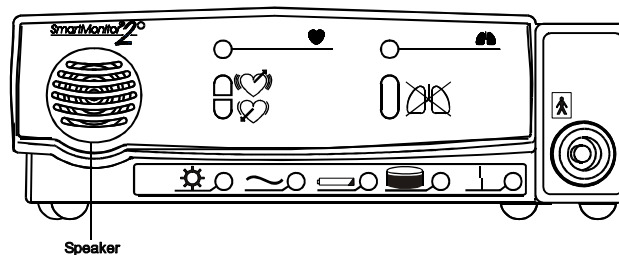
## Testing the Alarm

Before you use the monitor, test to see if you can hear the alarm in different rooms while there is noise in your house.



**Caution: Be aware that the alarm sound is very loud.**

- Always keep the area in front of the speaker clear.
- Turn the monitor on (without the baby attached) to sound the alarm. Make sure you can hear the alarm in different areas of your home.
- If the alarm is not loud enough to hear around the home, ask your dealer for a Remote Alarm. This device will allow you to hear the alarm in a different room from where the monitor is located.



## If an Alarm Sounds

If an alarm sounds while you are monitoring your baby, **check your baby first**. Then follow the instructions below to respond to lights and alarms. **Always check your baby's skin color. Is it normal? Always check to see if your baby is breathing.** If your baby **is not** breathing, follow the Respond Like This instruction.

Light	Alarms	Check Baby's Condition	Respond Like This
Red Apnea and/or Low (Heart)	Intermittent (1 beep/sec)	Skin color is pale or blue. Baby <b>is not</b> breathing or is choking.	Respond as instructed by your physician or in your <b>CPR</b> class. An <b>example</b> of your response could be as follows: <ul style="list-style-type: none"> <li>• Gently pat the baby. The baby may start breathing and correct the cause of the alarm on his/her own.</li> <li>• If the baby does not start breathing start physical stimulation immediately.</li> <li>• If the baby starts breathing, note it on your log sheet.</li> <li>• Press the <b>RESET</b> button to reset any alarm lights.</li> </ul>
Red Apnea and/or Low (Heart)	Intermittent (1 beep/sec.)	Baby is responsive and is breathing. Color is good.	<ul style="list-style-type: none"> <li>• Wait for a few seconds. Watch to see if the baby's breathing and color remain normal.</li> <li>• If alarm continues, see section titled "<i>Reducing False Alarms</i>".</li> <li>• Check the monitor to see which light is on. Note it on your log sheet.</li> </ul>
Red High (Heart)	Intermittent (2 beeps/sec.)	Baby is crying.	<ul style="list-style-type: none"> <li>• If the baby is on breathing medications and gets frequent high heart rate alarms, please note alarm on your log sheet and call your physician or home care dealer.</li> </ul>
Red Loose Lead	Continuous	Baby is breathing and is responsive. Color is good.	<ul style="list-style-type: none"> <li>• Check the connections between the electrodes, lead wires, patient cable, and the monitor.</li> <li>• If something has come loose, reconnect it and press the <b>RESET</b> button. The alarm should stop.</li> <li>• If the alarm continues, see section on <i>Performing a Functional Self Test</i>.</li> </ul>

Light	Alarms	Check Baby's Condition	Respond Like This
Red Loose Lead	Continuous	Baby is breathing and is responsive. Color is good.	If the monitor passed the Functional Self Test, turn off the monitor. Then, check the following items:  The <b>electrodes</b> – They should be clean and there should be no cracks on the surface.  The <b>baby's skin</b> – Make sure that where the electrodes are placed is clean and free from oil, lotions, perspiration.  The <b>electrode belt</b> – Make sure it is snug and is keeping the electrodes in place.





*Patient* alarms cannot be silenced with the **RESET** button. The alarm will stop only when the patient signals are within the alarm limits.

## System Alarms

A System Alarm indicates that the monitor may not be functioning properly or at optimum capacity. The information in this section will help you respond appropriately to system alarms. When a SmartMonitor 2 system alarm occurs, one of the lights at the bottom of the front panel will come on.

If this light is on	And this condition exists	It means...
Power	Continuous green light, no alarm	Normal operation. The green <b>power</b> indicator light will come on and stay on for as long as the monitor is on.
Charger	Continuous green light, no alarm	Normal operation. The green <b>charger</b> light will come on and stay on while the power cord/battery charger is plugged into an active outlet and connected to the SmartMonitor 2.
Low Battery	Flashing yellow light, continuous alarm  Continuous yellow light, continuous alarm	<p>This is a warning that the battery voltage is very low and should be recharged soon. (<i>See Charging the Battery</i> in this manual). Press the <b>RESET</b> button to temporarily silence the alarm. The alarm will resound in 2 minutes if the monitor has not been plugged in. The yellow light will continue to flash.</p> <p>This is a warning that the battery is too low for the SmartMonitor 2 to operate properly. The SmartMonitor 2 must be recharged. Turn the monitor off. Then, recharge the battery. (<i>See Charging the Battery</i> in this manual).</p> <p>If you do not reconnect the charger, the system will automatically shut down.</p>

If this light is on	And this condition exists	It means...
Memory Full	Flashing yellow light, continuous alarm	<p>When the SmartMonitor 2 Memory Almost Full parameter is reached, the Memory Full light will flash. The alarm will sound continuously. (The alarm will sound only if your dealer programs your SmartMonitor 2 to do so at the 50% full or at 80% full). Press the <b>RESET</b> button to silence the alarm. The light will blink every second.</p>  <p>Memory Almost Full is a warning condition. You can continue monitoring. Please contact your dealer to resolve the alarm.</p>
Memory Full	Continuous yellow light, continuous alarm	<p>SmartMonitor 2 memory is 100% full. Press the <b>RESET</b> button to silence the alarm.</p>  <p>The alarm will sound only if your dealer programs your SmartMonitor 2 to do so.</p> <p>The light will stay on continuously. Then contact your dealer to resolve the alarm. (See also <i>Transferring the Monitor Memory</i> in this manual for more information).</p>
Loose Lead	Continuous yellow light and continuous alarm	<p>The yellow loose lead light and the alarm may sound continuously when there is a problem with any of the following:</p> <ul style="list-style-type: none"> <li>• Lead wires</li> <li>• Electrodes</li> <li>• Electrode belt</li> <li>• Patient cable, or</li> <li>• Connections between the baby's skin, and the electrodes, the lead wires, the patient cable, and the SmartMonitor 2.</li> </ul>

If this light is on	And this condition exists	It means...
Loose Lead	Continuous yellow light and no alarm	If you correct the problem, the alarm will stop. However, the yellow light remains on until you press the <b>RESET</b> button.
Power	Continuous green light, continuous alarm, with no other lights lit.	Check the display for error messages. If no error messages, the SmartMonitor 2 was turned off improperly causing a sibling alarm. To resolve: Press and hold the blue RESET button. Press and release the gray POWER button. Wait 2 seconds then release the RESET button.
All	All lights are blinking and the alarm sounds for 3 seconds and then off for 1 second.	Check the display for error messages. If there is an error message, enter it in on your log sheet.  Turn the monitor off and then back on. If the monitor functions normally continue to use the monitor.

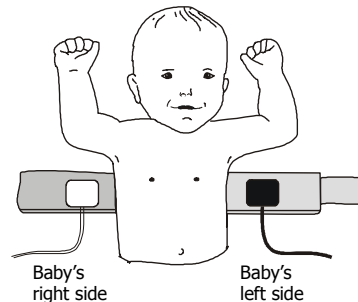
## Reducing False Alarms

Proper electrode placement will minimize false alarms.

Insure the electrodes are placed along the mid-line of the side, two finger widths below or lined up with the nipples.

- If using the black reusable electrodes with the Velcro belt, insure the belt is quite snug. Place the electrodes far enough apart so that when the belt is wrapped around the baby, the electrode will be located along the mid-line of the side, two finger widths below or lined up with the nipples.
- The skin should be clean and dry, if the skin is unusually dry you may add a few drops of moisture (water) to the baby's skin prior to electrode belt placement.
- When using the black reusable electrodes insure that the electrode surface is clean.

- The optional green (RL) electrode and lead wire may help reduce **EMI** interference. Place the green electrode along the outside of baby's upper thigh.



The white lead wire location is illustrated with a white electrode.



Spectrum Health

Downtown Campus MAIL CODE 058  
100 MICHIGAN NE GRAND RAPIDS MI 49503-2560

**PULMONARY DIAGNOSTICS APNEA SERVICE**  
**(616)-391-3500 fax: (616)391-3657**

Home Care Company \_\_\_\_\_  
City \_\_\_\_\_  
If inpatient, what hospital? \_\_\_\_\_

Diagnosis		Attending Physician (First and Last Name)		Phone:	
				Fax:	
Reason for Memory Monitor Download <input type="checkbox"/> Full <input type="checkbox"/> Near Full <input type="checkbox"/> Phys. Orders		Have you ever been a patient at Spectrum Health? <input type="checkbox"/> Yes <input type="checkbox"/> No			
		If Yes, approximate date:			
Patient Last Name	First Name	Middle Initial	Previous Name	Date of Birth	Sex
Patient Address		City	State	Zip Code	County
Name of Guarantor		Date of Birth	Relationship to Patient		Telephone
Guarantor Address (if different from above)			City	State	Zip Code
Social Security Number		Employer	Work Telephone	Status	
				<input type="checkbox"/> Full Time <input type="checkbox"/> Part Time	
Employer's Address			City	State	Zip Code
<b>BLUE CROSS BLUE SHIELD or BLUE CARE NETWORK (BCN)</b>	Subscriber Name		Group No.	Plan Code	Service Code
	Contract No.	If Blue Care Network, Primary Care Physician Name			
	Out of State? <input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, indicate Authorization Telephone No. and Claim Mailing Address			
<b>MEDICAID</b>	Eligible Person		Recipient ID No.	Scope	Case Number
<b>OTHER INSURANCE</b>	Primary Insurance Company or HMO		Phone	Policy Holder's Name	
	Address		Policy Holder's Social Security No.		
			Group and/or Policy Number(s)		
<b>OTHER INSURANCE</b>	Primary Insurance Company or HMO		Phone	Policy Holder's Name	
	Address		Policy Holder's Social Security No.		
			Group and/or Policy Number(s)		
<b>PATIENT HISTORY</b>					
Gestational Age at Birth _____ Birth Weight _____ Present Weight _____					
Current Medications <input type="checkbox"/> Reglan <input type="checkbox"/> Theophylline <input type="checkbox"/> Other _____					
COMMENTS _____					

**PAYMENT AGREEMENT ON BACK MUST BE SIGNED BY  
PARENT OR GUARDIAN**

## PAYMENT AGREEMENT

1. If I or the patient for whom I am signing have insurance through Michigan Blue Cross/Blue Shield, Medicare, Medicaid or any third party, or automobile no-fault carrier, I agree to the following terms:
  - A. I certify that I want Spectrum Health to bill my insurance carrier and request that any payments from insurance be made directly to Spectrum Health - Downtown Campus and certify that the information given by me in applying for payments is correct.
  - B. I authorize Spectrum Health to release information contained in my patient records, to my insurance company(s) including, as applicable:
    - information about communicable diseases and serious communicable diseases and infections, as defined by statute and Michigan Department of Public Health Rules (which include venereal disease "VD", tuberculosis "TB", hepatitis B, human immunodeficiency virus "HIV", acquired immunodeficiency syndrome "AIDS", and AIDS related complex "ARC").
    - alcohol and drug abuse treatment information protected under the regulations in 42 Code of Federal Regulations, part 2.
    - mental health treatment records, psychological services and social services information including communications made by me to a social worker or psychologist.
  - C. I assign to Spectrum Health all rights to benefits, insurance proceeds, settlement payments or judgments to which I may be entitled for the services rendered to me by Spectrum Health or any physicians or other persons employed by Spectrum Health. I also give Spectrum Health the right to intervene in any lawsuit or other action brought to me, or on my behalf, to collect any amounts due to Spectrum Health for services rendered to me.
2. I understand that any amounts not paid by my insurance are my responsibility.
3. I understand that the Home Medical Equipment Provider, whose apnea monitor we are renting, is providing services in conjunction with the Pulmonary Diagnostics Lab of Spectrum Health - Downtown Campus. I authorize the release of information contained on Payment Agreement/Registration Form (X01567) to Spectrum Health - Downtown Campus Pulmonary Diagnostics as a consultant in the management of the patient. Spectrum Health may release information contained in my Pulmonary Diagnostics record to my home medical equipment provider.

**Note:** Spectrum Health authorizes those Home Medical Equipment Providers whose clients wish to consult with or have services provided by Spectrum Health's-Downtown Campus Pulmonary Diagnostics Lab to obtain all of the information and signatures required on this form.

The above Payment Agreement has been explained to me and I agree that I understand it.

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Signed

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Date

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Relationship

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Witness

# **Apnea Monitor Lead Placement Guide**

## **Setting Up for Respiration & Heart Monitoring**



# Setting Up the SmartMonitor 2 for Respiration and Heart Monitoring

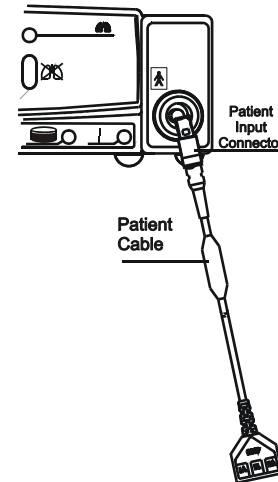
After you unpack your SmartMonitor 2 and make sure you have all the parts, follow the steps listed below to set it up:

## Step 1: Set the SmartMonitor 2 on a Clean, Flat Surface.

- Be sure the speaker is not blocked.
- To avoid interference, be sure that no other electrical appliances are within three feet of the unit.
- Make sure the monitor is close enough to connect to the baby comfortably.

## Step 2: Connect the Patient Cable to the SmartMonitor 2.

- Insert the round end of the patient cable into the bottom round connector found on the front of the SmartMonitor 2.
- Line up the notch on the connector and push until you feel the connector snap into place.
- To remove the patient cable, grasp the patient cable at the base of the patient input connector and gentle pull back. Do not grasp and pull the patient cable to remove from the SmartMonitor 2.



### Step 3: Connect the Lead Wires to the Patient Cable.

The larger end of the patient cable has three openings, marked **LA** (black), **RL** (green), and **RA** (white).

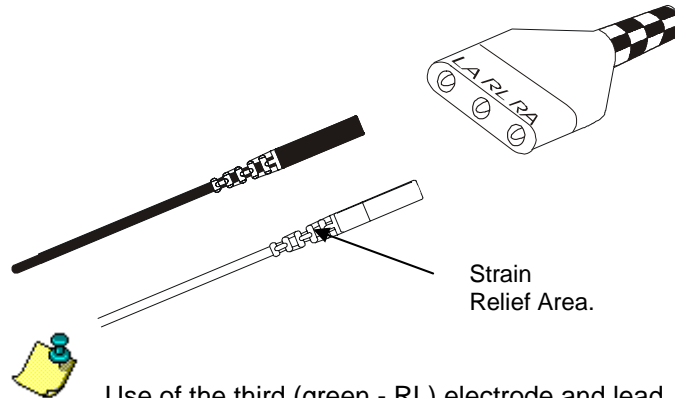
Take the **white** lead wire and insert it into the opening marked **RA**.

Take the **black** lead wire and insert it into the opening marked **LA**.

Firmly push each lead wire in until the socket snaps into place.

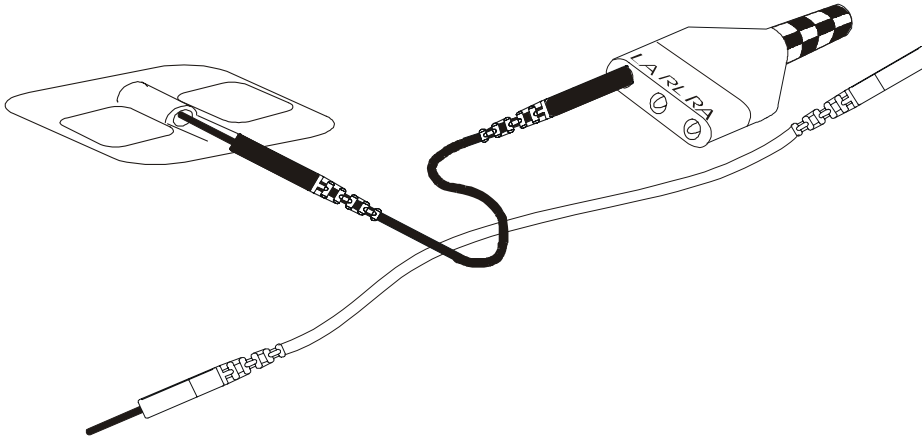


When you need to remove a lead wire, grasp and pull at the strain relief area located near the connecting tip. **Do not grasp the wire.**



Use of the third (green - RL) electrode and lead wire is normally not required, but may help reduce excessive false low heart rate alarms.

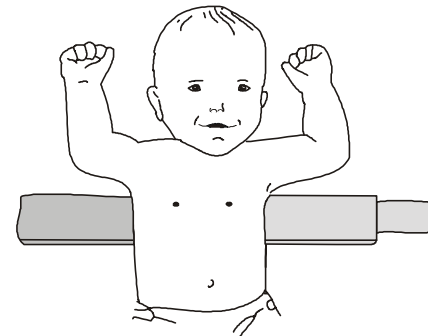
## Step 4: Connect the Lead Wires to the Electrodes.



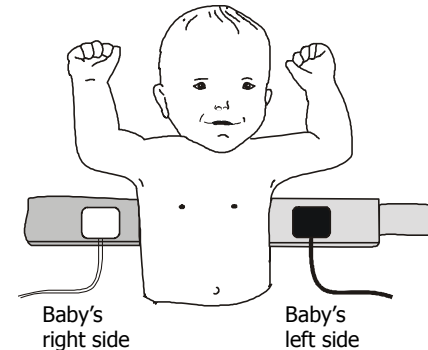
- Insert the black **LA** lead wire into one electrode.
- Insert the white **RA** lead wire into the other electrode.
- Make sure the metal tips of the lead wires are fully inserted into the electrodes.

## Step 5: Attach the Electrodes to the Infant Belt.

- Place the electrode belt on a flat surface.
- Lay your baby on the belt so the belt is aligned with the baby's nipples (see illustration).
- Place the electrodes, Velcro-side down, on either side of the belt as follows:
  - Place the electrode with the **white** lead wire on the *baby's right* side.
  - Place the electrode with the **black** lead wire on the *baby's left* side.



- Place the electrodes far enough apart so that when the belt is wrapped around the baby, the electrode will be located along the mid-line of the side just below or lined up with the nipples.
- Be sure the lead wires and patient cable are leading down and away from the baby's face and neck (see illustration).

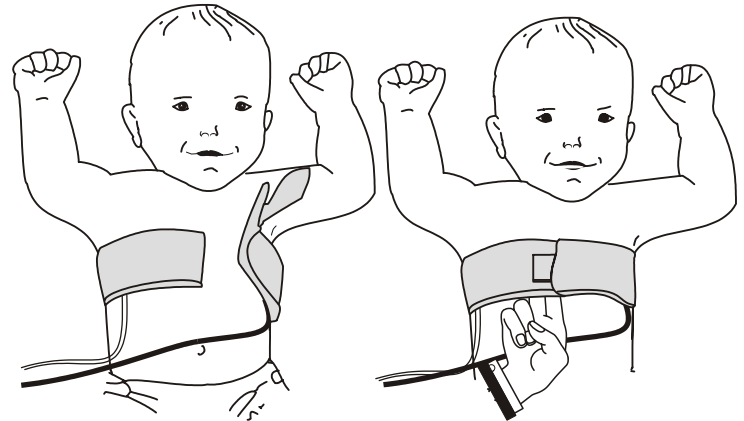


The white lead wire location is illustrated with a white electrode.

## Step 6: Wrap the Electrode Belt around the Baby.

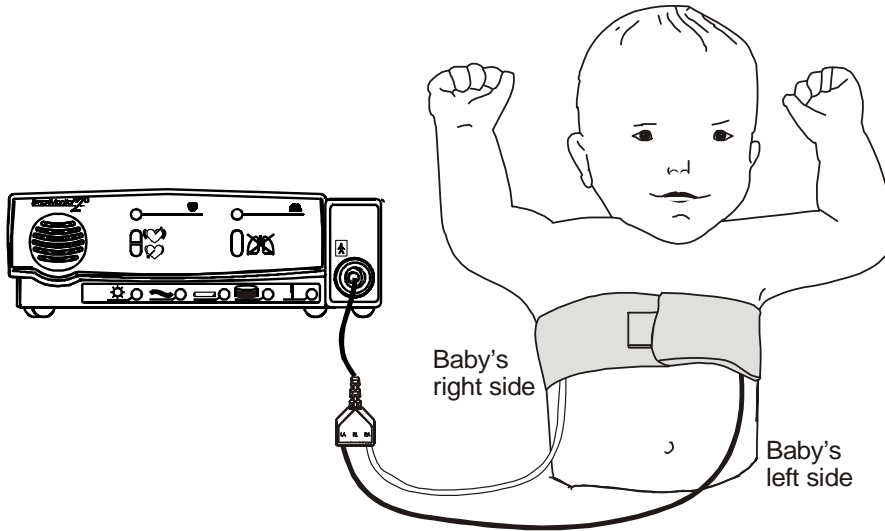
Wrap the belt around the baby's chest and fasten it with the Velcro tab.

The belt should be snug enough so that you can only insert two of your fingers (with your hand lying flat against baby) between the belt and the baby.



With newborns and very small babies, you may need to shorten the belt by cutting off a part of the end. Be sure to leave enough room to fasten the belt securely.

These steps describe only one method for electrode placement and positioning. Your health care professional may show you another method.



Insert the black LA lead wire into the Velcro side of one electrode. Place the electrode with the black lead wire on the baby's left side.

Insert the white RA lead wire into the Velcro side of one electrode. Place the electrode with the white lead wire on the baby's right side.

## Disposable Self Adhesive Electrodes

Follow the steps below if you are using disposable electrodes.

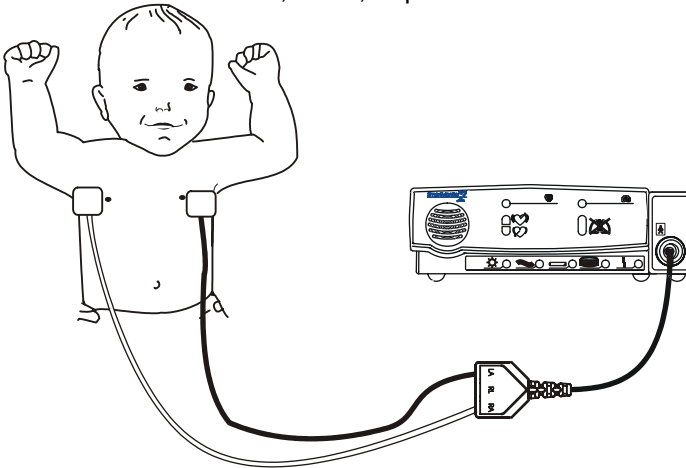
- Attach lead wires to the Self Adhesive Electrodes if not pre-attached.
- Insure the infant's skin is clean and dry.
- Place the electrode with the **white** lead wire on the baby's **right** side, along the mid-line of the side, two finger widths below or lined up with the nipples.
- Place the electrode with the **black** lead wire on the baby's **left** side, along the mid-line of the side, two finger widths below or lined up with the nipples.
- An electrode belt is not needed when using disposable electrodes.



Use of the third (green - RL) electrode and lead wire is normally not required, but may help reduce EMI interference. Place the green third electrode along the outside of baby's upper thigh. (Not on the inside of the thigh, the inside can cause discomfort).



Do **not** use oils, lotion, or powder on the area of skin that the electrodes will be placed.



## Step 7: Connect the Power Cord/Battery Charger.

- Insert the round connector of the power cord/battery charger into the socket on the back panel of the SmartMonitor 2 (see illustration).
- Line up the notch on the connector.
- Push until the connector is fully inserted.
- Plug the power cord/battery charger into a power outlet. The green charge light on the monitor will now come on.



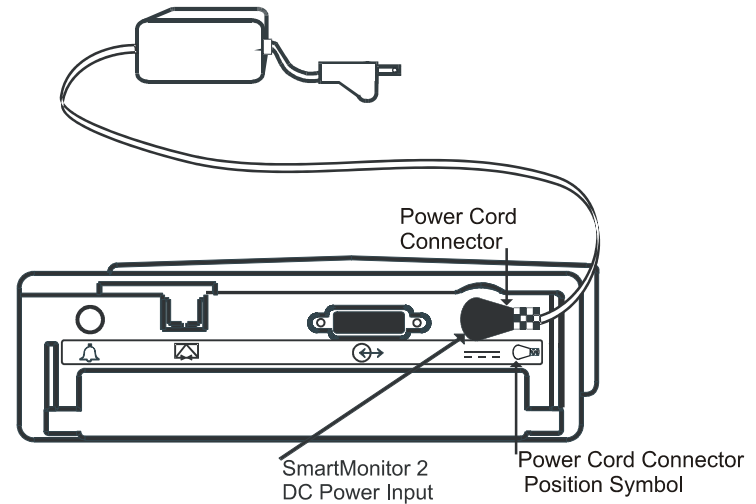
When the SmartMonitor 2 is not being used portably, keep the power cord/battery charger connected and plugged into an AC outlet at all times. Insure that the AC outlet has been installed to conform to the National Electrical Code (NEC) i.e., a licensed electrician. The batteries cannot be overcharged. The green charger light stays on as long as the charger is connected.



The Power Cord Connector must be plugged into the SmartMonitor 2 DC Power Input as shown in the illustration to the right. The Power Cord Connector can only be inserted as shown to the right.



Do NOT use device if power cord is damaged. Contact your dealer.



## OXYGEN CALL LIST

☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday

☐ **Automatic Stop** ☐ Call Weekly ☐ Every 2 Weekly ☐ Call 6 months ☐ Call Annually

*(except MCR 3-5 yr customers, identify who called in the order and how much they have left)*

**Note:**

1. Customers must be aware of their delivery day. They should call before noon on the business before their delivery day. We should not have "will call us" customers! After the first month, homefill **and** night time customers **with** internal filter concentrators will be called and have a home PMI at least every 6 months. Night time customers **without internal filters** must have a home PMI annually.
2. When making oxygen calls, if a customer only has 1-2 empty tanks, see if they have enough full tanks to last them another week.
3. Check on all **repeat supplies** with every 6 month / annual check. I.e. neb kits and filters, cpap / bipap supplies, etc
4. **Confirm** address, insurance and physician information with every supply order.

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
(always make calls while looking at and updating the customers information in the computer)

(circle) **OXL OXQ OXM OXE OXD OXC OXB**

(circle) Home-Fill Cylinder: **Continuous Conserver** or **Helios** or **Conserver**

Comments/Supplies: \_\_\_\_\_

Other Equipment: \_\_\_\_\_

(circle) Rental Air Compressor with internal filter or **Rental Enteral Pump**

Annual check due \_\_\_\_\_ Form ADFM024 initiated \_\_\_\_/\_\_\_\_/\_\_\_\_ By: \_\_\_\_\_ PMI Completed date \_\_\_\_/\_\_\_\_/\_\_\_\_

Annual check due \_\_\_\_\_ Form ADFM024 initiated \_\_\_\_/\_\_\_\_/\_\_\_\_ By: \_\_\_\_\_ PMI Completed date \_\_\_\_/\_\_\_\_/\_\_\_\_

**(use form ADFM024 for all oxygen set ups, all rental swaps, and rental equipment checks)**

**Concentrator Set up date \_\_\_\_\_ internal filter = every 6 months / no internal filter = annually**

Physicians order: LPM \_\_\_\_\_ Duration \_\_\_\_\_ (check most current prescription / CMN on on-base, see DTWI004.)

PMI check due \_\_\_\_\_ Form ADFM024 initiated \_\_\_\_/\_\_\_\_/\_\_\_\_ By: \_\_\_\_\_ PMI Completed date \_\_\_\_/\_\_\_\_/\_\_\_\_

PMI check due \_\_\_\_\_ Form ADFM024 initiated \_\_\_\_/\_\_\_\_/\_\_\_\_ By: \_\_\_\_\_ PMI Completed date \_\_\_\_/\_\_\_\_/\_\_\_\_

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PMI check due \_\_\_\_\_ Form ADFM024 initiated \_\_\_\_/\_\_\_\_/\_\_\_\_ By: \_\_\_\_\_ PMI Completed date \_\_\_\_/\_\_\_\_/\_\_\_\_

Account #: \_\_\_\_\_

