Introduction

Your doctor has prescribed home phototherapy for your baby. While your baby is receiving phototherapy, your doctor, other health care professionals and representatives from our company will be working with you. You are the most important part in this team effort. This equipment is used to treat a condition called jaundice. You should carefully follow your doctor’s instructions in the use of the phototherapy equipment.

What is Jaundice?

Jaundice is a common, temporary and usually harmless condition in newborn infants. It affects both full-term and premature babies, usually appearing during the first week of the baby’s life.

Jaundice occurs when there is a build-up of a naturally occurring waste substance in the blood call bilirubin. This build up causes the baby’s skin and the whites of the eyes to appear yellow. Bilirubin is normally processed by the liver and excreted from the body.

“Normal” jaundice occurs in newborns because their liver is not yet fully developed and cannot process the bilirubin quickly enough. This creates the condition of higher levels of bilirubin in the blood called hyperbilirubinemia. Some normal jaundice will disappear within a week or two without treatment. Other babies will require treatment.

High levels of bilirubin can be dangerous to your baby. It is important to monitor levels and, if necessary, to treat the jaundice to endure the healthy development of your child. Phototherapy is the most common treatment for jaundice. Normal jaundice is usually treated with phototherapy for a few days until the liver is mature enough to handle the bilirubin on its own.

What is phototherapy?

Phototherapy (photo = light; therapy = treatment) is the process of using special light to eliminate bilirubin in the blood. These light waves absorbed by the baby’s skin and blood change bilirubin into a product which can pass through their system.

Phototherapy is administered through the use of a fiber optic fabric panel held in place by a cover which may be in the form of a wrap, blanket, vest etc. In these devices, the panel of woven fiber is used to transport light from the light source to your child. This covered panel is placed directly against your baby to bathe the skin in light. Absorption of this light leads to the elimination of bilirubin.

With this safe, convenient form of phototherapy you can diaper, cloth, hold and nurse your baby during treatment.

The phototherapy system

A phototherapy system consists of a light box or illuminator box, which is the source of therapeutic light, fiber optic panel which delivers the therapeutic light to your baby, and a panel cover which provides a comfortable surface for the baby.
Setting up the phototherapy system

You will be instructed in the phototherapy system’s use by our representative, who will insure that everything is working properly and that you understand how the equipment is to be used. He/she will review with you the doctor’s instructions as well as the information in this instruction sheet and the manufacturer’s instructions for the specific equipment you’ll be using.

1. The light source or illuminator should be placed on a hard flat surface no more than three feet from where the baby will be lying or held. To insure adequate air flow, do not block any of the air vents in the light source box. Place the light source on a stand or table next to the baby’s bed or near where you will be sitting to nurse your baby. Do not place it near a radiator or heater. Securely attach and lock the connector from the fiber optic panel to the opening on the light source box. Plug the electric power cord from the light source into a three prong (grounded) electrical outlet. Use of extension cords should be avoided if possible. If you must use an extension cord it should be a heavy duty cord with three prong (grounded) plugs such as those for power tools.

2. Insert the fiber optic panel into a disposable cover, insuring that the bright light faces the translucent side of the cover. Secure the panel in the cover, as you were instructed by our representative, using tape tabs where appropriate (do not apply tape to the baby’s skin). Some panels and covers require the use of cushioned tape applied to the top edge of the panel and cover to prevent possible skin irritation under the baby’s arms. If this is required, the tape has been provided and you have been instructed by our representative on its application. A T-shirt may also be put on the baby and rolled up from the bottom until it fits comfortably under the baby’s arms. This provides a cushion between the top edge of the panel and the baby’s under arms.

3. Depending upon the type of fiber optic panel and cover being used, place the covered panel under – on – or around the baby as you were instructed. Insure that the fabric or sheer side (the illuminated side) of the cover is touching the skin. When appropriate use tape tabs to secure the panel as you were instructed by our representative (do not apply tape to the baby’s skin).

4. If using a wrap type panel cover, do not wrap the baby too tightly. A good rule of thumb is to place one finger between the panel and the baby’s body to allow adequate room for breathing. For a larger more active baby, you may want to tape the fiber optic panel to the baby’s diaper to prevent it from riding up under the baby’s underarms. When using a vest type cover, the vest should be snug but not tight – one finger of space between the chest and the panel.

5. The baby can now be wrapped in a blanket, bundled, swaddled or clothed in a sleeper and continue to receive effective phototherapy as long as the lighted section of the covered panel remains in contact with the skin. You may hold and/or nurse the infant while continuing treatment.

6. If your light source (illuminator) is equipped with an intensity level selector switch, begin therapy on the lower level, wait five minutes, then switch to the higher level. Turning the unit ON while on the higher level may shorten the life of the lamp. If your unit does not have an intensity selector switch, simply turn the light source ON.

7. You may pick up your baby at any time during the phototherapy treatment. You may rock, cuddle or feed your baby without disruption of treatment as long as you remain within the reach of the fiber optic panel connector.

Monitoring

Wet diapers: Your baby should have six or more wet diapers in a 24 hour period. Determining when the baby has urinated can be difficult with some of the new super absorbent disposable diapers. These diapers contain a chemical that converts urine into a gel which may be difficult to see or feel. If you use this type of diaper, try placing a folded tissue or paper towel between the diaper and the baby. This will show immediately if the baby has wet. Recording the number of wet diapers will indicate if your baby is getting adequate fluids during his or her treatment.

Bowel movements: Your baby will have more bowel movements than usual during phototherapy. The stools will be loose (watery) and a dark brown or dark green color. This is normal, and is a result of the breakdown of the bilirubin. To prevent dehydration from the frequent bowel movements, your doctor will probably recommend more frequent nursing or feeding.

Feeding: A newborn infant usually requires feeding every three to four hours. Your doctor or his/her staff will explain proper feeding requirements and schedules. Follow the feeding schedule that is recommended by your doctor.

Blood tests: When you baby begins to receive phototherapy, his/her skin may no longer indicate accurately the severity of the jaundice. Blood tests will be required to monitor the progress of the baby’s treatment. A nurse or other healthcare
professional may obtain the blood samples in your home or your doctor may have you bring the baby into his office to obtain the sample. These blood tests provide the doctor with the information on the bilirubin level and other indications of the baby’s condition.

**Other important information**

Each baby’s phototherapy treatment time varies. Usually phototherapy treatment is required for two to four days. Your doctor will prescribe the amount of time your baby should be on the system each day and will determine from the blood tests when to discontinue the treatment.

The light from the fiber optic panel is a cool light. No heat will come into contact with your baby. Only light can be transmitted through the cable to the fiber optic panel.

The baby’s skin that is in direct contact with the light emitted by the fiber optic panel may be a different color because the bilirubin in the skin and tissue in that area is broken down first. Since the majority of the bilirubin is in the blood, as the blood circulates to the lighted area, the rest of the bilirubin will be removed. As the bilirubin level approaches normal, all of the baby’s skin will return to normal color.

Eye protection is not usually necessary while the fiber optic panel is wrapped around the baby, or while it is inserted into the cover or vest and fastened around the baby. Since the baby’s eyes can be affected by any bright light, always turn the unit OFF prior to removing the fiber optic panel.

Some phototherapy systems are equipped with an alarm that alerts you if the lamp burns out. If you hear this alarm, or if you notice there is no light coming from the fiber optic panel, please call our office.

To clean the fiber optic panel, disconnect the power cord on the light box and wipe down the panel with a mild detergent solution such as dishwashing liquid. Do not immerse the panel in liquid. Do not use abrasive cleaners.

**Safety precautions**

- Always turn OFF and unplug the phototherapy unit when cleaning or otherwise servicing the unit.
- Do not use the phototherapy system while bathing the baby.
- Do not allow the unit to become wet or to be immersed in water or any other liquid.
- Do not attempt to walk around with the baby wrapped in the fiber optic panel.
- Except for brief testing, do not leave the unit ON when the panel is not around the baby.
- Do not operate the unit if it has a damaged power cord or plug.
- Keep the cord away from heated surfaces.
- Always keep the light box on a hard flat surface.
- Never block the air vents on the unit or place it on a soft surface such as a bed, crib, carpeted floor, upholstered chair or sofa where air vents may be obstructed.
- Never put fingers or objects into the openings of the light box.
- Always connect the unit to a properly grounded outlet.
- Do not dry the fiber optic panel with artificial heat.
- After use, allow the unit to cool for at least 20 minutes before moving it.
- Do not use the unit outdoors or where aerosol (spray) products are being used or where oxygen is being administered.
- Replace the fuse only with a recommended fuse listed in the manufacturer’s instructions.

If you have any questions regarding the operation of the system, please contact our office.