

BiliBee LED Phototherapy System



BiliBee LED Description and Application

For more than three decades, phototherapy has been the standard for treating neonatal jaundice. The benefits of utilizing phototherapy devices instead of sunlight include: 24 hour treatment, greater efficacy by narrowing the spectral range to 430-490nm, improved temperature regulation due to smaller exposed surface area, and the elimination of harmful UV irradiation to the patient from sunlight exposure.

Medical Select's BiliBee LED Phototherapy system is revolutionizing the phototherapy industry by providing a completely portable and maintenance free system by eliminating the fiber optic cable found on competitors' phototherapy systems.

The BiliBee LED Phototherapy System is a portable, battery operated or AC powered device that utilizes an LED illuminator pad for the treatment of neonatal jaundice (hyperbilirubinemia). Treatment is applied by placing the patient on the BiliBee LED pad while a disposable sheath separates the infant from the pad's surface. Treatment is intended to be applied 24 hours a day until the infant's bilirubin levels have been effectively lowered to an acceptable level according to AAP guidelines.

Whether using the AC power supply at home - or the battery pack on the go - the BiliBee LED provides intense treatment wherever it's needed. The product is so convenient that both mother and infant will forget it's there.



“No bulky
CABLES TO
TIE YOU
DOWN”

ACTIVE Mobile EFFECTIVE TREATMENT FOR NEONATAL JAUNDICE

BiliBee LED Phototherapy System



Key Elements for Phototherapy

Irradiance Intensity

Light Spectrum

Surface Area Coverage

Distance

AAP Guideline

Irradiance level at least $30 \mu\text{W}\cdot\text{cm}^2\cdot\text{nm}$

Wavelength between 430-490 nm

Larger surface area, especially for combating extremely high bilirubin levels

Distance between the infant and the light source is critical to spectral irradiance level

BiliBee LED Phototherapy System

Irradiance level at $60 \mu\text{W}\cdot\text{cm}^2\cdot\text{nm}$ with disposable cover

Greater spectral range of 420-530 nm (peak 455-485 nm)

Provides full coverage of neonate's back

For the most effective treatment, the BiliBee is placed in direct contact with the infant's skin.

American Academy of Pediatrics, clinical practice guideline, sub committee on hyperbilirubinemia: Management of hyperbilirubinemia in the newborn/infant 35 or more weeks of gestation, 2004; pgs.297-316.



ACTIVE MOBILE EFFECTIVE TREATMENT FOR NEONATAL JAUNDICE

BiliBee LED Features



LED Illuminator Pad – The BiliBee LED is encased in silicone, making the pad comfortable and flexible.

Disposable Sheaths – The disposable sheaths are used to cover the LED illuminator pad. These sheaths are designed to slide over the LED pad like a sleeve and serve as a barrier between the patient and the flexible LED pad during treatment. The disposable sheaths should be replaced when soiled or deemed necessary.



Battery Operated – The BiliBee LED Phototherapy System is equipped with a battery pack that takes 8AA batteries which provide a system operation time of up to four hours. The battery pack will enable the parent/caregiver to continue treatment during trips to and from the physician's office for bilirubin checks.

Low Battery Warning – An audible, low-battery warning will warn caregiver when it's time to replace the batteries or to switch to the AC power source.

AC Power Source – The AC power source plugs directly into a wall outlet and provides DC output voltage to operate the LED illumination pad.

System User's Manual – The BiliBee LED Phototherapy system comes with a user's manual to describe system operation, setup, warnings, and cautions.

Maintenance Free – With no moving parts, the BiliBee LED is maintenance free. The BiliBee does not have fiber optic cables or light boxes with lamps. Therefore, a hospital or distributor of medical equipment will be able to reduce expenses.

Warranty – The BiliBee LED Phototherapy System comes with a one-year warranty.

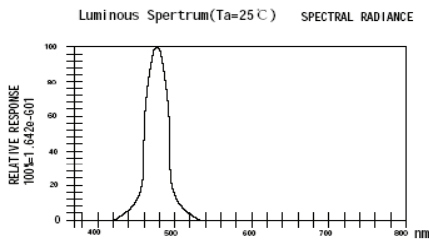
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BILIBEE LED PERFORMANCE

Light Band Width Peak: 455- 485 nm

Irradiance Level: High setting: High Output Pad: $60 \pm 10 \mu\text{W}/\text{cm}^2/\text{nm}^*$



(*Irradiance level is the average of six points on the illuminator pad through the disposable pad.)

Noise: Sound level less than 54 dBA measured at 1 meter with environmental sound level 10dBA below measured value.

Mode of Operation: Designed for continuous operation.

PHYSICAL CHARACTERISTICS

Illuminator Pad Size: 4" W x 8" L x 0.4" H

Treatment Area: 4" W X 6" L

System Weight: Light panel < 0.5 lb
Battery pack < 1 lb

ELECTRICAL CHARACTERISTICS

AC Input Voltage: 0.5 A at 100/240 VAC 50/60 Hz

Wattage: 50 watts maximum over-current protection

Output Voltage: DC output voltage 1.0 A at 3.3V

ACTIVE MOBILE EFFECTIVE TREATMENT FOR NEONATAL JAUNDICE



ENVIRONMENTAL / STORAGE CONDITIONS

Operating Temperature: 15 to 35°C (59 to 95°F)

Humidity: 0 to 95% RH

Atmospheric Pressure: 500 hPa to 1060 hPa

Storage Temperature: -5 to + 60°C (23 to 140°F)

PORTABLE BATTERY PACK

8 AA batteries

1.0 A at 3.3V

Over-current Protection

REPLACEMENT PARTS

Wall Power Supply

Battery Pack

Disposable covers package (100)



ACTIVE Mobile Effective TREATMENT FOR NEONATAL JAUNDICE