



PRESS RELEASE

FICCI recognizes GE Healthcare for its efforts to solve infant care challenge in India

GE Healthcare's Lullaby LED Phototherapy System for Newborns wins FICCI Healthcare Excellence Award 2012

Bangalore, August 31, 2012 - Wipro GE Healthcare, GE Healthcare's business arm in India received the FICCI (Federation of Indian Chambers of Commerce and Industry) Healthcare Excellence Award for its efforts to solve maternal/infant care challenge in India. This recognition from FICCI is for GE Healthcare's innovations 'In India, for India' to make healthcare affordable and accessible. GE Healthcare's Lullaby LED Phototherapy system was chosen as the best innovation by FICCI from amongst 120 innovations from India.

The Lullaby Phototherapy system equips clinicians with a safe, efficient and easy to use tool to deliver high intensity phototherapy to treat infants with hyperbilirubinemia (neonatal jaundice), a condition caused when there is too much bilirubin in the blood. Neonatal jaundice is a widespread problem, occurring in about 60% of term babies and 80% of pre-term infants. If untreated, elevated jaundice has the potential for neurotoxic effects and kernicterus, causing irreversible brain damage. Most common problems of neonatal jaundice can be cured using phototherapy, a shining blue light at the baby. Lullaby LED Phototherapy system utilizes LED technology to reduce power consumption as well as overall replacement costs to achieve up to 80% energy savings and a 50x extended bulb life, making it one of the most affordable phototherapy system. Lullaby LED Phototherapy system has been developed at the GE India Technology Center.

As per the UN Inter-agency Group for Child Mortality Estimation 2011, almost 30 percent of neo-natal deaths occur in India ^[1]. The Registrar General's latest data Sample Registration System 2010 indicates 8.62 lakh child deaths in 2010 within 29 days of life^[3] Premature deaths have also been rampant in India. Globally, the proportion of under-five deaths that occur within the first month of life (the neonatal period) has increased about 10% since 1990 to more than 40%.^[4]

The Award was given by FICCI President, Mr. R V Kanoria and Actor Rahul Bose. The FICCI Healthcare Excellence Awards celebrate the spirit of excellence in India's health services industry, thereby encouraging initiatives in urban, semi-urban and rural areas to provide accessible and affordable quality healthcare to all.

Expressing her delight over this recognition, **Ms. Terri Bresenham, President & CEO, GE Healthcare South Asia** said, "Care for infants in India is challenged by rising costs, inequality of access and persistent quality issues. The combination of technology, innovations and smarter processes can help doctors and hospitals deliver better healthcare to more people at lower



costs. In line with our commitment to make India a healthier nation, we are proud to viable solutions like the Lullaby LED PT. This recognition from FICCI will only reinforce our commitment.”

Having recognized India's healthcare challenges of cost, access and quality, GE Healthcare was the first company to set up manufacturing plants in India to produce high end healthcare imaging products, cost effectively. GE Healthcare has also set up country's first R&D Centre for designing healthcare solutions 'In India, for India' and employs over 1500 scientists and engineers specifically to develop healthcare solutions. GE Healthcare has rolled out 15 designed “In India, for India” solutions to accelerate access to healthcare in India. GE Healthcare has received multiple awards from the Government of Karnataka as well as Government of India towards achieving growth and excellence in exporting medical technologies from India. GE Healthcare's effort together with East Meets West, a non-governmental organization, to tackle maternal and infant challenges is also acknowledged by WHO in their recent report – “Born too Soon” http://www.who.int/pmnch/media/news/2012/borntoosoon_chapter6.pdf.

“We are at work for a healthier India. The Lullaby LED Phototherapy System is a great demonstration of our commitment towards lowering costs, improving access and improving clinical quality. Such disruptive technologies can help address a larger vision of meeting India's millennium development goals (MDG4) to reduce infant mortality”, said Munesh Makhija, Chief Technology Officer, GE Healthcare South Asia.

About GE Healthcare:

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com. For our latest news, please visit <http://newsroom.gehealthcare.com>.

Media Contact:



Manoj Menon Communications Leader, GE Healthcare South Asia T: +91 9845199852 E: manoj.menon@ge.com	Anyesha Das Genesis Burson-Marsteller Email: anyesha.das@bm.com M: +91 9620298477
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Notes to Editor:

High levels of bilirubin can occur in the blood called hyperbilirubinemia. These high levels can be dangerous to a newborn baby. It is important to obtain periodic blood samples to check the bilirubin levels and, if necessary, to treat jaundice to ensure the healthy development of your child. **Phototherapy with or without a Billiblanket** is the most common form of treatment for neonatal jaundice. This treatment is used for a few days until the liver is mature enough to handle the bilirubin on its own. Some “normal” jaundice will disappear within a week or two without treatment. Other babies will require treatment because of the severity of the jaundice, the cause of the jaundice, or how old the baby is when jaundice appears.

Phototherapy (light treatment) is the process of using light to eliminate bilirubin in the blood. A baby's skin and blood absorb these light waves. These light waves are absorbed by the baby's skin and blood and change bilirubin into products, which can pass through their system. For over 30 years, phototherapy treatment in the hospital has been provided by a row of lights or a spotlight suspended at a distance from a baby. This would provide light shining directly on an undressed baby (with diaper on) whose eyes would need protection from the light with soft eye patches applied. Today, advancements in technology have led to a new phototherapy system, which gives effective treatment without the inconveniences of conventional phototherapy treatment.

A significant barrier to providing effective phototherapy in rural settings is the total cost of ownership of traditional CFL based phototherapy lamps – not only the initial cost of the device, but also the recurring cost of replacing expensive lamps every 1000 hours, whose supply is typically not available in smaller towns. We overcame this by converting to LED lamps, and leveraging GE's lighting expertise to design a system that lasts for 50,000 hours (almost 6 years of night and day use without replacement). This is also the highest among competitive phototherapy products globally.

Phototherapy lamps generally require a fan to remove the heat and keep the temperature to within operational range. However, we identified moving mechanical parts (i.e. fan) as the most likely to fail. We designed an innovative heat dissipation mechanism by using embedded heat sink with the circuitry, and designing vents that activated air currents to circulate and cool the machine, without any need for fans.

Devices deployed in rural India face tremendous voltage spikes & fluctuations. We devised an entirely new optical system that allowed for excellent light uniformity on the bed surface while only using 10 LEDs at 20W. in addition, the power supply can operate from 90-264V, and handle spikes beyond that range gracefully.

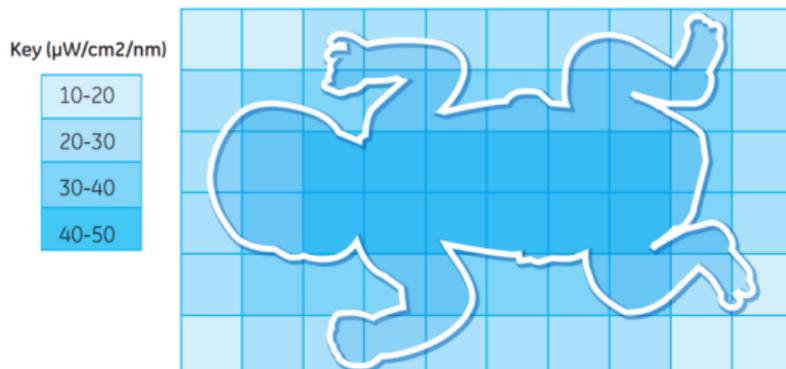


Figure 1: Lullaby LED PT delivers uniform, high intensity blue light to the patient. Image represents the light delivery to a full-term (38-week) infant.

In addition to the overall savings, Lullaby LED phototherapy:

- Is quiet; designed without a fan and operating over 50% quieter than IEC guidelines
- Provides a tightly focused wavelength for maximizing bilirubin metabolism
- Has a high irradiance level allowing for tailored treatment for each infants' needs
- Delivers uniform light distribution over the total surface area of the body, maximizing bilirubin breakdown

Through the combination of optimal wavelength, high intensity and uniform light distribution yields a 28% faster total serum bilirubin breakdown².

²Based on calculations from Osaku NO, Lopes HS. A dose response model for the conventional phototherapy of the newborn. Journal of Clinical Monitoring and Computing. 2006, 20(3): 159-164

Source:

[1] Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation, Report 2011

[3] http://articles.timesofindia.indiatimes.com/2012-04-03/india/31280541_1_neonatal-mortality-neonatal-deaths-mortality-rate

[4] Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation, Report 2011