

Illuminated pajamas against newborn jaundice

A new material can be replaced by wrapping babies in a comfortable sleeping pajamas inside.

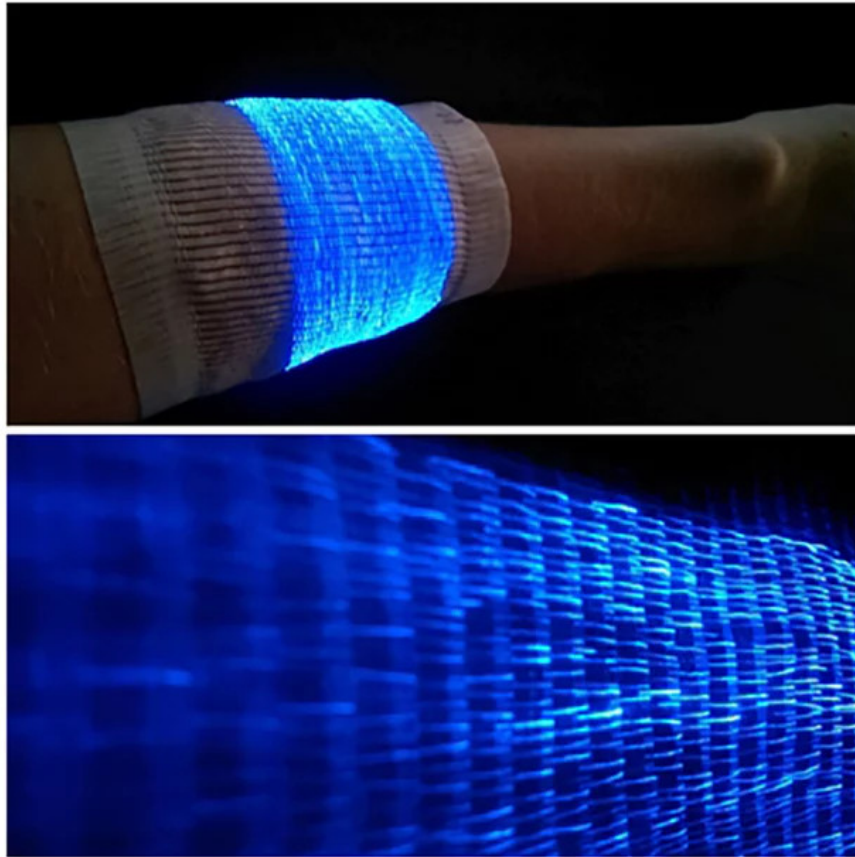
Natural babies are more susceptible to jaundice, a condition caused by the accumulation of toxic chemical bilirubin that causes skin yellowing.

This is because their metabolism does not recover and the child's liver has difficulty removing toxins. Although jaundice can be treated with light therapy, this can be thought of by going to the baby lying alone and naked inside the light nursery. Based on this idea, a new material can be replaced by wrapping babies in comfortable sleeping pajamas with internal lighting.



If toxins accumulate to a certain degree, yellow pigment destruction can actually damage the brain in a more serious condition called kernicterus, which can cause other diseases such as polio. mensturation and hearing loss.

This can be avoided by applying light at a intensity of 30 microwatts per square centimeter in the blue spectrum. This will help transform bilirubin into a more soluble form that the undeveloped organs of babies can release from the body quickly.



Scientists have made this bedding material by weaving fiber into it, using battery-operated LEDs as light sources. These optical fibers are suitable for the diameter of the normal fibers used in the fabric and are arranged in the right corner, to direct light evenly into the baby's skin, meaning they do not need a protective mask guard.

Maïke Quandt, the study's lead author, said: "Optical textile products are washable and well tolerated by skin."

In the current prototype, fabric glowing blue at intensity lower than 30 microwatts per square centimeter helps skin absorb better.

This study is published in the journal Biomedical Optics Express.

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