Scripps Research discoveries lead to newly approved drug for infant respiratory distress syndrome

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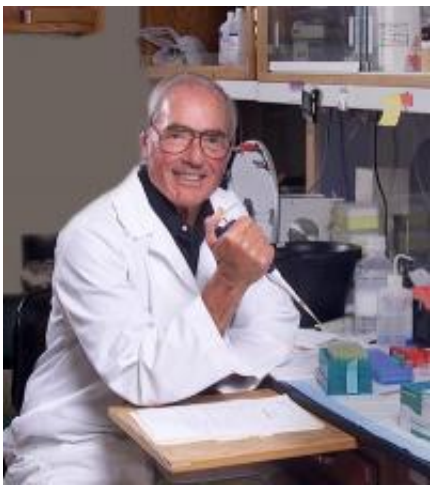

Scripps Research Institute professor emeritus Charles Cochrane, M.D., led work that laid the foundation for the new drug Surfaxin, now approved in the United States for the treatment of infant respiratory distress syndrome. Credit: Courtesy of The Scripps Research Institute.

Scientific advances at The Scripps Research Institute have led to a new drug Surfaxin (lucinactant), approved today by the U.S. Food and Drug Administration (FDA) to treat infant respiratory distress syndrome.

"I am excited that our scientific findings will help save lives," said Charles Cochrane, MD, professor emeritus at Scripps Research. "Many

years of work in our basic research laboratory at The Scripps Research Institute made this landmark development possible."

Respiratory distress syndrome (also known as neonatal respiratory distress syndrome) is a life-threatening condition affecting pre-term infants. The more premature an infant is, the more likely he or she is to suffer from it and die.

The condition occurs when infants are born prior to the time when natural surfactant is made in their lungs. Surfactant is a liquid that coats the inside of the lungs, helping to keep the air sacs open and making normal breathing possible. Without enough surfactant, the lungs collapse and the body can be starved of oxygen.

In addition to mechanical ventilation, current treatments for pre-term infants involve using surfactants derived from chopped cow or pig lungs. However, animal-derived surfactants are expensive, contain material that can be injurious to the lungs, and cannot be produced in quantities sufficient to treat pre-term infants worldwide. In addition, animal-derived surfactants can only be used once since they cause an immune reaction; in contrast, the new synthetic surfactant is not immunogenic.

The Cochrane lab first created a synthetic version of surfactant in the 1990s, mimicking a natural peptide known as Surfactant Protein B; the inventors of the technology are Cochrane and Susan Revak. After this formative work at Scripps Research, the therapy was developed by Discovery Labs of Warrington, PA, which oversaw the three phases of clinical trials required by the FDA. These clinic trials provided data on the drug's success.

Provided by The Scripps Research Institute