

Light-emitting goggles help prevent preterm labor, provide safer labor process

April 30 2015, by Tom Butler



Dr. James Olcese speaks with a patient wearing a light-emitting device that shines a brief blue light into the eyes of a sleeping pregnant woman to lower melatonin levels, suppress contractions and delay birth.

Preventing preterm labor with light and inducing labor using a side effect-free drug are two new technologies based on Florida State University research that are heading to the marketplace.

FSU College of Medicine Associate Professor James Olcese has signed a license agreement with KynderMed for two patented technologies he developed based on his research on the brain hormone melatonin.

"I've been working with melatonin for a long time now, and I continue to be fascinated by the problems it can solve in the labor process," Olcese said. "Licensing these two aspects of my research is particularly exciting because it means these potential labor solutions are that much closer to helping women and their babies arrive into the world safely and at the right time."

The first technology being licensed under the new agreement is a light-emitting device that shines a brief blue light into the eyes of a sleeping pregnant woman to lower melatonin levels, suppress contractions and delay birth.

In 2009, Olcese recognized that many women go into labor at night when melatonin is at its peak. Additional research through a partnership with late term pregnant volunteers at Tallahassee Memorial Hospital (TMH) found that when women were exposed to bright light for one hour during the night their melatonin levels dropped, suppressing contractions and potentially delaying labor.

"The light goggles are just a prototype and are already showing tremendous promise," Olcese said. "Using the partnership we have developed with TMH and other institutions, we will be able to continue their testing, as well as develop them into a sleep mask that increases the comfort and makes them a seamless part of the medical process."

"Preterm births create a human tragedy of horrific proportions, said Don Rosenkoetter, president of KynderMed. "More than one million infants die each year as result of preterm delivery. Additionally, preterm births also result in blindness, cerebral palsy, retardation and a host of other

problems. We believe that Dr. Olcese's exciting technologies will provide the first real advancement in this area in decades. We are excited by the prospects and look forward to a continued collaborative relationship with Dr. Olcese, the Florida State University Research Foundation and the College of Medicine."



A prototype of Dr. Olcese's light goggles.

The second technology being licensed is a new labor-inducing pharmaceutical that combines melatonin with the current mainstream drug oxytocin at a much lower dose. The patented combination is predicted to produce the same labor-inducing effect as regular oxytocin but without the common side effects such as increased heart rate, decreased blood pressure and hemorrhaging.

Provided by Florida State University

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