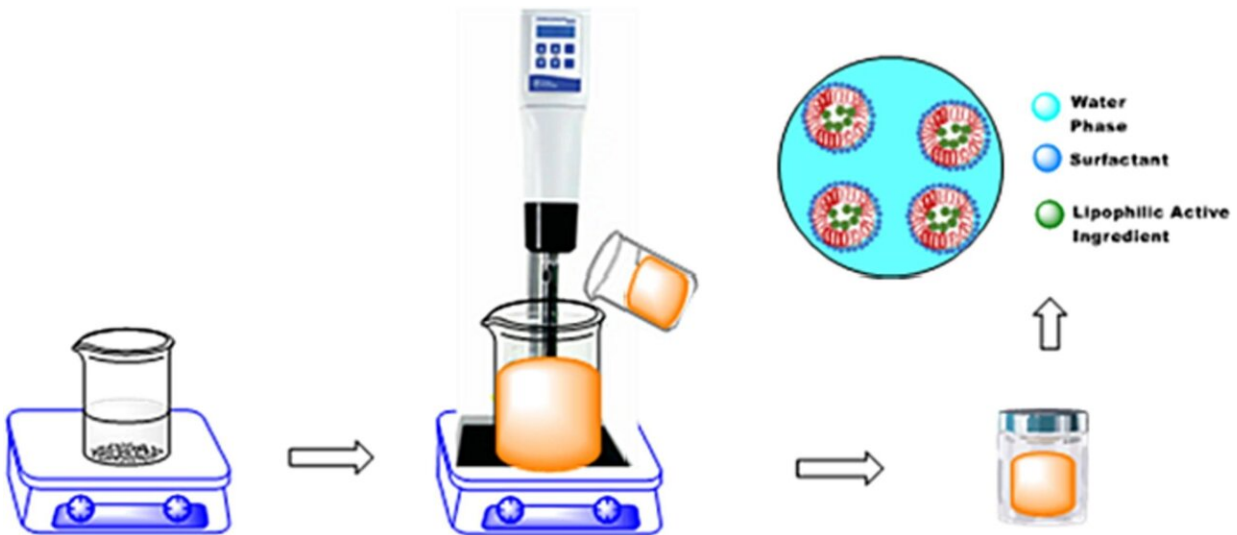


Retinol helps wounds heal faster, could help countless older people

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A representative scheme for the formulation development. Credit: *International Journal of Pharmaceutics* (2024). DOI: 10.1016/j.ijpharm.2024.123875

Nano micelles of Retinol, a type of vitamin A commonly used in anti-aging beauty products, can also help wounds heal faster by promoting skin tissue regeneration, according to studies conducted by the University of Surrey and Phytoceutical Ltd.

Their studies have found that the technology is able to disrupt biofilms and kill key bacteria associated with [chronic wounds](#), reducing the need for antibiotics and combating antimicrobial resistance. These results

could lead to new medical products that could reduce the suffering of millions of people globally, especially older people.

The paper, "Wound recovery efficacy of retinol based-micellar formulations in an organotypic skin wound model," is [published](#) in the *International Journal of Pharmaceutics*.

"At the moment, chronic wound treatments lack specificity and are often ineffective, especially with deeper wounds. In addition, the use of antibiotics can contribute to antimicrobial resistance. Our research demonstrated that the technology speeds acute wound recovery, reducing the chance of becoming chronic," says Dr. David Oluwole, research fellow.

Chronic wounds—those which are slow to heal—affect more than 1% of the world's population and can cause pain, discomfort and complications for sufferers. They are common after surgery, falls and as a result of conditions like diabetes.

The studies involved applying Phytoceutical patented antibiotics-free, Retinol-based micellar formulations to artificial skin wound models in the laboratory. Two strengths of Retinol micelles were tested. According to specialist analysis, both were effective at speeding wound healing, with the 0.3% Retinol micellar formulation having the biggest impact.

Next, the research team at the University and Phytoceutical aim to conduct larger-scale tests in laboratories and clinical settings.

"Wound healing is hindered when complex mixes of microbes form a biofilm layer, which can lead to infection and inflammation. Our research shows how to keep these biofilms at bay, with micellar Retinol promoting [tissue regeneration](#) as part of the answer. We're working with Phytoceutical to develop new treatments," says Dr. Lian Liu, reader.

More information: David O. Oluwole et al, Wound recovery efficacy of retinol based-micellar formulations in an organotypic skin wound model, *International Journal of Pharmaceutics* (2024). [DOI: 10.1016/j.ijpharm.2024.123875](https://doi.org/10.1016/j.ijpharm.2024.123875)

Provided by University of Surrey

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