



Researchers at the University of Copenhagen have developed a patch for easier and more effective treatment of psoriasis. The method may also be used in treatment of other inflammatory skin diseases.

4-5 per cent of the Danish population has psoriasis, which is one of the most common skin conditions in the world. The inflammatory disease is characterised by a red rash with white scales, which may vary in form, size and severity.



“Our studies show that the patch is just as effective as standard treatments,” says researcher behind studies.  
Illustration: William Brøns Petersen

Today, there are several treatment options for psoriasis patients. Creams and ointments are among the most common. The problem is that the cream must be applied several times a day and leaves the skin feeling greasy, and therefore, some patients often fail to use it consistently, which is vital for treatment success.

Now researchers at the University of Copenhagen have produced a prototype for a patch that may help solve this problem for patients with smaller demarcated areas of plaque psoriasis.

“We have developed a dry patch, which contains active ingredients for treatment of psoriasis, and which reduces the frequency of use to once a day. It has the potential to make treatment more comfortable for plaque psoriasis patients,” says Associate Professor Andrea Heinz from the Department of Pharmacy, who is the corresponding author on a series of articles exploring the patch’s ability to treat plaque psoriasis.

#### **About psoriasis**

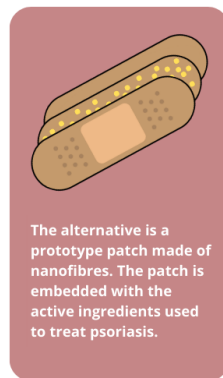
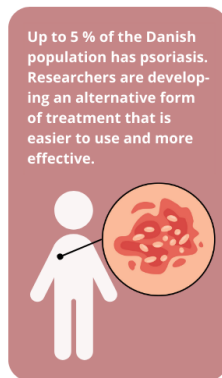
*Psoriasis is a chronic skin disease. It is characterised by a red rash with scales on the skin. There are several types of psoriasis of which the most common is plaque psoriasis. It is estimated that 4-5 per cent of*

*the Danish population has psoriasis.*

*Psoriasis is treated in a number of different ways, some involving creams, ointments, radiation therapy or medication, depending on the type and severity of psoriasis.*

*As many as a third of psoriasis patients do not receive treatment, among other things because treatment can be troublesome.*

*Sources: Psoriasisforeningen and sundhed.dk*



### One patch serving several functions

The patch is designed to contain two active ingredients at once and release them onto the skin at different rates.

“It is really clever, because treatment of psoriasis often requires more than one product. The two ingredients are released in a controlled manner and at different rates, as they

serve different functions: Salicylic acid is released immediately to remove the dead cells that have accumulated on the skin, while hydrocortisone decreases inflammation of the skin – a process that takes more time,” says first author of the studies Anna-Lena Gürtler and adds:

“We have tested the prototype on pig skin and human skin cells and compared the results to the creams and ointments available at pharmacies, and our studies show that the patch is just as effective as standard treatments.”

### Potential to treat other conditions

The researchers used electrospinning to produce the patch – a method where high voltage is applied to a polymer solution to produce synthetic nanofibres. The fibres are then used to make a fibre mat that may be attached to the skin like a plaster.

The researchers are still working on the patch. More research, product development and clinical trials are needed before the method is ready for use. According to Andrea Heinz, though, it has great potential that extends beyond psoriasis treatment:

“A patch containing active ingredients may be an alternative to creams and ointments in the treatment of other inflammatory skin diseases, for instance atopic eczema. It may also be useful in connection with wound healing.”

*Source: William Brøns Petersen, University of Copenhagen*