

Deliverance for diabetics

The development of a nano-Tattoo by Heather Clark isn't just said to ease the life of diabetics but also to improve their healthiness. This method would, for example, replace the daily control of the blood sugar level by stinging into the finger.

By doing so, people try to monitor the blood values with tiny nano particles in a simple and painless way. With this outwardly invisible tattoo, a special nanoparticle solution is used instead of conventional tattoo colour pigments. They consist of 120 nanometers sized particles which correspond approximately to the size of a football in comparison to the earth. These particles contain sensor molecules which react with sodium or glucose. This reaction with these so-called biomarkers leads to fluorescence effects. This means they start to shine by themselves. This "light" which is normally invisible is made visible with UV light. The higher the concentration of the biomarkers the stronger the reaction which means that it shines more intensively.



Hurtless blood glucose measurement with an iPhone

The ultraviolet light which is required to make the tattoo visible provides a converted iPhone with its special case that contains LED lights. The problem is that the device is currently not able to evaluate the data of how strong it lights up. This task is presently taken over by an extern computer. According to an online magazine, Heather Clark and her team are already working on programming a corresponding app that will do this evaluation. Thus the new method would be useable for everyone.

Mainly diabetics should benefit from the easier evaluating of their bloodsugar. There are also several other applications, such as measuring the sodium level of long-distance runners to let them know when they should drink. Or the monitoring of renal function during operations, in case of a change, to avoid possible complications. Right now you would have to renew the nano-tattoo once a week, but it has only been tested on animals anyway. With the skin of the animals, which were mice, the result was convincing. It remains to be seen if there will be success on humans because their skin is much thicker than that of mice. However, researchers are convinced that this innovation will prevail.

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Sources:

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