



Biosensitive tattoo | Photo source [Allef Vinicius on Unsplash](#)

[Innovation](#) > [Sport & Fitness](#) > [Biosensitive tattoo monitors health](#)

## BIOSENSITIVE TATTOO MONITORS HEALTH

 SPORT & FITNESS

### Colour-changing tattoos can monitor health using biosensors patterned into the skin.

We have seen a number of innovations that combine traditional tattoo artistry with advanced technology. For example, a tattoo that embeds and [plays back recorded sound](#). Another innovation is a temporary tattoo that changes colour to indicate too much [exposure to the sun](#).

A new proof-of-concept tattoo has been developed by researchers from [Harvard](#) and [MIT](#) that can monitor the wearer's health. The [Dermal Abyss](#) project places colorimetric and fluorescent biosensors into the skin instead of traditional tattoo ink. The colour changes that occur in the tattoo are in response to the interstitial fluid of the wearer's body. As the colour changes, it reveals information about the health of the wearer. For example, if there is an increase in glucose concentration, the tattoo will change colour from green to brown.

Making the skin an interactive surface, the applications of biosensitive tattoos are wide-ranging. Some potential uses for the tattoos include monitoring medical diagnostics, data-encoding in the body and quantified self. An accompanying app helps wearers analyse and determine the results shown by the sensors. Furthermore, the creators of the biosensitive tattoo envision that future versions of the tattoo may use invisible ink. Reacting to a specific light, the invisible ink will be able to relay information about the body.

Advances in biotechnology are transforming smart wearables, using tattoos and skin rather than accessories to monitor health. By integrating monitoring devices into the skin, the researchers have

created a seamless wearable experience that does not require recharging or a wireless connection. In what other ways will biotechnology advance wearables and what other industries could employ this idea?

6th April 2018

Website: [www.hms.harvard.edu](http://www.hms.harvard.edu)

Contact: [www.hms.harvard.edu/contact-us](http://www.hms.harvard.edu/contact-us)