



Temperature sensor device

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LOW-COST DEVICE USES TEMPERATURE SENSORS TO DETECT SKIN CANCER

 SPORT & FITNESS

Award winning device can detect areas of tissue that get hot quicker, which can signify cancerous cells are present.

The team behind a low cost and non-invasive melanoma detection device named sKan have been chosen as the international James Dyson Award 2017 winners by [The James Dyson Foundation](#). The group of medical and bioengineering undergraduates from [McMaster University](#), Canada, are behind sKan, about which James Dyson said, “By using widely available and inexpensive components, the sKan allows for melanoma skin cancer detection to be readily accessible to the many. It’s a very clever device with the potential to save lives around the world.” The team plans to use the USD 40,000 prize money to reiterate and refine their design to ensure it passes the US Food and Drug Administration’s (FDA) standards.

Annually, skin cancer accounts for one in every three cancer diagnoses. The estimated five-year survival rate for patients whose melanoma is detected early is approximately 98 percent. Current melanoma detection methods rely on a visual inspection or need a specialist’s opinion, which can be time consuming and costly. With high numbers of patients needing a rapid diagnosis to begin treatment, the health services are at maximum capacity. Research shows that cancerous cells have a higher metabolic rate than normal tissue cells. When an area of interest on the skin is rapidly cooled, cancerous tissue will regain heat at a faster rate than non-cancerous tissue.

The sKan uses accurate and inexpensive temperature sensors to pinpoint areas of tissue that gain heat quicker than the surrounding area of skin. The results of this are displayed as a heat map. A

medical professional can use the quantitative findings produced by the sKan to indicate whether the patient needs to be referred for further investigation or not.

Cancer detection is rightfully an area that technology companies are keen to investigate, with recent innovations entering or soon to be entering the market including the [multi-use device that detects cancer cells](#) and an app that [helps spot pancreatic cancer](#). How else could technology be manipulated to detect ailments and diseases?

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