

MEDICAL WEARABLES

Remote monitoring of patients – Several advantages for health organizations and patients

In remote monitoring, healthcare providers quickly adopted these technologies for hospitals and intensive care units, to track vital signs such as heart rate, body temperature, blood pressure, and oxygen saturation with specialized equipment and trained personnel.

Initially designed for space, the first “medical wearables” had to be light weight, robust, compact, and capable of enduring extreme temperatures and zero gravity. These qualities made them desirable for monitoring firefighters and workers in the mining, oil, and construction industries. Over time, technological advancements and the miniaturization of sensors have made it possible to develop portable and wearable devices capable of monitoring vital signs at home.

Jens Krauss
VP Systems • CSEM

Pregnancy belt



CSEM and the Women's Clinic of the University Hospital of Bern (Inselspital) are streamlining prenatal care and continuous monitoring for pregnancy and birth by utilizing wearable smart dry electrodes and artificial intelligence (AI).

In addition, they seek to use artificial intelligence to support the medical

profession in analyzing CTG data. To this end, an AI-based expert system has been developed to assist in decision making.

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Epilepsy – day & night monitoring



Epilepsy and sleep disorders call for effective monitoring of brain activity. CSEM and the Inselspital, University Hospital Bern, have teamed up to develop a solution that enables reliable, long-term, and continuous monitoring of brain activity throughout the day and in particular the

night, right from the comfort of one's own home.

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Non-invasive wearables for persons with diabetes



Continuous innovation in the field of medical devices aims to improve user-friendliness and reduce the burden on patients. This also applies to patients with diabetes, which is why CSEM and Inselspital, University Hospital Berne aim

to develop non-invasive, non-intrusive hypoglycemia detection solutions based on voice and other physiological signals.

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Wearable vest for long-term lung monitoring



Lung diseases are among the leading causes of death in the EU. Existing methods of chest disease analysis are expensive, uncomfortable, invasive, or use ionizing radiation. In response, the EU-funded WELMO consortium has developed low-cost and low-energy sensors that are integrated into a comfortable and safe vest. This allows the remote monitoring

of the lungs through the collection of respiration-linked chest sounds and electrical impedance tomography signals.

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More Information



info@csem.ch
csem.ch

