

**Project title:** LEDSTex - LED and sensor-assisted wound therapy with textile wound dressing

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### Motivation

Chronic wounds severely restrict the quality of life and create treatment costs of six billion euros each year in Germany alone. Innovative and modern concepts for care, as well as efficient forms of therapy control and support for the home care situation are needed.

### Aims and Methods

The aim of the project is to discover the possibilities of LED light and sensor technology in the therapy of wounds. For this purpose, basic parameters of wound healing as well as possibilities for textile sensor and LED integration are investigated. The results are then used for the development of a body-near, interactive wound dressing system - consisting of integrated sensors, LEDs and a user interface. The therapy is carried out by means of suitable LED light sources, whereby an integrated sensor technology is intended to allow a constant recording of the wound healing process. The complete system is tested in an experimental, clinical feasibility study.

### Innovations and Perspectives

The combination of diagnostics and adaptive therapy is intended to provide patients with a new treatment option. By supporting the patient's autonomy through independent home application, an improved quality of life and cost savings in the health system can be achieved.

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