



The Future of Medical Textiles: High-tech For the Well-being of the Patient

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ABSTRACT

The cooperation of physicians, surgeons, microbiologists, physiologists and textile scientists at the Hohenstein Institutes has produced, over recent years, a multitude of innovative applications for textiles. Since June 2001, the Competence Centre on Medical Textiles, headed by Dr. Dirk Höfer, has addressed issues in this promising field of textile-based solutions for the health service, thus taking even more advantage of the synergetic effects possible at the Hohenstein Institutes.

The background to this research work is the increasing life expectancy of the European population as well as the challenges resulting from this development. In order to achieve practical solutions in a limited time frame, the medical sector will have to cope with the problems arising from the introduction of new technologies.

Keywords: innovative applications, textile health services

In 2040 already, the number of people over 60 years will amount to 40 % of the entire population. In 1980, only 22 % of the Europeans belonged to this age group.

Textiles represent an absolutely ideal interface between man and medical treatment facilities, and it would be a loss not to make use of the possibilities they are offering. Innovative medical textiles, for



In the future, nanocapsules will medically functionalize textile fibers by means of sensors or drug

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example, could take care of important functions which up to now were covered by consultation at a medical practitioner or by the prescription of medicine.

The spatial separation of doctor and patient opens the field of the so-called „telemedicine“. The crucial importance of medical textiles in telemedicine is based on the fact that sensors and telecommunication systems integrated into the clothing can gather medical parameters of the patient and deliver them to the treating doctor, the hospital, a medical surveying station or an emergency centre. Here the data is being evaluated.

However, the reverse way is also conceivable, i.e. medicine can be administered to the patient according to the