



Medical Textiles and Skin Equivalentents

by D. Höfer, M. Swerev
Hohenstein Institutes, Schloss Hohenstein, D – 74357 Boennigheim/Germany

ABSTRACT

In recent years the cooperation between physicians, surgeons, microbiologists, physiologists and textile scientists has produced a multitude of innovative applications for textiles, especially in the medical field. The results are promising textile-based solutions for the health service, so called medical textiles. This article tries to cover some future aspects of medical textiles as well as how to improve the performance of these upcoming fabrics.

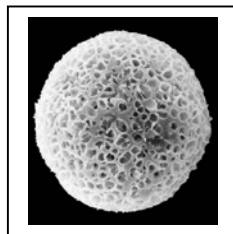
Keywords: innovative applications, textile-based health services

The future of medical textiles

Medical textiles are an increasing market. The background of this development is the increasing life expectancy and the challenges, which are resulting thereof for the medicine and the technology that goes with it. Already in 2040 the amount of people over 60 years in Europe will amount to 40 % of the entire population. In 1980

only 22 % of the Europeans belonged to this age group [1]. Textiles are forming an absolutely ideal interface between man and the health service and it is necessary to make use of the possibilities, which they are offering. Innovative medical textiles may for example take care of important functions, which up to now were covered by the doctor during a consultation (analysis) or by prescribing medicine.

J
T
A



In the future nanocapsules will medically functionalize textile fibres as sensors or drug depots

The spatial separation of doctor and patient opens the field of the „telemedicine“. The decisive role of medical textiles in telemedicine is based on the fact, that sensors and telecommunication systems, which are integrated into the clothing, gather medical values of the patient and deliver

them to the treating doctor, hospital or a medical surveying station respectively an emergency centre. Here the data is being evaluated.

However, the reverse way is also conceivable, in that the medicine is being