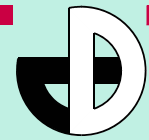


# CGMS™/KADIS®-based Diabetes Management improves HbA1c in Outpatients



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## Background

The relation between glycaemia and HbA1c is well established since finalization of the Diabetes Control and Complication Trial (DCCT) and the United Kingdom Prospective Diabetes Study (UKPDS). Both studies revealed two major points: good metabolic control results in reduced HbA1c levels and low HbA1c indicates a reduced risk to develop diabetes related complications. Therefore, it is mandatory to achieve euglycemia in the daily blood glucose profile as close as possible. However, conventional blood glucose self monitoring provides only limited information on overall glycemia. Postprandial hyperglycemia or nocturnal hypoglycaemic episodes remain often unrecognized.

## Aim

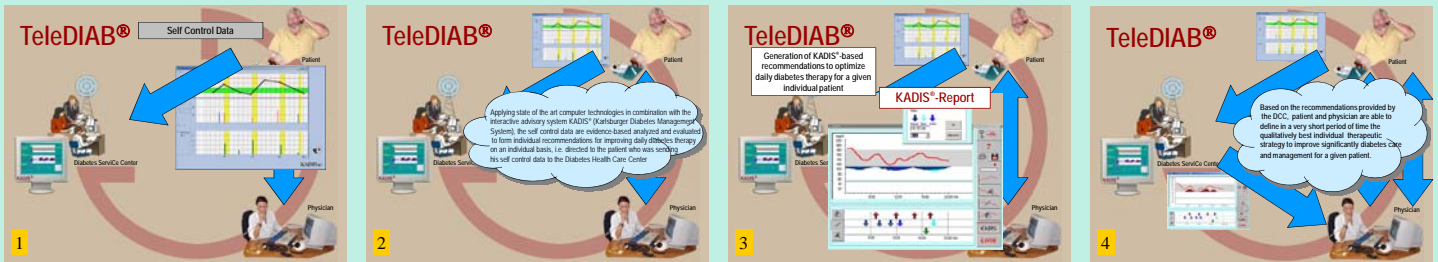
The study revealed the outcome of a new CGMS™/KADIS®-based diabetes management approach.

The study should demonstrate the feasibility and advantages of the KADIS®-based advisory system based on CGMS™-data. A 6 months **Pilot Study** has been performed in 12 insulin-treated diabetic volunteers in the Middle East region.

## Methods

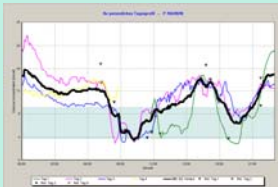
The CGMS™/KADIS®-based diabetes management approach combines the Continuous Glucose Monitoring System CGMS™ with the Diabetes-Management System KADIS® to manage outpatients with type 1 or type 2 diabetes. CGMS™ measures 72 h glucose profiles in diabetic patients and the data are transferred into the KADIS® system via the telematic platform TeleDiab®. The computer-based **Karlsburg Diabetes-Management System KADIS®** is an interactive Diabetes Disease Management Program optimizing a person's daily diabetes treatment regimen based on individual insulin/glucose sensitivity characterization. This procedure results in the **KADIS® Report**, which provides patient specific recommendations to optimize their individual daily diabetes management.

## Model-based Diabetes Management Program

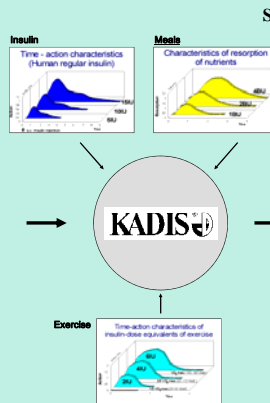
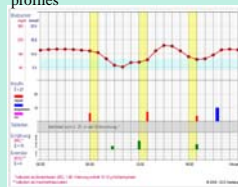


## KADIS® Report

**Monitoring**  
Analysing of blood glucose by CGMS



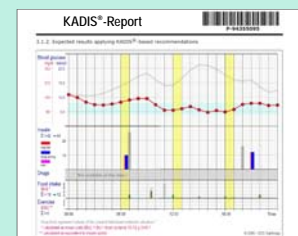
**Identification**  
Detection of individual model parameters and KADIS®-based weak point analysis in daily glucose profiles



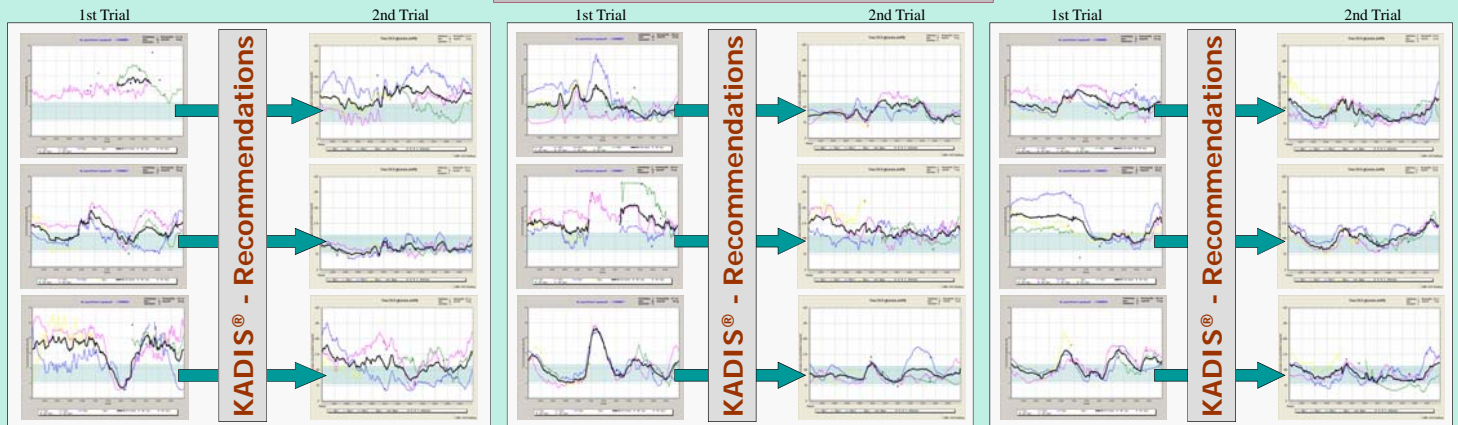
**Simulation**

Prediction of individually optimized blood glucose profiles by KADIS®-based testing various

- Time dependencies
- Insulin doses
- Exercise
- Food intakes



## CGMS™/KADIS® Pilot Study Results (1) Improvement in Daily Glucose Profile



## CGMS™/KADIS® Pilot Study Results (2) Reduction in HbA1c

**1st Trial** 9.0 ± 1.2 %  
**2nd Trial** 7.9 ± 1.3 % \*

N=12; \* P<0.05

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## Conclusion

The combination of CGMS™ and KADIS® represents a new technology in diabetes care and management, which is highly efficient and cost-effective to improve significantly the overall metabolic control in ambulatory insulin-treated patients following the recommendations suggested by the integrated CGMS™/KADIS® advisory system.