

## The success

"It opened my eyes, looking at the analysis and seeing how my measuring and injecting behaviour has a direct impact on my blood glucose levels."



"By recording the data, we were able to motivate the patient towards a consistent delivery of her treatment and therefore to better adherence."

### Peggy Meyer

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ESYSTA®

The patient is very satisfied with the ESYSTA® technology and would now no longer be without this convenient assistance in her everyday life. Not having to create her own records of her readings is the biggest benefit for her and takes a lot of pressure off. She now feels much more confident about her treatment overall.

**Without the diabetes management system from Emperra, it would have been extremely difficult to encourage her to cooperate actively with her treatment at all.**

She still finds it difficult to carry out her treatment consistently. Due to the nature of her personality, the well-being of others often comes before her own. Whenever the care of her invalid mother takes up a lot of her time, she neglects her own treatment. The ongoing support from her diabetes team provides her with a lot of back-up. Together, we enable her to bring her treatment goals back into focus over and over again.

With the ESYSTA® system, the patient keeps her blood glucose levels well under control. Now she can concentrate on her family and her life again.



ESYSTA®

## Your advantage in patient education

### ESYSTA® – fully automatic diabetes telemonitoring

ESYSTA® allows a seamless electronic documentation of injected insulin doses, measured blood glucose levels and bread units entered. It allows this data to be transferred automatically and wirelessly from the treatment devices (ESYSTA® Pen, ESYSTA® Lab) to the ESYSTA® Portal. This data is displayed in an optimised manner in graphics and tables and can be viewed at any time using conventional web browsers or the ESYSTA® App.

ESYSTA® offers novel and most importantly more effective approaches to monitoring and managing treatment of insulin-dependent patients with type 1 and type 2 diabetes mellitus. In collaboration with a health insurance company and the Technical University of Dresden, a study involving over 250 patients has shown that with ESYSTA® the HbA<sub>1c</sub> level can be reduced by around 0.9 % on average.

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ESYSTA®

## A case study of successful diabetes management

"The ESYSTA® system is easy to use and gives me a lot of security."



The ESYSTA® product system, Portal and App meet all requirements pertaining to medical products as defined by CE (DIN EN ISO 13485) and to reliable data management: the data is stored in encrypted form on highly secure servers in Germany; the strictest IT security standard is met in accordance with ISO / IEC 27001:2013. Access is possible only by patients and by persons they have authorised.

### The ESYSTA® components are available on prescription for all patients.



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Art.-Nr.: 901-10-034-02-a

Emperra  
Digital Diabetes Care



# History

53-year-old patient, type 2 diabetes mellitus for 11 years.

Also obesity (BMI: 37.3), hypertension, hyperlipidaemia, diabetic polyneuropathy and depression. The patient confirms that her self-care is minimal. She lives alone and looks after her invalid mother, has a large group of friends

and is on the move a lot. Before switching to ESYSTA® her HbA<sub>1c</sub> level was 10.2 %. Her diabetes diary exhibited considerable gaps.

# Our approach

The patient was given the ESYSTA® system as her blood glucose levels fluctuated markedly and her HbA<sub>1c</sub> value was much too high at 10.2 %. She also appeared not to be motivated to carry out her treatment consistently. We arranged a detailed educational session so that we could analyse the situation together. A check of her data revealed that on some days she took only a single measurement or none at all. Whenever she did not take a measurement, she also did not deliver the required dose of bolus insulin prior to eating. She didn't even inject basal insulin every day. A relationship with subsequent rises in blood glucose levels was clearly recognisable from the data – as they were often over 300 mg/dl.

The next step was to draw up an insulin adjustment plan: the patient was given clear instructions as to which doses of bolus insulin she had to inject for which glucose values. We also jointly defined an initial treatment target: to reduce her HbA<sub>1c</sub> to below 8 % in the first stage. The patient promised to be carrying out measurements and injections consistently, as defined in the plan, until the next educational session.

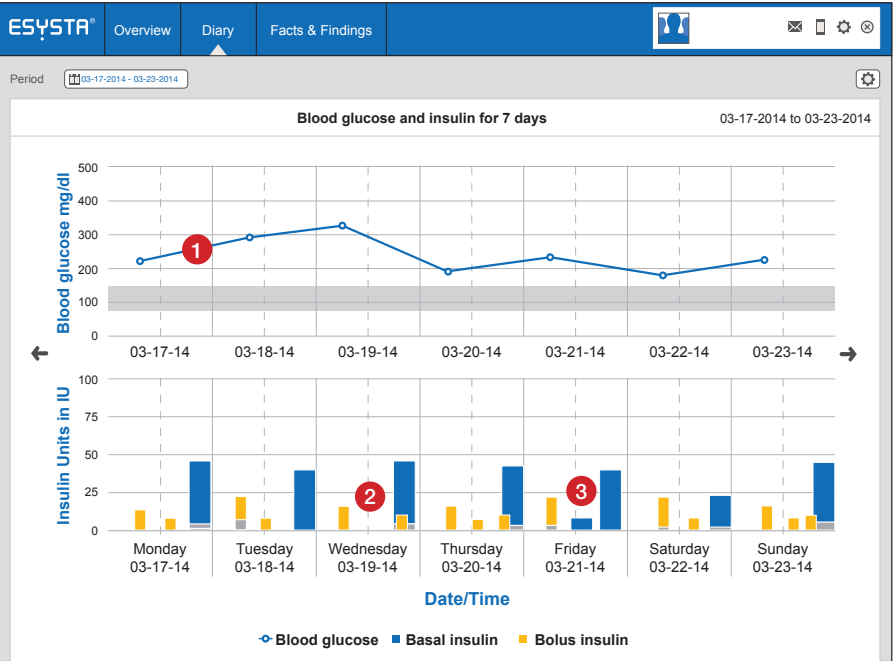
Based on her data recordings, we were able to show her at the second review that her high values are actually getting lower and remaining stable when she measures her blood glucose regularly and consistently injects the right number of units of insulin. After just two months, her HbA<sub>1c</sub> had fallen below 10 %, and after four months it was at 7.9 %. This success motivated the patient for the first time to continue managing her treatment actively. Up until that point, she had not believed it possible to achieve this goal. The measured values and her well-being continued to improve. Her improved adherence is reflected very clearly in her now very good HbA<sub>1c</sub> levels – they have been at a stable level of below 7 % for over a year now. Her depression has also improved significantly.

## Progress of HbA<sub>1c</sub> levels

Start with ESYSTA® use:	10,2 %
Six months later	< 7,0 % (6,5 – 6,8 %)

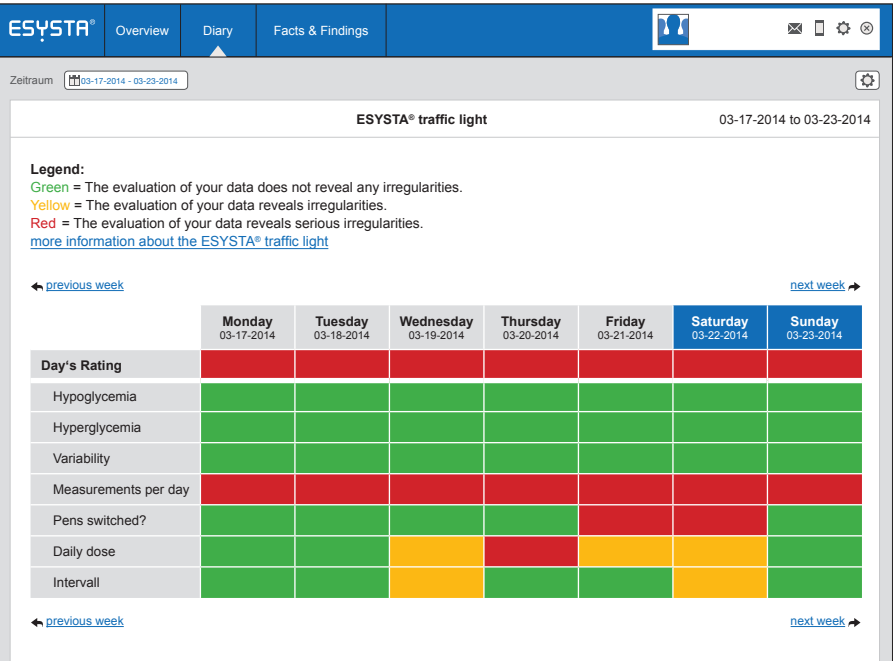
# Patient's measured values

At the start



## Blood glucose and insulin chart

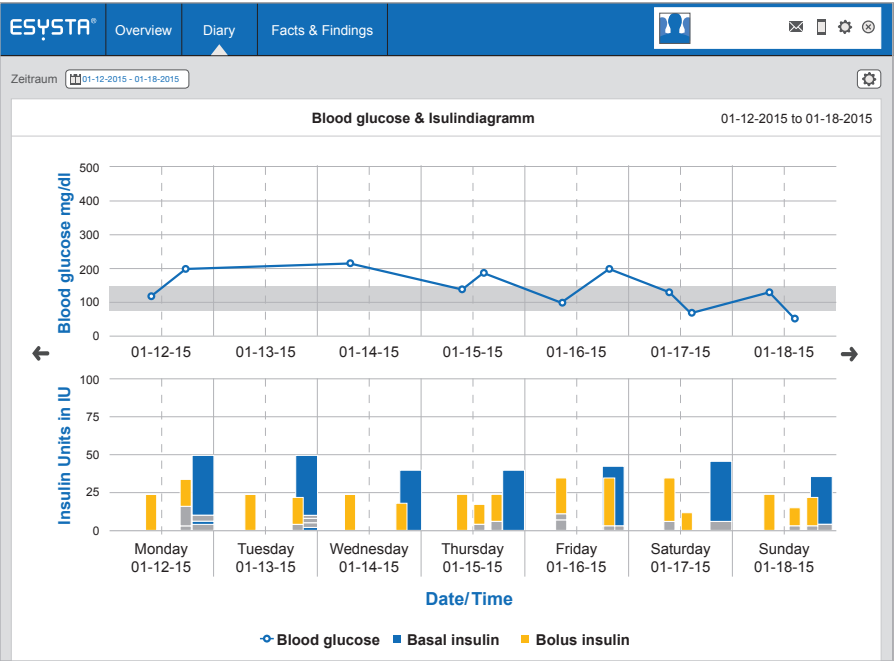
- The patient's treatment errors are clearly visible:
- 1 Measurement forgotten
- 2 Bolus insulin forgotten
- 3 Pens mixed up



## ESYSTA® traffic light

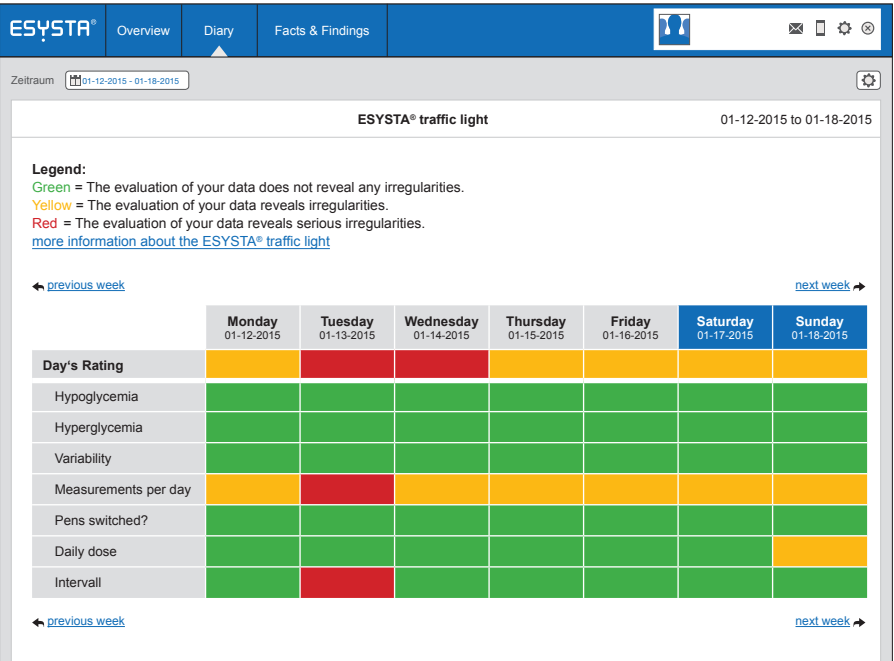
- Critical days and treatment errors are clearly recognisable using the traffic light display.
- Missed measurements and inadequate insulin doses are the causes of poor metabolic control.

After 10 months (with ESYSTA®)



## Blood glucose and insulin chart

- The blood glucose levels have obviously fallen. Despite the fact that the patient still misses occasional blood glucose measurements and does not inject consistently, her metabolic control has stabilised.



## ESYSTA® traffic light

- Fewer yellow and red areas confirm the patient's improved approach to her treatment.
- The change of the traffic light colours in the week-per-view from red to green motivated the patient to continue her adherence to therapy.