# "An alternative solution of the mobile medical assistant system for people with diabetes"

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"Meridian- Energy Ltd"

The assessing system is based on quantitative determining the temperature pain barrier in specific reflective areas, which can signal on the condition of the principal physiological systems of an organism
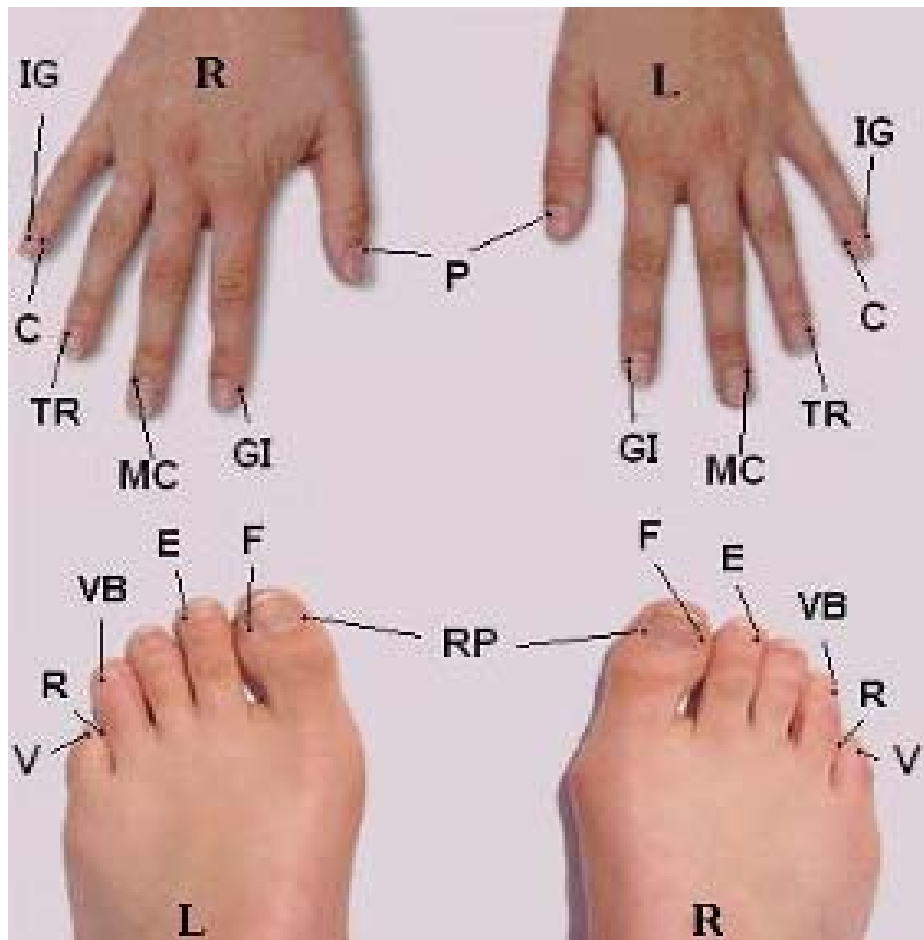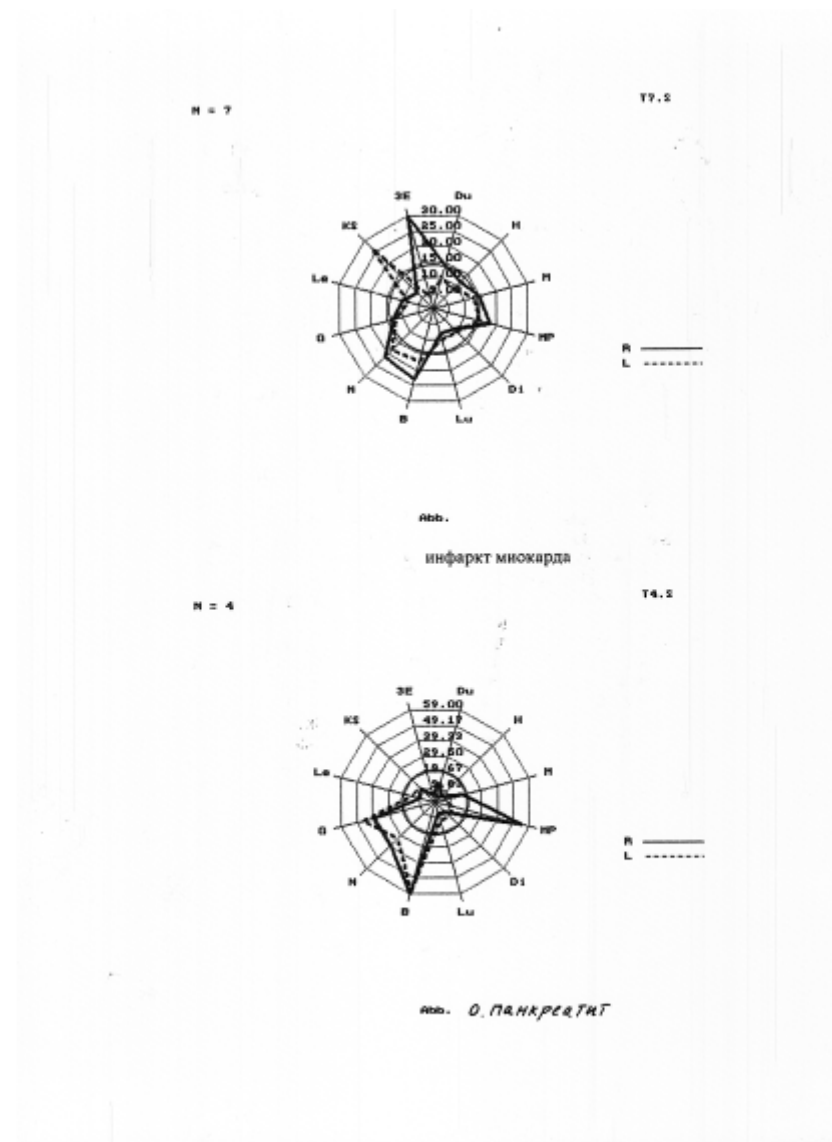
The typical test for a diabetes 1 typ

	Right R	Left L
Long	9	11
Dikke Darm	25	13
Kri Pericard	9	8
3 verwarmer	8	6
Hart	8	8
Dunne darm	8	8
Milt Panc	29	8
Lever	10	7
Maag	7	10
Galblaas	5	8
Nier	9	11
Blaas	13	9
%		
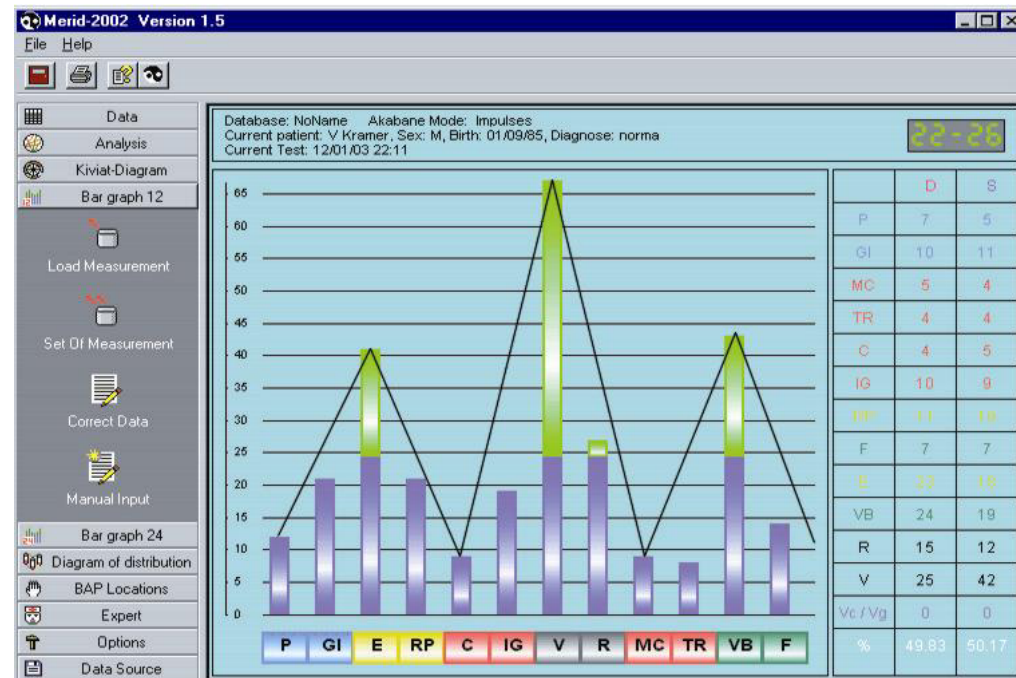
Norm

N4   Basic principles of diagnostic
## Evaluation of pathology according to the channel map profile
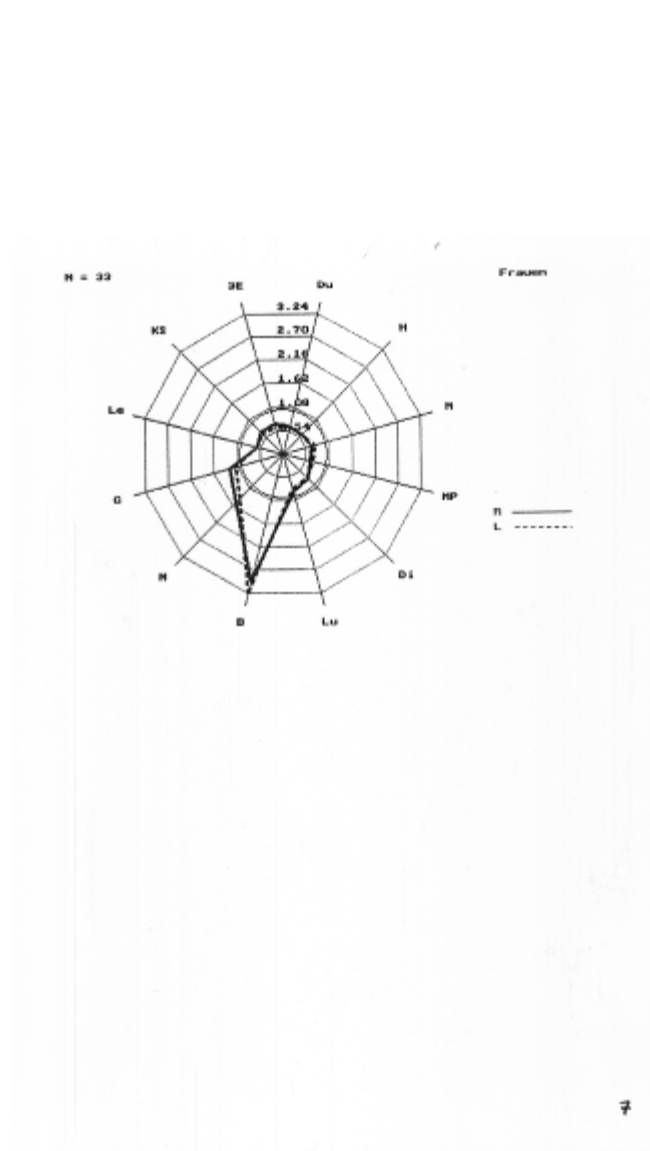
N 5   Basic principles of diagnostic

- High correlation rate with the physiological and biochemical indices

- diabetes of the 2d kind, men – channel rates'
  correlation with blood sugar
- --
- n1n2 N   Pirson. M.   p.   Spirm. M   .p.
- --
- 1 1 143   .079 .940 .174   -.054 -.645 .260
- 2 1 143   -.209 -2.538 .006* -.220 -2.681 .004*
- 3 1 143   -.126 -1.512 .066   -.130 -1.561 .060
- 4 1 143   -.129 -1.549 .062   -.158 -1.896 .030
- 5 1 143   -.216 -2.630 .005* -.227 -2.774 .003*
- 6 1 143   -.262 -3.230 .001* -.250 -3.066 .001*
- 7 1 143   -.238 -2.905 .002* -.227 -2.770 .003*
- 8 1 143   -.265 -3.259 .001* -.272 -3.359 .001*
- 9 1 143   -.273 -3.374 .000* -.266 -3.273 .001*
- 10 1 143   -.113 -1.354 .089   -.234 -2.853 .002*
- 11 1 143   .071 .847 .199   -.076 -.910 .182
- 12 1 143   -.297 -3.687 .000* -.323 -4.051 .000*
- 13 1 143   -.079 -.939 .175   -.037 -.435 .332
- 14 1 143   .046 .547 .293   -.049 -.579 .282
- 15 1 143   -.024 -.290 .386   -.038 -.448 .327
- 16 1 143   -.057 -.679 .249   -.160 -1.924 .028
- 17 1 143   .128 1.532 .064   -.001 -.014 .494
- 18 1 143   .193 2.335 .010*   .023 .271 .393
- 19 1 143   .045 .531 .298   -.006 -.069 .472
- 20 1 143   .021 .252 .401   .060 .712 .239
- 21 1 143   -.068 -.804 .211   -.104 -1.245 .108
- 22 1 143   .208 2.524 .006*   .070 .835 .203
- 23 1 143   -.111 -1.330 .093   -.185 -2.238 .013*
- 24 1 143   .128 1.527 .065   .032 .381 .352

Триглицериды

Фруктозамин
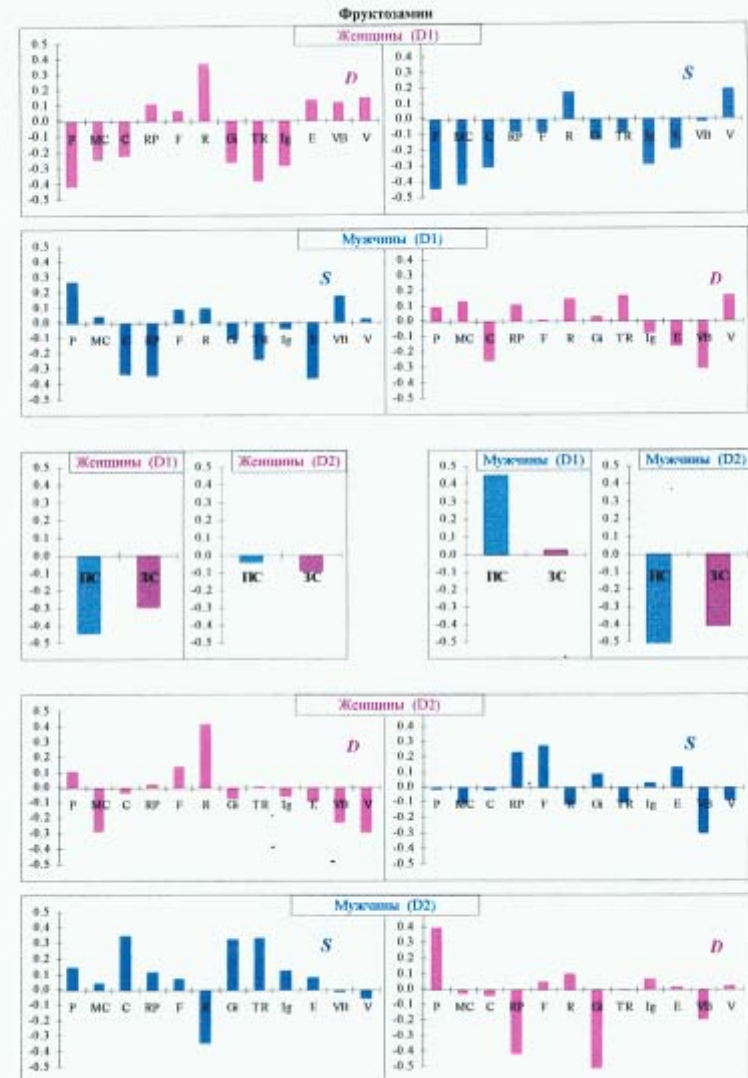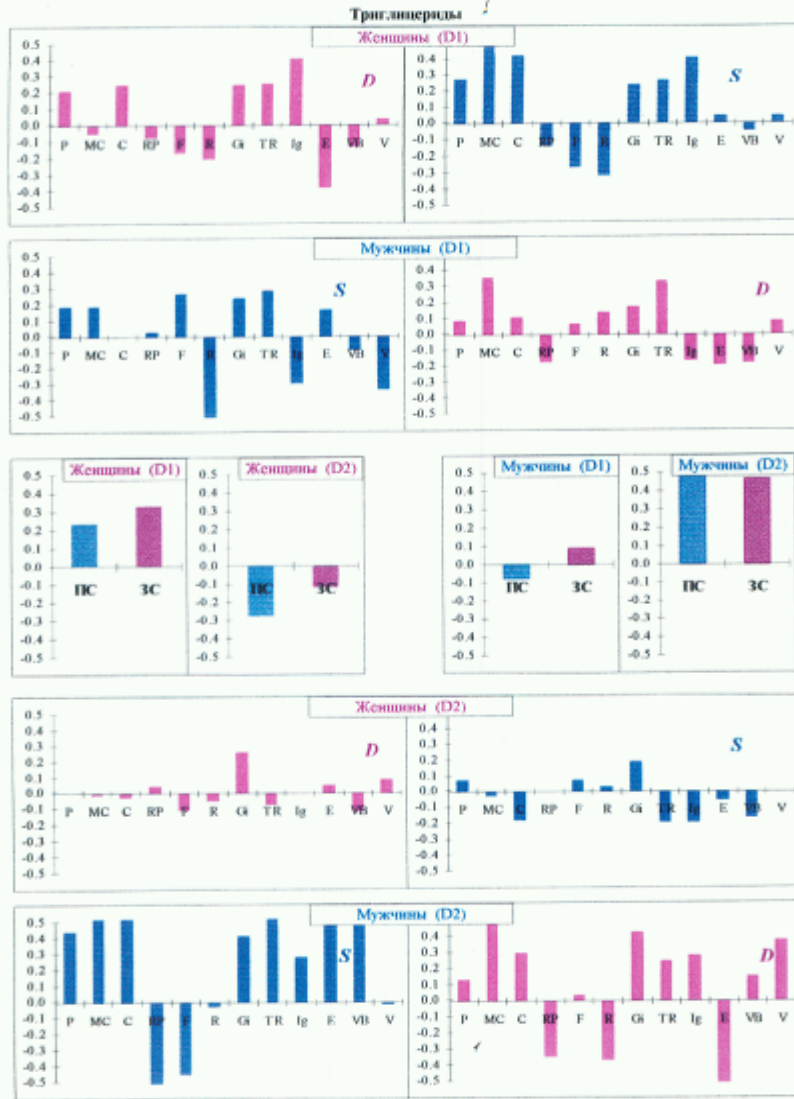
N7   The basic principles of diagnostic

- Regress -analysis with individual and group models for control basic parameters of the organism

- Group model of correlation between glycemia with SD1 for women
- --
- Channels coefficients   mean error   t-critic.   significance level
- --
- constant   23.881392   5.918608   4.0350   0.0005
-         RPs(pancreas)   -6.106297   2.759818   -2.2126   0.0371
-          Fd (liver)   6.432937   1.32788   4.8445   0.0001
-          Ed (stomach)   -13.91464   4.019018   -3.4622   0.0021
-          Rd (kidney)   -4.004711   1.893141   -2.1154   0.0454
-   RPd   5.202921   1.436439   3.6221   0.0014
- --
- R-SQ. (ADJ.) = 0.7522 SE=   8.393783 MAE=   5.667226 DurbWat= 1.814
- Previously: 0.4522   12.480549   7.979804   1.556
- 54 observations fitted, forecast(s) computed for 0 missing val. of dep. var.

- +Data Mining (to within 0,9-0,95)
- + NGO (to within 0,8-0,85)

N-8.

Simple way of testing the organism at the level of its separate physiological systems based on assessment of going out of symmetry. By the example of pancreas (RP) it's has been proved that the temperature pain barrier of right channel's branch reflects the total activity of B-cells and the left one – for A-cells

This principle works at the level of all channels, as it's universal
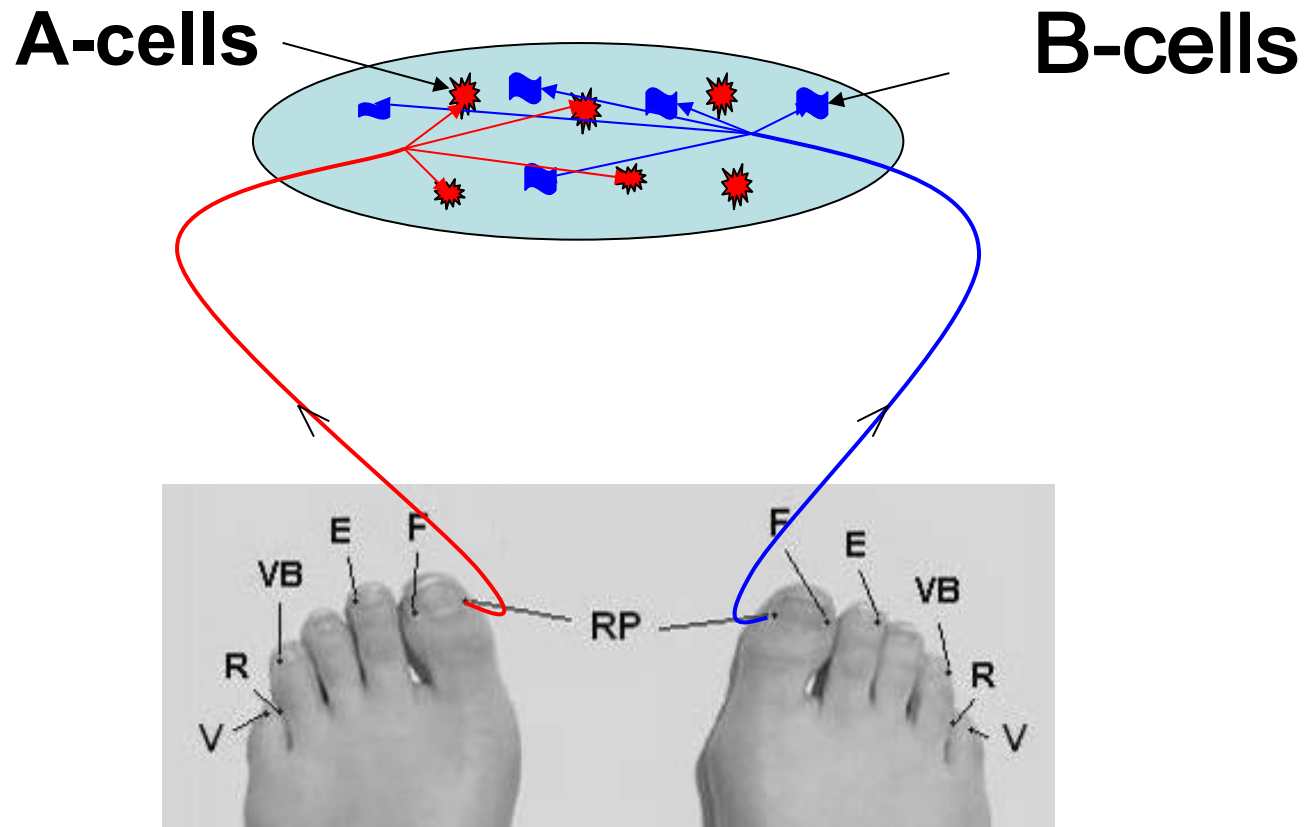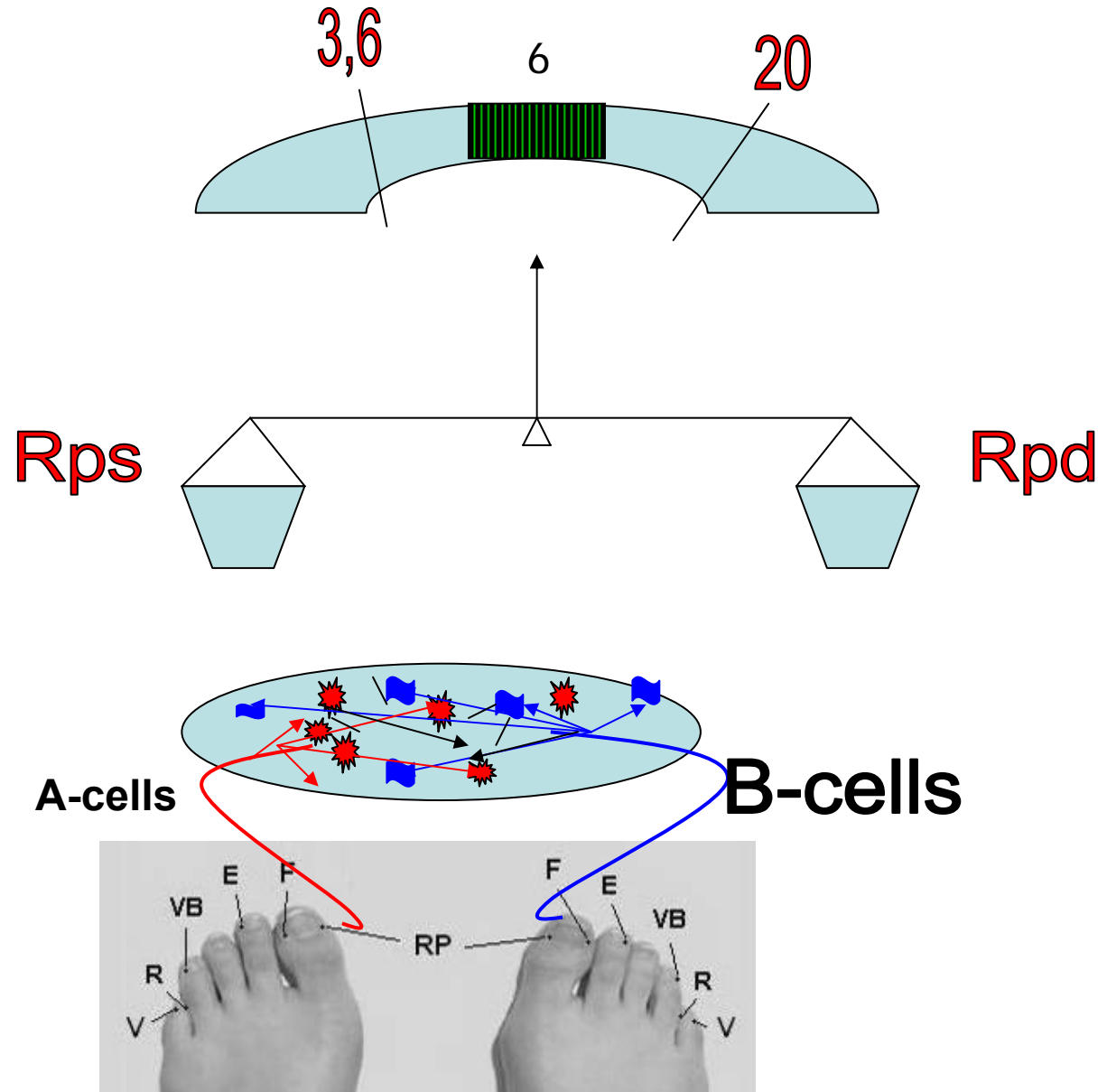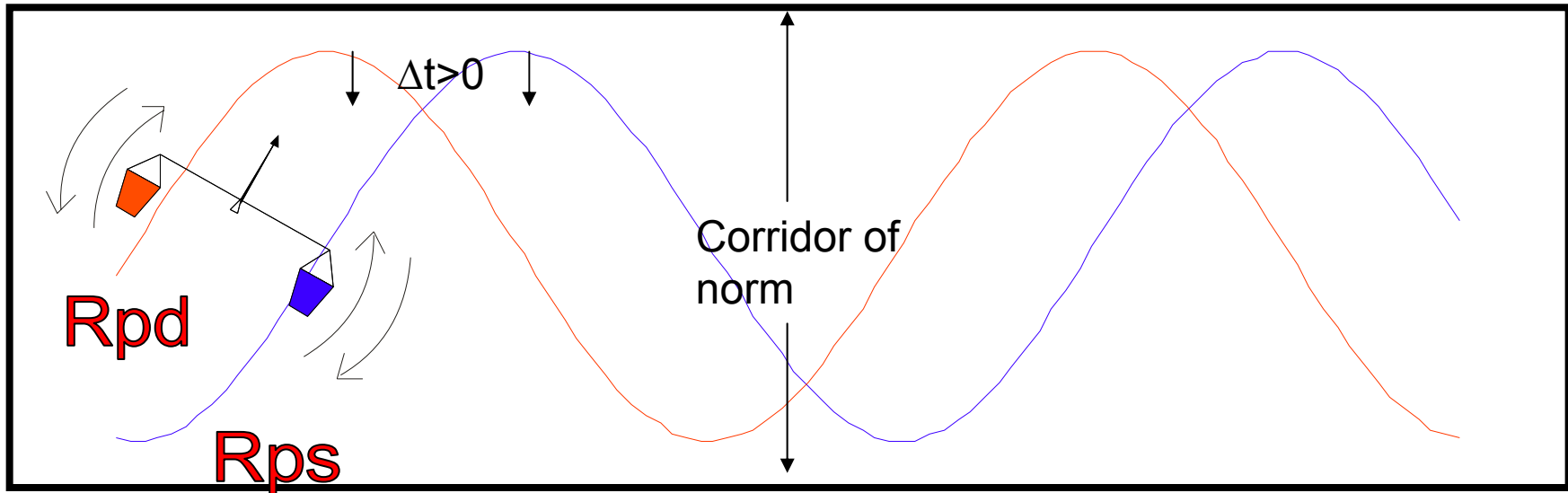
The way to get quantitative assessment of the principal organism's features.
Blood sugar level assessment according to the degree of the channels' skew ness.
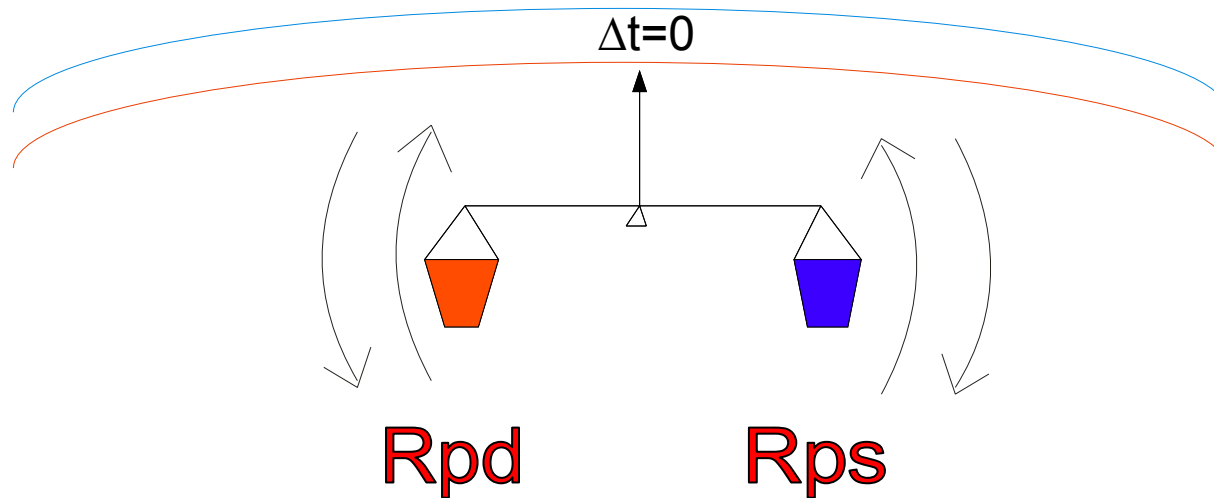
Test of pancreas (RP)

3,6   6   20

d Right	s Left
11	9
48	6
10	24

Rps   Rpd

A-cells   B-cells

E F   F E
VB   RP   VB
R   R
V   V

N10. *Principle of generation a rhythm in the channel*

$\Delta t > 0$

Corridor of norm

Rpd

Rps

The organ does not work.

$\Delta t = 0$

Rpd   Rps

Diabetes 1 type

Sugar

Norma

−

+

SP

SP

Left

Right

Sugar prediction

+

Norma

−

12:30

Time
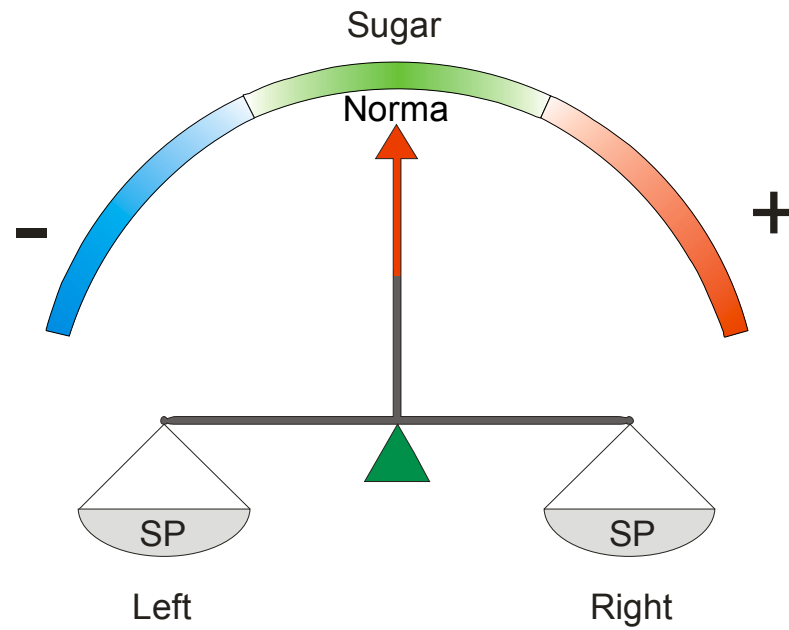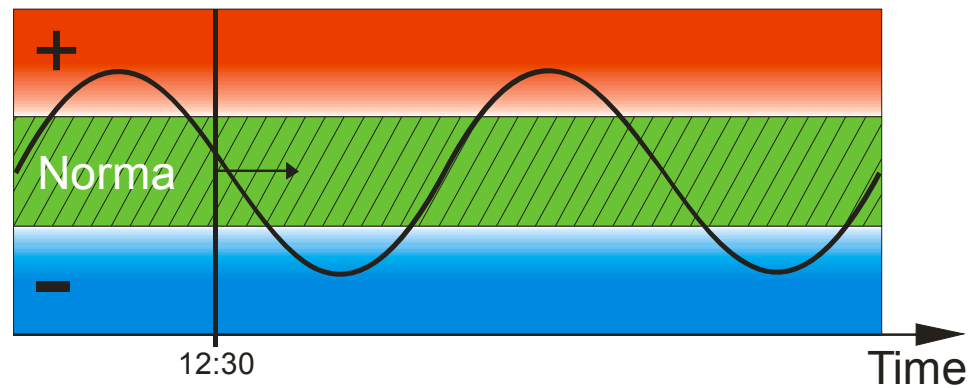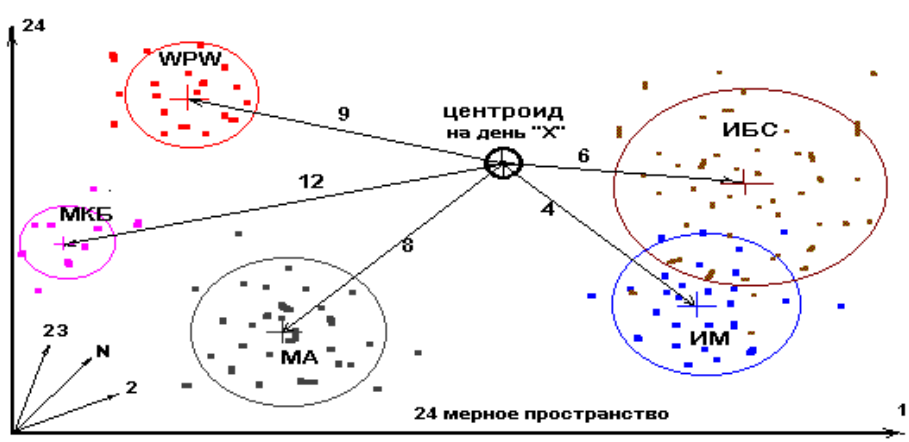
№12. Biorhythm activity organs and physiological systems
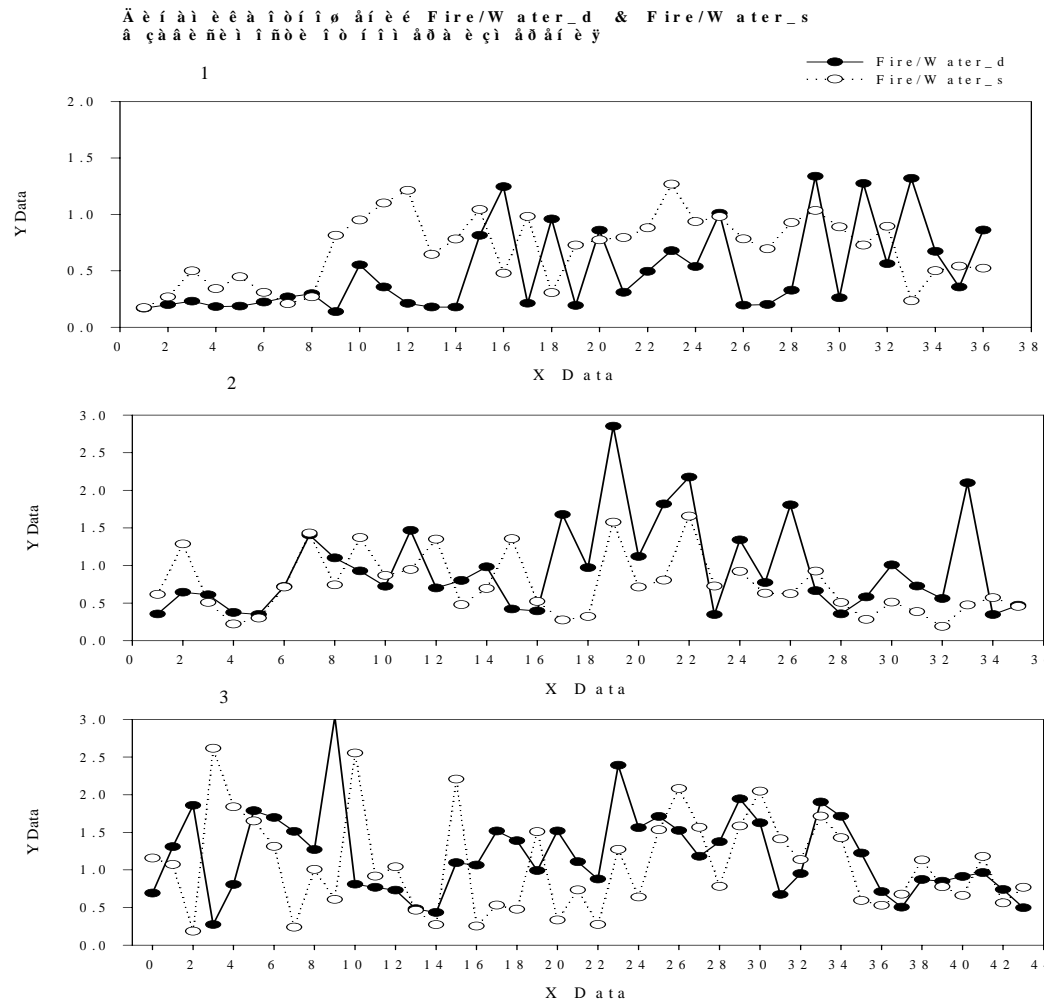
N-13   Principe off the Cosinor-analysis

23.12.2006 01:11, x=-7.98, y=1.0076

23.12.2006 08:50

23.12.2006 02:33

23.12.06   24.12.06

каналы

обучающие замеры

C
P
MC
V

7.10.94   7.12.94Г

день "Х"

26.11.9

24

WPW

центроид
на день "Х"

ИБС

МКБ

9

12

6

4

8

23

N

МА

ИМ

2

24 мерное пространство   1

Фиг. 5

25в
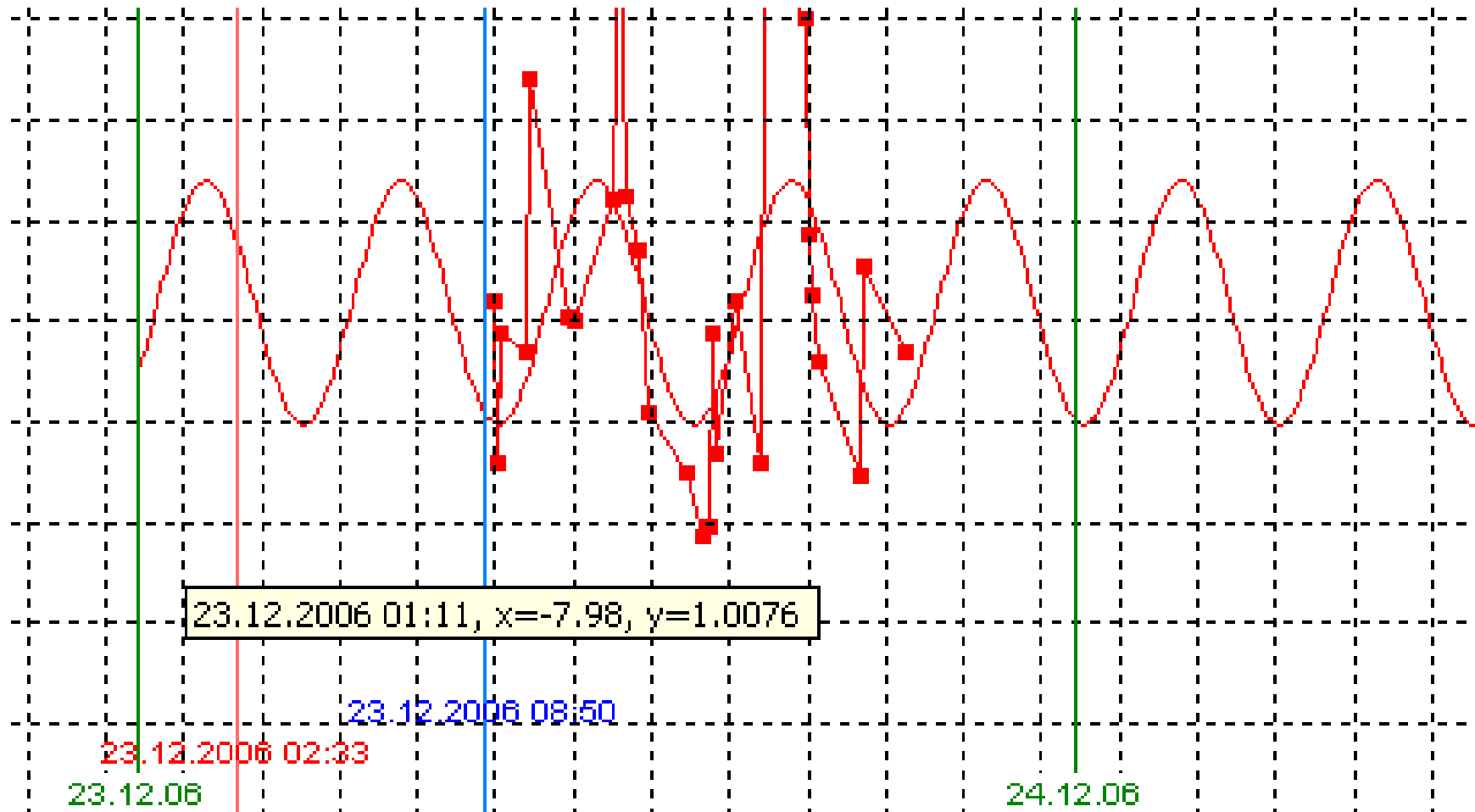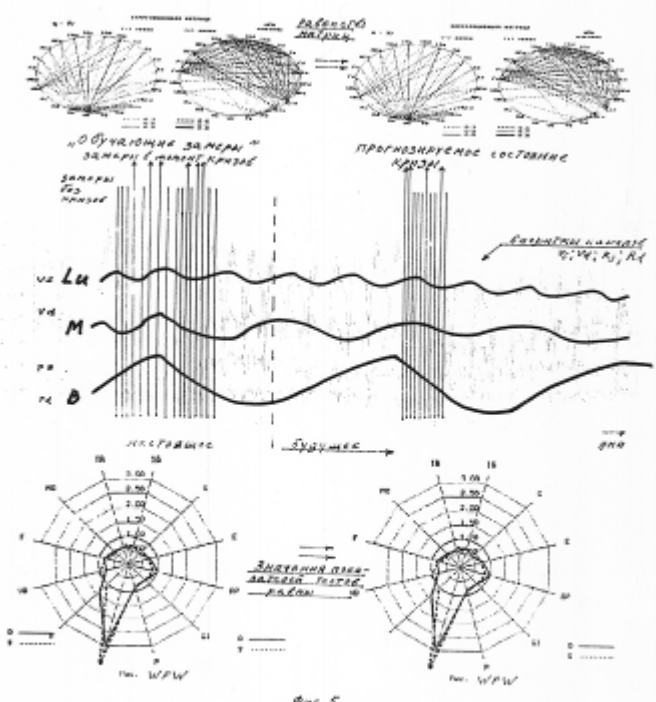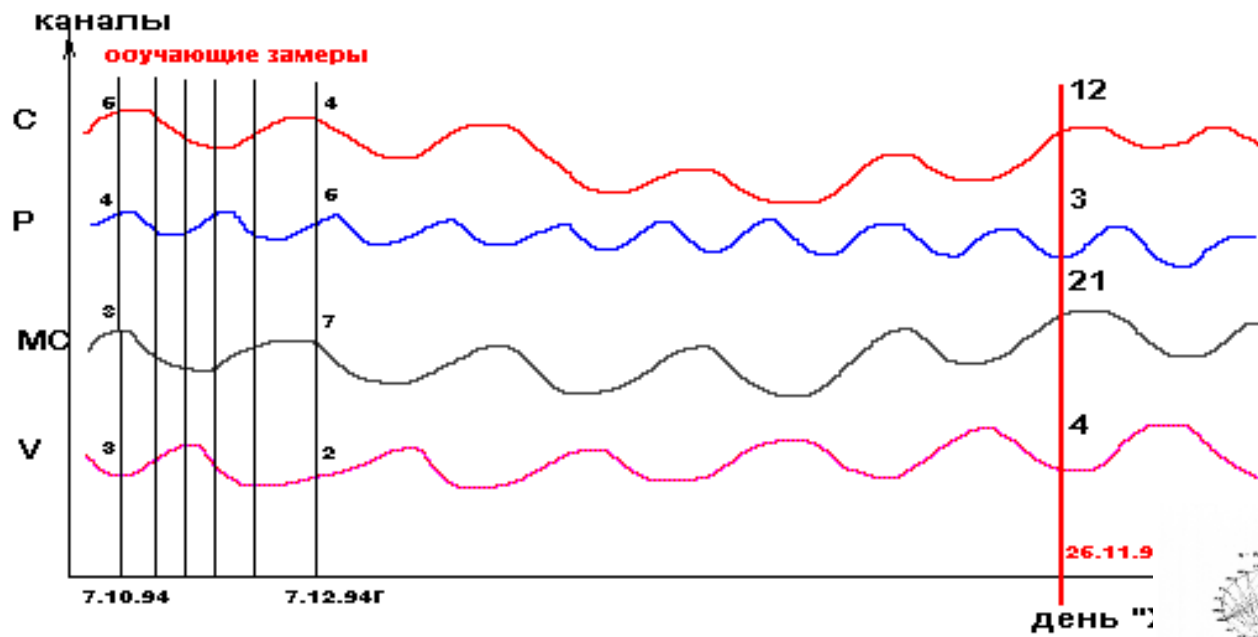
N15 . Basics for conditions prognosis

$$glucose = 8{,}6 \times Rpd - 2{,}3 \times VBs$$
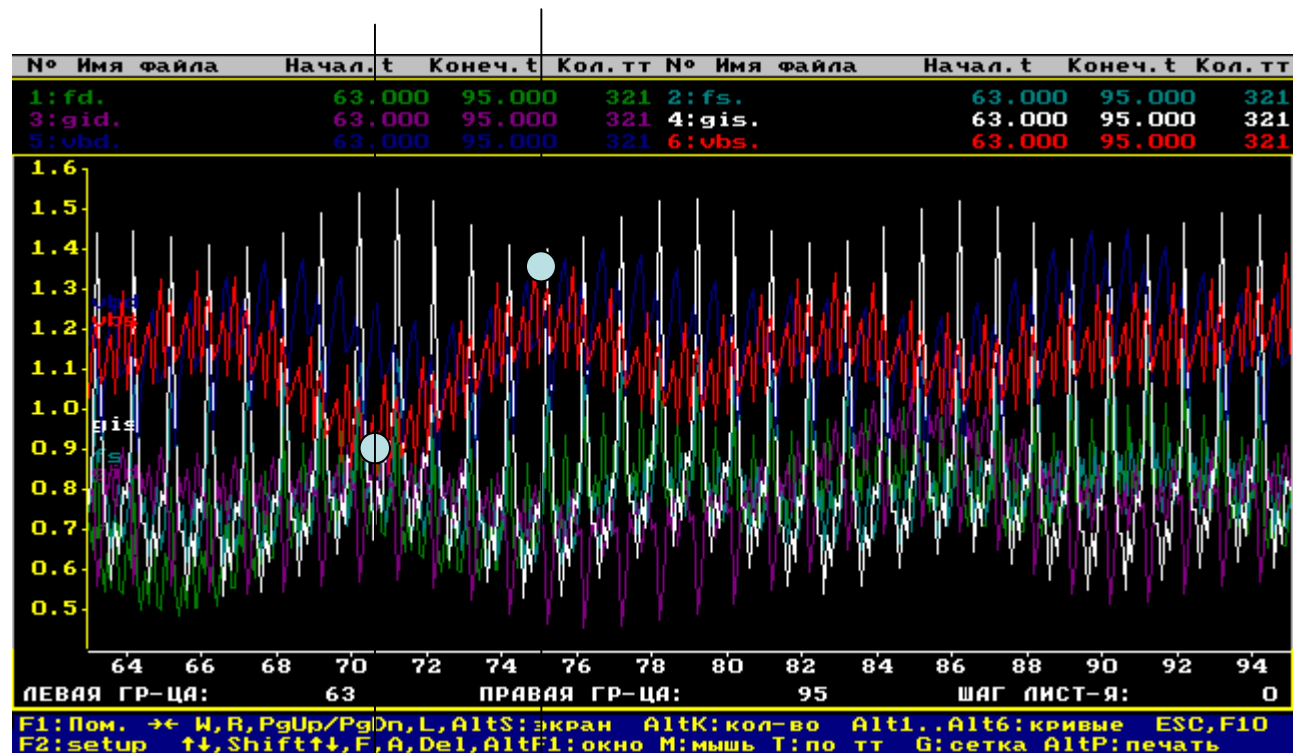
T1
Rp=5
Vbs=16
Sugar=6мMol/l

T2
Rp=8
Vbs=20
Sugar=23 мMol/l

N16 The system of forecasting of blood sugar level for the current day.
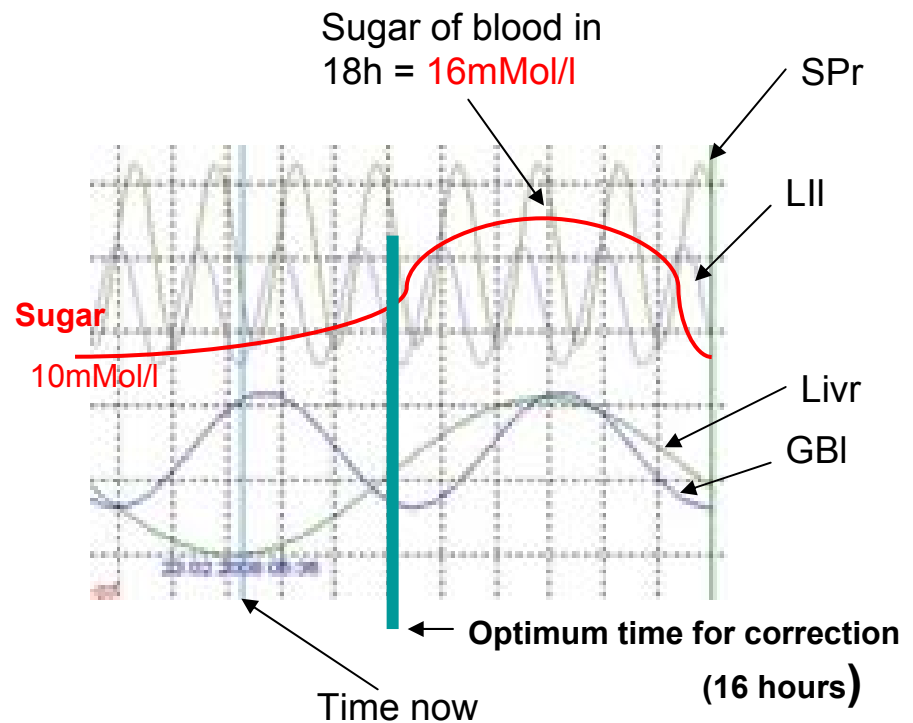
Figure 1 on the screen of the device.

Upon 15-20 " training gaugings " the system builds an individual model for controlling the sugar level and defines biorhythms relevant to this specifuc physiological system to be entered into the model.

 At any point of time the level of sugar can be predicted on the basis of assessing the amplitude of a curve via calculating the values of parameters of each system , at the same time the oprimal moment for medicamentous or reflex correction is determined.

In case of of insulin treatment its optimum doze is defined based on previous statistics. The system self-adjusting, more gaugings - more precisely result. All calculations are made at the server. The digital parameters of the biorhythms are transferred to the device as SMS- messages only.
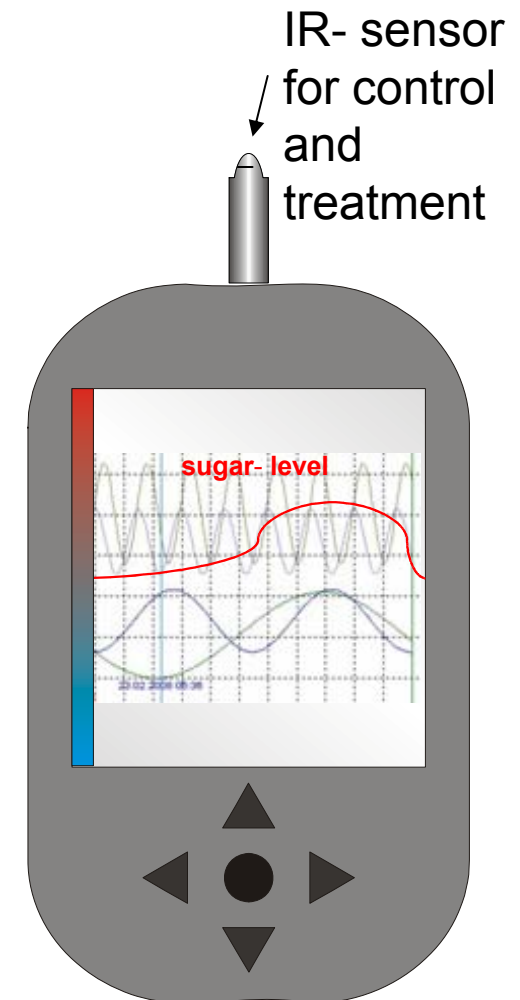
 In case of critical values of sugar or other parameters - the device warns the user about it beforehand.

Sugar of blood in 18h = 16mMol/l

SPr

LlI

Sugar

10mMol/l

Livr

GBl

Optimum time for correction

(16 hours)

Time now

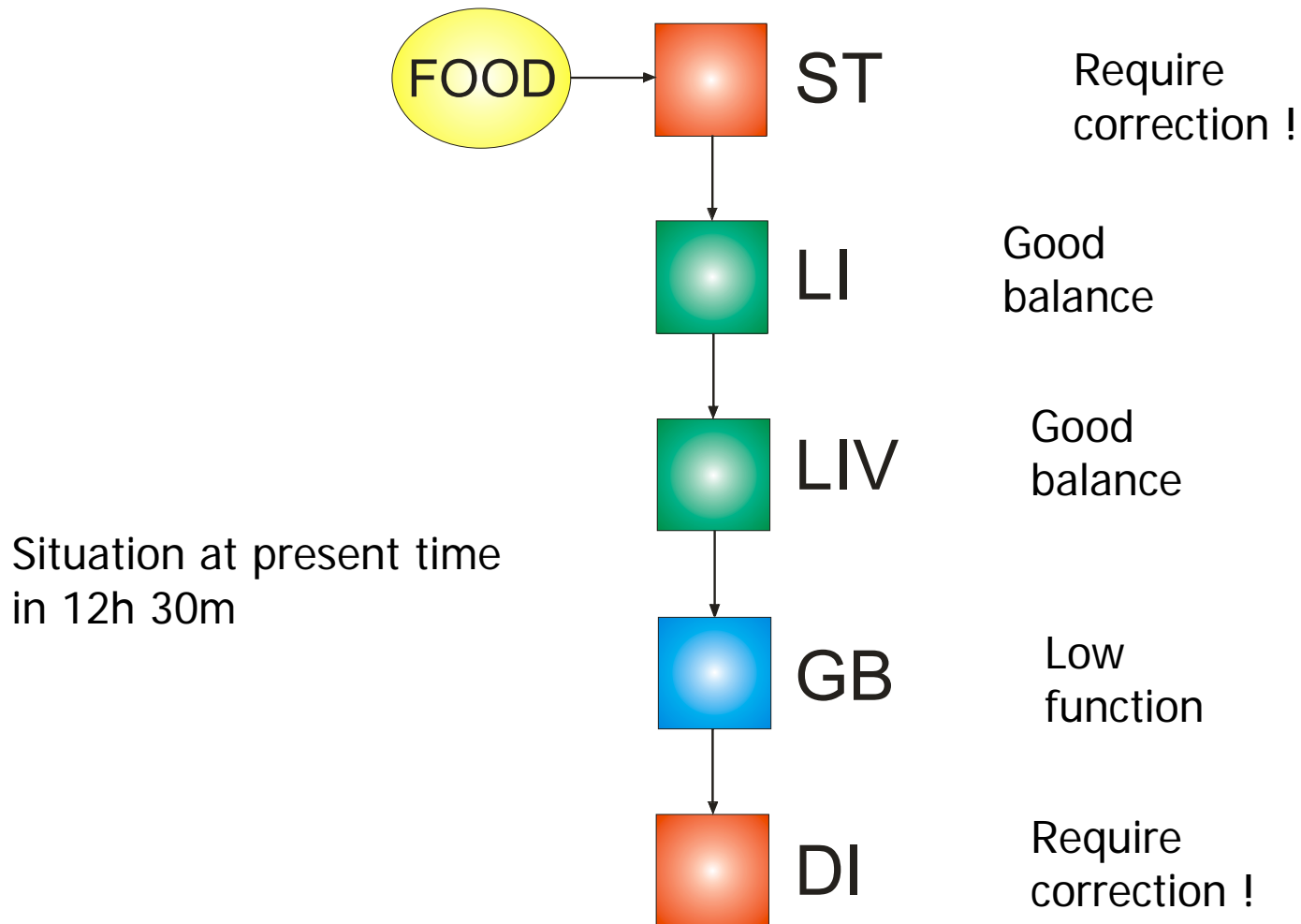# N17. Functions of existing device with GPRS-connection
(brand name Merid -2)

• The mobile device works as organizer with creation of optimum life cycle for patients with a diabetes.

• The device indicate and make forecasts of level of sugar in blood for the current day in a way of the diagram in real time.The sugar level is shown not in digits but by the thickness of colour on the coloured scale thus it makes it easier for a patient to use and understand information

• The system indicate an optimum doze of insulin and time of its injection.
• Optimum time for meal is defined with the help of an estimation of biorhythms of certain organs and is shown on a screen.

• The system can indicate forecasts of sugar level not only for day ahead but also is possible to forecast crisis situations for longer period

• Measurements are made by touching of a certain acupuncture points of fingers and toes with the help of the special gauge with IR sensor

IR- sensor for control and treatment

sugar- level

Figure 2 on the screen of the device.   Diabetes 2 type

FOOD → ST   Require
                   correction !

LI   Good
                   balance

LIV   Good
                   balance

Situation at present time
in 12h 30m

GB   Low
                   function

DI   Require
                   correction !

N19. Results of an assessment of works of separate physiological organs in regulation of a carbohydrate exchange.

Figure 3 on the screen of the device.

In contrast to common measuring the level of blood sugar this technique allows assessing the level of failing regulation functions of certain physiological systems at the present moment.

This information can be shown on the display of the device supported with an estimation of redundancy or insufficiency of the related function of the organism (that is shown through a saturation of color in figure).

Insufficiency of function	Organs	Redundancy of function
Treatment required	Stomach	
	Liver	
→	Kidneys	Treatment required

Figure 3 on the screen of the device.
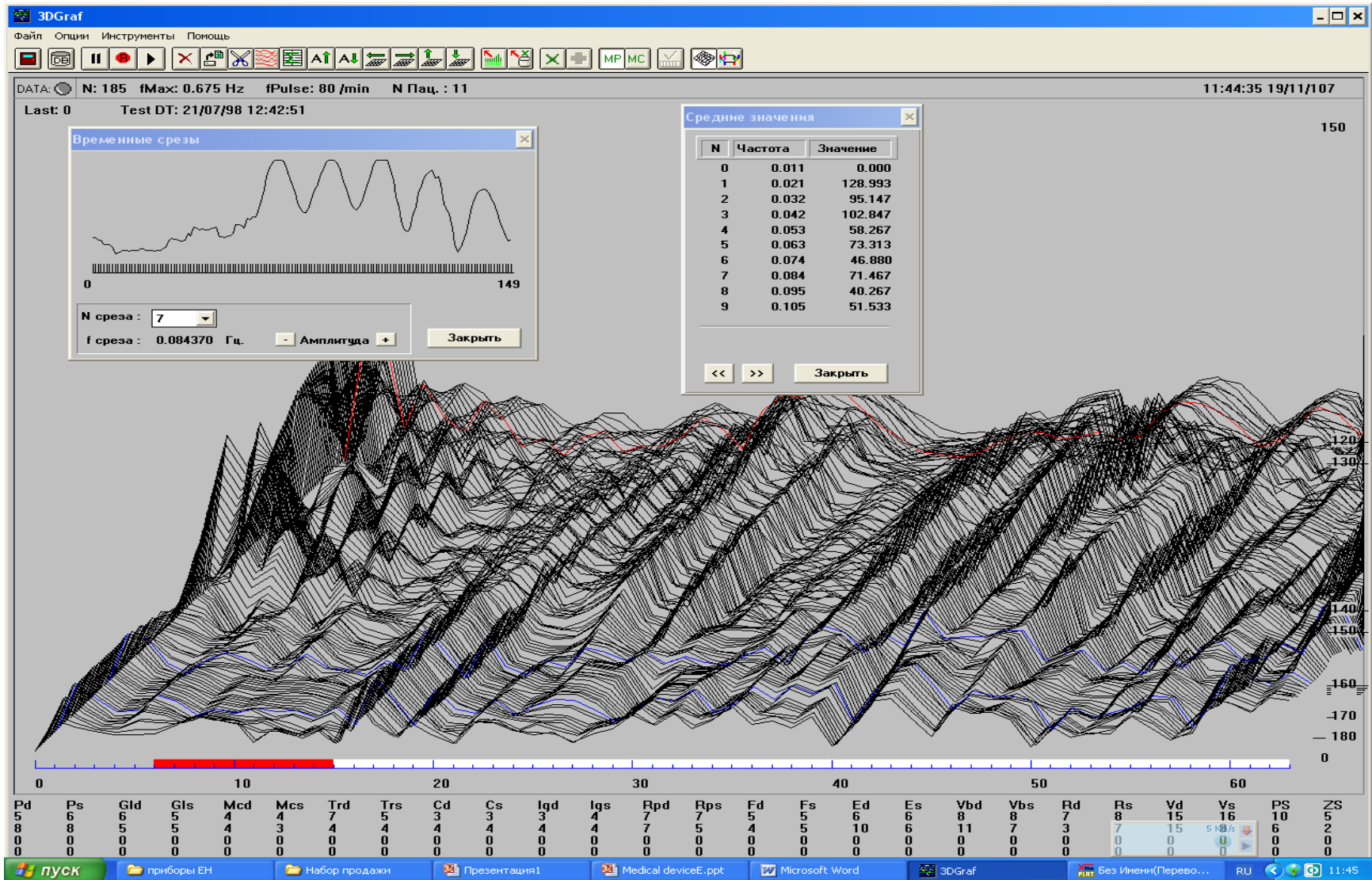
• Points for correction

ST 41

ST 40
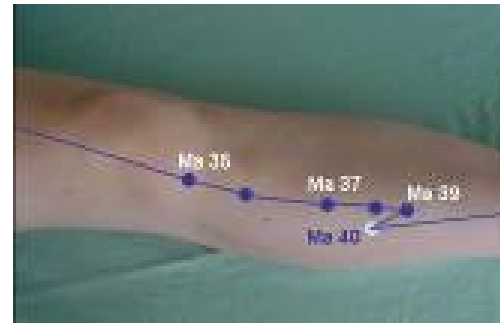
The users can also make the
reflex correction of such
deviations with the help of the
device. If to move the cursor to
the related part of the display 2
points to be exposed to IR -
rays treatment will be
automatically shown.

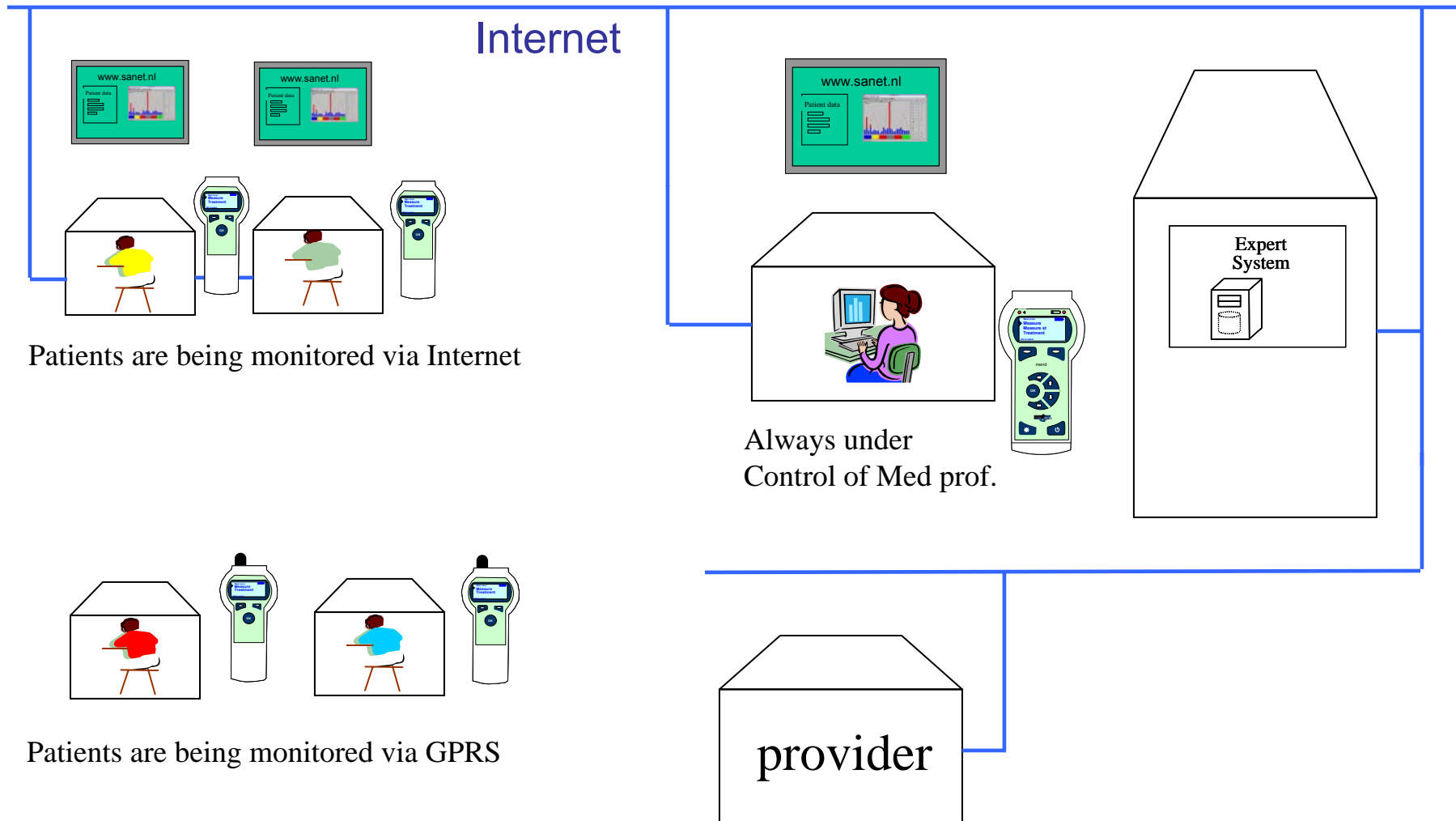# System an estimation of the spectral components rhythm of heart

History of our device designing

1990

1993

1995

1996

1997

2000

2004

continuation….

2004

2006

The system monitoring of health

Internet

Patients are being monitored via Internet

Patients are being monitored via GPRS

Always under
Control of Med prof.

Expert
System

provider

Termopunctual IR sensor glucometer with mobile platform for intergrated diabetes management system