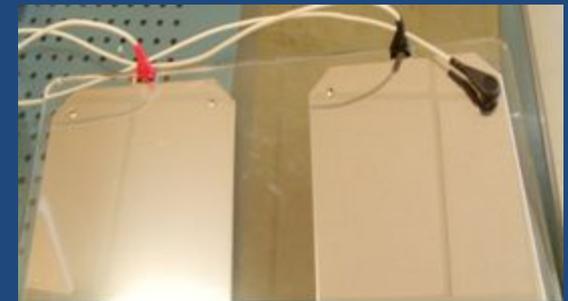
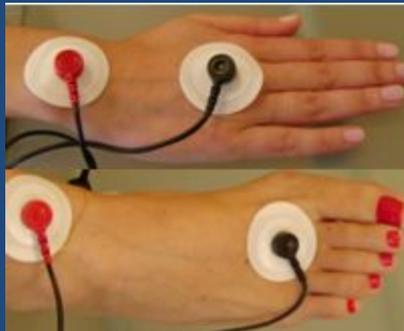


КОМПЛЕКС ES TECK

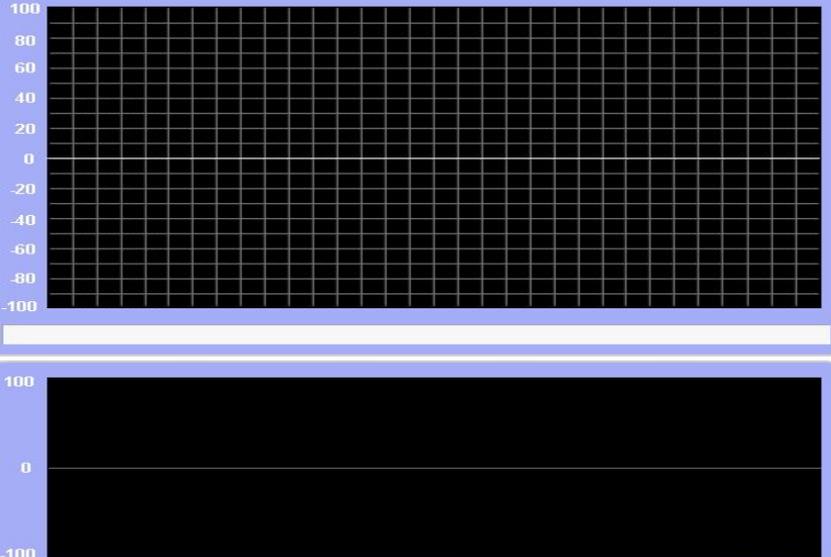
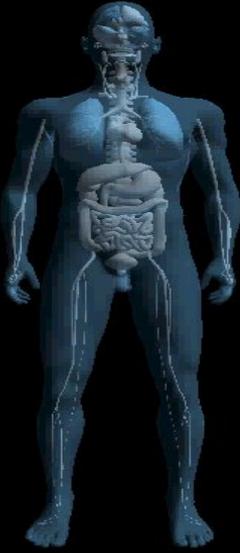
СОСТОИТ ИЗ 4-Х МЕТОДИК (HRV, SpO2, ВС, EIS)



Проведение измерений ES Teck

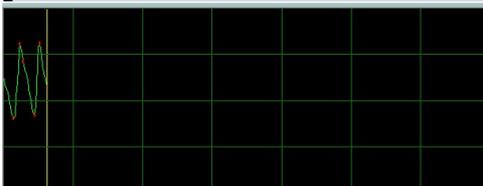
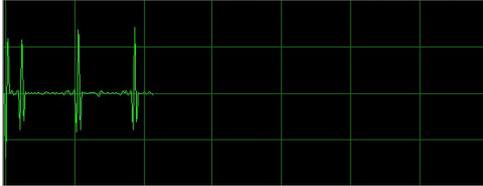
ESTECK

The sy_



ESTECK

HRV and SPO2 scanning ...

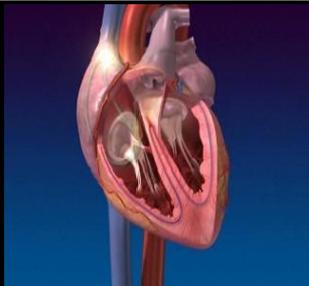


Scale X: x1, x2, x4; Scale Y: x1, x2, x4

Type: Original signal, Software filtration

HSF filtration: High pass filter 0.1 Hz, High pass filter 1.0 Hz

BSF filtration: Band stop filter 50 Hz, Band stop filter 60 Hz



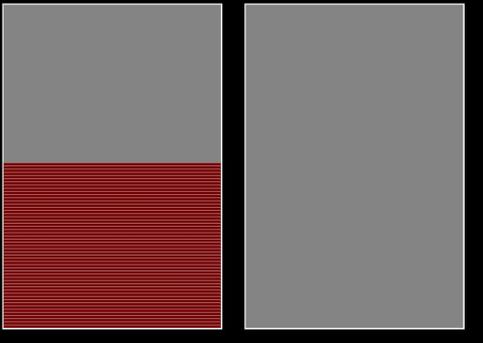
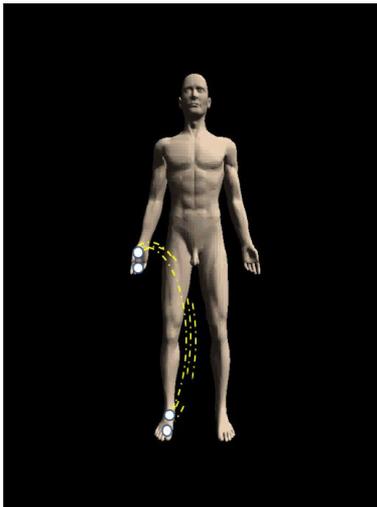
| HR [bpm] | RR [ms] | ECG Quality [0..100%] |
|----------|---------|-----------------------|
| --- | --- | --- |
| 10 | 97 | 93 |

| SPO2 probe state | Wave value |
|------------------|------------|
| ON | 43 |

ESTECK

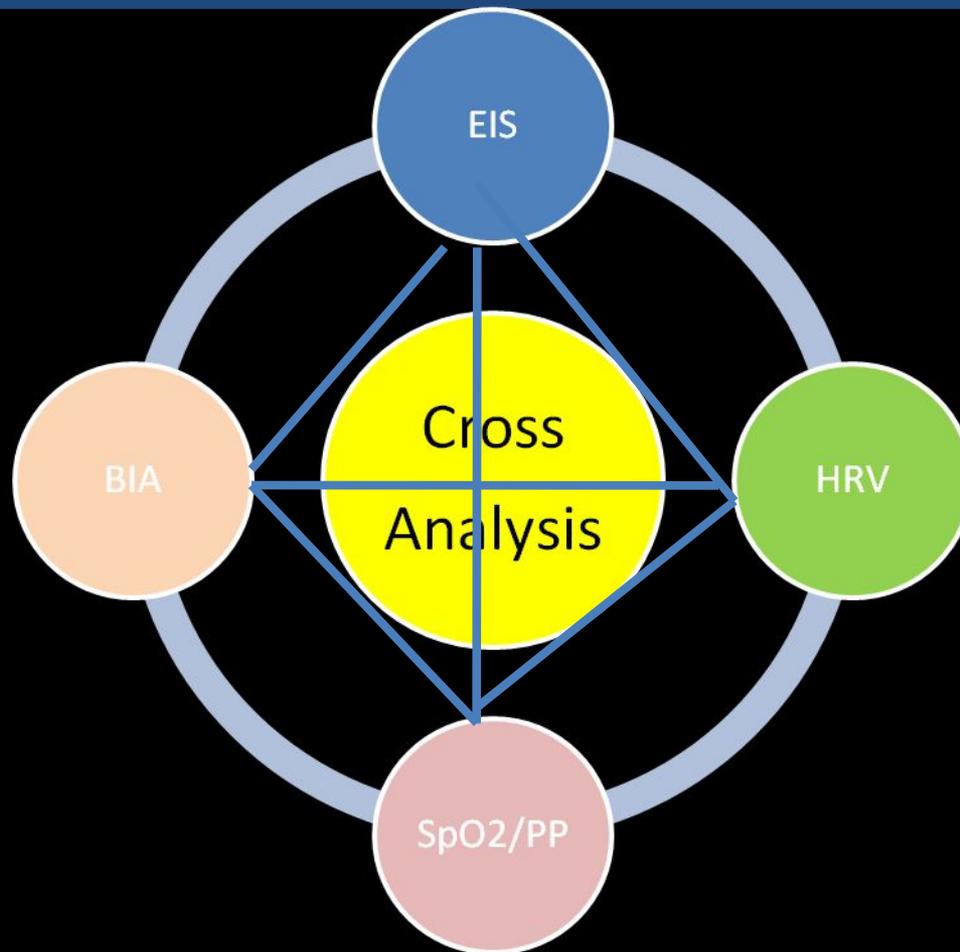
BC scanning ...

R = 505 Ohm Xc = -- Ohm



Start Pause

ПЕРЕКРЕСТНЫЙ АНАЛИЗ РЕЗУЛЬТАТОВ



ОСНОВНЫЕ ПАРАМЕТРЫ E.S TЕСK КОМПЛЕКС

- **HRV модуль (вариабельность сердечного ритма):** Анализ ритмов NN или RR интервалов электрокардиограммы, комплексный анализ параметров вариабельности сердечного ритма .
- Модуль рассчитывает числовые параметры измеряемой ЭКГ
- **Оценка параметров симпатической и парасимпатической нервной системы.**
- **PP модуль:** Анализ ритмов пульса методом фотоэлектрической плетизмографии.
 - **Исследование параметров ССС**
- **EIS модуль:**
 - **Мониторинг заболеваний, функционального состояния и терапии**
- **BIA модуль:**
 - **Измерение и мониторинг параметров композиции массы тела**

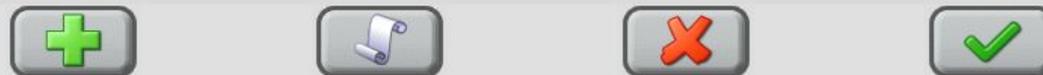
БАЗА ДАННЫХ ВИЗИТОВ И ИЗМЕРЕНИЙ



DATABASE

PATIENTS

| Last Name | First name | Gender | Date of birth | Code |
|-----------|------------|--------|---------------|-------|
| 2_30 | | Female | 30-1-1931 | 2_30 |
| 1_03 | | Male | 3-6-1993 | 1_03 |
| 1_24 | | Male | 24-2-1994 | 1_24 |
| 2_17 | | Female | 17-5-1938 | 2_17 |
| 2_24 | | Female | 24-4-1954 | 2_24 |
| 2JB05 | | Female | 5-7-1952 | 2JB05 |
| 1_13 | | Male | 13-3-1976 | 1_13 |
| 2_16 | | Female | 16-2-1938 | 2_16 |
| 1_28 | | Male | 28-5-1970 | 1_28 |
| 1_03 | | Male | 3-7-1996 | 1_03 |
| 1_28 | | Male | 28-4-1977 | 1_28 |
| 1b28 | | Male | 28-6-1957 | 1b28 |
| 2T27 | | Female | 27-8-1933 | 2T27 |
| 2LN05 | | Female | 5-1-1963 | 2LN05 |
| 1DR02 | | Male | 2-8-1944 | 1DR02 |
| 1RV13 | | Male | 13-5-1972 | 1RV13 |
| 1M30 | | Male | 30-5-1955 | 1M30 |
| 1g07 | | Male | 7-7-1937 | 1g07 |
| 2DM16 | | Female | 16-2-1964 | 2DM16 |



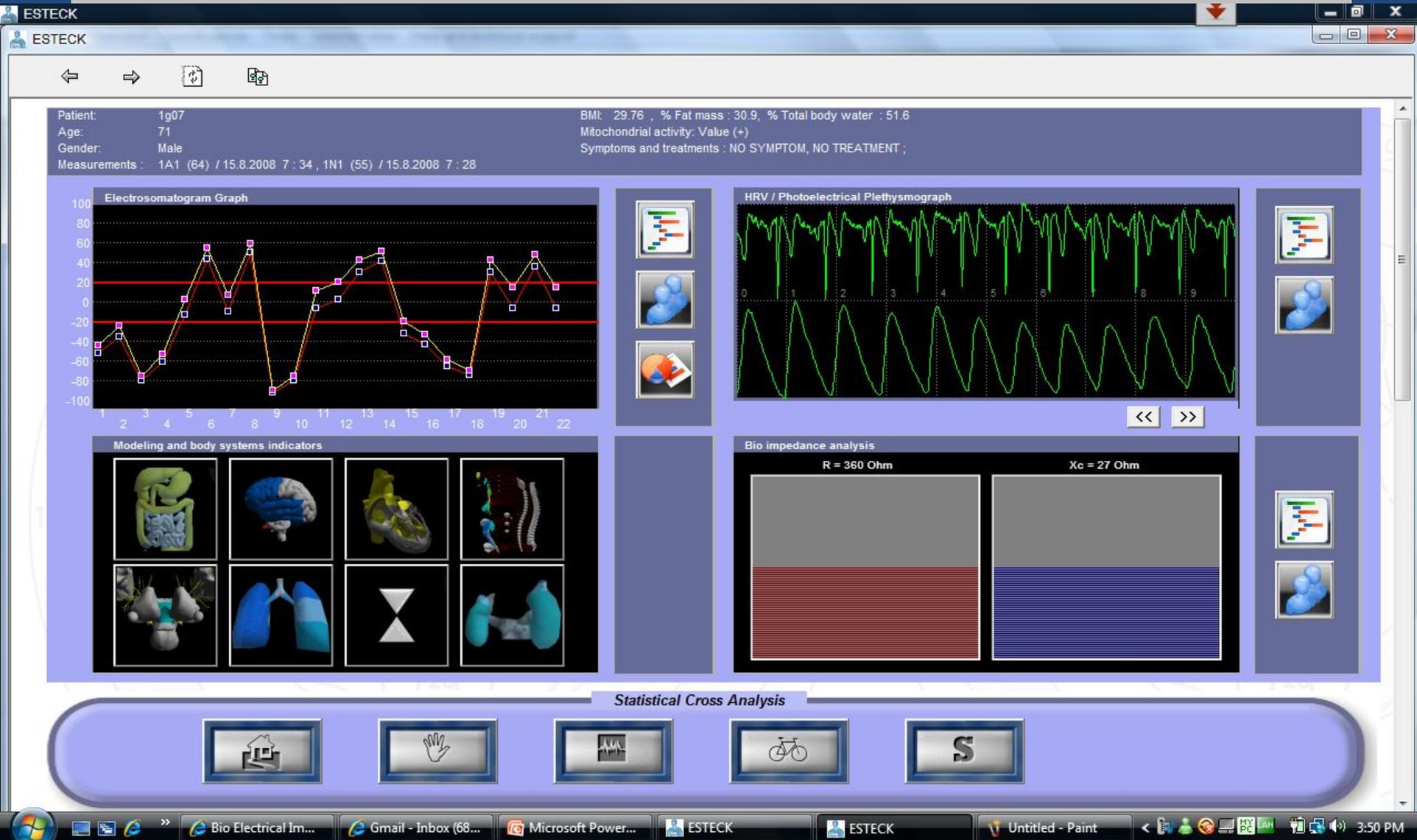
VISITS

| Date of examination | Time of examinati... | Parameters |
|---------------------|----------------------|-------------------------------|
| 3.9.2008 | 13 : 38 | A1 (61,0,100,100,0) N1 (55,0) |
| 15.8.2008 | 7 : 34 | A1 (64,0,100,99,0) N1 (55,0) |



Admin: BASEMLD
 Patient: 1g07
 Visit 1: 3.9.2008 13 : 38 A1
 Visit 2:

E.S TECK РЕЗУЛЬТАТЫ



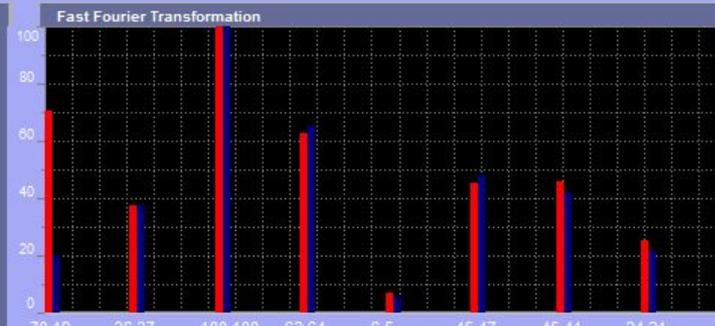
EIS АНАЛИЗ

DIAGNOSIS.pptx - Microsoft PowerPoint non-commercial use

ESTECK

Patient: 1g07
 Age: 71
 Gender: Male
 Measurements: 1A1 (64) / 15.8.2008 7:34, 1N1 (55) / 15.8.2008 7:28

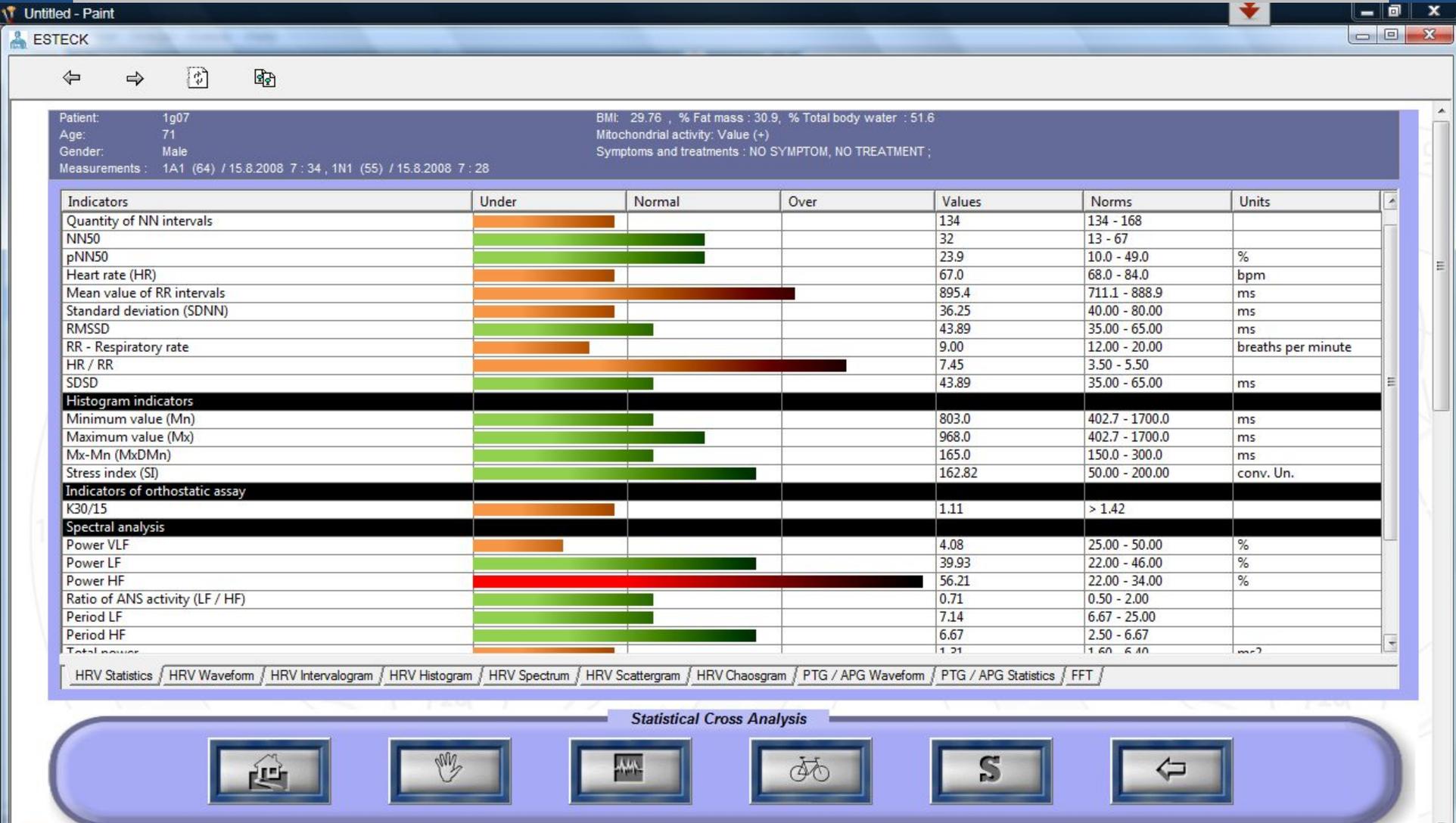
BMI: 29.76, % Fat mass: 30.9, % Total body water: 49.6
 Mitochondrial activity: Value (+)
 Symptoms and treatments: NO SYMPTOM, NO TREATMENT;



Statistical Cross Analysis

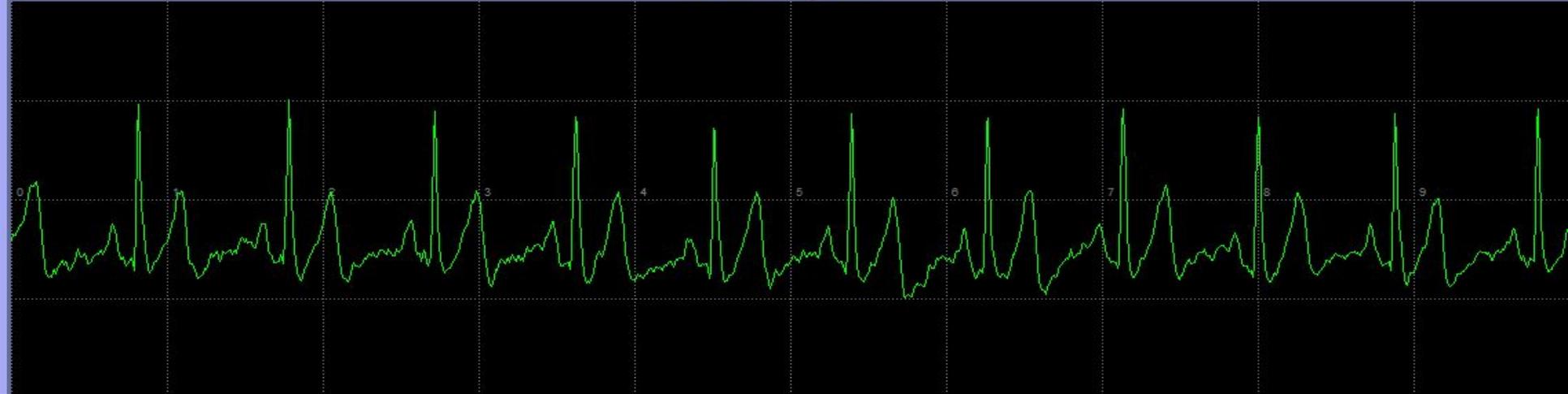
Navigation icons: Home, Hand, Waveform, Bicycle, S, Back

HRV СТАТИСТИЧЕСКИЕ ПОКАЗАТЕЛИ

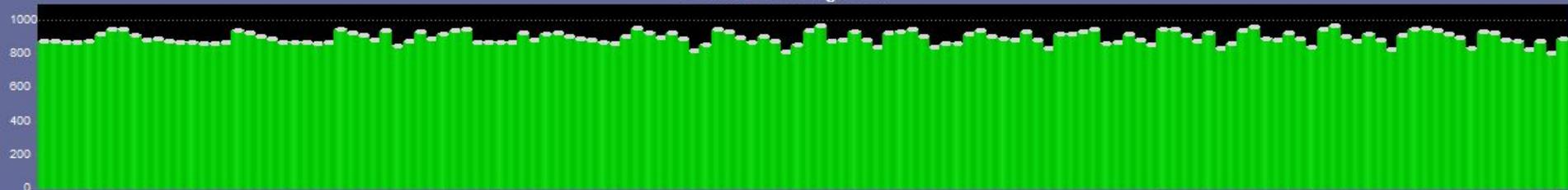


HRV ИЗМЕРЕНИЕ

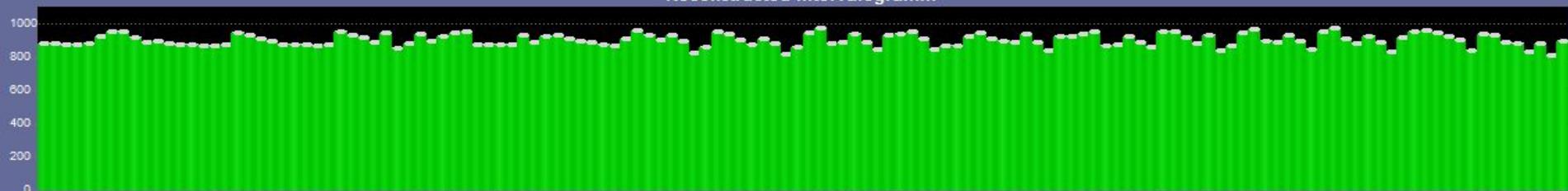
Electrocardiogramm



Initial Intervalogramm



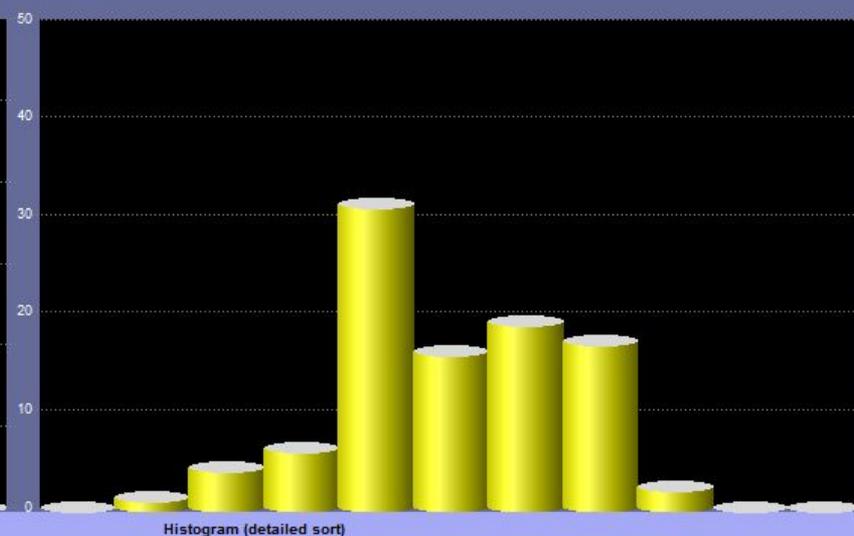
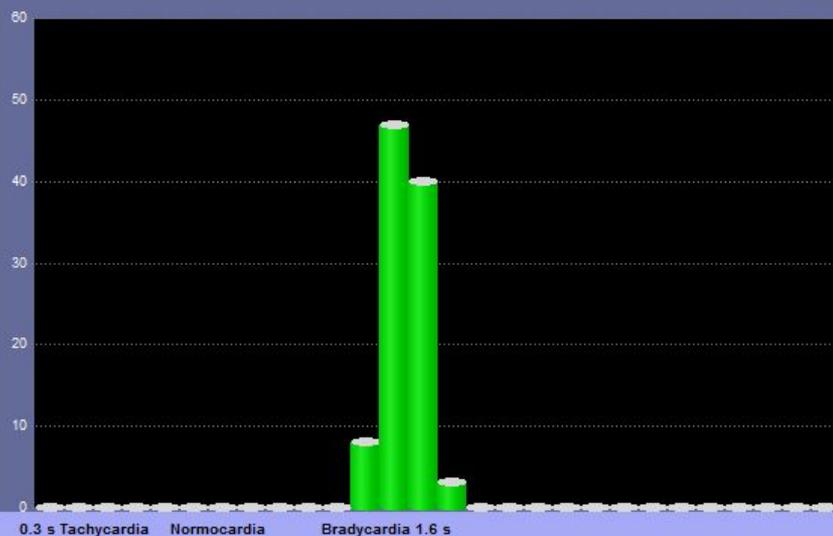
Reconstructed Intervalogramm



Interval NN Reconstructed interval Extrasystoles Artefacts

HRV АНАЛИЗ СПЕКТРА

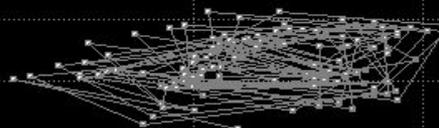
Moderate bradycardia



HRV Scattergram



HRV Chaosgram



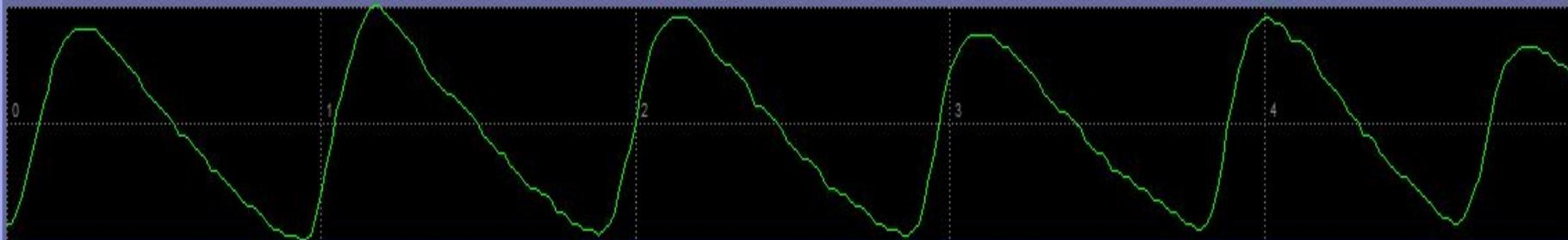
SpO2 РЕЗУЛЬТАТЫ (ФОТОЭЛЕКТРИЧЕСКАЯ ВОЛНА)

Patient: 1g07
 Age: 71
 Gender: Male
 Measurements: 1A1 (64) / 15.8.2008 7:34, 1N1 (55) / 15.8.2008 7:28

BMI: 29.76, % Fat mass: 30.9, % Total body water: 51.6
 Mitochondrial activity: Value (+)
 Symptoms and treatments: NO SYMPTOM, NO TREATMENT;

| Indicators | Under | Normal | Over | Values | Norms | Units | Comments | Follow Up |
|------------------|-------|--------|------|--------|-------------|-------|----------|-----------|
| SpO2 Measurement | | | | | | | | |
| SpO2 | | | | 98.0 | 94.0 - 96.0 | % | | |
| PR (Pulse Rate) | | | | 66 | 68 - 79 | bpm | | |
| Signal Strength | | | | 10 | 8 - 12 | mm | | |
| Wave Value | | | | 72 | 65 - 95 | mm | | |

PTG Waveform



APG Waveform

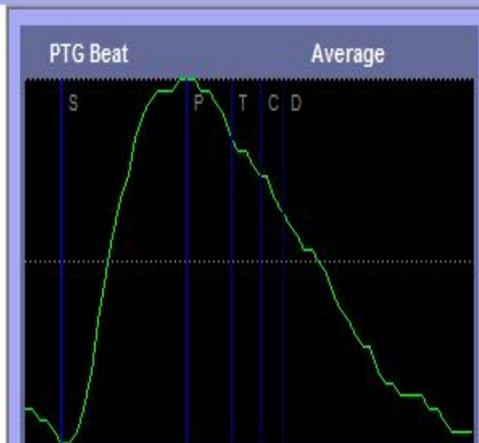


ФОТОАЭЛЕКТРИЧЕСКАЯ ПЛЕТИЗМОГРАММА (АНАЛИЗ И РЕЗУЛЬТАТЫ)

Patient: 1g07
Age: 71
Gender: Male
Measurements: 1A1 (64) / 15.8.2008 7:34, 1N1 (55) / 15.8.2008 7:28

BMI: 29.76, % Fat mass: 30.9, % Total body water: 51.6
Mitochondrial activity: Value (+)
Symptoms and treatments: NO SYMPTOM, NO TREATMENT;

| Indicators | Under | Normal | Over | Values | Norms | Units |
|---|-------|--------|------|--------|---------------|-------|
| PTG Analysis | | | | | | |
| AI (Augmentation Index) | | | | 1.03 | 1.05 - 1.45 | |
| EEI (Ejection Elastic Index) | | | | 0.00 | 0.40 - 0.80 | |
| DDI (Dicrotic Dilatation Index) | | | | 0.10 | 0.20 - 0.40 | |
| DEI (Dicrotic Elastic Index) | | | | 0.10 | 0.10 - 0.30 | |
| PR (Pulse Rate) | | | | 66 | 68 - 79 | |
| PH (Pulse Height) | | | | 8.1 | 2.0 - 8.0 | |
| Etc (Estimated Cardiac Ejection time) | | | | 233 | 260 - 380 | ms |
| APG Analysis | | | | | | |
| APG Type | | | | 75 | | |
| APG Aging Index | | | | 0.19 | -0.32 - 0.32 | |
| a-b | | | | 78 | | ms |
| a-c | | | | 123 | | ms |
| a-d | | | | 175 | | ms |
| a-e | | | | 346 | | ms |
| b/a | | | | -0.41 | -0.61 - -0.35 | |
| c/a | | | | -0.07 | -0.34 - -0.06 | |
| -d/a | | | | 0.65 | 0.32 - 0.58 | |
| e/a | | | | 0.12 | 0.09 - 0.23 | |
| APG Type: 21(25), 11(35), 25(45), 12(55), 7(65), 22(75) (%) | | | | | | |



E.S. TECK COMPLEX

- ПЕРЕКРЕСТНЫЙ АНАЛИЗ
- МОДЕЛИРОВАНИЕ ИНДИКАТОРОВ СОСТОЯНИЯ

ИНДИКАТОРЫ СИСТЕМЫ ПИЩЕВАРЕНИЯ

[34] Area around stomach

Patient: 1g07
Age: 71
Visit: 15.8.2008 7:34



Body System Analysis

Digestive system analysis

| Indicators | Under | Normal | Over | Values | Norms | Units |
|--|-------|--------|------|--------|--------------|------------------------------------|
| EIS Indicators | | | | | | |
| <u>Descending Large intestine conductivity</u> | | | | 37.04 | 7.69 - 17.24 | 10 ⁻⁶ S.m ⁻¹ |
| <u>Ascending large intestine conductivity</u> | | | | 37.04 | 7.69 - 17.24 | 10 ⁻⁶ S.m ⁻¹ |
| <u>Stomach and duodenum conductivity</u> | | | | 23.26 | 7.69 - 17.24 | 10 ⁻⁶ S.m ⁻¹ |
| <u>Liver and gallbladder conductivity</u> | | | | 24.27 | 7.69 - 17.24 | 10 ⁻⁶ S.m ⁻¹ |
| <u>Pancreas conductivity</u> | | | | 23.26 | 7.69 - 17.24 | 10 ⁻⁶ S.m ⁻¹ |

Area around stomach

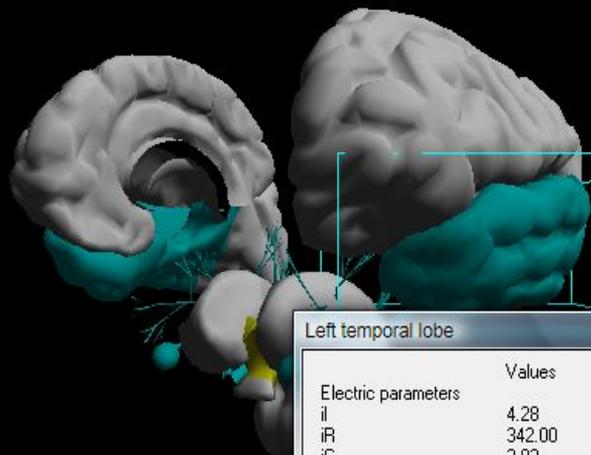
| | Values | Norms | Units |
|--|--------|--------------|------------------------------------|
| Electric parameters | | | |
| iI | 29.70 | 10.2 - 23.2 | µA |
| iR | 43.00 | 58.0 - 130.0 | KΩhm |
| iC | 23.26 | 7.7 - 17.2 | 10 ⁻⁶ S.m ⁻¹ |
| Physiological tissue parameters | | | |
| ipH | 7.364 | 7.31-7.35 | I.U |
| icpH | 6.986 | 7.00-7.04 | I.U |
| VD2 | 53.4 | 48-52 | % |
| O2d | 76.6 | 78-82 | mm/Hg |
| ATP | 58.5 | 45-55 | % |
| Microcirculation parameters | | | |
| A.C.H Pressure | 38.4 | 33-37 | mm/Hg |
| blood viscosity | 5.3 | 4-5 | 10 ⁻⁴ Pa/s |
| I Oncotic forces | 2.7 | 2.8-3.2 | mm/Hg |

Inflammation



ИНДИКАТОРЫ СОСТОЯНИЯ МОЗГА

[-55] Left temporal lobe



Left temporal lobe

| | Values | Norms | Units |
|---------------------------------|--------|--------------|------------|
| Electric parameters | | | |
| iI | 4.28 | 10.2 - 23.2 | µA |
| iR | 342.00 | 58.0 - 130.0 | KOhm |
| iC | 2.92 | 7.7 - 17.2 | 10-6 S.m-1 |
| Physiological tissue parameters | | | |
| ipH | 7.275 | 7.31-7.35 | I.U |
| icpH | 7.095 | 7.00-7.04 | I.U |
| VO2 | 44.5 | 48-52 | % |
| O2d | 71.5 | 78-82 | mm/Hg |
| ATP | 36.2 | 45-55 | % |
| Microcirculation parameters | | | |
| A.C.H Pressure | 29.5 | 33-37 | mm/Hg |
| blood viscosity | 3.5 | 4-5 | 10-4Pa/s |
| I Oncotic forces | 3.5 | 2.8-3.2 | mm/Hg |

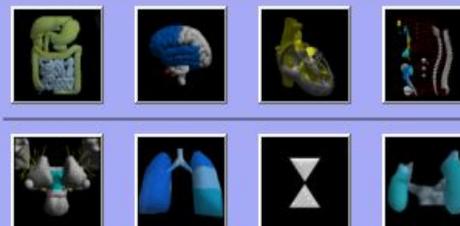
Patient: 1g07
Age: 71
Visit: 15.8.2008 7 : 34



Body System Analysis

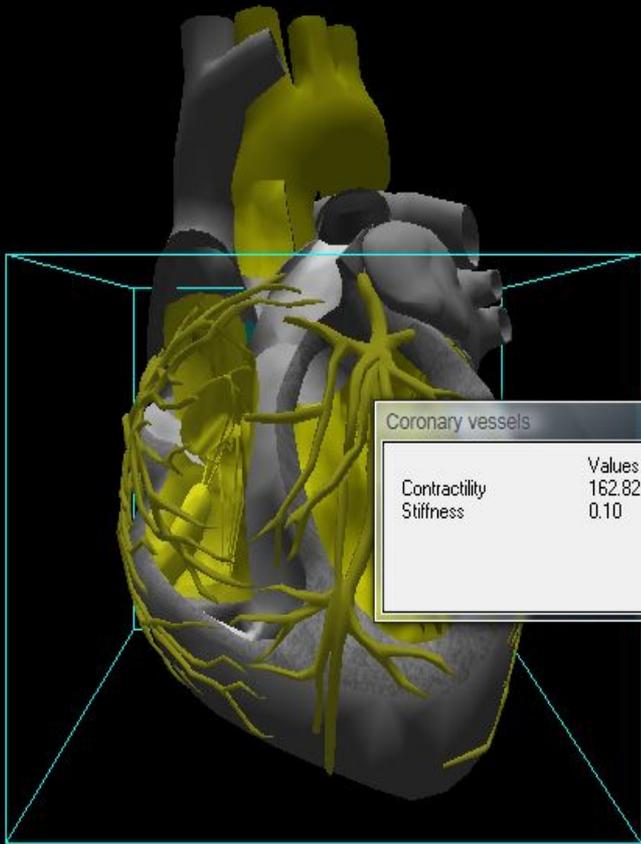
Brain system analysis

| Indicators | Under | Normal | Over | Values | Norms | Units |
|--|-------|--------|------|--------|---------------|-------|
| EIS Indicators | | | | | | |
| Neuronal excitability | | | | 5.200 | 2.000 - 5.000 | ms |
| Cerebral Oxygen delivery | | | | 81 | 82 - 86 | mm Hg |
| Interstitial cerebral pH | | | | 7.29 | 7.31 - 7.35 | I.U |
| EIS Interstitial Cerebral Neurotransmitters | | | | | | |
| Interstitial cerebral Serotonin | | | | 3.18 | 3.66 - 7.14 | µA |
| Interstitial cerebral Dopamine | | | | 2.45 | 3.66 - 7.14 | µA |
| Interstitial cerebral Catecholamine | | | | 39 | 22 - 46 | % |
| Interstitial cerebral Acetylcholine | | | | 56 | 22 - 34 | % |
| HRV Indicators | | | | | | |
| Psycho emotional tension | | | | 4 | 25 - 50 | % |



ИНДИКАТОРЫ ССС (сердечно – сосудистая система)

[21] Coronary vessels



| Coronary vessels | | | |
|------------------|--------|--------------|-------|
| | Values | Norms | Units |
| Contractility | 162.82 | 50.00-200.00 | I.U |
| Stiffness | 0.10 | 0.20-0.40 | I.U |

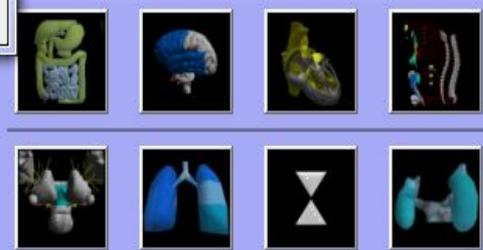
Patient: 1g07
Age: 71
Visit: 15.8.2008 7 : 34



Body System Analysis

Cardiovascular analysis

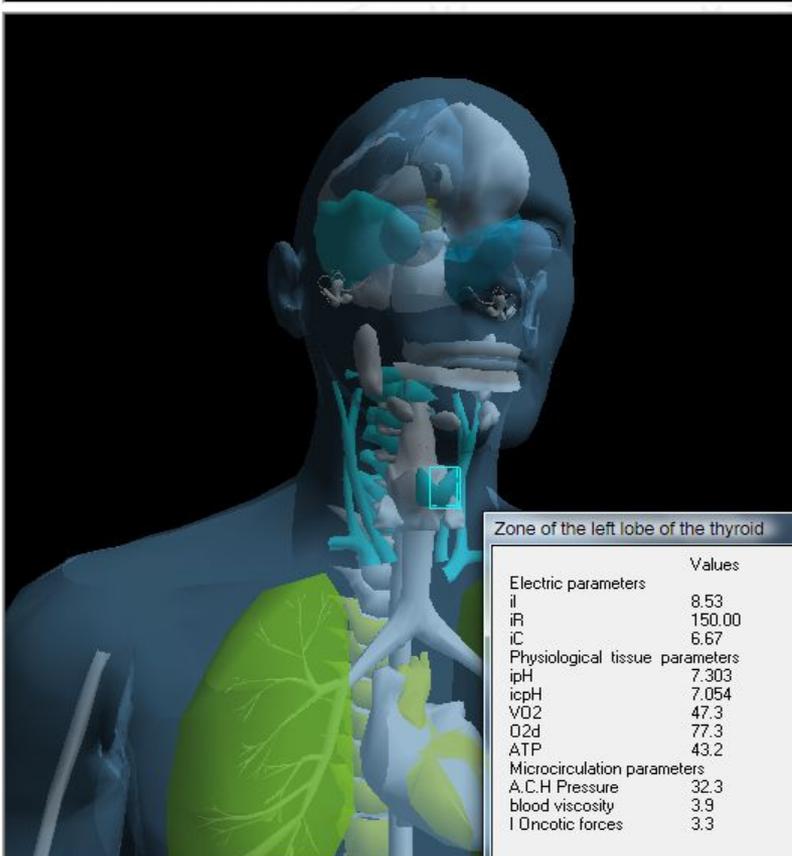
| Indicators | Under | Normal | Over | Values | Norms | Units |
|---|-------|--------|------|---------------------------------|-----------------|--------|
| EIS Indicators | | | | | | |
| Heart ventricles' blood flow | | | | 15.80 | 10.21 - 23.20 | µA |
| Triglycerides | | | | >5.65 | 1.7 - 2.3 | mmol/l |
| LDL Cholesterol | | | | > -4.1 | < 2.6 - 3.3 | mmol/l |
| C Reactive Protein | | | | 1 - 3 | < 1 | mg/L |
| HRV Indicators | | | | | | |
| HR Heart Rate | | | | 67 | 68 - 84 | bpm |
| SI Stress Index | | | | 162.82 | 50.00 - 200.00 | IU |
| VLF Very Low Frequency | | | | 4.08 | 25.00 - 50.00 | % |
| LF Low Frequency Vasculomotor (vascular) center | | | | 39.93 | 22.00 - 46.00 | % |
| HF High Frequency Parasympathetic system | | | | 56.21 | 22.00 - 34.00 | % |
| MxDM Ratio | | | | 165.00 | 150.00 - 300.00 | ms |
| PP Ind | | | | No rhythm disturbances revealed | | |
| EEI (Ejection Efficiency Index) | | | | 0.00 | 0.40 - 0.80 | |
| DDI (Dilatation Index) | | | | 0.10 | 0.20 - 0.40 | I.U |
| DEI (Disturbance Index) | | | | 0.10 | 0.10 - 0.30 | I.U |
| PDA Indicators | | | | | | |



ГОРМОНАЛЬНЫЙ БАЛАНС

ESTECK DIAGNOSIS.pptx - Microsoft PowerPoint non-commercial use

[-27] Zone of the left lobe of the thyroid



Patient: 1g07
 Age: 71
 Visit: 15.8.2008 7 : 34

Body System Analysis

Hormonal system analysis

| Indicators | Under | Normal | Over | Values | Norms | Units |
|----------------------------------|-------|--------|------|---------|-------------|--------|
| EIS Indicators | | | | | | |
| <u>Interstitial TSH</u> | | | | 0.3 - 2 | 0.3 | mIU /L |
| <u>T4 Thyroid hormone</u> | | | | 12 - 24 | 9 - 24 | pmol/L |
| <u>Interstitial Testosterone</u> | | | | 8 - 15 | 8 - 38 | pmol/L |
| HRV Indicators | | | | | | |
| <u>interstitial Cortisol</u> | | | | 70 | 110 - 390 | nmol/L |
| <u>interstitial ACTH</u> | | | | 18.5 | 3.0 - 15.0 | nmol/L |
| <u>Insulin resistance</u> | | | | 20 | | % |
| <u>Leptin</u> | | | | 4.0 | 10.0 - 15.0 | ng/ml |

Leptin
Significant decreased of blood serum concentration leptin

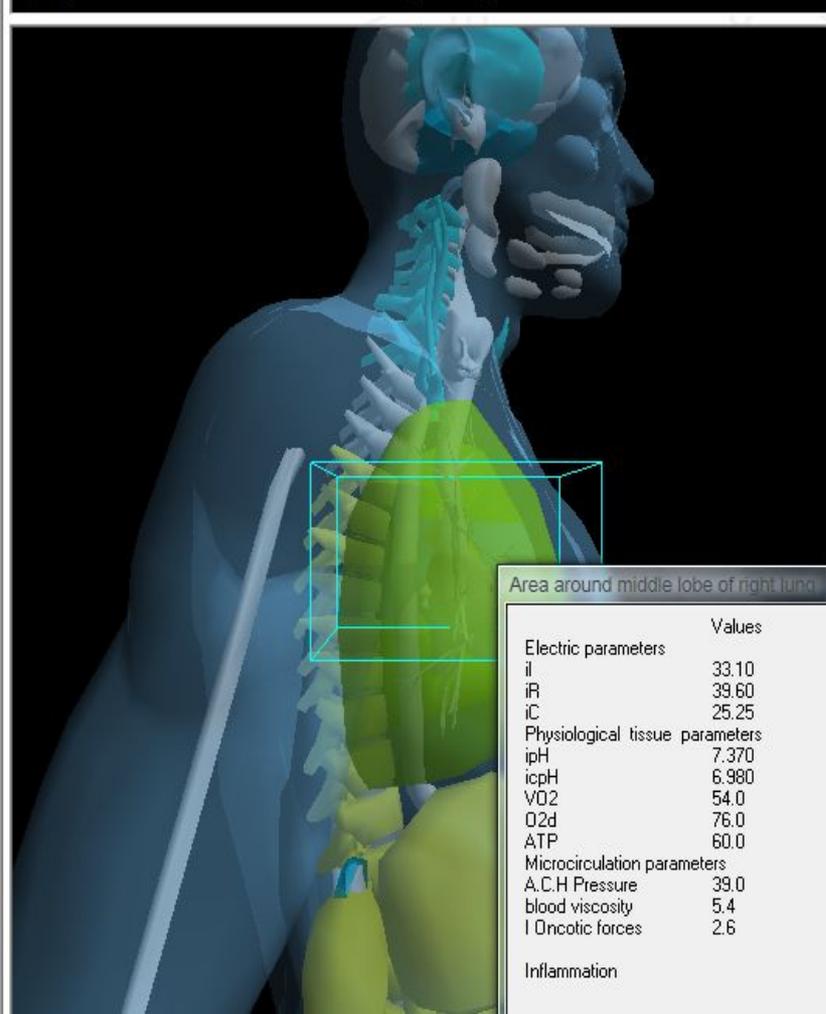
Zone of the left lobe of the thyroid

| | Values | Norms | Units |
|--|--------|--------------|------------|
| Electric parameters | | | |
| iI | 8.53 | 10.2 - 23.2 | µA |
| iR | 150.00 | 58.0 - 130.0 | KΩhm |
| iC | 6.67 | 7.7 - 17.2 | 10-6 S.m-1 |
| Physiological tissue parameters | | | |
| ipH | 7.303 | 7.31-7.35 | I.U |
| icpH | 7.054 | 7.00-7.04 | I.U |
| VO2 | 47.3 | 48-52 | % |
| O2d | 77.3 | 78-82 | mm/Hg |
| ATP | 43.2 | 45-55 | % |
| Microcirculation parameters | | | |
| A.C.H Pressure | 32.3 | 33-37 | mm/Hg |
| blood viscosity | 3.9 | 4-5 | 10-4Pa/s |
| I Oncotic forces | 3.3 | 2.8-3.2 | mm/Hg |

Windows taskbar: Bio Electrical Im..., Gmail - Inbox (68..., Microsoft Power..., ESTECK, ESTECK, Untitled - Paint, 4:05 PM

ИНДИКАТОРЫ СИСТЕМЫ ДЫХАНИЯ

[40] Area around middle lobe of right lung



Patient: 1g07
Age: 71
Visit: 15.8.2008 7:34



Body System Analysis

Respiratory system analysis

| Indicators | Under | Normal | Over | Values | Norms | Units |
|------------------------|-------|--------|------|--------|---------------|---------------|
| EIS Indicators | | | | | | |
| Bronchi Conductivity | | | | 10.68 | 7.69 - 17.24 | 10-6 S.m-1 |
| Lung conductivity | | | | 25.25 | 7.69 - 17.24 | 10-6 S.m-1 |
| Interstitial PCO2 | | | | 50.14 | 41.00 - 51.00 | mmHg |
| SPO2 Indicators | | | | | | |
| SPO2 | | | | 98.00 | 94.50 - 96.50 | % |
| HRV Indicators | | | | | | |
| Respiratory rate | | | | 9.00 | 12.00 - 20.00 | breaths per r |

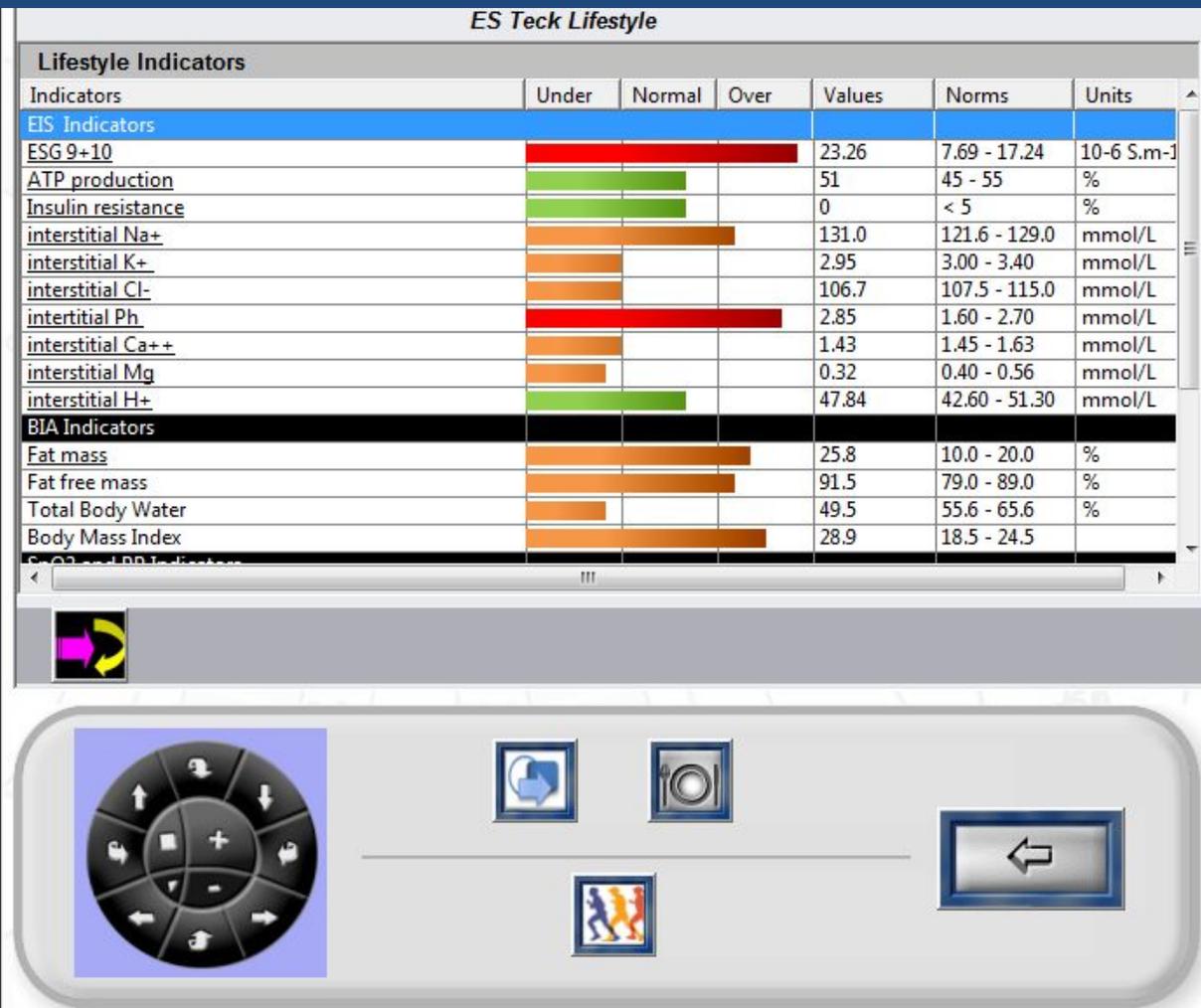
SPO2
Increased hemoglobin affinity O2. Oxygen is less available for release to the tissues due to the strong bond

Area around middle lobe of right lung

| | Values | Norms | Units |
|--|--------|--------------|------------|
| Electric parameters | | | |
| il | 33.10 | 10.2 - 23.2 | µA |
| iR | 39.60 | 58.0 - 130.0 | KOhm |
| iC | 25.25 | 7.7 - 17.2 | 10-6 S.m-1 |
| Physiological tissue parameters | | | |
| ipH | 7.370 | 7.31-7.35 | I.U |
| icpH | 6.980 | 7.00-7.04 | I.U |
| VD2 | 54.0 | 48-52 | % |
| O2d | 76.0 | 78-82 | mm/Hg |
| ATP | 60.0 | 45-55 | % |
| Microcirculation parameters | | | |
| A.C.H Pressure | 39.0 | 33-37 | mm/Hg |
| blood viscosity | 5.4 | 4-5 | 10-4Pa/s |
| I Oncotic forces | 2.6 | 2.8-3.2 | mm/Hg |
| Inflammation | | | |



Оценка и мониторинг параметров образа жизни (Life Style)



Советы по питанию (показанные, противопоказанные продукты...)

NOT RECOMMENDED FOODS

Vegetables

Egg Plant, Avocado

Animal protein

Salami, Frankfurters, Well-hung game, Marinated herring, Beef liver, Brain, Lard, Sausages, Bacon, Goose

Dairy products

Mozzarella, Margarine, Fresh cream, Cheese

Carbohydrates

Brewer's yeast, Sodium glutamate (often used in Chinese cooking), Chocolate, Ice-cream, Honey, Jam, Cocoa, Jam tart

Fats

Fried food, Mayonnaise

Drinks

Sweetened Cola Drinks

Oily foods

Almonds, Pistachios, Hazel nuts, Walnuts, Pine nuts

Fruit

Bananas, Pineapple, Dates, Fruit in syrup, Candied fruit, Dried fruit, Fruit jelly, Coconut

RECOMMENDED FOODS

Vegetables

Artichokes, String beans, Celery root, Leeks, Fennel, Dandelion

Drinks

Chicory

Fruit

2 fruits per day max

Herbs

Parsley

MICRONUTRITION

Trace elements

Magnesium

Plant therapy

Poppy, Passion flower, Aubeline, Hawthorn, Garlic, Cypress, Chestnut tree, Horsetail

COOKING METHODS

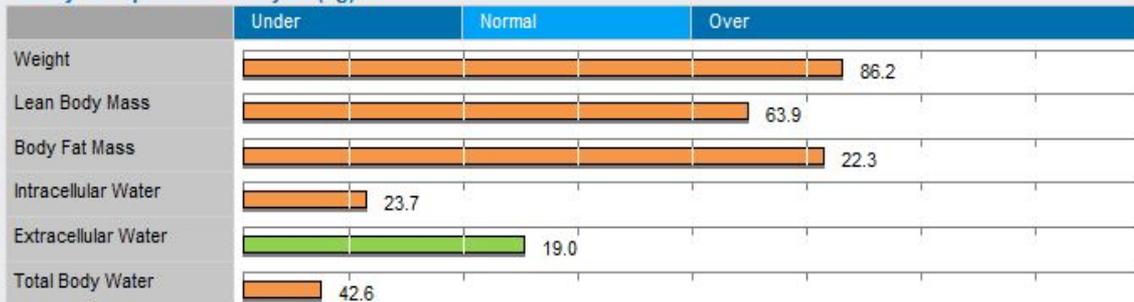
- Steaming is to be preferred to all other methods.
- For cooking food: olive, peanut or palm oil, without ever allowing it to smoke.
- For improved carotenoid digestion, cook: carrots, tomatoes, broccoli, spinach then add olive or colza oil after cooking.
- To prepare fish, marinate in lemon juice, wine or oil, then steam or poach in stock
- Do not burn or carbonize meat and throw away the gray.

Индикаторы композиции массы тела

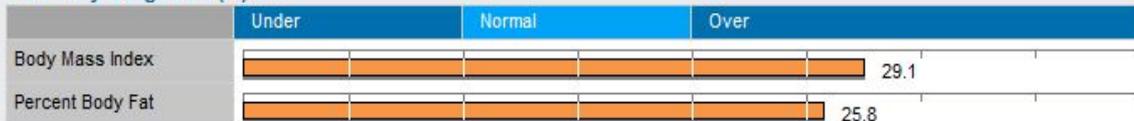
Body Composition (kg)

| Compartments | Values | Total Body Water | Lean Body Mass | Weight |
|---------------------|--------|------------------|----------------|--------|
| Intracellular Water | 23.7 | 42.6 | 63.9 | 86.2 |
| Extracellular Water | 19.0 | | | |
| Dry Lean Mass | 21.3 | | | |
| Body Fat Mass | 22.3 | | | |

Body Composition Analysis (kg)



Obesity Diagnosis (%)



Weight Control (kg)

Current Target Weight: 69.9 Fat Control: -9.3 Basal Metabolic Rate: 2003 Kcal
 Weight Control: -16.3 LBM Control: -5.3

Daily Activity Level:

Very light: stay at home, no activity

Overweight

Height: 172.7 cm

Weight : 86.2 kg

Fat free mass: 63.9 kg

Fat mass: 22.3 kg (25.8%)

TBW: 42.6 kg (49.5%)

Extracellular Water: 18.97 kg (-2.2%)

Intracellular Water: 23.67 kg (-9.1%)

Basal metabolic rate / 24 Hours: 2003 Kcal

Algorithms used :

TBW: Davies et al 1988

FFM: Deurenberg et al 1991

ECW: Sergi G, et al 1994

Actual Impedance:

Z = 417.4 Ohm

R = 415 Ohm Xc = 45 Ohm

Phase Angle (PA) = 6.2

The calculation of the body composition is made according to the Bioelectrical Impedance Analysis (BIA). BIA in tetra polar mode and mono frequency of 50KHz.

Statistical Cross Analysis



Мониторинг динамики показателей до и после спортивной нагрузки

| Indicators | Value before sport | Value after sport | BIA and Modeling Monitoring |
|---|--------------------|-------------------|--|
| HRV Indicators | | | |
| HR | 56 | 83 |  |
| HRV LF | 25.59 | 49 | |
| MxDMn | 150 | 161 | |
| BIA Indicators | | | |
| TWB | | |  |
| ECW | | | |
| ICW | | | |
| EIS Indicators | | | |
| Cortisol | | | |
| Aldosterone | | | |
| Na+ | | | |
| K+ | | | |
| Cl- | | | |
| Ca++ | | | |
| Mg | | | |
| Phosphates | | | |
| [H+] | | | |
| ESG 9/10 (VO2) | | | |
| SpO2% and photoelectrical Plethysmography Indicators | | | |
| SpO2 | | | |
| Etc | | | |
| EEl | | | |
| DDI | | | |
| DEI | | | |

Сравнение моделей состояния до и после спортивных упражнений в

FIS



Мониторинг показателей композиции массы тела

