Psy-Tek Research & Services

Research:

Psy-Tek provides companies, individuals or health practitioners who make new health devices or products or offer services that are not based on the allopathic model of health care (and so need validation) with the expertise to validate the effectiveness of their new health devices or products or services through rigorously designed research studies

Service:

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Psy-Tek provides health practitioners with health assessment reports that are complementary to allopathic diagnostic tests using innovative and non-invasive technology;

Why do Research?

Research projects involving human subjects are under strict regulations by the Food and Drug Administration (FDA). The FDA assigns the task of reviewing and approving research projects to Institutional Review Boards (IRBs) which are formed by experts in fields, related to the health sciences and are required to follow strictly FDA guidance.

With the passing of the new Health Care Reform (the Patient Protection and Affordable Care Act), reimbursement by insurance companies will be based on whether or not the health modality used has some research evidence to back up its efficacy (so called "evidence based" therapies). To conform to the new Health Care Reform, hospitals ,HMOs, etc. are revising their health care model. The new health care model that is currently favored is called Accountable Care Organization (ACO) which is now promoted all over the country. Some hospital systems already operate under that new model including Kaiser Permanente and the HealthCare Partners Medical Group. Health care groups that adopt the ACO model will be greatly favored by insurance companies which try to decrease the amount they have to pay for health care because the premium they can charge is considered already too high and most states are trying to cap the premium they can charge. This is evident in CA where Blue Cross came under fire after increasing its insurance premiums by 40% overnight last year.

Why use Psy-Tek?

Psy-Tek personnel are experts in alternative and complementary treatment and research. Our experience has been to design research projects varying from the simplest to the most complex. We know how to design research projects for most devices, products and services that can also be outside the allopathic model of health care and have them approved by a local IRB. IRB approval of a research protocol is required to be able to publish research results in peer-reviewed journals. In addition to our expertise in designing research projects for human subjects, our laboratory includes several devices that can be used to non-invasively monitor several aspects of the health condition of research subjects as well as liquid and solid materials.

What Psy-Tek Does

Our research approach to prospective research sponsors includes some or all of the following steps:

1. First Contact:
   a. Obtain as clear as possible a picture of what the project is to be
   b. Share and sign mutual NDA if appropriate
   c. Obtain printed documents, reports, etc describing the client's device, process, etc.
2. Decide if we can do the project:
   a. Are we the right group to perform this research?
   b. Is this something we want to do?
3. Discovery Phase:
   a. Run through a "discovery stage" with the client
   b. Make a list of their expectations
   c. Understand the client's perception of the work
   d. Sign mutual NDA if not already done
4. Define the scope of work:
   a. Perform research to propose a solution (preliminary agreement must be signed and payment received in full)
   b. Gather details/resources
   c. Determine costs, schedule, and tasks for different possible solutions
5. Propose solutions to client:
   a. Propose in writing several solutions (cheap, medium, high price) with recommendation for best solution (Informal Proposal)
   b. Discuss solutions until one is chosen
   c. Modify a few times the solution it until both parties are in agreement
   d. Agree on status reporting and on final delivery
   e. Present formal proposal with budget and contract (including asking and receiving 50% of total cost before implementation)
6. Sign contract and perform:
   a. Signed contract is received (no modification allowed by sponsor once the contract is signed or new contract is needed and steps 3 and 4 must be repeated)
   b. Implement project
   c. Provide interim reports as agreed (minimum time interval between reports: 2 weeks)
   d. Informed sponsor of any change in procedure from the accepted proposal including delays and new costs as soon as possible and get authorization to proceed in writing or project stops until approval is obtained.
   e. Make the first draft of a final report
   f. Discuss the draft and make modifications
   g. Deliver final report and ask for final payment.

Psy-Tek final reports will include at minimum:

- Ø The goals of the project
- Ø A detailed description of the equipment used
- Ø The methodology
- Ø A detailed presentation of the results, including images and photos of the results as appropriate to document the steps during the investigation
- Ø An opinion on the possible correlation between the test results and product claims if needed.

This process is simplified depending on the complexity of the project. For example if we do a feasibility project or a pilot project with few subjects, we will use a simple memo of understanding (MOU) which will serve as the contract and will include definition of the scope of the project, proposed solution and pricing (steps 4 and 5 above will be included in the MOU).

Psy-Tek laboratory includes several devices that non-invasively monitor several aspects of the health condition of research subjects. These include:

1) Gas Discharge Visualization/Electro-Photon Imaging

Electro-Photon Imaging (EPI), formerly known as Gas Discharge Visualization (GDV), is an advanced form of Kirlian photography developed by Dr. Konstantin Korotkov. This technology produces an electric impulse, which generates a response of the subject in the form of electron & photon emission. The glow of the photon radiation owing to the gas discharge generated from the electromagnetic field is captured by a digital camera and processed by sophisticated software where a report can be generated.[30,35] Participants will be required to put each finger tip on a quartz plate and an image displaying the photons emissions is then analyzed according to the Korean Su Jok meridian system, which is possibly related to the Bonghan duct system previously described, and is referenced in contemporary medical texts as the Primo-Vascular System.[30,35-38] **Figure 1** shows a device used to measure each finger separately. **Figure 2** shows an image of a fingerprint and the corresponding aura as produced by the GDV/EPI software. The photonic emission of the ten fingertips is analyzed by the software and is shown in **Figure 3**.

Figure 1: Photograph of GDV Camera pro version 3 designed for measuring one finger at a time.

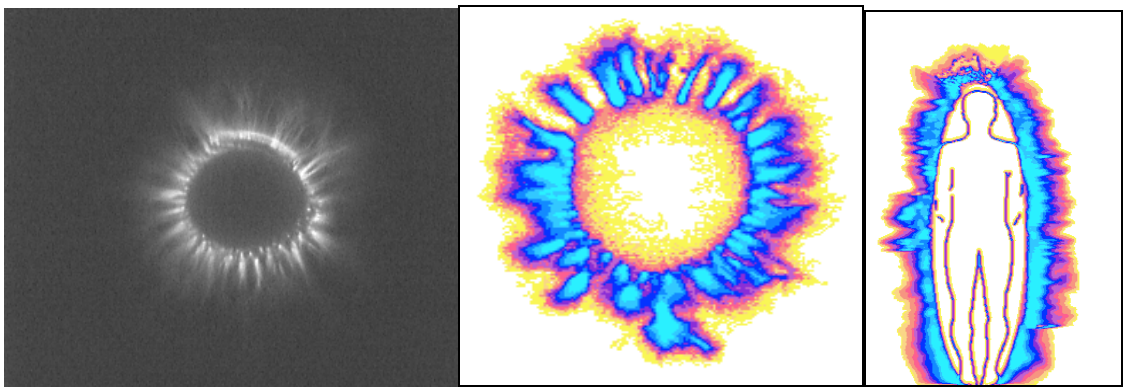


Figure 2: Example of EPI/GDV image captures: **A)** photonic emissions captured from a finger tip; **B)** photonic emission interpretation by GDV software; **C)** biofield analysis based on photonic discharge and the Korean Su Jok meridian system.

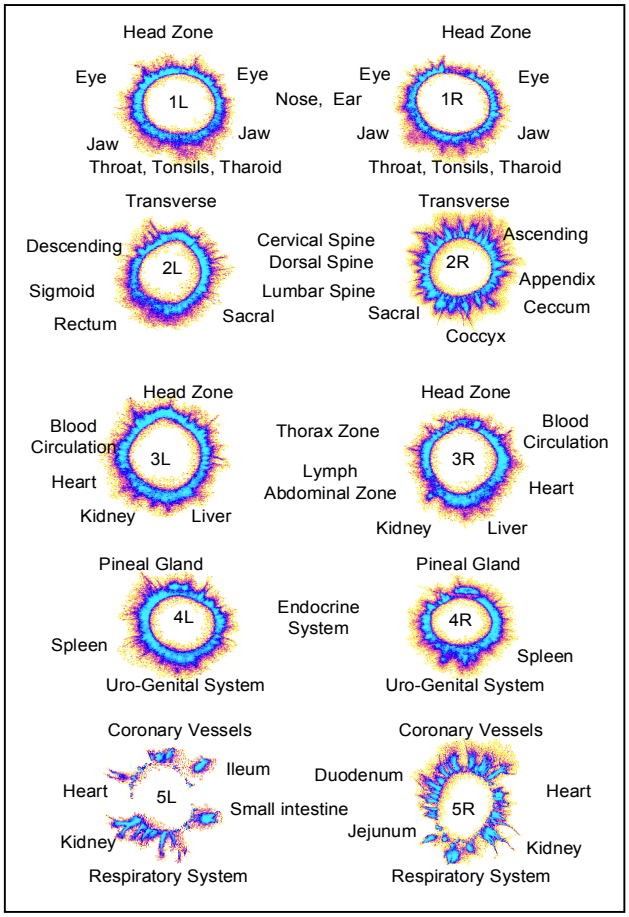


Figure 3: Software analysis of photonic emissions with respect to the Su Jok meridian system.

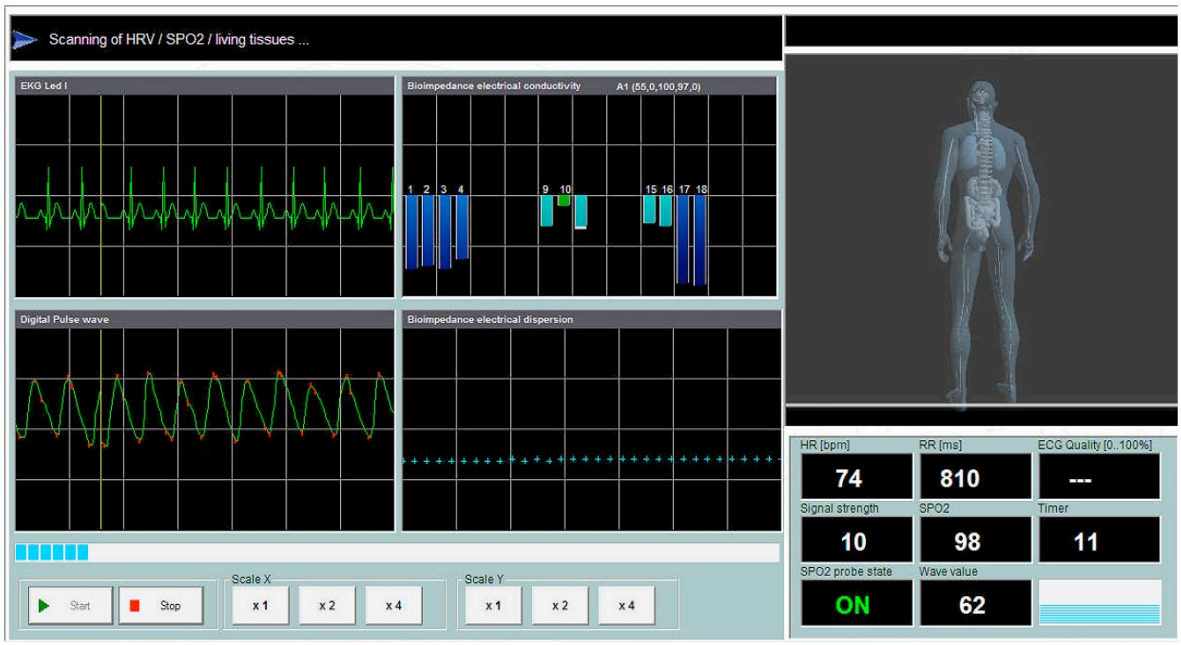
2) ES Tech Complex

The Electro Sensor Complex is a combination of medical devices to provide a fast overview of the homeostasis (internal medium and the main regulatory mechanism of the human body). Changes in cell function always occur in the context of a whole organism, and different tissues and organs affect one another.

Therefore, the intended use of the ES Complex data is as specific supplementary examination regarding the patient homeostasis potential and responses which is a very important adjunct in the therapeutic plan management and follow up.

The technologies used as part of the ES Complex system provide some new data for the physician or other health practitioner such as estimation of the tissue oxygen, tissue pH, edema, Autonomic Nervous System activity, body composition, fluid distribution and hemodynamics. The non invasive fast measurement (2 minutes), the low cost, the results immediately available and the software usability makes the ES Complex an indispensable tool for health practitioners.

Example of the scanning window which is the display seen during a measurement:



3) Thermography System

Thermography is an American invention initially used in World War II as a method of tracking troops and movement in the dark and at great distances. As a military device it was highly classified until the 1960's, when it was officially declassified and became available for other uses, although it is still used extensively in military and other government projects. Today, thermography is used extensively industrially and in medicine. After declassification, the National Cancer Institute accepted the use of thermography for breast imaging until mammography became the focus of breast imaging. Consequently, radiologists embraced mammography as a radiological device since it fell within their specialty and was responsible for advancements for

doctors within that specialty. Together with the efforts of the radiologists to eliminate the competition and the lack of understanding of thermography combined with the lack of knowledge of the physiological sympathetic and autonomic responses of the body, thermography was effectively pushed aside. Coupled with the public's demand for safe imaging and some pioneers in the fields of medicine and industrial business, thermography is brought back to the mainstream.

Medical Thermography is the use of an infrared camera to "see" and "measure" what we call metabolism, thermoregulation or thermal energy emitted from the body. Thermography reveals a fascinating and reliable pattern of thermal activity that discloses a silent warning. A sensitive infrared video camera can even detect a gentle but visible pulsation created by blood pumping through blood vessels.

Infrared lets us see what our human eyes cannot; because infrared is part of an invisible electromagnetic wavelength that is perceived as heat. Everything with a temperature above absolute zero emits heat. Infrared thermography cameras provide the ability to record precise non-contact body temperature measurement. Abnormal physiological activities in the body are easily observed with thermography.

Thermography is not a stand-alone diagnostic device and does not replace any other diagnostic device or examination, and is therefore used as an adjunctive screening tool with other such devices and examinations.

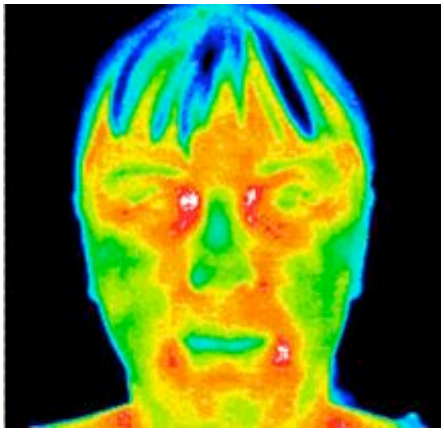


Figure 5: Thermographic picture of a head

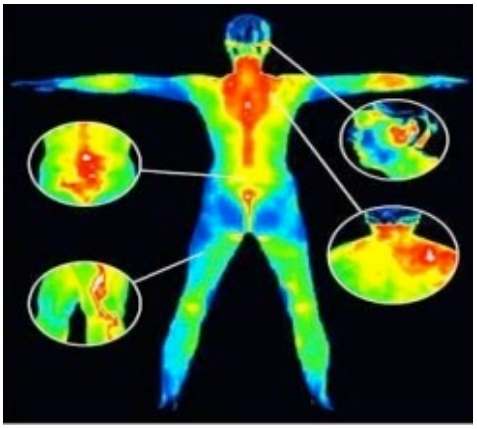


Figure 6: Thermographic picture of the hole body – back view.

Once we have researched your devices, products or services we then can investigate the best ways to market them while staying in compliance with regulatory agencies. We can identify the best target markets and how best to reach them.
We can add other research modalities as needed thanks to our affiliation with other research centers (such as the California Institute for Human Science and the Centre for Biofield Science in India) as well as our extensive network of research collaborators.

What You Get from Psy-Tek

Examples of research reports:

1) Gas Discharge Visualization/Electro-Photon Imaging

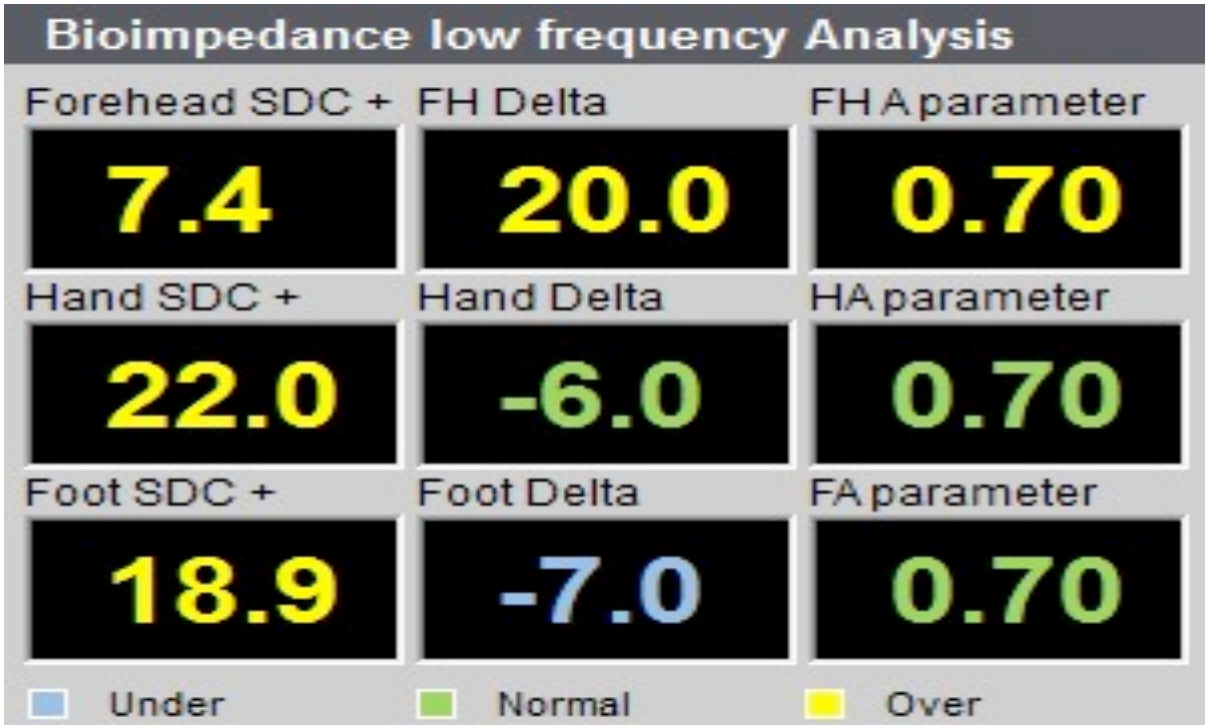
2) ES Tech Complex

ESTECK Status Report

WARNING! The ES Teck system does not replace any medical examinations. The ES Teck system should be used as adjunct or screening. All results should be considered in the clinical context of the patient's case history, symptoms, known diagnosis, current medications, treatment plan and therapies. Final status report is the sole responsibility of the practitioner.	
Subject ID	***Practitioner***
First/Last Name: 2LF02	Address:
Weight : 180.0 Pounds	
Height: 5 Feet 6 Inch	Title:
Date of birth: 6-2-1956	
Gender: Female	
	Telephone / Fax / E-mail:
Measurement conditions	Name : Administrator
Examination performed at: 5-26-2011 18 : 47	Physician's notes:
Registration method: A1 (73,0,100,58,0) N1 (54,0,100,58,0)	
Examination performed with a ES Teck Sensors Analyzer Manufactured by L.D Technology. ISO 13485 Owner/Operator Number: 9097859. Establishment Registration Number: 3006146787. CE 0535 Class IIa. 510k number K102166 and k102442 Class 2 and EC 0535. ES Teck sensor is accredited as electrical equipment type BF according to the standards EN 60601-1-1. CEM according to the standards EN60601-1-2	
Clinical context	
Symptoms :	
Medications :	
Daily Activity Level: Light: office activity Systolic / Diastolic pressure: 121 / 66	
Reason for consultation:	Signature of the practitioner :

EIS indicators

The EIS measures the human body electrical properties (electrical conductivity and dispersion).
The signals processing analysis provides data about the galvanic skin response.
Main indicators for each electrodes pairs : Hand, Foot and Forehead
SDC + : Electrical conductivity related to the pathway from anode to cathode and from the peer reviews it seems related with the tissue oxygen level
Delta SDC+-SDC -: numeric value .From the peer review, it seems related to the interstitial chloride ions (inversely proportional) .
Alpha parameter : Electrical Dispersion. From the peer reviews, it seems related to the morphology of the fluid between the cells.



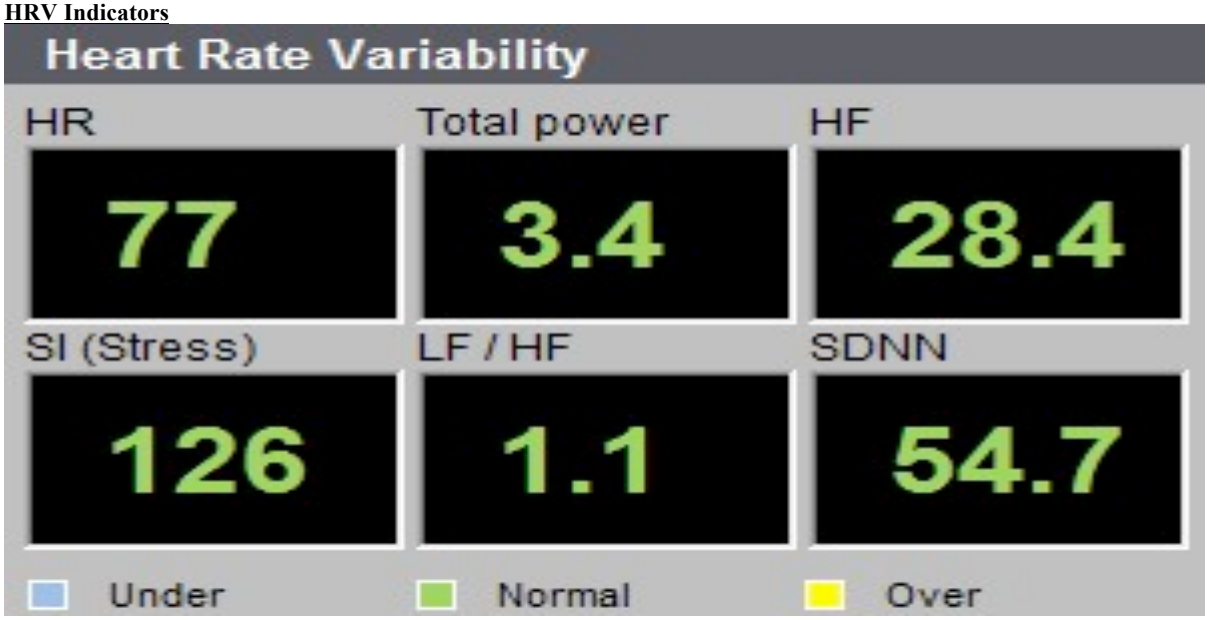
HRV

Heart Rate Variability (HRV) is the mathematical analysis of the time between each Heart beat and provides indicators of the Autonomic nervous system activity and it is the gold standard to estimate your stress level.

Main indicators:

Heart rate: The number of heart beats per minute
SI Stress Index: Indicator of the heart left ventricle work and heart oxygen consumption
MxDMn: Indicator of the stability of the heart rhythm
HF % and ms: Main indicator of the parasympathetic activity
Total Power: Indicator of the vagal activity.
LF/HF: ratio considered by some investigators to mirror sympathetic/parasympathetic balance or to reflect sympathetic modulations.

HRV Indicators



K30/15

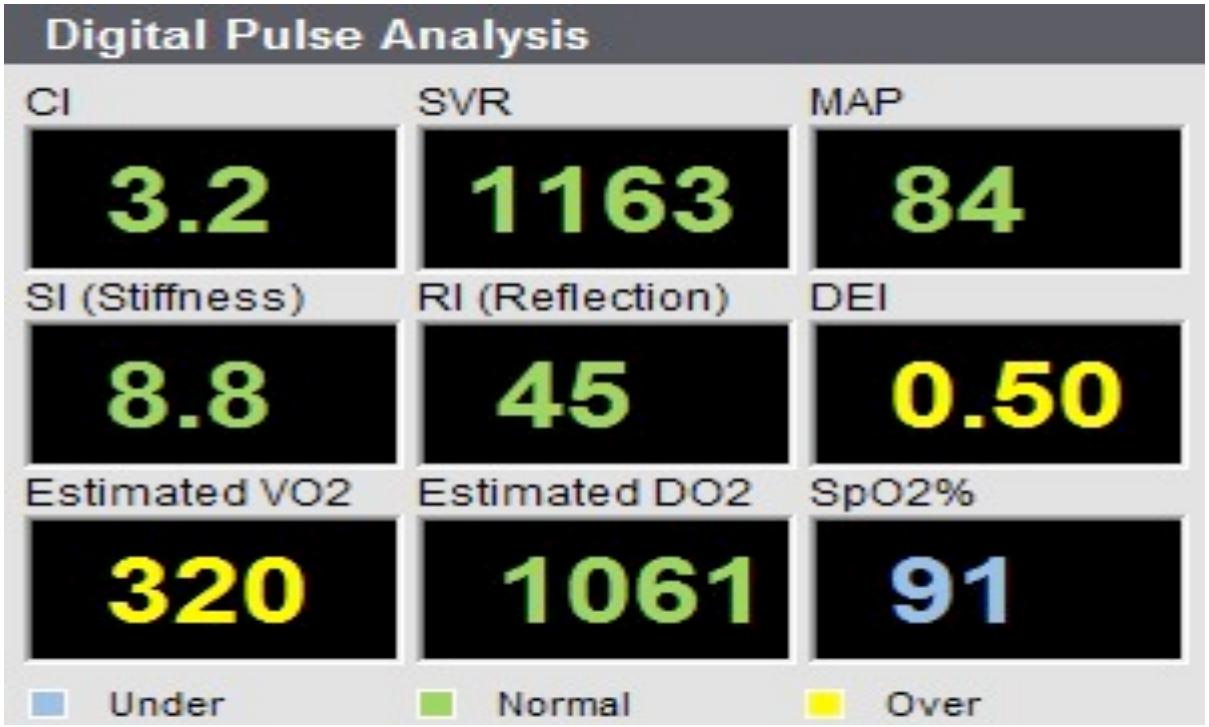
Indicator of the orthostatic hypotension and vagal syndrome. The value under should be an indicator of vagal syndrome
Normal range > 1.30
Value: 1.35 C.U

Valsalva ratio

Ratio issue from the Valsalva maneuver : a value under should be an indicator of cardiovascular disease, especially when used in conjunction with echocardiogram.
Normal range > 1.20
Value: 1.31 C.U

SPo2 % and Photoelectrical Plethysmograph

Q (Cardiac Output): Indicator of the volume of blood being pumped by the heart in a minute.
SVR (Systemic Vascular Resistance) : Indicator of peripheral Resistance to flow that must be overcome to push blood through the circulatory system.
MAP (Mean Arterial Pressure): Average pressure during the aortic pulse cycles estimated from the Digital Pulse Analysis
Stiffness Index: Indicator of the large artery stiffness related to the blood pressure
Reflection Index: Indicator of small and middle size artery stiffness
DEI: Indicator proportional to the peripheral artery elasticity or to the venous return (vasoconstriction)
Estimated VO2: Oxygen uptake represents the oxygen supply for the tissue metabolism
Estimated DO2: oxygen delivery is the rate of oxygen transport in the arterial blood
SpO2%: Hemoglobin oxygen saturation in percent corresponding to the arterial oxygen pressure. It can be reduced e.g. anemia, hypothyroidism, high altitude, Co2 increased, histotoxic hypoxia (cells cannot use 02) , oxygen-hemoglobin bond increased affinity, sleep apnea or lactic acid excess.



Body composition and follow up

The estimated body composition is made according to the measurement of the body resistance in tetra polar mode and frequency of 50 KHz. The estimated values are calculated from the peer reviews. Please note that these ranges are average values taken from a treatment of the NHANES-III survey data. They are not to be interpreted as being 'ideals' and may not necessarily reflect values that are generally considered 'healthy'.

What do the Results Mean?

FAT Mass: Fat is the energy storage of the body. Everybody needs fat in their bodies, but it is important not to have too much.
Fat Free Mass (FFM) : This value is, literally, what would be left after all fat was removed from the body. Many people also Refer to FFM as Lean Body Mass (LBM).
Total Body Water (TBW): Literally, the total amount of water in the body. Since fat is essentially 0% water, TBW is entirely contained within FFM.
Intra-Cellular Water (ICW) : This is the portion of Total Body Water that is located within the body's cells.
Extra-Cellular Water (ECW): This is the portion of Total Body Water that is located outside of the body's cells. Examples of where ECW is found include, but are not limited to blood plasma, spinal fluid, joint fluids, and edema.
Target Weight: If you and your patient know how much he/she should weigh, this value can be manually entered. Otherwise, it is calculated using a set of standardized formulas.
Body Mass Index (BMI): A person's BMI is equal to their weight in kilograms divided by their height in meters, squared. BMI is commonly used as an indicator of whether someone is overweight.
It is important to note, however, that somebody who is 'overweight' may not necessarily be 'over-fat'. A 5'10'', 300 pound couch potato and a 5'10'', 300 pound bodybuilder will have exactly the same BMI.
Basal Metabolic Rate (BMR): Basal Metabolic Rate is the number of calories that a person will use per day, by virtue of simply being alive (i.e., lying still and breathing).

Homeostasis Score

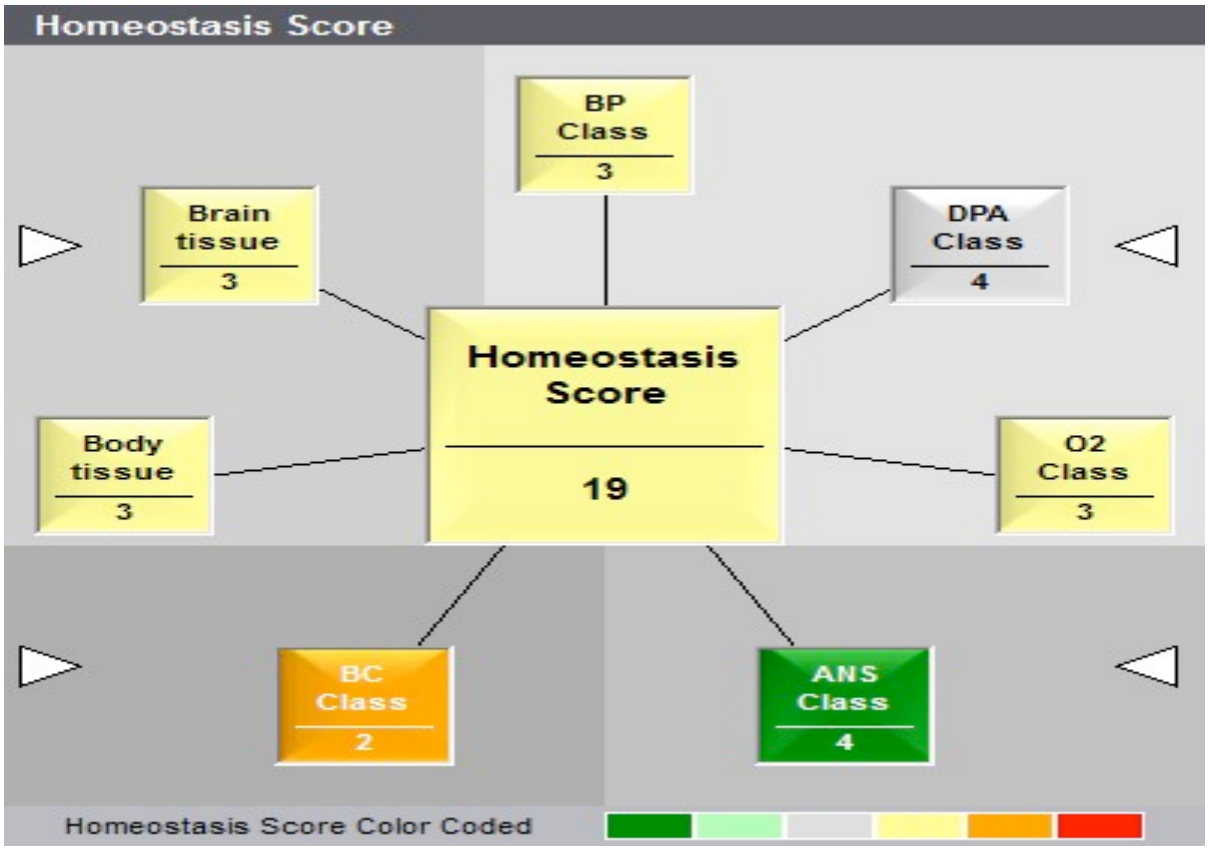
The homeostasis score provides a fast overview of a patient's homeostasis processes and responses with the key regulatory mechanisms, to understand the patient's potential adaptation to lifestyle, disorders, diseases or current treatment. or any factors (temperature, stress…)

- Depend first of all from Genetic
- Could be affected by lifestyle/diseases/ treatment
- Decreased with age.

The healthy subject is not identified as such simply because he does not have any disease, but because his homeostasis score is acceptable and therefore his body can adapt and remain healthy when challenged. The homeostasis score cannot be used as diagnosis.

Results meaning

Maximum Score = 30
Very Good = 27-30
Good = 24- 27
Normal = 20-24
Warning = 17-20
Low = 10-17
Poor < 10



Suggested diet and micro nutrition advices 1

The advices in nutrition and micro nutrition could be revised in the next follow up examination. The advices do not take care about the clinical context, current treatment and specific lifestyle such as vegetarian, athletes. The advices are issue from Recommended Dietary Allowances, 10th Edition. National Academy Press 1989-1999. ISBN: 0-309-04633-5 and the cross analysis of the ES Teck results and in particular the body composition and hemodynamic indicators.

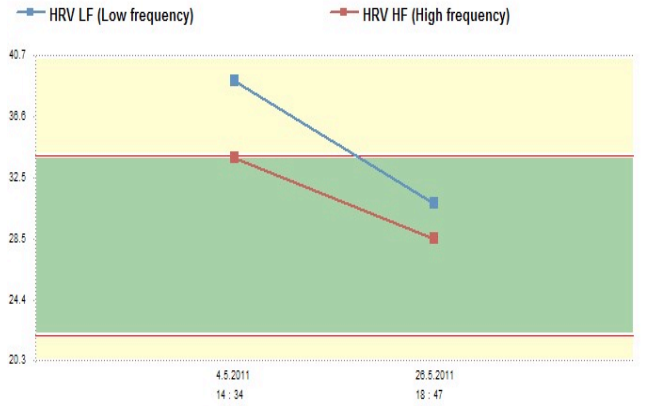
NOT RECOMMENDED FOODS	RECOMMENDED FOODS
Vegetables *Asparagus, Avocado, Artichokes, Lentils , Peas, Red beans, Brussels sprouts, Dried vegetables, Tomatoes, Onions, Avocados, Chestnuts, Bell peppers, Cucumber, Dried beans, Black radish, Maize, Feculent, Celery, Potato* ***Animal protein*** *Egg-white, Game, Cold cuts, Liver, Kidneys, Offal, Brain, Smoked meats smoked fish and smoked poultry, Raw fish, Fat meet and animal fats., Lard, Sausages, Bacon, Goose, Strong cheese, Smoked meat, Seafood, Animal fats, Fresh cream, Mortadello, Strasbourg sausages* *Eat very little meat (once a week is enough) ,replace with fish, oily if possible* ***Dairy products*** *Mozzarella, Margarine, Fresh cream, Cheese* ***Carbohydrates*** *White flours and derivatives, White bread, French toasts, Pastries, Semolina, White sugar, Pasta, Chocolate, White rice, Ice-cream, Honey, Jam, Cocoa, Jam tart, Bread, Oats, Whole meal bread, Sodium glutamate (often used in Chinese cooking), Confectionary* *Corn-flakes, Pop corn* ***Fats*** *Hard fats, Refined oils, Fatty stock, Margarines, Fried food, Mayonnaise* ***Drinks*** *Black tea, Strong alcohol, Commercial vinegar, Alcohol, Sweetened Cola Drinks, All sweet drinks, White wine* ***Oily foods*** *Peanuts, Cashew nuts, Pecan nuts, Walnuts, Pistachios, Hazel nuts, Pine nuts, Peanut oil* ***Fruit*** *Bananas, Pineapple, Dates , Fruit in syrup, Candied fruit, Dried fruit, Fruit jelly, Coconut, Orange* ***Herbs*** *Rosemary* ***Aromatic herbs*** *Cress, Rhubarb* ***Reduce containing gluten foods (for one month):*** *Wheat, barley, rye, oats, kamut, wild wheat, pastries, sweet bread products and cakes of all kinds, bars, confectionery, breakfast cereals and mueslis, pizzas, quiches, any unverified commercial product and containing: malt (barley), maltodextrine and starch except if specified rice.*	***Vegetables*** *Pumpkin, sesame, sunflower seeds, Sprouted seeds, Egg Plant, String beans, Celery root, Leeks, Fennel, Dandelion, Ginseng, All the green vegetables you want, Carrots, Cabbage, Pumpkin, Zucchini, Endives, Salsify, Cooked green vegetables, Steamed potatoes* ***Drinks*** *Chicory, Green tea* ***Oily foods*** *Almonds, Brazil nuts* ***Fruit*** *2 fruits per day max, Fresh fruit, Cherry stalks in solution, Melon, Pear, Watermelon, Lemon, Peaches, Blackcurrant* ***Herbs*** *Parsley, Sesame, Basil, Tarragon, Garlic, Oregano, Chervil* ***Aromatic herbs*** *Cider vinegar, Cinnamon, Curry, Ginger, Lemon* ***Plant protein*** *Soy* ***Oils*** *Cod liver oil, Plant oils, Evening primrose oils*
MICRONUTRITION	**COOKING METHODS**
Vitamins *Vit.C* ***Trace elements*** *Zinc nickel cobalt ,Sulfur ,Phosphorus ,Cobalt* ***Plant therapy*** *Ceylon cinnamon - essential oil ,Girofle - essential oil ,Lavender - essential oil ,Peppermint - essential oil*	*· 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 digestion, advice for cooking : 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 gravy.*

Suggested diet advices 2	
REGIME	*FOOD ASSOCIATIONS*
Daily Energy Expenditure (DEE): 2057 Kcal *A low calorie diet is recommended based on plant proteins (soy and soy product), fruits (not plums and apricots) vegetables (no asparagus , artichokes, Brussels sprouts and onions) and diet milk.*	*· Diversity of fruit and vegetables (action synergy of plant-micronutrients)*
DIETARY ADVICE	
Reduce salt, alcohol, fast sugars, avoid barbecued foods and overcooked or burned foods, smoked animal protein (meat, fish, poultry), avoid fried foods and do not re-use cooking fat or oil. *Your total daily calories should be made up of:* *10 to 15% animal and vegetable protein* *30 to 35 % fats* *50 to 55% glucose, 10% of which should be fast sugars* *30 to 40 g of fiber /day* *A balanced diet must include all these substances vitamins and trace elements must be added.* *Water quality is the essential complement to a balanced diet.* *You should always eat a big breakfast, moderate lunch and light meal in the evening.* *Avoid using microwave ovens. If possible, one day of fasting per month is recommended (only water and tea)*	

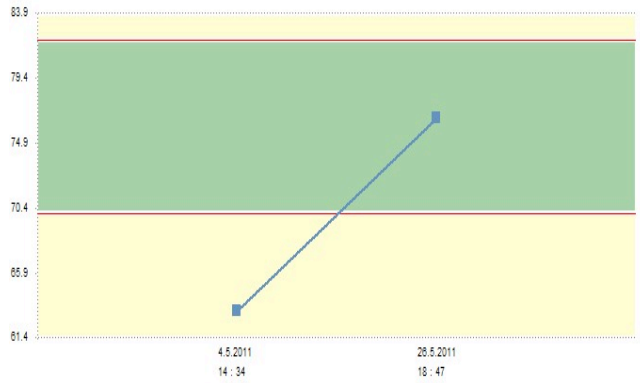
Indicators' Follow Up

The Follow ups of the mains indicators allow to the physician to check their evolution or to monitor the treatment or the lifestyle changes.

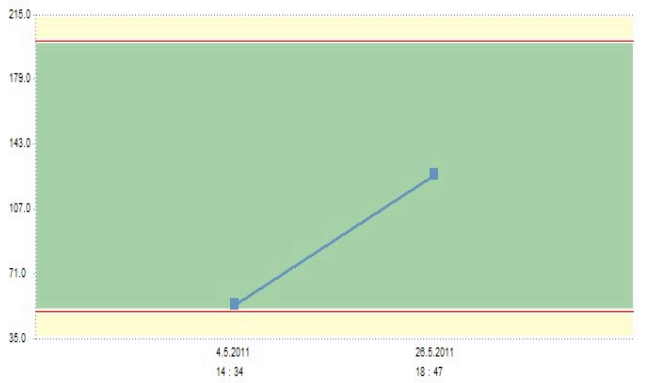
HRV Indicators



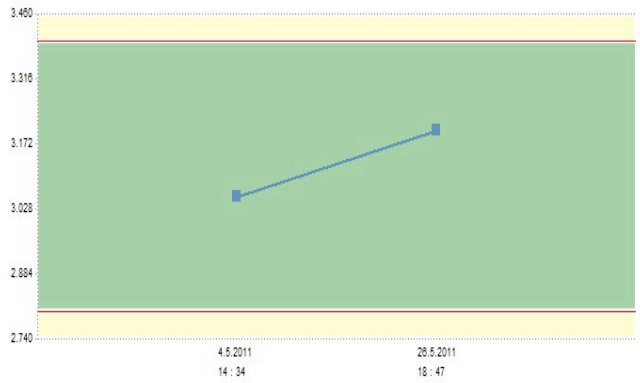
HR (Heart rate)

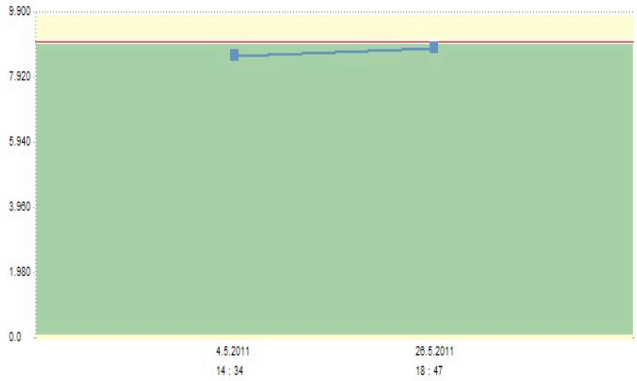
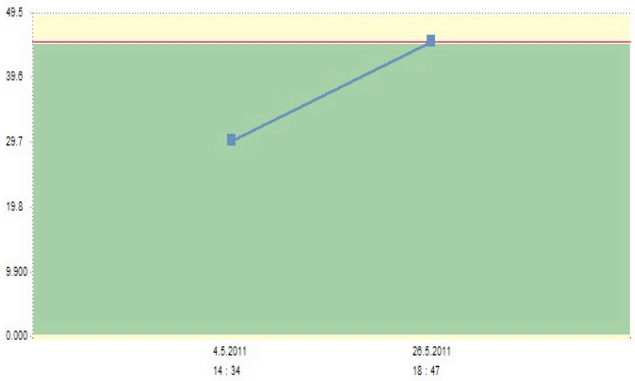
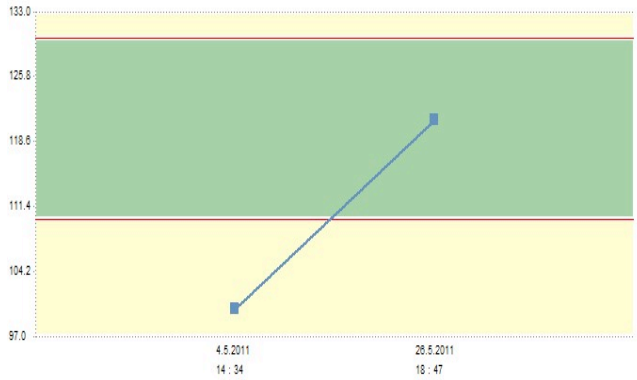
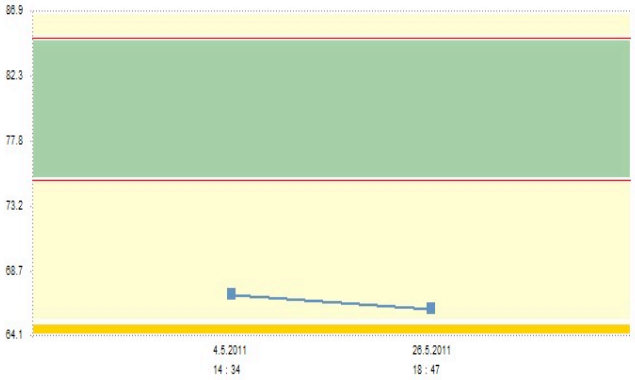
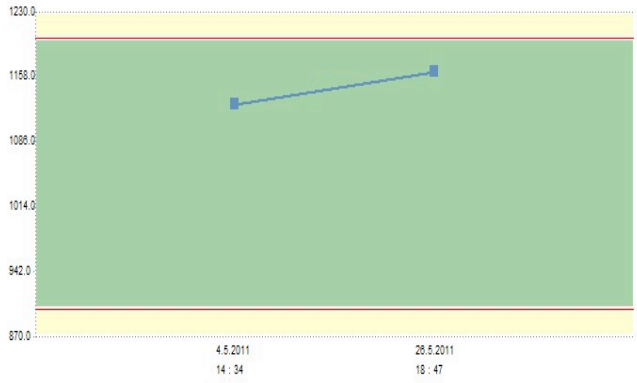
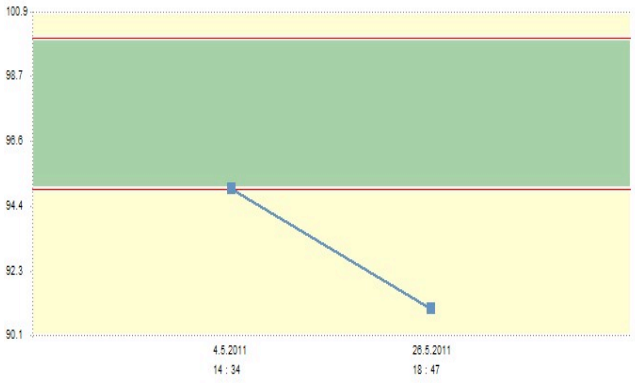


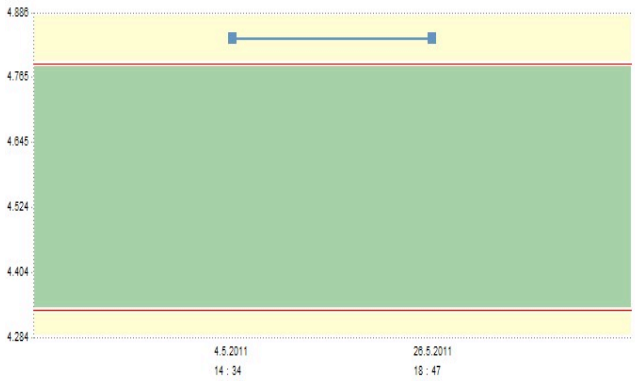
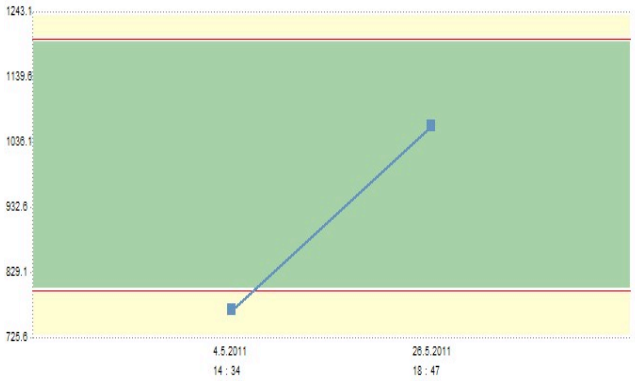
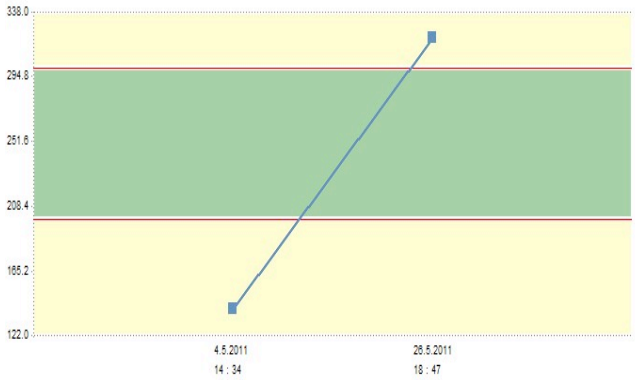
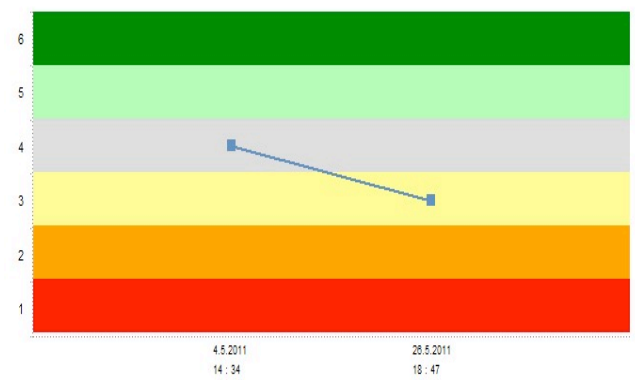
SI (Stress index)



CI (Cardiac Index)



SI (Stiffness Index)	RI (Reflection Index)
	
Systolic pressure measurement	**Diastolic pressure measurement**
	
Estimated SVR (Systemic Vascular Resistance)	**SpO2%**
	

Estimated BV (Blood volume)	Estimated DO2
	
Estimated VO2	**Homeostasis Score**
	

3) Thermography System

In Conclusion

By working with us, you are working with experienced researchers with years of experience in conducting research with devices, products or services outside the mainstream allopathic model of health care. We can determine the best ways to promote your devices, products or services by a combination of research and marketing. We are uniquely poised to help get your devices, products or services scientifically validated through peer reviewed research and well known in your community through clever marketing.