ES TECK SYSTEM

GENERAL INFORMATION'S



ES Teck Measurements

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÷ 4	> 🗘 🕸	1						
> HRV and S	GPO2 scanning			-Scale X	Scale Y		F	
				x 1 x 2 x 4	x1 x2 x4			
				Scale X	Scale Y —			
				x 1 x 2	x 1 x 2	HR (bpm)	RR [ms]	ECG Quality [0100%]
<u>у</u> v				x 4	x 4	Signal strenght	spo2 97	PR 93
Start	Stop	Type Original signal Software filtration	HSF filtration ✓ High pass filter 0,1 Hz ✓ High pass filter 1,0 Hz	BSF filtrati E Band s	on stop filter 50 Hz stop filter 60 Hz	SPO2 probe state	Wave value	

Autonomic Nervous System and Heart rate variability



SpO2 AND Photoelectrical Plethysmography



SpO2 ANALYSIS

Oxygen - hemoglobin Affinity Changes.

The functions of hemoglobin are oxygen pickup and delivery. The hemoglobin has an affinity (the strength of bond between oxygen and hemoglobin) that can be increased or decreased due to various situations. If hemoglobin has an increased affinity, it is highly saturated; but oxygen is less available for release to the tissues due to the strong bond. The reverse is also true.

E.S TECK COMPLEX

GENERAL INFORMATION'S



ES TECK COMPLEX THE NATURAL EIS UPDATE











ES Teck Complex Measurements





STECK



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E.S TECK COMPLEX INTENDED USES

- **HRV module:** To analyze the basic rhythms of the NN or RR intervals in electrocardiograms, both in the time domain and in the frequency domain (short time 5 minutes)
- It only provides numerical analyses of the input electrocardiogram.
 - Estimate of the parasympathetic and sympathetic system stimulation.
- **PP module**: Analyze the pulse waveform by photoelectric plethysmography and Pulse rate.
 - Evaluation of Large and small artery
- EIS module:
 - Monitoring of diseases, functional and lifestyle ' treatments
 - Adjunct to conventional diagnosis of ADHD children
- BIA module :
- Calculation and Historical Tracking of body composition

Body Impedance Analysis (BIA)



Measurement of the Resistance and Reactance in Tetra polar mode with a frequency of 50 KHz





Resistance and Reactance measurements

- Resistance is a measure of how difficult it is for electricity to flow through an object.
- Reactance

Most objects have some capacitance, which is a measure of ability to store an electrical charge. The more capacitance the object has, or the faster the current changes direction, the less the object will "react" to the current.

EIS BIA

Peer reviews formula

- Total Body Water :TWB
- 5-19 y.o Davies et al 1988
- 20-80 y.o Lukaski and Bolonchuk 1988
- Adult obese subjects: Segal et al 1988
- Fat free fat mass:
- 7-15 y.o Deurenberg et al 1991 16-83 y.o Deurenberg et al 1991
- Extra cellular water volume : EWC Sergi G, et al 1994

Phase Angle





Impedance Components





E.S TECK RESULTS

Age: 71 Gender: Male

Measurements: 1A1 (61) / 3.9.2008 13 : 38 , 1N1 (55) / 3.9.2008 13 : 34

Mitochondrial activity: Value Norm

Symptoms and treatments : Angiotensin conversion enzyme inhibitors (CEI) ; Beta-blocker ; Platelet anti-aggregants ; Thyroid hormones ; IRS (Fluvoxamine) ;



SpO2 RESULTS AND MANAGEMENT OF THE PHOTOELECTRICAL WAVE

Patient:	1g07
Age:	71
Gender:	Male

BMI: 29.76 , % Fat mass : 31.3, % Total body water : 51.3

Mitochondrial activity: Value Norm

Symptoms and treatments : Angiotensin conversion enzyme inhibitors (CEI) ; Beta-blocker ; Platelet anti-aggregants ;

Measurements: 1A1 (61) / 3.9.2008 13 : 38 , 1N1 (55) / 3.9.2008 13 : 34

Thyroid hormones ; IRS (Fluvoxamine) ;

Indicators	Under	Normal	Over	Values	Norms	Units	Comments	Follow Up
SpO2 Measurement								
SpO2				97.0	94.0 - 96.0	%		
PR (Pulse Rate)				69	68 - 79	bpm		
Signal Strength				10	8 - 12	mm		
Wave Value				76	65 - 95	mm		



APG Waveform





BODY COMPOSITION RESULTS

ESTECK

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itient: 1g07		Age: 71 Vis	sit: 15.8.2008 7 : 34		
Body Composition	(kg)				_
Compartments	Values	Total Body Water	Lean Body Mass	Weight	Daily Activity Level:
Intracellular Water	21.1	30 /			Very light: stay at home, no activity
Extracellular Water	18.2	35.4	50 C		Height 160.0 cm
Dry Lean Mass	13.3		52.0	76.2	Weight : 76.2 kg
Body Fat Mass	23.6				Fat mass: 52.6 kg Fat mass: 23.6 kg (30.9%)
Body Composition	Analysis (ka)				TBW: 39.4 kg (51.6%)
body composition	Analysis (kg)	Normal	Over		Extracellular Water: 18.25 kg (+4.9%)
	onder	Normal	Over		Intracellular Water: 21.11 kg (-0.9%)
Weight			76.2		Basal metabolic rate / 24 Hours: 1503 Kcal
Lean Body Mass		52.6	1	1	Algorithms used :
Body Fat Mass				23.6	 TBW: Lukaski and Bolonchuk 1988
Intracellular Water		21.1	1 1	1 1	FFM: Deurenberg et al 1991
Extracellular Water		21.1	1	1 1	ECW: Sergi G, et al 1994
T-1-10-1-14-1			18.2		- Actual Impedance:
Total Body Water			39.4	1 1	Actual Impedance.
Obesity Diagnosis	(%)				Z = 361.0 Ohm
	Under	Normal	Over		R = 360 Ohm Xc = 27 Ohm
Body Mass Index				29.7	Phase Angle (PA) = 4.3
Percent Body Fat				20.7	 The calculation of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the body composition is made according to the body composition of the
Weight Control (In				30.9	to the Bioelectrical Impedance Analysis (BIA). BIA in te
weight Control (kg	1				polar mode and mono requercy or SOKHZ.
Current Target Weigh	nt: 61.9 Fat Contro	ol: -12.1 Basal Metab	oolic Rate: 1503 Kcal		
Weight Control: -14.3	LBM Cont	trol: -0.7			

Body Composition follow up

ient: gustavo		Age: 71	Visit: 3.9.2008 13 : 38					
Body Composition (kg)				-			
Compartments	Values	Total Body Water	Lean Body Mass	Weight	80,00			
Intracellular Water	20.9	39.1			•			
Extracellular Water	18.1		52.4		1000	A A		
Dry Lean Mass	13.3			76.2	70,00			
Body Fat Mass	23.8							
Body Composition An	alysis (kg)				60,00			9
	Under	Normal	Over					
Weight			76.	2	50.00			
Lean Body Mass		52.4	1 1	r i			Wainht	
Body Fat Mass				22.0				
Intracellular Water			1	1 23.0	40,00	XXX	FFM	
Extracellular Water		20.9		1			FIVE	
Tatal Data Mata			18.1		30.00			
Total Body water			39.1	6. a				
Obesity Diagnosis (%)	50 55555				h			12
	Under	Normal	Over		20,00			
Body Mass Index	2			29.7				
Percent Body Fat				31.3	10,00	24 24 24 24		
Weight Control (kg)						n n n n		
Current Target Weight: 61	I.9 Fat Contro	ol: -12.4 Basal Met	tabolic Rate: 1503 Kcal		1.2.200	a 120 a 120 a 120 120		
Weight Control: -14.3	LBM Cont	rol: -0.4			No.	2 3 12 13		

(AO)

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DIGESTIVE SYSTEM INDICATORS



Bo	ody System A	Analysis				
Digestive system analysis						
Indicators	Under	Normal	Over	Values	Norms	Units
EIS Indicators						
Descending Large intestine conductivity			() () () () () () () () () () () () () (30.12	7.69 - 17.24	10-6 S.m-1
Ascending large intestine conductivity		1	2. 3	28.74	7.69 - 17.24	10-6 S.m-1
Stomach and duodenum conductivity		1		18.87	7.69 - 17.24	10-6 S.m-1
Liver and gallbladder conductivity		1		17.24	7.69 - 17.24	10-6 S.m-1
Pancreas conductivity	1	1		18.02	7.69 - 17.24	10-6 S.m-1
HRV Indicators						
Gall bladder : Biliary ducts				0.46	0.50 - 2.00	I.U
Intestine : Peristalsis and tonus		1		0.46	0.50 - 2.00	I.U
Intestine : Sphincter (rectum)				0.46	0.50 - 2.00	I.U
Stomach : Gastric and pancreatic secretions		1		0.46	0.50 - 2.00	I.U
Stomach : Digestion		1		0.46	0.50 - 2.00	I.U
Stomach : Sphincter (duodenum)				0.46	0.50 - 2.00	I.U
Liver : Glycolysis		1		0.46	0.50 - 2.00	I.U



BRAIN INDICATORS



Body	System A	nalysis				
Brain system analysis						
Indicators	Under	Normal	Over	Values	Norms	Units
EIS Indicators						
Neuronal excitability				5.400	2.000 - 5.000	ms
Cerebral Oxygen level				76	82 - 86	mm Hg
Interstitial cerebral pH				7.25	7.31 - 7.35	I.U
EIS Interstitial Cerebral Neurotransmitters						
Interstitial cerebral Serotonin				2.51	3.66 - 7.14	μA
Interstitial cerebral Dopamine				2.11	3.66 - 7.14	μA
Interstitial cerebral Catecholamine				2.28	4.76 - 11.90	10-6 S.m-
HRV Indicators						
Psycho emotional tension				30	25 - 50	%
Acetylcholine				47	22 - 34	%



CARDIOVASCULAR INDICATORS



Bod	ly System	Analysis	;				
Cardiovascular analysis							
Indicators	Under	Normal	Over	Values	Norms	Units	
EIS Indicators							П
Blood flow				33.10	10.21 - 23.20	μA	1
Triglycerides				2.31-5.64	1.7 - 2.3	mmol/l	1
LDL Cholesterol				3.34.1	< 2.6 - 3.3	mmol/l	1
C Reactive Protein				1-3	<1	mg/L	1
HRV Indicators							
HR Heart Rate				69	68 - 84	bpm	
SI Stress Index				631.87	50.00 - 200.00	IU	1:
VLF Very Low Frequency				30.70	25.00 - 50.00	%	1
LF Low Frequency Baroreceptor reflex activity				21.86	22.00 - 46.00	%	1
HF High Frequency Parasympathetic system				47.71	22.00 - 34.00	%	
MxDMn Ratio				80.00	150.00 - 300.00	ms	
PP Indicators							
EEI (Ejection Elastic Index)				0.25	0.40 - 0.80	I.U	
DDI (Dicrotic Dilation Index)				0.10	0.20 - 0.40	I.U	
DEI (Dicrotic Elastic Index)				0.15	0.10 - 0.30	I.U	14
BIA Indicators							١.
Est marr				21.2	10.0 20.0	٥/	Е





HORMONAL INDICATORS



	Body System /	Analysis				
Hormonal system analysis						
Indicators	Under	Normal	Over	Values	Norms	Units
EIS Indicators						
Interstitial TSH				0.3 - 2	0 - 3	mIU /L
interstitial DHEA				10.21	10.21 - 23.20	μA
Interstitial PTH				15.80	10.21 - 23.20	μA
Interstitial Testosterone				8 - 15	8 - 38	pmol/L
HRV Indicators						
Adrenomedullary hormone production				21	22 - 46	%
interstitial Cortisol				160	110 - 390	nmol/L
interstitial ACTH				12.0	3.0 - 15.0	nmol/L
Leptin				12.0	10.0 - 15.0	ng/ml
BIA Indicators						
interstitial ADH				15.80	10.21 - 23.20	μA
Interstitial aldosterone				15.20	10.21 - 23.20	μA





RESPIRATORY SYSTEM INDICATORS



	Bod	ly System A	Analysis				
Respiratory system analys	is						
Indicators		Under	Normal	Over	Values	Norms	Units
EIS Indicators							
Bronchi Conductivity					7.14	7.69 - 17.24	10-6 S.m-1
Lung conductivity					18.87	7.69 - 17.24	10-6 S.m-1
SpO2 Indicators			-				
SpO2					97.00	94.50 - 96.50	%
PaCO2					30.00	35.00 - 45.00	mmHg
HRV Indicators			11 JU		1.0000000000		
Respiratory rate					13.20	12.00 - 20.00	breaths per r
	_						
	- / _ <u>}</u>	N	- A 1				60 /
						4	

GENERAL METABOLIC INDICATORS



Body System Analysis									
General metabolic functions analysis									
Indicators	Under	Normal	Over	Values	Norms	Units	-		
EIS Indicators									
Ionograms									
interstitial Na+				133.0	121.6 - 129.0	mmol/L			
interstitial K+				2.90	3.00 - 3.40	mmol/L			
interstitial CI-				106.0	107.5 - 115.0	mmol/L	1		
intertitial Ph				1.35	1.60 - 2.70	mmol/L			
interstitial Ca++				1.42	1.45 - 1.63	mmol/L			
interstitial Mg				0.65	0.40 - 0.56	mmol/L			
interstitial H+				37.26	42.60 - 51.30	mmol/L	Ľ		
Immunity									
Thymus conductivity				4.27	7.69 - 17.24	10-6 S.m-1			
Interstitial Acid Base Balance									
ipH				7.43	7.29 - 7.37	I.U			
iHCO3-				31.41	22.00 - 26.00	mEq/L			
iPCO2				48.76	41.00 - 51.00	mmHg			
i[H+]				37.26	42.60 - 51.30	nM/L			
iSBE				7.00	-2.00 - 2.00				
Linid balance									





UROGENITAL AND RENAL INDICATORS



Boo	dy System A	Analysis				
Uro genital and renal system analysis						
Indicators	Under	Normal	Over	Values	Norms	Units
EIS Indicators						
Prostate conductivity	1			34.97	7.69 - 17.24	10-6 S.m-1
Bladder conductivity				30.12	7.69 - 17.24	10-6 S.m-1
Kidney conductivity	1.000			30.12	7.69 - 17.24	10-6 S.m-1
Urea				> 6.5	< 6.4	mmol/l
Creatinine				> 116	< 115	mmol/l
PSA				> 6	< 1.69	mg/l
HRV Indicators						
Angiotensin renin system activity				30.70	25.00 - 50.00	%
BIA Indicators						
Total Body Water				51.3	42.6 - 52.6	%
Extracellular Water	1.1			23.8	14.0 - 24.0	%
Intracellular Water				27.5	23.6 - 33.6	%
						_
	- 1					60 V

Follow up of the Cerebral neurotransmitters



Medications monitoring indicators





Medications monitoring indicators

Monitoring of the Beta blockers treatment							
Indicators	Under	Normal	Over	Values	Norms	Units	
ESG 2+4+15+17				2.73	7.69 - 17.24	10-6 S.m-1	
EEI (Ejection Elastic Index)				0.25	0.40 - 0.80	I.U	
HR Heart Rate				69	68 - 84	bpm	
Adrenomedullary hormone production				21	22 - 46	%	
LF Low Frequency Baroreceptor reflex activity				21.86	22.00 - 46.00	%	
ES Teck MT Drug's monitoring							
Monitoring of CEI treatment							
Indicators	Under	Normal	Over	Values	Norms	Units	
ESG 6+8+19+21				28.74	7.69 - 17.24	10-6 S.m-1	
EEI (Ejection Elastic Index)				0.25	0.40 - 0.80	I.U	
HR Heart Rate				69	68 - 84	bpm	
VLF Very Low Frequency				30.70	25.00 - 50.00	%	
LF Low Frequency Baroreceptor reflex activity				21.86	22.00 - 46.00	%	
HF High Frequency Parasympathetic system				47.71	22.00 - 34.00	%	
1,60							
1,50				-			
1,40							
1,30							
1,20							
1,10					Neuro	nal exitability	
1,00		-		-	- Cerebr	nal ipH	
0,90		-		-			
0,80							
0,70							
0,60							

ADHD Children profile and diagnosis in adjunct with the clinical context



ADHD Children Profile						
ADHD Children Profile						
Indicators	Under	Normal	Over	Values	Norms	Units
ESG 9+10				17.24	7.69 - 17.24	10-6 S.m-1
Interstitial cerebral Serotonin				16.40	5.06 - 10.21	μA
Interstitial cerebral Dopamine				23.20	5.06 - 10.21	μA
Interstitial cerebral Catecholamine				16.53	7.69 - 17.24	10-6 S.m-1
Acetylcholine				1	22 - 34	%
3,60 3,40 3,20 3,00 2,80	X	/	/	-	Cerebral iser Cerebral idop Cerebral icate	stonine amine

Chiropractor Indicators and monitoring treatment



Advices for Lifestyle and exercises and monitoring



ES Teck Lifestyle						
Lifestyle Indicators						
Indicators	Under	Normal	Over	Values	Norms	Units
EIS Indicators						
ESG 9+10				23.26	7.69 - 17.24	10-6 S.m-1
ATP production				51	45 - 55	%
Insulin resistance				0	< 5	%
interstitial Na+				131.0	121.6 - 129.0	mmol/L
interstitial K+				2.95	3.00 - 3.40	mmol/L
interstitial CI-				106.7	107.5 - 115.0	mmol/L
ntertitial Ph				2.85	1.60 - 2.70	mmol/L
nterstitial Ca++				1.43	1.45 - 1.63	mmol/L
interstitial Mg				0.32	0.40 - 0.56	mmol/L
interstitial H+				47.84	42.60 - 51.30	mmol/L
BIA Indicators						
Fat mass				25.8	10.0 - 20.0	%
Fat free mass				91.5	79.0 - 89.0	%
Fotal Body Water				49.5	55.6 - 65.6	%
Body Mass Index				28.9	18.5 - 24.5	
	Ú III	i	1		- i	4







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Advices for Lifestyle and exercises and monitoring

NOT RECOMMENDED FOODS	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	Vegetables Artichokes, String beans, Celery root, Leeks, Fennel, Dandelion Drinks Chicory Fruit 2 fruits per day max Herbs Parsley
MICRONUTRITION	COOKING METHODS
Trace elements Magnesium Plant therapy Poppy ,Passion flower ,Aubeline ,Hawthorn ,Garlic ,Cypress ,Chestnut tree ,Horsetail	 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 gravy.

Advices for Lifestyle and exercises and monitoring











Statistical Cross Analysis



