PSY TEK LABS

Non-Invasive Scanning and Subtle Energy Testing Lab

RESEARCH REPORT

Effect of X39, X49 and Aeon Patches on Individuals with Osteoarthritis: Pilot Project

Principal Investigator: Gaétan Chevalier, Ph.D., Research Director (Bio in Appendix A)
Co-Investigator: Mary D. Clark, Ph.D., Managing Director (Bio in Appendix B)
Co-Investigator: George Grant Ph.D. (Bio in Appendix C)

Goal:
This is a pilot project to assess the effects of LifeWave X39™ patches, LifeWave X49™ patches and Aeon patches on people suffering from osteoarthritis.

Statement of Work:

Twenty-eight (28) participants were divided into 2 groups:

1) Group A wore an X39™ patch on the back of their neck and an Aeon patch below the belly button every day for 6 months.

2) Group B wore an X49™ patch on the back of the neck and an Aeon patch below the belly button every day for 6 months.

Participants came 3 times to the lab during the time of their participation (at the beginning, after 3 months and after 6 months).

-At each visit, the following measurements were performed:

- VAS pain scale (Appendix D)
- McMaster Universities Osteoarthritis Index (WOMAC; Appendix E);
- AO Scan (Appendix F) to determine High- sensitivity CRP (Hs-CRP)
- AO Scan to determine Cortisol as a results of stress
- AO Scan to determine Cortisol as a cause of inflammation
- AO Scan to determine Bone density
- MenlaScan (Appendix G) to determine oxyhemoglobin oxygen
- MenlaScan to measure Autonomic Nervous system (ANS) function

-Dr. Grant to provide the Bioresonance AO Biofeedback devices.
-The MenlaScan will be used to determine oxyhemoglobin values. As it is also a Bioimpedance device, it provides additional information (see Appendix D for details).

Participants Selection: Participants were 40-80 years old adults with chronic osteoarthritis.

Inclusion criteria were:

a. Male or female
b. 40-80 years of age
c. Diagnosed with local or systemic osteoarthritis, in pain (>= 25% on the VAS scale)
d. Absence of cognitive impairment
e. Absence of cutaneous pathology
f. Absence of hypoesthesia
g. Psychologically understands the study related information
h. Psychologically able to give a written informed consent
i. Participant having given freely and expressly her/his informed consent
j. Participant able to comply with protocol requirements, as defined in the protocol.

Exclusion criteria were:

a. Allergy or sensitivity to medical adhesives
b. Any individual who does not meet all the inclusion criteria
c. Participant who had been deprived of their freedom by administrative or legal decision or who is under guardianship.
d. A person in an emergency situation.

Summary

The VAS pain scale showed that both groups experienced significant pain decrease. The X49 with Aeon patches group experienced the most dramatic decrease in pain at Visit 2 while the X39 and Aeon patches group experienced a significant decrease in pain at Visit 3 only. The WOMAC showed statistically significant improvements in pain, stiffness, and functional limitations for the X39 with Aeon patches group but no significant improvement for the X49 with Aeon patches group. The cortisol production due to stress decrease very significantly at Visit 2 for the X39 with Aeon patches group but went back up at Visit 3 while the X49 with Aeon patches group showed significant improvement at Visit 3. This illustrate how different the effects of the X39 and the X49 patches on stress as it relates to cortisol production are. The X49 with Aeon patches group showed an improvement in oxyhemoglobin percentage for the X49 with Aeon group compared to the X39 with Aeon group at Visit 3. There were no significant results for hs-CRP, cortisol in relation to inflammation, and bone mineral density. Hs-CRP and cortisol are a marker and a promoter of inflammation, respectively and since the participants had osteoarthritis with pain, it is not surprising to find no significant results since we expect inflammation to have been very high for a long time for these people. The results presented here were obtained from a very limited number of people and a few instruments only. Since significant changes were found between visits and between groups, a large study with more people and more ways to assess the condition of the participants is warranted.

Results

The statistical methods used for compiling the results presented below are the t-test and non-parametric version of the t-test. When comparing the values of different visits within the same group, paired t-tests were used while when comparing values between different groups a homoscedastic (two-sample equal variance) t-test was used. Since we did not make any hypotheses, two-tailed t-tests were used. The significance value was set at p=0.05 as is common.

VAS pain scale

The Visual Analogue Scale (VAS) for Pain Level Assessment is a well-known was to determine the level of pain perception. Table 1 shows that the group wearing X39 with the Aeon patches experience a significant decrease in pain at Visit 3 compared to Visit 1 (p=0.0381) but not at Visit 2. That was not the case for participants in the group wearing X49 and Aeon patches who experience the greater reduction in pain at Visit 2 (p=0.00109). Still the pain reduction was significant at Visit 3 compared to Visit 1. There were no significant differences between groups (last 3 t-tests of the table). So both groups experienced significant pain decrease.

Table 1: VAS Pain Scale

GROUP	VAS - Pain (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	4.81	3.44	2.63
SD:	3.00	3.33	3.11
T-test-1-2:		0.165	
T-test-1-3:			0.0381
T-test-2-3:			0.259
GROUP	VAS - Pain (N=8)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	6.00	2.42	3.50
SD:	1.60	2.11	2.73
T-test-1-2:		0.00109	
T-test-1-3:			0.00745
T-test-2-3:			0.139
T-test-1-1:	0.340		
T-test-2-2:		0.476	
T-test-3-3:			0.559

WOMAC

The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) is proprietary set of standardized questionnaires widely used by health professionals to evaluate the condition of patients with osteoarthritis of almost any kind. Higher scores indicate worse pain, stiffness, and functional limitations. In this project we did not discriminate what type of osteoarthritis participants had, the only two acceptance criteria were having been diagnosed with osteoarthritis and experiencing a substantial level of pain. Interestingly the group who wore the X39 and Aeon patches experienced a big improvement at the second visit (Visit 2, p=0.0236) which continued to improve at Visit 3 (p=0.00175 compared to Visit 1. On the other hand, there was no significant improvement for those participants who wore the X49 and Aeon patches, just a suggestive decrease at Visit 3 (p=0.0556).

Table 2: WOMAC

GROUP	WOMAC (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	38.63	27.25	17.38
SD:	17.85	23.70	16.14
T-test-1-2:		0.0236	
T-test-1-3:			0.00175
T-test-2-3:			0.0880
GROUP	WOMAC (N=8)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	23.63	15.63	14.00
SD:	9.75	14.24	12.22
T-test-1-2:		0.083	
T-test-1-3:			0.0556
T-test-2-3:			0.280
T-test-1-1:	0.0558		
T-test-2-2:		0.254	
T-test-3-3:			0.645

High- sensitivity CRP (Hs-CRP)

C-reactive protein (CRP) is a protein that increases in the blood with inflammation and infection as well as following a heart attack, surgery, or trauma. There are two different tests that measure CRP and each test measures a different range of CRP level in the blood for different purposes:

- The standard CRP test measures markedly high levels of the protein to detect diseases that cause significant inflammation. This test may be used to detect inflammation.
- The hs-CRP test accurately detects lower levels of the protein than the standard CRP test.

There were no significant changes in hs-CRP detected between visits and between groups.

Table 3: Hs-CRP

GROUP	Hs-CRP (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	4.00	3.50	3.67
SD:	1.85	2.07	2.07
T-test-1-2:		0.619	
T-test-1-3:			0.756
T-test-2-3:			0.884
GROUP	Hs-CRP (N=20)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	3.32	3.80	4.20
SD:	2.03	1.88	1.66
T-test-1-2:		0.444	
T-test-1-3:			0.182
T-test-2-3:			0.517
T-test-1-1:	0.420		
T-test-2-2:		0.714	
T-test-3-3:			0.541

Cortisol as a results of stress

Cortisol is a steroid hormone that carries important messages in the body. It is a fundamental communication molecule in the body, one of the master chemical keys that can activate cascades of other systems and effects that are vital to human life. Cortisol interacts with almost every process in the body, from digestion and mood/emotional regulation to energy storage and use, sexuality, and the appropriate function of the immune system. Cortisol produced by the adrenal glands that helps regulate several important functions in the body. One of the most prominent functions is regulating how the body responds to stress. When a person experience stress, the adrenal glands release cortisol into the body which temporarily increases blood sugar levels to provide the body with a boost of energy (adrenaline, a hormone commonly associated with the "fight-or-flight" response, is also released by the adrenal glands in times of stress). This process helps you perform better in stressful situations that have a relatively short duration (acute stress), such as when you are in danger or striving to hit a tight deadline at work. Here, we look at the production of cortisol due to stress. Interestingly, the X39 and Aeon group experienced a very significant decrease at Visit 2 (p=0.00418) but they went back as a group to a stress level similar to the first visit at Visit 3. On the other hand the X49 with Aeon group experience not significant change at Visit 2 but a large decrease in stress at Visit 3 (p=0.0492). This points toward different ways X39 and X49 interact with cortisol production.

Table 4: Cortisol as a result of stress

GROUP	CORTISOL (stress) (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	5.00	2.50	5.00
SD:	0.00	2.07	0.00
T-test-1-2:		0.00418	
T-test-1-3:			0.841
T-test-2-3:			0.0127
GROUP	CORTISOL (stress) (N=13)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	3.67	4.38	2.78
SD:	1.97	1.50	2.11
T-test-1-2:		0.314	
T-test-1-3:			0.333
T-test-2-3:			0.0492
T-test-1-1:	0.0739		
T-test-2-2:		0.0257	
T-test-3-3:			0.0242

Cortisol as it relates to inflammation

As already stated, cortisol interacts with almost every process in the body, including the appropriate function of the immune system. Here we are looking at cortisol in relation with the activation of the immune system due to inflammation. There is no significant effect. That means for these subjects with osteoarthritis, changes in cortisol does not affect much their level of inflammation. That makes sense since for these people to have osteoarthritis with a sizeable level of pain, they must have had lots of inflammation in their body and for a long period of time.

Table 5: Cortisol as related to inflammation

GROUP	CORTISOL (inflammation) (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	4.00	3.50	4.33
SD:	1.85	2.07	1.63
T-test-1-2:		0.619	
T-test-1-3:			0.732
T-test-2-3:			0.433
GROUP	CORTISOL (inflammation) (N=20)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	3.74	3.80	3.00
SD:	1.91	1.88	2.08
T-test-1-2:		0.918	
T-test-1-3:			0.299
T-test-2-3:			0.251
T-test-1-1:	0.744		
T-test-2-2:		0.714	
T-test-3-3:			0.181

Bone density

The effects of the patches on bone mineral density seems to have been minimal. There is only a slight tendency to an increase at Visit 3 for the X49 with Aeon patches group compared to the X39 with Aeon patches (p=0.0849).

Table 6: Bone Mineral Density

GROUP	Bone Mineral Density (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	2.50	4.00	3.00
SD:	2.07	1.85	2.19
T-test-1-2:		0.149	
T-test-1-3:			0.670
T-test-2-3:			0.373
GROUP	Bone Mineral Density (N=20)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	3.89	4.58	3.57
SD:	1.84	1.26	1.99
T-test-1-2:		0.190	
T-test-1-3:			0.644
T-test-2-3:			0.0849
T-test-1-1:	0.100		
T-test-2-2:		0.353	
T-test-3-3:			0.574

Oxyhemoglobin Oxygen

There seems to be a tendency for the X49 and Aeon patches group to have a higher level of oxyhemoglobin oxygen at Visit 3 compared to Visit 1 (p=0.0557). However, the higher level of oxyhemoglobin oxygen is significantly higher at Visit 3 for the X49 with Aeon patches group (p=0.0314).

Table 7: Oxyhemoglobin Oxygen

GROUP	OXYHEMOGLOBIN OXYGEN (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	96.00	95.88	96.00
SD:	1.51	2.47	1.69
T-test-1-2:		0.448	
T-test-1-3:			0.500
T-test-2-3:			0.449
GROUP	OXYHEMOGLOBIN OXYGEN (N=8)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	96.88	97.38	97.63
SD:	1.13	0.74	0.92
T-test-1-2:		0.233	
T-test-1-3:			0.0557
T-test-2-3:			0.299
T-test-1-1:	0.210		
T-test-2-2:		0.123	
T-test-3-3:			0.0314

ANS function

The ANS score is a feature of the MenlaScan that quantify its overall function. A score of 100% means a perfectly functioning ANS capable of responding adequately to any stress. A score of 90% is considered excellent, a score of 30% is considered poor and a score of 50% is considered moderate. Even though there is a tendency for the X49 with Aeon patches group to have higher ANS function scores, the differences between group and between visits are not significant. So both the X39 and the X49 patches did not improve significantly the overall ANS function.

Table 8: ANS Function

GROUP	ANS Score % (N=8)		
X39 + Aeon	Visit 1	Visit 2	Visit 3
Average:	49.75	52.50	49.00
SD:	15.09	16.69	26.34
T-test-1-2:		0.353	
T-test-1-3:			0.470
T-test-2-3:			0.386
GROUP	ANS Score % (N=8)		
X49 + Aeon	Visit 1	Visit 2	Visit 3
Average:	63.75	67.50	71.25
SD:	21.84	24.93	18.66
T-test-1-2:		0.389	
T-test-1-3:			0.125
T-test-2-3:			0.363
T-test-1-1:	0.158		
T-test-2-2:		0.179	
T-test-3-3:			0.072

Discussion

The VAS pain scale showed that both groups experienced significant pain decrease. The X49 with Aeon patches group experienced the most dramatic decrease in pain at Visit 2 while the X39 and Aeon patches group experienced a significant decrease in pain at Visit 3 only.

The WOMAC showed statistically significant improvements in pain, stiffness, and functional limitations for the X39 with Aeon patches group but no significant improvement for the X49 with Aeon patches group.

The cortisol production due to stress decrease very significantly at Visit 2 for the X39 with Aeon patches group but went back up at Visit 3 while the X49 with Aeon patches group showed significant improvement at Visit 3. This illustrate how different the effects of the X39 and the X49 patches on stress as it relates to cortisol production are.

The X49 with Aeon patches group showed an improvement in oxyhemoglobin percentage for the X49 with Aeon group compared to the X39 with Aeon group at Visit 3.

There were no significant results for hs-CRP, cortisol in relation to inflammation, and bone mineral density. Hs-CRP and cortisol are a marker and a promoter of inflammation, respectively and since the participants had osteoarthritis with pain, it is not surprising to find no significant results since we expect inflammation to have been very high for a long time for these people.

Conclusion

The interesting results presented in this report were obtained from a very limited number of people and a few instruments only. Since a lot of significant changes were found between visits and between groups, a large study with more people and more ways to assess the condition of the participants is warranted.

APPENDIX A

Gaétan Chevalier, Ph.D.,
Biographical Sketch

Dr. Gaétan Chevalier received his Ph.D. from the University of Montréal in Atomic Physics and Laser Spectroscopy in 1988. After 4 years of research at UCLA in the field of nuclear fusion, he became professor and Director of Research at the California Institute for Human Science (CIHS) in 1993 where, for 10 years, he conducted research projects on human physiology and electrophysiology as well as being Director of the Life Physics Department and Research Director. Dr. Chevalier is currently Lead Faculty at CIHS, Visiting Scholar in the Department of Family Medicine and Public Health at UCSD, and he has been Director of Research at Psy-Tek Labs since June 2010.

APPENDIX B

Mary D. Clark, Ph.D.,
Biographical Sketch

Mary D. Clark, Ph.D. is a licensed psychologist in Arizona, and is a licensed marriage family therapist and licensed educational psychologist in California. She maintains both a private practice and a healing practice in Encinitas, California. Mary is a Certified Energy Healing Instructor, a Senior Certified Energy Healer, and past coordinator of the Energy Healing Certification Program for the central and western states. She has practiced and taught Energy Healing for over 10 years,

APPENDIX C

George Grant, Ph.D.,
Biographical Sketch

Professor Dr. George Grant, Ph.D. U of T. 1995 who is known as The Caring Doctor, is considered the Canadian authority in Integrative/Functional Medicine and a global wellness ambassador. Prof. Dr. George Grant is an expert in biofeedback, stress, anti-aging, and natural pain management. He helped clients at Sunnybrook hospital in Toronto recover from clogged arteries as well as 10,000 clients worldwide.

He is the founder & CEO of the Academy of Wellness. www.academyofwellness.com

Dr. Grant enjoys a stellar academic and a fascinating career in research. He is a scientist, professor, chemist, toxicologist, nutritionist, biofeedback, stress management and a pain specialist. Dr Grant worked as a Senior Consultant for Health Canada, FDA, and CDC as well as in private practice.

Dr. George Grant has helped 11 Fortune 500 companies, 11 nonprofit organizations and 11 Olympic athletes in Canada, USA along with 10,000 clients worldwide. He has over 250 published articles, 400 papers reviews, hundreds of conference presentations, book reviews and 13 bestselling books including a Guinness world record holder with 126 gifted co-authors.

http://www.academyofwellness.com ; **http://www.your101ways.com**;

416 562 3140, drgrantwellness@gmail.com

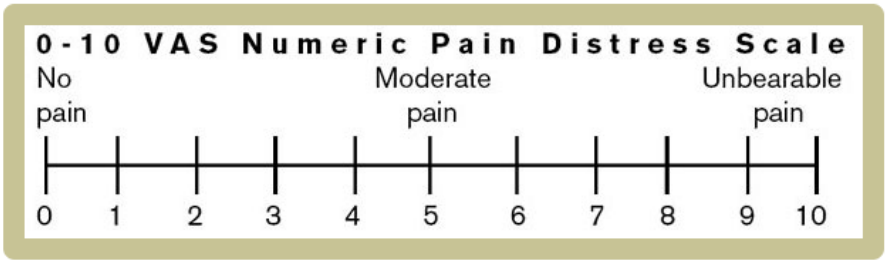
PSY TEK LABS

Non-Invasive Scanning and Subtle Energy Testing Lab

APPENDIX D

Visual Analogue Scale (VAS) for Pain Level Assessment

Mark the line below with an **X** at the point that summarizes your **level of pain** at the present moment.



PSY TEK LABS

Non-Invasive Scanning and Subtle Energy Testing Lab

APPENDIX E

The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)

Name _____ Date of Birth _____ Today's Date _____

Height _____ ft. _____ in. Weight _____ lbs.

Instructions: Please rate the activities in each category according to the following scale of difficulty:

0 = None, 1 = Slight, 2 = Moderate, 3 = Very, 4 = Extremely Circle **one number** for each activity

Pain	1. Walking	0 1 **2** 3 4
	2. Stair Climbing	0 1 **2** 3 4
	3. Nocturnal	0 1 **2** 3 4
	4. Rest	0 1 **2** 3 4
	5. Weight bearing	0 1 **2** 3 4
Stiffness	1. Morning stiffness	0 1 **2** 3 4
	2. Stiffness occurring later in the day	0 1 **2** 3 4
Physical Function	1. Descending stairs	0 1 **2** 3 4
	2. Ascending stairs	0 1 **2** 3 4
	3. Rising from sitting	0 1 **2** 3 4
	4. Standing	0 1 **2** 3 4
	5. Bending to floor	0 1 **2** 3 4
	6. Walking on flat surface	0 1 **2** 3 4
	7. Getting in / out of car	0 1 **2** 3 4
	8. Going shopping	0 1 **2** 3 4
	9. Putting on socks	**0** **1** 2 3 4
	10. Lying in bed	0 1 **2** 3 4
	11. Taking off socks	0 1 2 3 **4**
	12. Rising from bed	0 1 **2** 3 4
	13. Getting in/out of bath	0 1 **2** 3 4
	14. Sitting	0 1 **2** 3 4
	15. Getting on/off toilet	0 1 **2** 3 4
	16. Heavy domestic duties	0 1 **2** 3 4
	17. Light domestic duties	0 1 **2** 3 4

Total Score: _____ / 96 = _____%

Comments / Interpretation (to be completed by therapist only):

APPENDIX F
AO Scan Technology

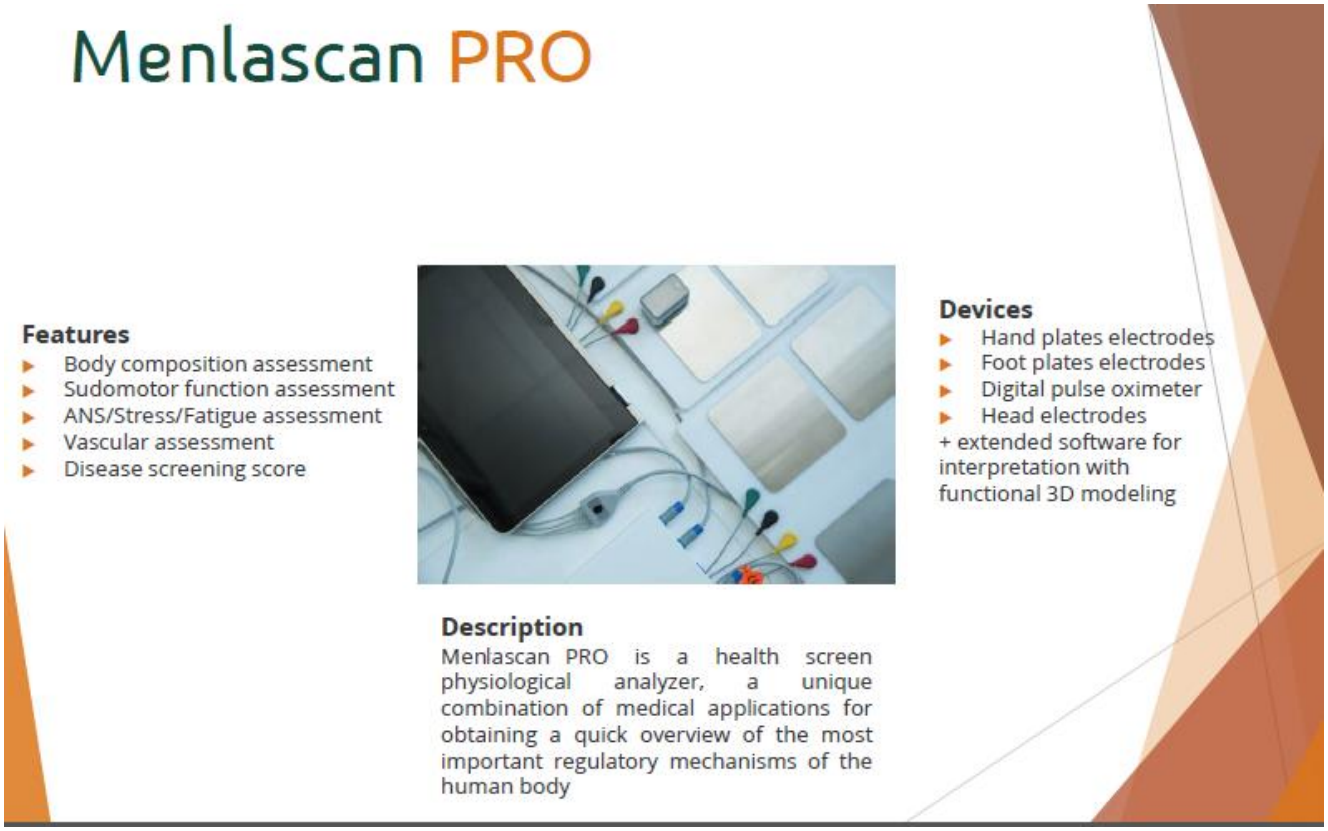
AO Scan Technology by Solex™ is an elegant, yet simply designed technology inspired by discoveries from Tesla, Einstein, and many other renowned scientists. It is designed to communicate with the body via subtle bio-frequencies and electromagnetic signals.

Solex has compiled a database of over 120,000 unique Blueprint Frequencies, and developed a hand-held technology that allows you to compare your personal frequencies with these Blueprints to guide you toward homeostasis - the body's natural state of balance

For more on AO Scan Technology go to this website:

https://shop.solexnation.com/drgrant/Home

APPENDIX G
MenlaScan



Features & Specifications

Features

- Segmental Body composition 3D Analyzer *
- Body composition assessment (FM, FFM, TBW, ECW, ICW, BMI, Muscular mass, Phase angle)
- Microcirculation assessment
- Body composition 3D modeling (fat mass color code)
- Diet and micro nutrition advisor including visceral fat 3D modeling and acid base balance
- Vertebral Score
- Recommendations for SPA / Fitness / Sport training
- Heart Rate variability and extended ANS testing
- Extended 3D body modeling
- Risk screening
- And more

  Measurement time: 2-6 minutes

SPECIFICATION

- USB ready Scanning Hub
- Tetrapolar stainless steel hand plates
- Tetrapolar stainless steel foot plates
- 4-Lead MenlaScan Pro Wellness foot plate cable
- 4-Lead MenlaScan Pro Wellness hand plate cable
- 4-Lead forehead electrodes
- Pulse Oximeter
- USB cable
- MenlaScan Pro Wellness Software (2x licenses)
- Transport bag

**** Parameters depend on the equipment configuration***