



# Non-Invasive Method to Diagnose Lung Energy of the Smoking Population

G. Anitha, S. Rakesh, R. Arunachalam, R. Sudharsanam, P. Muthu

**Abstract:** Smoking is an activity where toxic content which on fire produces smoke which can be detrimental if inhaled and mixed into the blood flow. Smoking is one of the key factors for death globally. On an average masculine and feminine smoker suffer about 13.2 and 14.5 year lifetime variation when compared to non-smoking individual. Most of the individuals who smoke regularly has higher prevalence of stroke, eye cataracts and cancer of nose, lips, tongue and mouth. The fact that 22.1% of masculine smoker and 11.9% of feminine smoker has a huge risk of dying due to lung cancer before age 80. The smoking generally has an adverse effect in its later stage and the diagnosis is generally invasive. There is a need for an early and non-invasive diagnosis method for finding the adverse effects of smoking. Biowell is one such non-invasive device to find psycho-emotional status, Energy distribution and functional status of different organs. By using GDV based energy detection and health status analysis we can differentiate the damage caused to the brain and other major parts like Lungs, Nerve and Thoracic region. Smoking populations along with non-smokers are taken and energy distribution and health status are collected, analyzed to prove the efficiency of Biowell instrument as a standard diagnostic tool.

**Key words:** Smoking, Stroke, cancer, cigarettes, Energy distribution.

## I. INTRODUCTION.

Lungs are a pair of pyramid-shaped organs which facilitate inhalation and exhalation of oxygen and carbon dioxide respectively. When the process of inhalation takes place, the lung expands and the diaphragm and intercostal muscles contract, resulting in decreased lung pressure and exhalation takes place due to elastic recoil and decrease in lung volume, increasing the lung pressure. It is one of the most delicate, spongy, pinkish-gray organs for day-to-day survival. Smoking causes headache, cough, wheezing and many breathing difficulties which have a major effect on the lungs and other upper respiratory tracks. Fig 1A shows the lung mechanism of the human body.

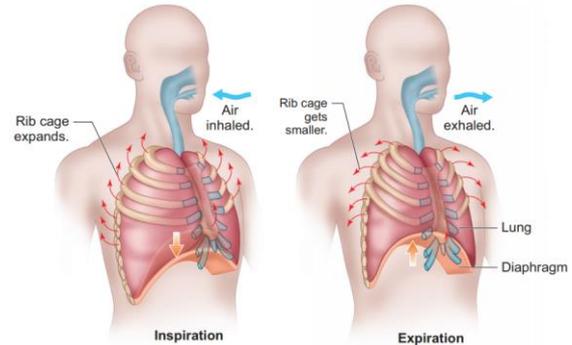


Fig 1A: Lung Mechanism.

Smoking is the major reason for many chronic diseases such as stroke, asthma, hypertension, laryngeal and pharyngeal cancer and can also result in mild euphoria, decreased appetite, respiratory arrest and many more. The long-term effect of smoking includes chronic obstructive pulmonary disorder (COPD) or Cancer in any upper respiratory track. (Fig 1B).

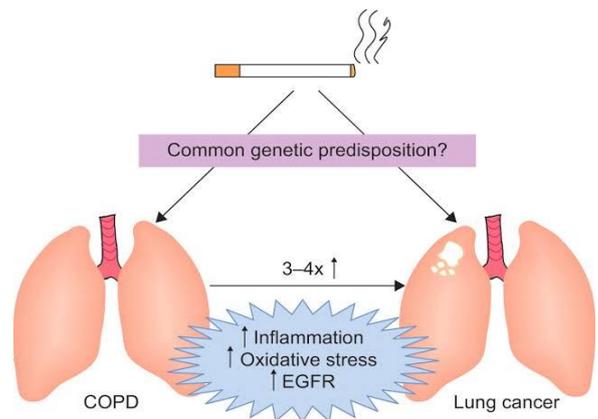


Fig 1B: Effects of smoking.

Gas Discharge Visualization works on the principle of photon stimulation and electron emission from the surface of the subject. These principles occur when the subject is given a small electric pulse. Certain degree photons and the primary electron are obtained from the subject; this process is called 'photo-electron emissions'. A glow is created by the exhilaration of molecules and this is captured by the GDV camera. This process is also called as electro-photonic imaging. The electric field is created by the intense emission of gas due to the voltage pulse emission and electronic photonic emission. This capturing of electric field gives us the energy field of the surface of the subject. (Fig 1C) The GDV technique is based on 'Kirlian photography', the image is formed on the plate if subjected to high voltage.

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These images are captured and the health parameters are studied. The variation in these parameters is noted and analyzed. This acts as the noninvasive method to diagnose smokers and the warning them early to avoid major risk in their future.

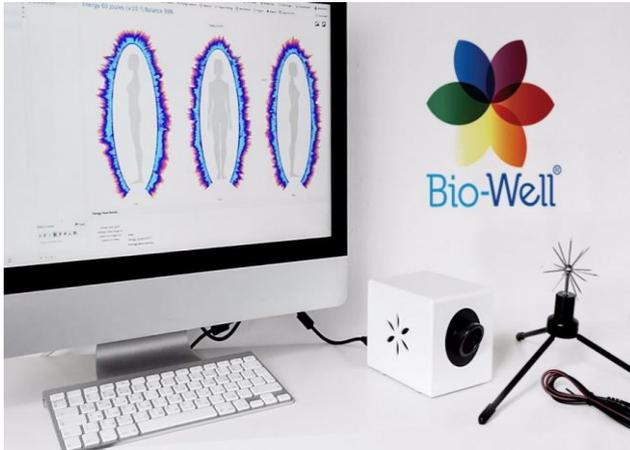


Fig 1C: Capturing of energy through Biowell.

### II. MATERIALS AND METHODOLOGY.

#### a) Materials.

Bio energy measurements from a group of 20 smoking individuals and 10 non smoking individual around the age group of 21 and 22 are studied from which 5 are female and 25 are male. Biowell , GDV camera and GDV software are used for the collection of data. Results are obtained under controlled environment from the test subjects (volunteers and patients).The subjects is made to sit comfortably and the procedure is done where the shades of the sun does not interfere the instruments output. The date acquisition of all ten fingers are depicted (Fig 2A) The dates acquired is displaced as an image. (Fig 2B )



Fig 2A: Image capturing with the BIOWELL camera.

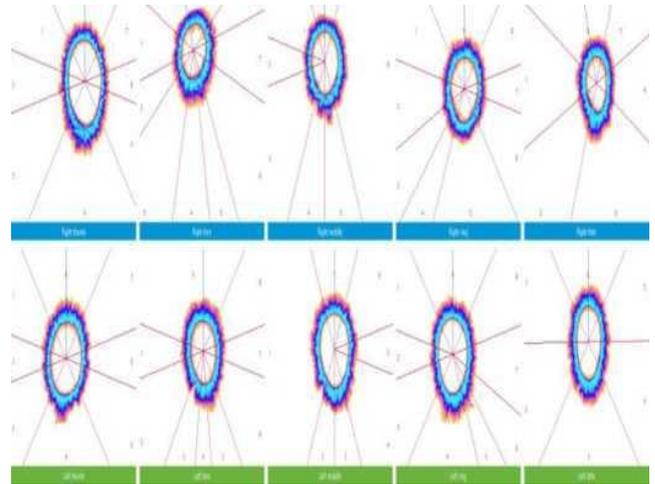


Fig 2B: Image processing through BIOWELL system.

#### b) Methodology.

The subjects is made to sit comfortably and the procedure is done where the shades of the sun does not interfere the instruments output. The overall methodology is given (Fig2C) .When the subject places his/her finger on the optical glass the process of evaporation takes place. For durations 0.1–10 s, square wave of electrical impulses 3–6 KV is applied, which creates an electromagnetic field round the finger. This field in turn creates a spurt of electron discharge in the form of gaseous release and optical radiation. These radiations initiate electron-ion avalanche results in sliding gas discharge. Impulse generator generates the impulses that capture the discharge by the optical system with the help of the CCD camera. The data which is processed by an optical system and CCD camera is digitized by video digitizer called as video blaster.

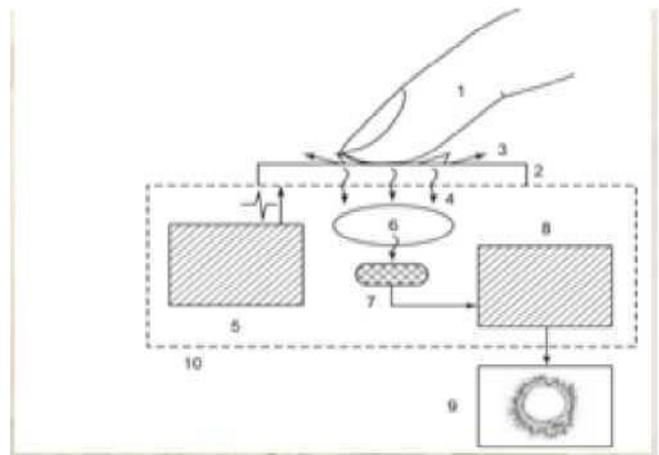


Fig 2C: Image capturing using BIOWELL.

Output from video blaster is fed to a computer for further image processing techniques and then the image is displayed on the monitor (Fig 2D). The whole setup is covered by a device box which is made up of NADP (nicotinamide adenine dinucleotide phosphate).

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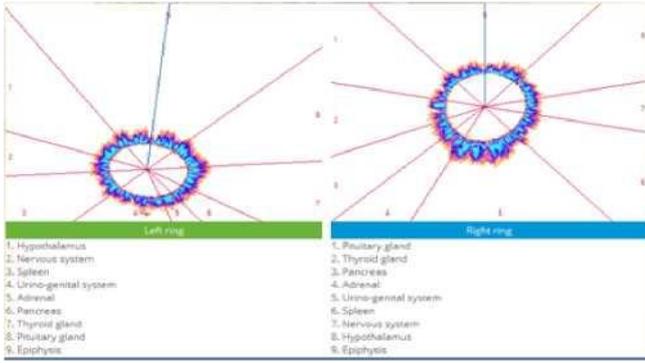


Fig 2D: Energy image of the finger.

## III. FINDINGS

The health parameters obtained from individuals smoking cigarette above 10, less than 10 and non smoking individuals for both the hands are represented in Table I, II, III. Different parameters are taken into considerations to relate these three groups, Some of the major parameters taken for considerations are Energy distribution of immune system, cardiovascular system, respiratory system, pituitary gland, Nervous system, throat, larynx and cerebral zone.

Table I: Health representation of High level smokers.

Patient s.s.no.	LEFT									RIGHT								
	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system				
1	-1.2	-1.26	1.15	-1.19	-1.62	-1.61	-0.37	-0.93	-0.68	0.69	-0.69	-1.46	-1	-0.98				
2	-1.09	-0.29	-0.13	-1.33	-1.52	-0.91	-0.66	-0.95	-1.05	1.02	-0.94	-1.52	-1.61	-1.09				
3	-1.17	-0.8	-0.12	-0.67	-1.52	-1.49	-1.17	-1.14	-0.93	-0.85	-0.52	-1.62	-0.91	-0.25				
4	-1.05	-0.76	0.25	-0.95	-1.65	-1.52	-1.85	-1.24	-0.85	0.42	-1.35	-1.57	-1.22	-1.52				
5	-1.12	-1.89	-0.21	-1.12	-1.7	-1.05	-0.79	-0.74	-1.02	-0.26	-1.25	-1.35	-1.32	-0.93				
6	-1.32	-1.25	0.51	-1.2	-1.46	-1.23	-0.87	-0.64	-0.78	-0.85	-1.05	-1.83	-1.42	-1.35				
7	-1.25	-1.11	0.18	-1.15	-1.66	-1.4	-0.93	-1.14	-1.12	-0.95	-0.98	-1.36	-0.95	-1.47				
8	-1.16	-1.53	0.34	-1.27	-1.38	-1.65	-1.27	-0.93	-0.77	0.56	-1.75	-1.46	-0.79	-1.02				
9	-1.28	-1.57	0.52	-1.19	-1.69	-1.18	-1.13	-0.98	-0.81	1.12	-1.56	-1.55	-1.31	-1.32				
10	-1.13	-1.85	0.33	-1.3	-1.55	-1.58	-0.77	-0.78	-0.66	1.02	-1.08	-1.61	-1.52	-1.41				
	-1.194	-1.231	0.282	-1.137	-1.575	-1.362	-1.081	-0.937	-0.867	0.212	-1.117	-1.533	-1.205	-1.334				

Table II: Health representation of low level smokers.

Patient s.s.no.	LEFT									RIGHT								
	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system				
1	-1.25	-1.51	-0.09	-1.65	-1.41	-1.06	-1.29	-1.62	-0.57	-0.19	-0.5	-1.39	-1.12	-1.38				
2	-0.45	-1.37	-1.28	-0.02	-1.04	-1.42	-1.24	-1.11	-1.11	-1.03	-1.09	-1.51	-1.08	-1				
3	-1.28	-0.94	-0.39	-1.07	-1.59	-1.1	-0.97	-1.5	-0.45	-0.49	-1.38	-1.15	-1.3	-1.01				
4	-1.2	-0.55	0.24	-0.85	-1.25	-1.23	-1.45	-0.96	-0.54	-0.32	-0.98	-1.21	-0.85	-0.98				
5	-1.15	-1.28	0.65	-1.1	-1.41	-0.95	-0.87	-0.89	-1.21	-1.02	-0.84	-1.04	-1.44	-0.79				
6	-0.95	-0.53	0.68	-1.13	-1.44	-1.32	-0.85	-0.25	-0.36	-0.85	-0.77	-1.17	-0.92	-0.83				
7	-1.1	-0.79	0.37	-0.76	-1.12	-1.28	-0.45	-0.45	-0.57	-0.31	-1.12	-1.02	-0.88	-1.08				
8	-0.84	-0.84	0.34	-1.22	-1.28	-1.14	-0.79	-0.58	-0.82	-0.26	-0.89	-1.25	-1.23	-1.11				
9	-0.75	-0.34	0.12	-0.42	-1.53	-1.4	-1.51	-1.02	-0.92	-0.58	-0.83	-1.52	-0.82	-0.81				
10	-1.05	-0.61	0.62	-1.02	-1.34	-0.86	-0.95	-0.64	-0.69	-1.03	-0.92	-1.38	-0.61	-0.92				
	-1	-0.876	0.126	-0.924	-1.341	-1.176	-1.037	-0.902	-0.724	-0.608	-0.922	-1.2175	-1.025	-0.991				

Table III: Health representation of non smokers.

Patient s.s.no.	LEFT									RIGHT								
	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system	Cardiovascular system	Respiratory system	Throat, Larynx and Trachea	Immune system	Cerebral zone	Pituitary gland	Nervous system				
1	-0.4	-0.95	0.4	-0.27	-1.07	-0.85	-0.53	-0.44	-0.23	0.15	-0.49	-1.21	-0.75	-0.34				
2	-0.57	-0.42	-0.7	-0.15	-1.2	-0.83	-0.59	-1.28	-0.61	-0.61	-0.94	-0.77	-1.15	-0.29				
3	-1.15	-1.2	0.49	-1.23	-0.88	-0.73	-1.5	-1.1	-0.39	0.49	-1.79	-1.13	-0.53	-1.34				
4	-0.55	-0.68	0.25	-0.32	-1.13	-0.75	-0.75	-0.32	-0.52	0.54	-0.21	-0.95	-0.81	-1.27				
5	-0.8	-0.55	0.05	-0.63	-1.1	-0.95	-0.6	-0.82	-1.12	-0.52	-0.54	-0.92	-0.57	-0.72				
6	-0.75	-1.15	0.27	-0.55	-0.93	-0.69	-0.61	-0.92	-0.24	0.25	-0.68	-0.84	-1.02	-0.95				
7	-0.49	-0.39	-0.24	-0.67	-0.9	-0.97	-0.62	-0.89	-0.63	0.25	-0.85	-1.06	-0.65	-0.82				
8	-0.62	-0.89	0.35	-0.95	-0.75	-0.85	-1.27	-0.65	-0.57	-0.35	-1.08	-0.97	-0.85	-0.92				
9	-0.68	-0.34	-0.22	-0.29	-1.18	-0.69	-1.17	-0.39	-0.68	0.12	-0.57	-1.18	-1.03	-0.77				
10	-0.9	-1.4	-0.1	-0.71	-0.87	-1.15	-0.61	-0.43	-0.74	0.39	-0.81	-0.95	-0.98	-0.88				
	-0.691	-0.797	0.055	-0.577	-1.001	-0.846	-0.845	-0.724	-0.573	0.071	-0.796	-0.998	-0.834	-0.828				

Fig 3A represents the energy level diagram and the health status of the cigarette smoking individual more than 10, the major variation is seen in the areas such as respiratory, throat, larynx and cardio vascular. In the same way the variation in such parameters is also seen in the fig 3B and fig 3C which represents the health status and energy level

diagram of individuals smoking less than 10 cigarette and non smoking people. These variations are noted and tabulated. This clearly depicts that this Biowell instrument can be used for proving many unanticipated results.

The variation in the health level of respiratory, cardiovascular, throat and larynx are very promising that the person who smokes more than 10 cigarettes is mostly affected comparing with less smoking or non smoking individuals. This acts as the non invasive therapy, where the energy and the health status of the individuals are collected, analyzed with each other and the variations helps us prove and warn the smoking person that their respective health status is very depleting. This can also be used in departments of physiotherapy to find the effectiveness of every exercise before and after treatment etc.

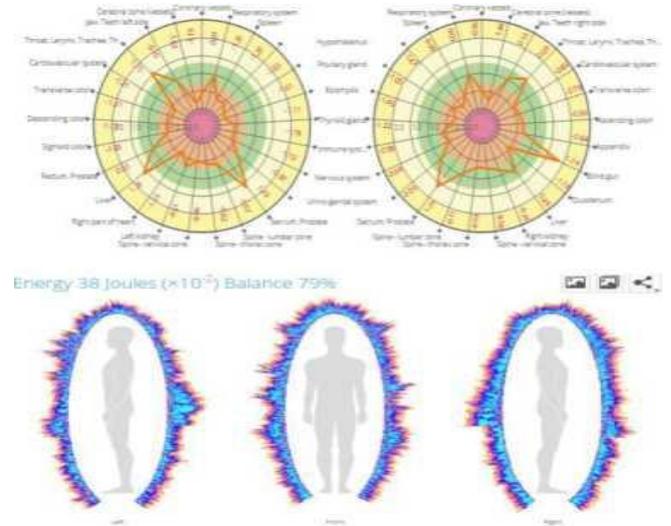


Fig 3A : Energy level diagram and the health status of intense smoker.

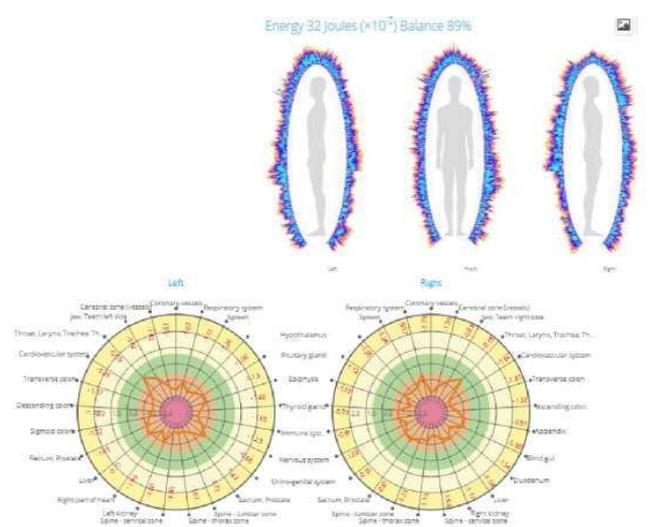
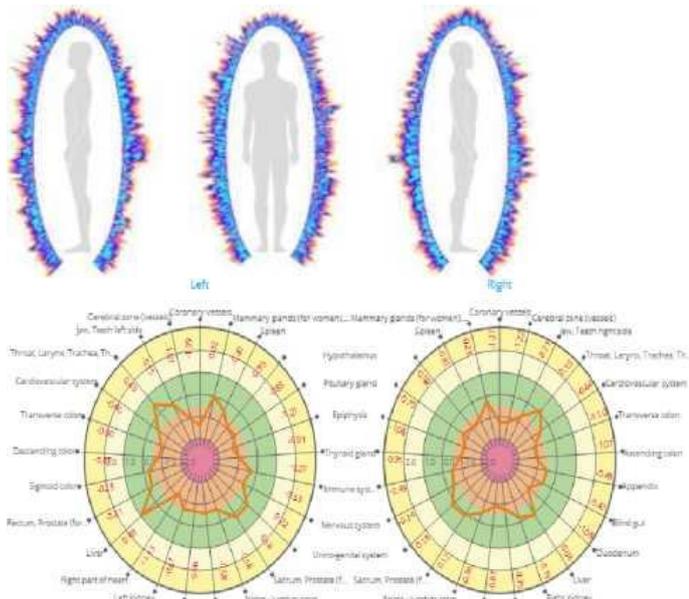


Fig 3B: Energy level diagram and the health status of mild smoker.

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**Fig 3C: Energy level diagram and the health status of Non smoker.**

## IV. CONCLUSION.

From this study, findings and results obtained from the smoking population such as the energy difference and the health status are tabulated. In this we have collected the data for three sets of people like high smoking individuals, less smoking individuals and non smoking individuals. The results show that there is huge variation in energy level and health status of the upper respiratory track and other major organs. Upon further developments in the programming and collection of large data this device can be used as a standard early diagnostic tool for the detection of chronic diseases, this ultimately leads to faster results and speedy recovery. This can also be used as the proof of concept for some of the Asian methods like Acupuncture and pranic healing also.

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## REFERENCES.

1. Rubik, B. PhD, Measurement of the Human Biofield and other energetic instruments. Energetics and Spirituality by Lyn Freeman, Chapter 20, 1994.
2. Kotorikov, K. Ph.D., Williams, B. Ph.D., Leonard, A., Wisneski, M.D. Assessing Biophysical Energy Transfer Mechanisms in Living Systems: The basis of life processes. The Journal of Alternative and Complementary Medicine, Volume 10, Number 1, pp.49-57, 2004.
3. Sharma, B. Research Scholar, Hankey, A. Professor, Nagendra, H.R. Chancellor, Gas Discharge Visualization Characteristics of an Indian Diabetes Population. Voice of Research 2, issue 4 (2014).
4. Olade Rangel, J.A, Castillo, O. Report on the First International Congress on Systemic Medicine, Gas Discharge Visualization and Electro-oncotherapy (ECT), Advance Access Publication(2005)
5. Lee, H.C, Khong, P.W, Ghista, D.N. Bioenergy based Medical Diagnostic Application based on Gas Discharge Visualization, Proceedings of the 2005 IEEE (2005).
6. Korotkov, K.G. Ph.D., Matravers, P. PharmD, Orlov, D.V. M.S., Williams, B.O., Ph.D. Application of Electro photon Capture(EPC) Analysis Based on Gas discharge Visualization(GDV) Technique in Medicine: A Systematic Review, The Journal of Alternative and Complementary Medicine 16, number 1, pp.13-25 (2010).

7. Rubik, B. Ph.D., Brooks, A.J. Digital High- Voltage Electrophotographic Measures of the Fingertips of Subjects Pre and Post- Qigong, Evid Based Integrative Med, vol 2, number 4, pp.245-252 (2005).
8. Kouame, D., Gregoire, J.M., Pourcelot, L., Girault, J.M., Lethiecq, M., Ossant, F., Ultrasound Imaging: Signal Acquisition, New Advanced Processing for Biomedical and Industrial Applications, Proceedings of the 2005 IEEE, (2005).
9. Park, S.H., Kim, J., Koo, T.H., Magneto Acupuncture Stimuli Effects on Ultraweak Photon Emission from Hands of Healthy Persons, Journal of Acupuncture and Median Studies, vol 2, issue 1, pp. 40-48, (2009).
10. Mandel P, 1986. Energy Emission Analysis; New Application of Kirlian Photography for Holistic Medicine Synthesis Publishing Co., Germany.
11. Law MR, Morris JK, Wald NJ; Morris;
12. "environmental tobacco smoke exposure and ischemic heart disease: an evolution of the evidence" BMJ. 315 (7114): 973-80.doi:10.1136/bmj.315.7114.973.PMC 2127675 PMID 9365294

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