

INTRODUCTION TO BIOMAGNETISM

Presented by:

M.C. David Goiz Martínez



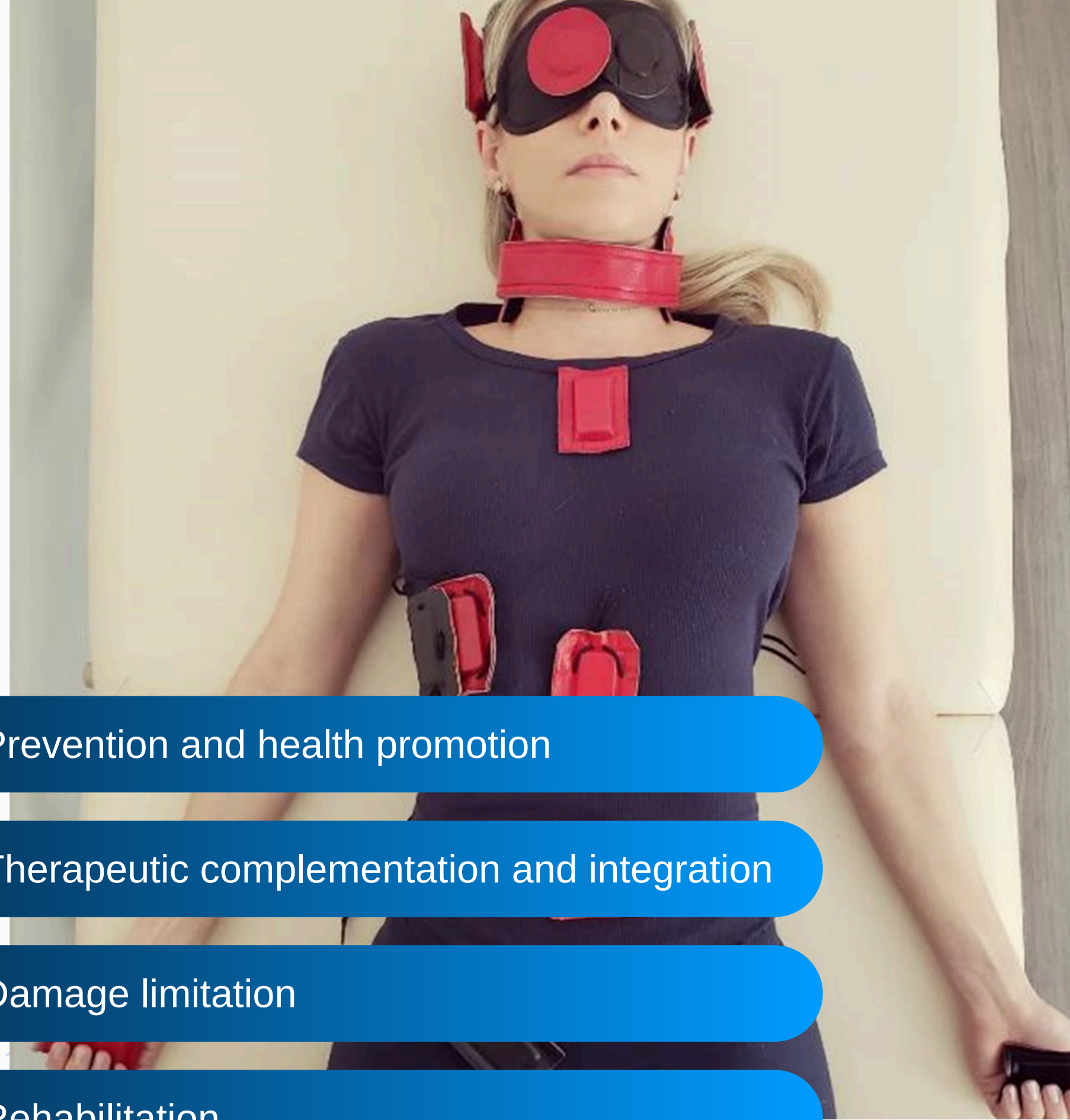
WHAT IS BIOMAGNETISM?

2024

The **Biomagnetic Pair** is a therapeutic system developed by Dr. H.C. Isaac Goiz Durán in 1988; it consists of positioning **pairs** of magnets (negative and positive) on specific points of the body in order to **restore and maintain the body's electromagnetic balance**.

2026

The Biomagnetic Pair (**Biomagnetism**) is a therapeutic system developed by Dr. H.C. Isaac Goiz Durán in 1988; it consists of positioning magnets (negative and positive) on specific points of the body to improve its **magnetic alignment** and **optimize the body's cellular adaptive response**.



✓ Prevention and health promotion

✓ Therapeutic complementation and integration

✓ Damage limitation

✓ Rehabilitation

WHAT IS BIOMAGNETISM?

1988

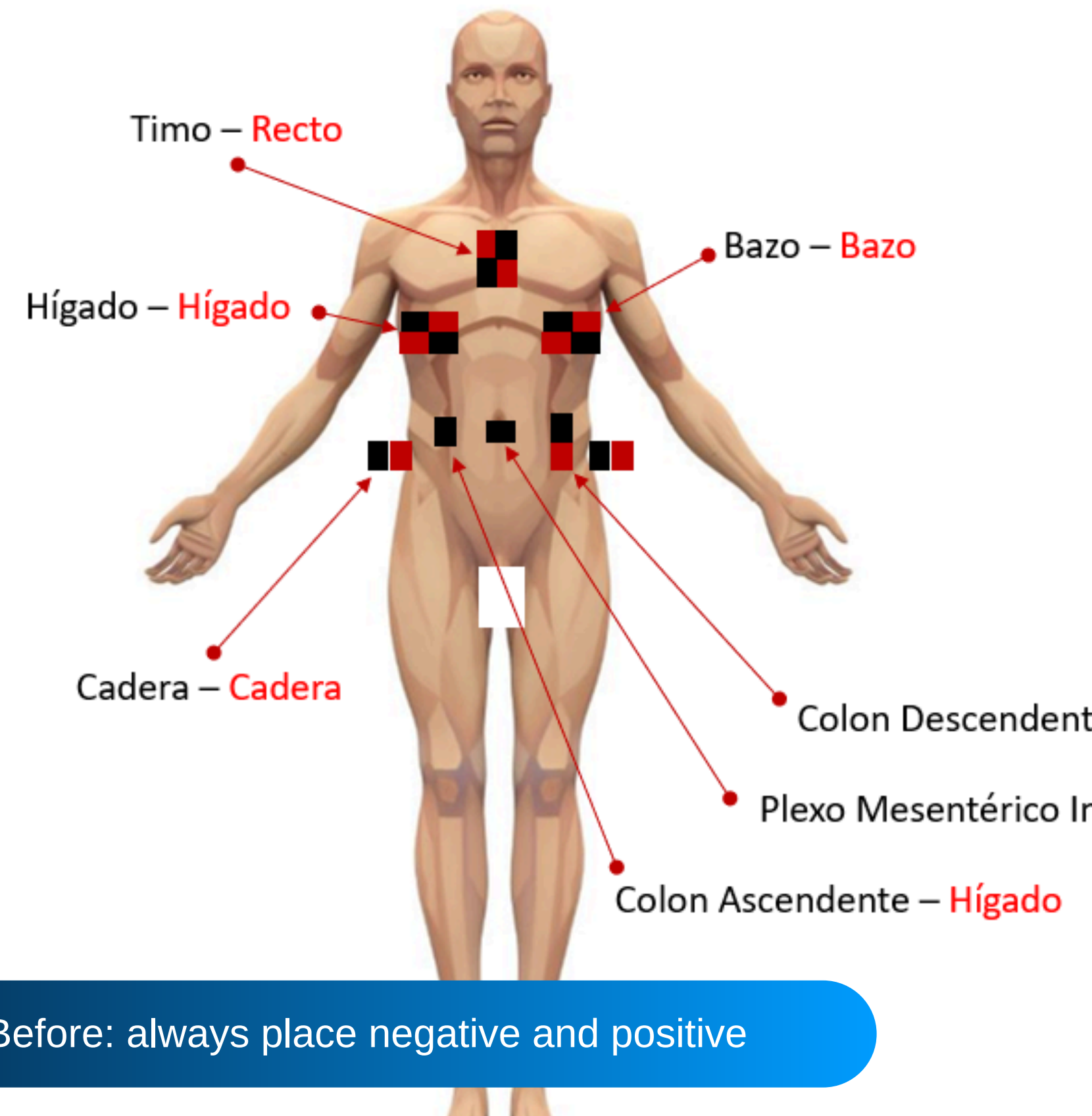
Pairs of magnets (negative and positive) are placed to balance the pH of the different organs of the body (**homeostasis**).

2018

Pairs of magnets (negative and positive) are placed to magnetically balance the different organs of the body (**homeostasis**).

2026

Magnets (negative and/or positive) are placed on specific points of the body to improve its magnetic alignment (homeostasis) and optimize the organism's cellular adaptive response (**allostasis**).



✓ Before: always place negative and positive

✓ Today: we can place negative, positive, or both

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Reference

- Yang, X., Yu, B., Song, C., Feng, C., Zhang, J., Wang, X., Cheng, G., Yang, R., Wang, W., & Zhu, Y. (2022). The Effect of Long-Term Moderate Static Magnetic Field Exposure on Adult Female Mice. *Biology*, 11(11), 1585. <https://doi.org/10.3390/biology11111585>

Article

The Effect of Long-Term Moderate Static Magnetic Field Exposure on Adult Female Mice

Xingxing Yang ^{1,†}, Biao Yu ^{2,†} , Chao Song ², Chuanlin Feng ² , Jing Zhang ², Xinyu Wang ², Guofeng Cheng Rui Yang ¹, Wei Wang ¹ and Yong Zhu ^{1,*}

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² High Magnetic Field Laboratory, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei 230031, China

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† These authors contributed equally to this work.

Simple Summary: The data show that long-term 150 mT SMF exposure enhanced the movement and alleviated the mental status of adult female mice by modulating glucose metabolism and gut microbiota, increasing the level of beneficial flora and antioxidant capacity. This certificated moderate intensity long-term SMF exposure has the potential to ameliorate the locomotive activity, exploratory capacity and negative mood associated with female growth.

Abstract: Because of the high cost and safety of ultra-high magnetic resonance imaging (MRI) application has certain limitations. Whereas 0.5–3 T MRI has been widely applied in hospitals, static magnetic fields (SMFs) have been shown to improve mice mental health and have anti-tumor potentials. Here, we compared the effects of the upward and downward 150 mT SMF groups with the sham group on C57BL/6J adult female mice. Locomotor and exploratory activity were also measured by behavioral tests, including the open field and elevated plus test. Additionally, physiology, pathology indicators and gut microbiota were examined. We found that 150 mT SMFs long-term exposure enhanced locomotive and exploratory activity of mice, especially the downward 150 mT SMF. Compared with the downward 150 mT SMF group, the movement speed and distance in the center area of the sham group were increased by 65.99% ($p < 0.0001$) and 68.58% ($p = 0.0038$), respectively. Moreover, compared to the sham group, downward 150 mT SMF increased the number of entrances to the center area by 67.0% ($p = 0.0082$) and time in the center area by 77.12% ($p = 0.0054$). Additionally, we observed that upward 150 mT SMF improved the number of follicles (~2.5 times, $p = 0.0325$) in the uterine glands through increasing the total antioxidant capacity and reducing lipid peroxidation level in mice. Gut microbiome analysis showed that 150 mT SMFs long-term exposure improved gut microbiota abundance (*Clostridium*, *Bifidobacterium*, *Ralstonia* and *Yaniella*) in the genus level, which may affect metabolism, anxiety and behavior in adult female mice. Our results demonstrated that 150 mT SMFs long-term exposure not only had good biosafety, but also improved athletic performance in adult female mice.



Citation: Yang, X.; Yu, B.; Song, C.; Feng, C.; Zhang, J.; Wang, X.; Cheng, G.; Yang, R.; Wang, W.; Zhu, Y. The Effect of Long-Term Moderate Static Magnetic Field Exposure on Adult Female Mice. *Biology* **2022**, *11*, 1585. <https://doi.org/10.3390/biology11111585>

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New research shows usefulness in using a single polarity (negative for microbiota)

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A Static Magnetic Field Improves Iron Metabolism and Prevents High-Fat-Diet/Streptozocin-Induced Diabetes

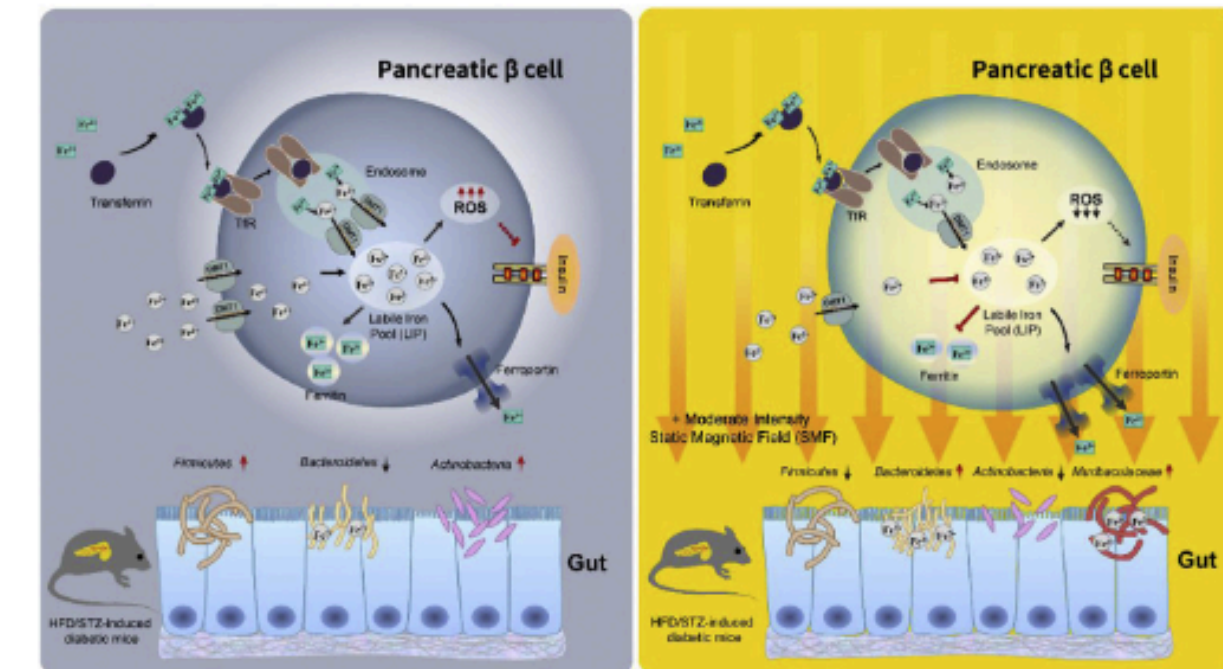
Biao Yu,^{1,2,5} Juanjuan Liu,^{3,5} Jing Cheng,³ Lei Zhang,¹ Chao Song,^{1,2} Xiaofei Tian,^{1,4} Yixiang Fan,^{1,2} Yue Lv,^{1,2} and Xin Zhang^{1,2,4,*}

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GRAPHICAL ABSTRACT



New research shows usefulness in using a single polarity (negative for diabetes)

PUBLIC SUMMARY

- A device made of permanent magnet could lower blood sugar level in type II diabetic mice
- The fatty liver, weight gain, and tissue injury were reduced
- Iron metabolism, pancreatic β cell function and gut microbiota were improved
- The magnetic field intensity, direction and distribution are important

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Magnets (negative and/or positive) are placed on specific points of the body to improve its magnetic alignment (**homeostasis**) and optimize the organism's cellular adaptive response (**allostasis**).

Reference

- Xingxing Yang, Chao Song, Lei Zhang, Junjun Wang, Xin Yu, Biao Yu, Vitalii Zablotskii, Xin Zhang. An upward 9.4 T static magnetic field inhibits DNA synthesis and increases ROS-P53 to suppress lung cancer growth. *Translational Oncology*. Volume 14, Issue 7, 2021, 101103, ISSN 1936-5233, <https://doi.org/10.1016/j.tranon.2021.101103>.

Original Research

An upward 9.4 T static magnetic field inhibits DNA synthesis and increases ROS-P53 to suppress lung cancer growth

Xingxing Yang^{a,b,1}, Chao Song^{a,b,1}, Lei Zhang^{a,1}, Junjun Wang^{a,c}, Xin Yu^{a,b}, Biao Yu^{a,b}, Vitalii Zablotskii^{d,e}, Xin Zhang^{a,b,c,e,*}

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Lung cancer
Cell cycle
P53
ROS

ABSTRACT

Studies have shown that 9.4 Tesla (9.4 T) high-field magnetic resonance imaging (MRI) has obvious advantages in improving image resolution and capacity, but their safety issues need to be further validated before their clinical approval. Meanwhile, emerging experimental evidences show that moderate to high intensity Static Magnetic Fields (SMFs) have some anti-cancer effects.

We examined the effects of two opposite SMF directions on lung cancer bearing mice and found when tumor-bearing mice were treated with 9.4 T SMFs for 88 h in total, the upward 9.4 T SMF significantly inhibited A549 tumor growth (tumor growth inhibition=41%), but not the downward 9.4 T SMF. *In vitro* analysis shows that 9.4 T upward SMF treatment for 24 h not only inhibited A549 DNA synthesis, but also significantly increased ROS and P53 levels, and arrested G2 cell cycle. Moreover, the 9.4 T SMF-treatment for 88 h had no severe impairment to the key organs or blood cell count of the mice.

Our findings demonstrated the safety of 9.4 T SMF long-term exposure for their future applications in MRI. These results revealed the anti-cancer potential of the upward direction 9.4 T SMF.

Introduction

Although the range of SMF of MRI instruments used in most hospitals is about 0.5–3 T, people have already developed high-field MRI because higher field SMF can enable better image resolution and more accurate diagnosis. In fact, in recent few years, 7 T MRI has already been

SMFs in a cell type- and cell plating density- dependent way [5]. In fact, emerging data suggested that higher intensity SMFs could generate more obvious biological effects [8–11]. For example, Hsu et al. found that 4 T SMF could orient almost 100% of red blood cells while 1 T could only align less than 20% [8]. The p-JNK level in cortical neuron cells was increased by 2 T and 5 T SMF treatment [9].

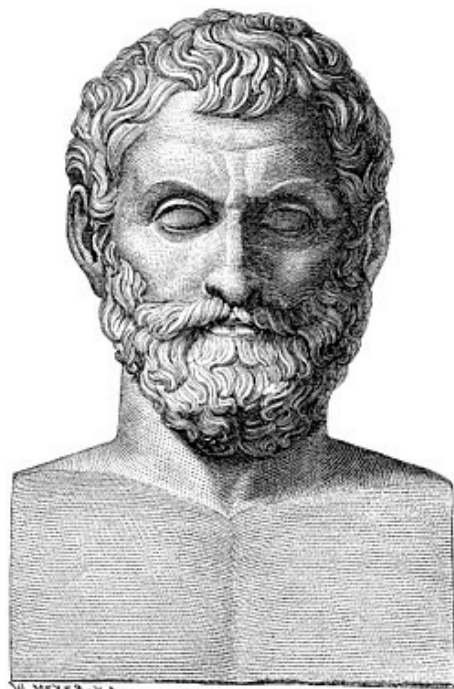


New research shows usefulness in using a single polarity (positive for lung cancer)

So high intensity SMFs have some anti-cancer potentials. For example, 9.4 T SMF treatment for 88 h had a more significant effect on tumor growth than 0.05 T or 1 T SMF treatment for 88 h. In contrast, 0.05 T or 1 T SMF treatment for 88 h had no significant effect on tumor growth. In contrast, 0.05 T or 1 T SMF treatment for 88 h had no significant effect on tumor growth.

HISTORY OF BIOMAGNETISM

Thales of Miletus
624-546 b.C.



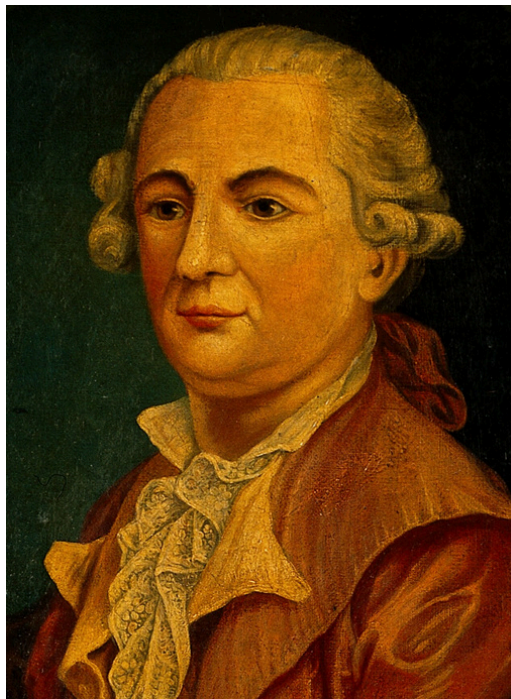
Thales of Miletus (approx. 625–545 B.C.) is credited with the first detailed description in the Greek world of the properties of magnetite, an iron mineral capable of attracting metallic objects. He observed that this mineral not only attracted iron, but could also transmit that power to it.

The most widely accepted theories indicate that the name “magnetism” comes from Magnesia, a region in present-day Turkey (near Miletus), where this mineral was abundant.

A myth attributed to Thales of Miletus is that he was the first person to use magnetite, inside bags tied to his ankles, to relieve pain after long walks.

HISTORY OF BIOMAGNETISM

Franz Anton Mesmer
(1734-1815)



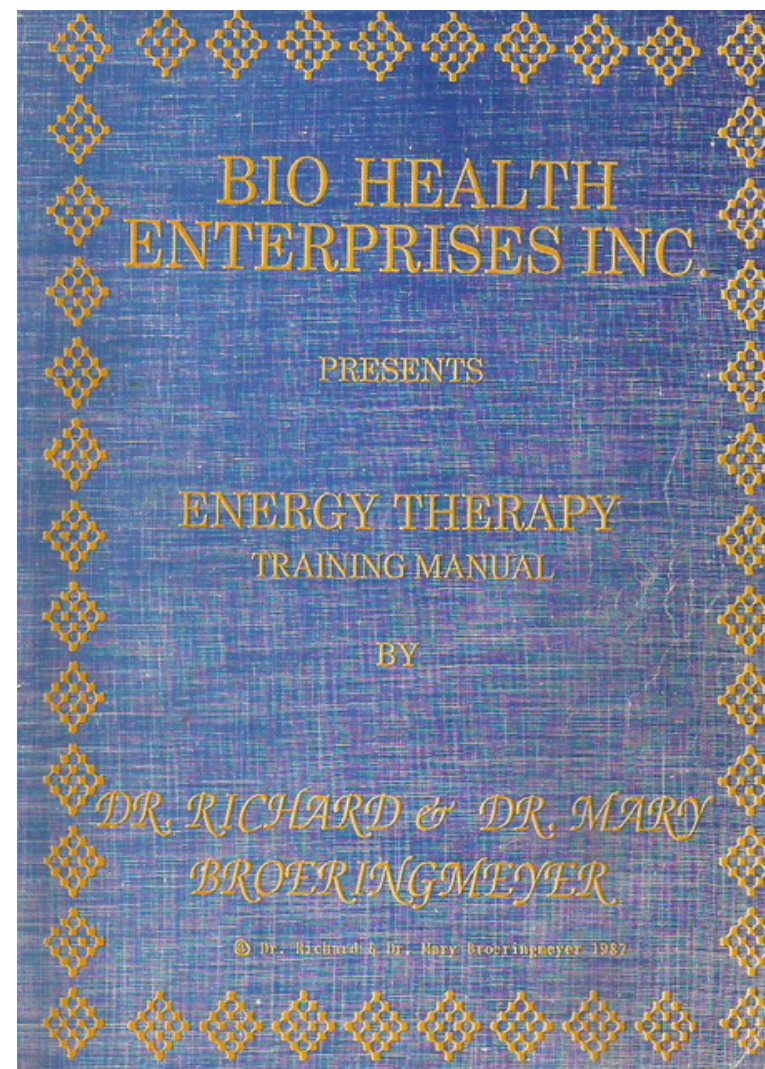
Franz Anton Mesmer (1734–1815) was a controversial German physician who developed the theory of “animal magnetism” (or mesmerism), a healing system based on the existence and balance of an invisible magnetic fluid that, according to him, could be channeled to heal his patients.

Mesmer designed a device called the baquet, a large wooden tub filled with water, iron filings, and glass bottles, which he considered a “condenser” of magnetic fluid. Metal rods and cords came out of the tub, which patients held and applied to the diseased parts of their bodies.

In 1784, King Louis XVI appointed a royal commission to investigate him. The conclusion was devastating for Mesmer: there was no evidence of the magnetic fluid. All observed effects were attributable to the patients’ “imagination” and suggestion.

HISTORY OF BIOMAGNETISM

Dr. Richard Broeringmeyer
(1923 - 1991)

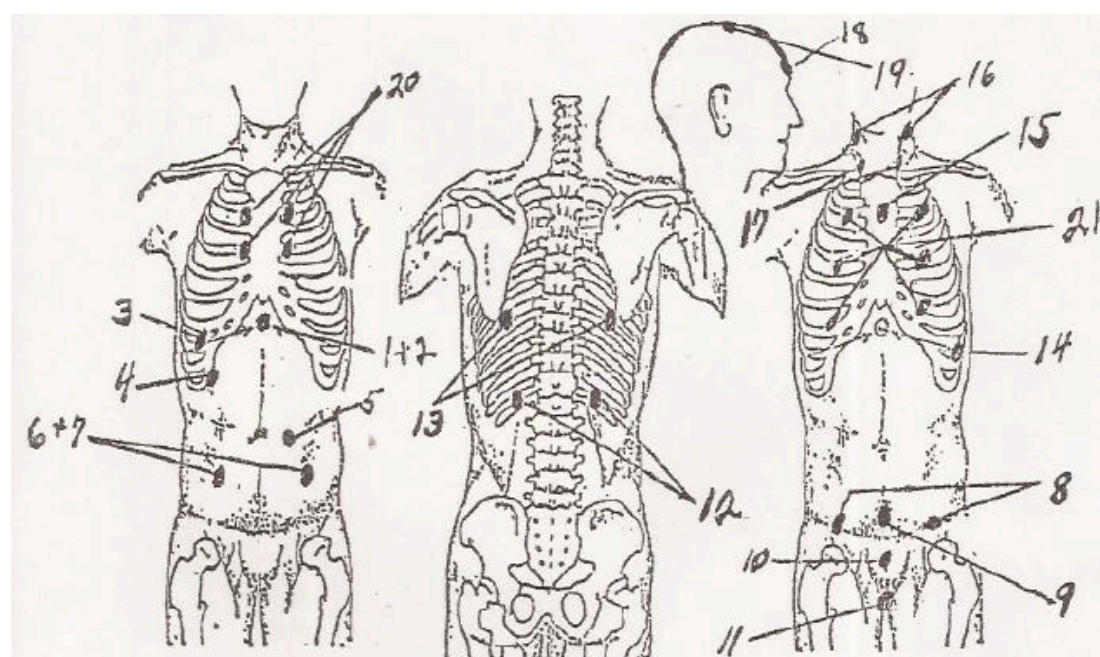


Dr. Richard Broeringmeyer's main contribution was the development of the Scanning Technique with magnets currently used in Biomagnetism.

He proposed the pH theory, a system of magnetic balance that consisted of regulating the body's bioelectric activity by positioning a single medium-intensity electromagnet on anatomical points, with the purpose of balancing pH in the organism.

Scanning with Electromagnet
<https://youtu.be/0p9nMVhq6oQ>

DR. RICHARD BROERINGMEYER



REACTION	REACTION	REACTION
1. STOMACH	8. OVARIES	15. THYMUS
2. HIATAL HERNIA	9. UTERUS	16. THYROID
3. LIVER	10. URINARY BLADDER	17. PARATHYROID
4. GALL BLADDER	11. PROSTATE	18. PITUITARY
5. PANCREAS	12. KIDNEY	19. PINEAL
6. COLON	13. ADRENAL	20. HEART
7. DIVERTICULITIS	14. SPLEEN	21. LUNGS

SOUTH POLE IS HYPER ACTIVE
NORTH POLE IS HYPO ACTIVE
"TREAT WITH POLE OPPOSITE OF REACTION"

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CHAPTER VIII

MAGNETIC TWO POLE EFFECT IN DIAGNOSING

The art or science of this skill must be understood or the doctor will not know what he is seeing or feeling.

The body's reaction to magnetic energy is actually no different in principle to that of pupillary reaction to a light beam.

Babinski sign - toes reaction to a scratch on the sole of the foot.

Knee Jerk - Elbow Jerk - Wrist Jerk - Spinal Reflexes
There are many of these and if they are not normal they indicate various problems in the motor-sensory nervous system. Some of them actually are involved with the sympathetic or visceral system.

Galvanic reflexes - many of these are used to measure muscle responses-nerve responses etc.

These reactions are very close to those of a properly placed magnetic energy field.

It has been clinically established that the two poles of the magnet cause the reaction on tissues and organs of the body differently.

NORTH POLE: 1. Arrests protein activity.
2. Draws fluid.
3. Contracts.

SOUTH POLE: 1. Increases protein activity.
2. Disperses fluid, expands.
3. Enlarges.

TISSUE AND ORGAN REACTION

NORTH POLE: 1. Vaso-constricts.
2. Increases alkalinity.
3. Acts to sedate or inhibit.
4. Increases potassium ions.
5. Decreases abnormal calcium ions.

SOUTH POLE: 1. Vaso-dilates.
2. Increases acidity.
3. Stimulates
4. Increases sodium.

When the pH of a tissue or organ is unbalanced, the autonomic nervous system, for response purposes, creates a magnetic field which can be measured and charted.

The first principal we must understand is that a hyper (over active) organ is one that is going more acid than its normal pH and that a hypo (under active) organ is one that is more alkaline than its normal pH. Another way to say this is when the organ or system slows down (hypo) it has become more alkaline and when it speeds up (hyper) it has become more acid. Either of these are abnormal conditions to the body and cause our body to compensate.

As proven in the laboratories the South Pole of a magnet causes an acid reaction and energizes or stimulates the area or organ placed in the energy field. The North Pole causes an alkaline reaction which inhibits and has a soothing, antiseptic effect to the tissue, organs or areas in that energy field. This properly understood will give you a consistent diagnostic interpretation of the body's abnormal functions.

When a reaction is obtained by applying the South Pole energies to the area or organ and the body reacts, means the area or organ is hyper functioning (over active). It is acid, irritated or over energized, hypertonic and the area is almost always in a state of tension; this is often associated with pain.

Any reaction obtained by applying the North Pole energies to an area or organ means the area or organ is hypo functioning (under active - slow). The area or organ is alkaline, toneless, slow and not functioning normally. It is almost always weak, sagged or stretched. It may or may not be painful.

In only three conditions that we know of at this time can an organ or

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system react to both poles. These are diverticulitis, hiatal hernia and cataracts.

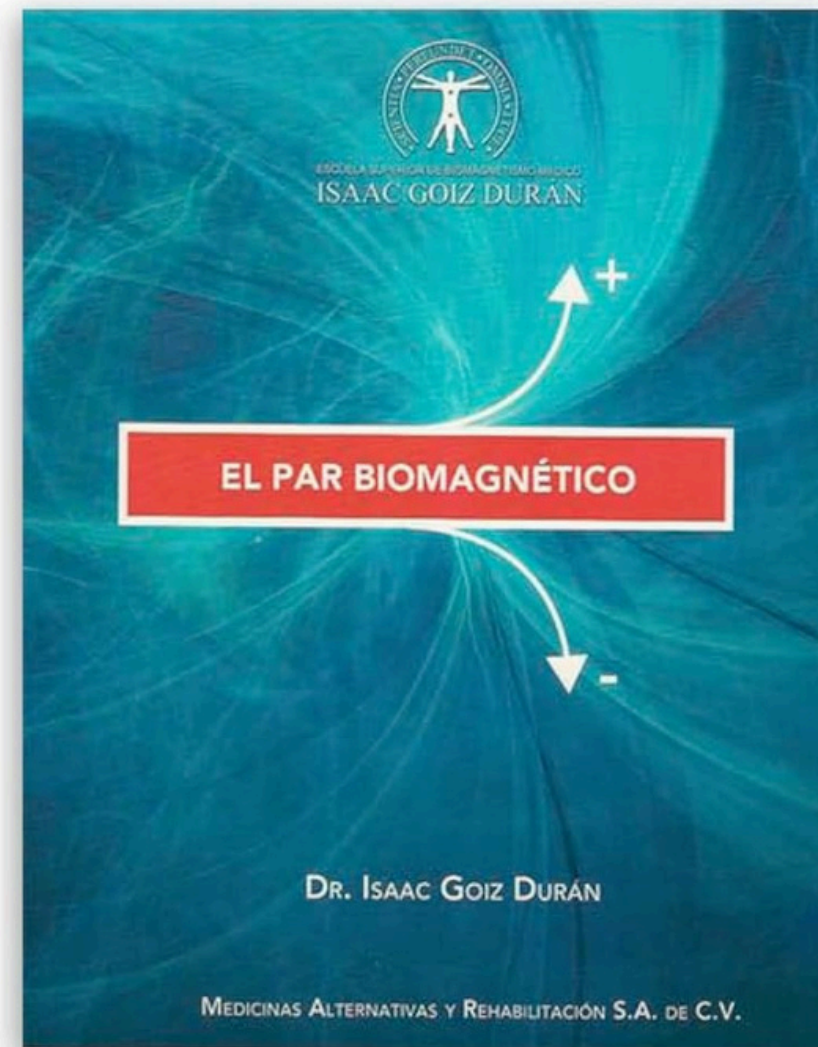
The diseases and conditions found in most patients are almost always from the malfunctions of the basic organs involved; namely - stomach, gall bladder, liver, kidneys, pancreas, adrenals, colon, urinary bladder, reproductive and other organs.

From the main organs stem the toxic factors which create secondary pathology, such as headaches, respiratory disorders, allergies, skin conditions, joint conditions, chest conditions, muscle soreness, leg pains, nerve pain, digestive disturbances etc. Almost all conditions start in a single organ or system.

calcium
potassium
sedate
inhibit
↑ acid
↓ alkali
↑ sodium
↓ potassium

HISTORY OF BIOMAGNETISM

Dr. Isaac Goiz Durán
(1943 - 2020)



Dr. Isaac Goiz Durán was a Mexican physiotherapist who developed the technique known as the Biomagnetic Pair in 1988, which showed a level of effectiveness in clinical results never seen before. In addition, he developed the scanning technique known as Bioenergetics, which offered greater depth in understanding human pathology.

His therapy consists of applying pairs of magnets (negative and positive) on specific points of the body to maintain balance. He continued using the pH theory inherited from Dr. Richard Broeringmeyer and added the concept of magnetic resonance in the organism.

Scientific Validation of the Biomagnetic Pair
https://youtu.be/HFfljrmfGfQ_

DR. ISAAC GOIZ DURÁN

El Par Biomagnético

Defino el par biomagnético como el conjunto de cargas que identifican una patología y que está constituido por dos cargas principales de polaridad opuesta, que se forman a expensas de la alteración fundamental del pH de los órganos que la soportan.

De esta dualidad bioenergética se desprende otro principio fundamental al que llamo Nivel Energético Normal (NEN).

El NEN define los límites bioenergéticos en donde se llevan a cabo todos los procesos metabólicos celulares de los organismos humanos y que en razón de temperatura no puede salirse del límite de apenas un grado centígrado (36 a 37). En razón de absorción electromagnética está en el orden de los 400 Amstrongs (Dr. Moncayo, UNAM) y en razón de pH está muy próximo al valor neutro de la escala convencional, con tolerancia de apenas tres décimas en ambos sentidos.

Todas las consideraciones fisiológicas, bioquímicas, biológicas, inmunológicas, psicológicas y hasta sofrológicas de los organismos humanos se llevan a cabo en condiciones de normalidad dentro de este nivel de energía y quizá, el considerar que la patología también se lleva a cabo dentro de estos niveles energéticos, es lo que nos ha hecho tan ineficiente en nuestros tratamientos médicos, porque la naturaleza dentro de estos niveles de energía es perfecta y no admite errores.

La alteración bioenergética del NEN obedece a la Ley del Todo o Nada - semejante a la de Reobase Muscular-, es decir, que existen fenómenos naturales que sacan todo un órgano de su nivel energético normal en un cierto límite después del cual el fenómeno persiste independientemente de que el fenómeno que lo causó exista o no, y parece ser que dicho límite energético está en el orden de los 1000 Gauss o sus equivalentes energéticos, ya que la despolarización bioenergética por medio de imanes naturales también obedece a cargas superiores a los 1000 Gauss y no tienen efectos potenciales magnéticos inferiores, pero en ambos casos, tanto la polarización como la despolarización el efecto es similar, es decir que por arriba de los 1000 Gauss la despolarización es efectiva y definitiva, sin importar que se apliquen campos mucho más energéticos -hemos probado hasta 50 000 gauss y el efecto es totalmente similar.

Ciertamente que debe existir un dieléctrico natural que permita que las cargas en condiciones normales no se fundan dentro del NEN ya que éste, a su vez, actúa como tal - dieléctrico- en relación a los focos biomagnéticos que se forman en condiciones de patología o de disfunción orgánica; es decir, que en tanto el NEN actúa como dieléctrico para la formación y estabilidad de cada Par Biomagnético, existe otro dieléctrico que permite la homeostasis, aspecto que no es considerado en la bioquímica pero si en la bioenergética.

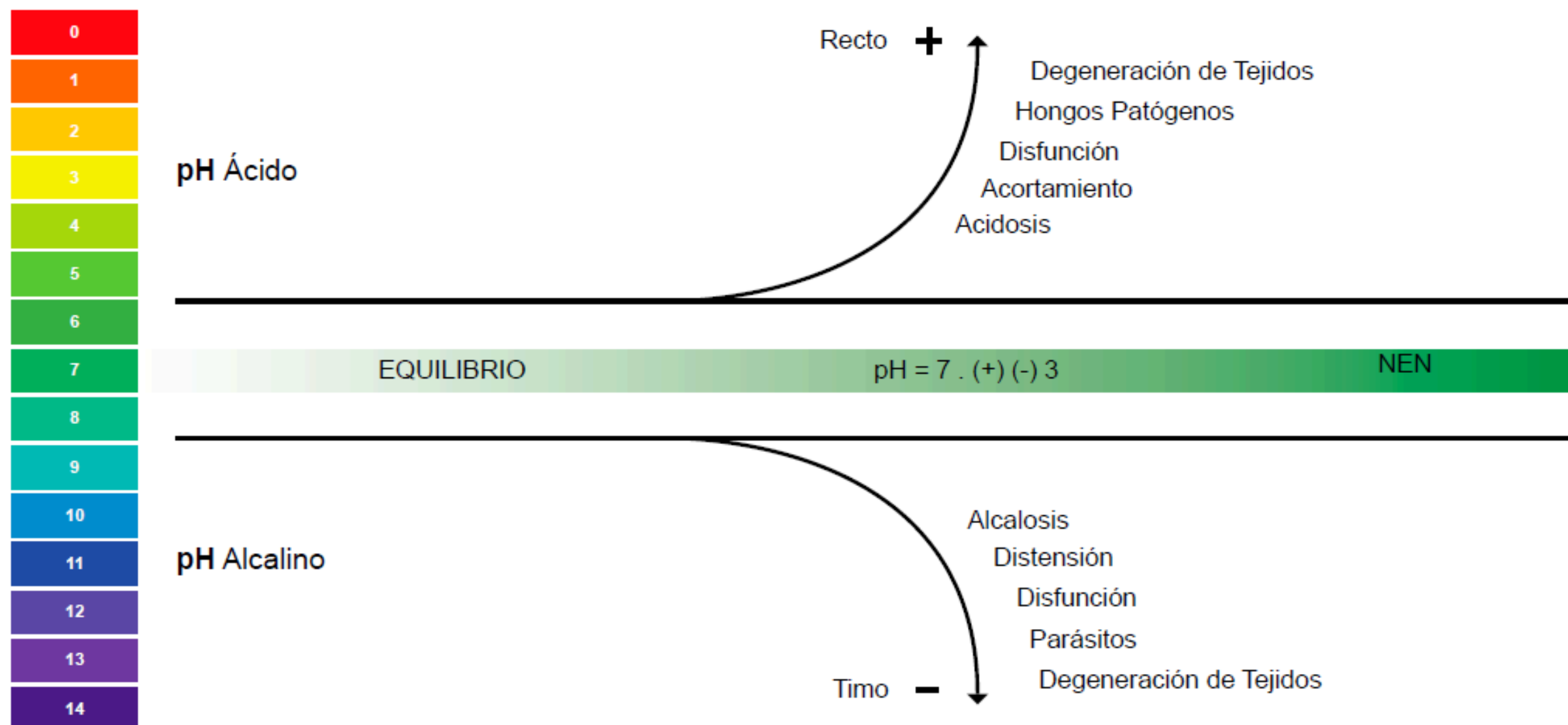
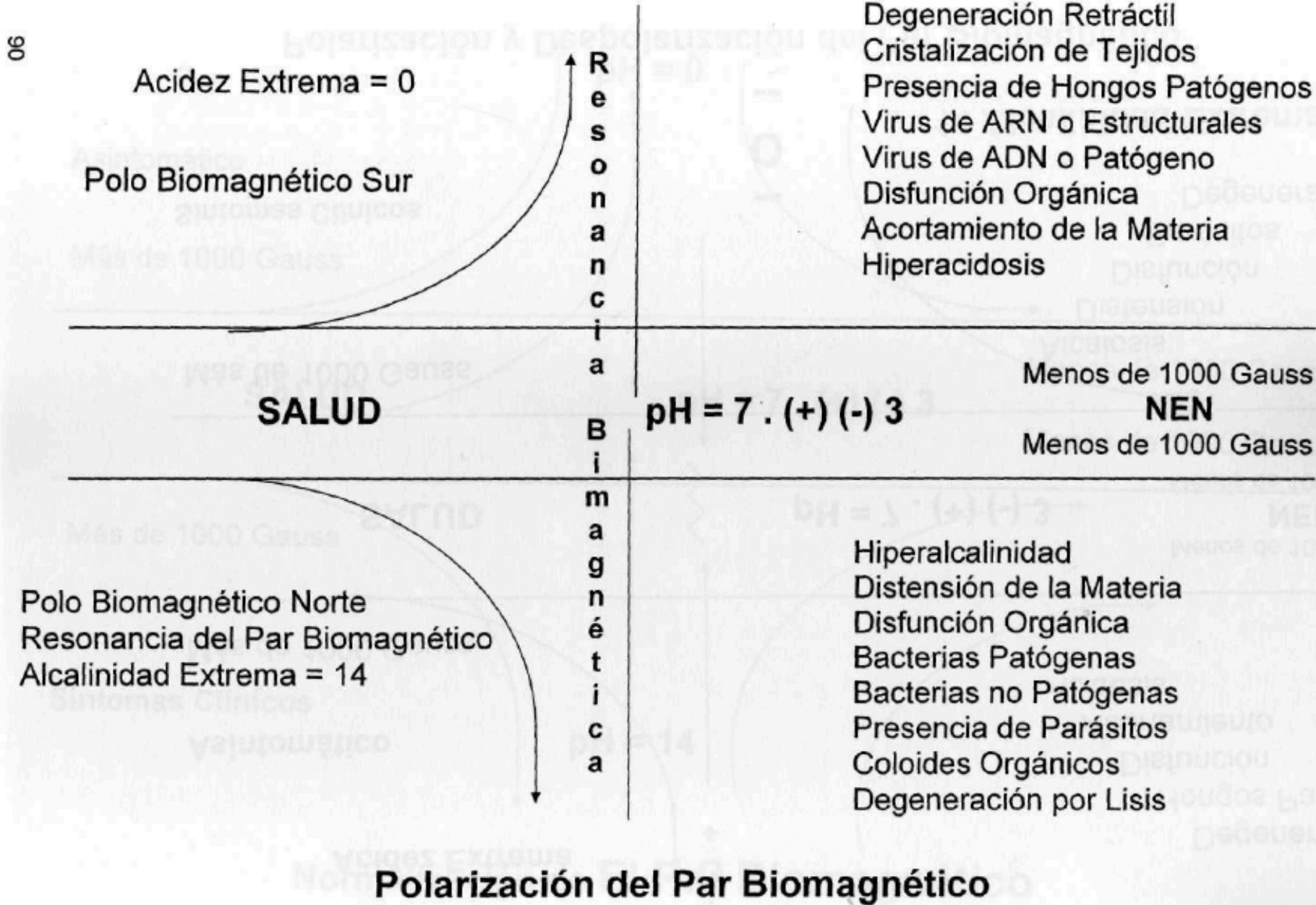


Figura 3. Polarización y Despolarización del Par Biomagnético

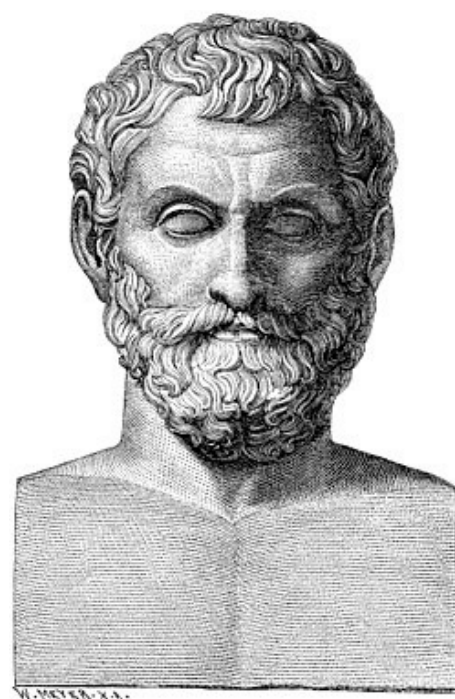
DR. ISAAC GOIZ DURÁN

1.	Timo	Recto	VIH(1)
2.	Axila	Axila	Rabia virus
3.	Colon transverso	Vejiga	Vibrio cholerae
4.	Riñon	Riñon	Clostridium tetani
5.	Uretero	Uretero	Varicela virus
6.	Pudendo	Pudendo	Parotiditis virus
7.	Parietal	Parietal	Encefalitis virus
8.	Tiroides	Bulbo raquídeo	Meningitis virus
9.	Ciático	Ciático	Poliomelitis virus
10.	Colon descendente	Hígado	Hepatitis A
11.	Colon descendente	Riñon	Pasteurela
12.	Vesícula	Riñon derecho	Catarro común virus
13.	Hipófisis	Vejiga urinaria	Dengue virus
14.	Descendente	Descendente	Enterobacter cloacae
15.	Colon ascendente	Colon ascendente	Herpe (1)
16.	Cardias	Suprarrenales	Streptococcus B
17.	Cabeza de páncreas	Suprarrenales	Staphylococcus aureus cuag (-)
18.	Bazo	Hígado	Brúcela
19.	Subclavia	Subclavia	Bacilo differoide
20.	Supreaespinoso	Supreaespinoso	Mycobacterium tuberculoso
21.	Deltoides medio	Deltoides medio	Treponema palidium
22.	Timo	Parietal	Rubéola virus
23.	Trocánte mayor	Trocánte mayor	Salmonella tifo
24.	Próstata	Recto	Papiloma virus
25.	Laringe	Laringe	Bacilo pertusis
26.	Ojo	Ojo	Citomegalovirus
27.	Seno paranasal	Seno paranasal	Sinusitis viral
28.	Seno frontal	Seno frontal	Sinusitis viral
29.	Cola de páncreas	Hígado	Chlostridium botulinum
30.	Pineal	Bulbo raquídeo	Guillain barre virus

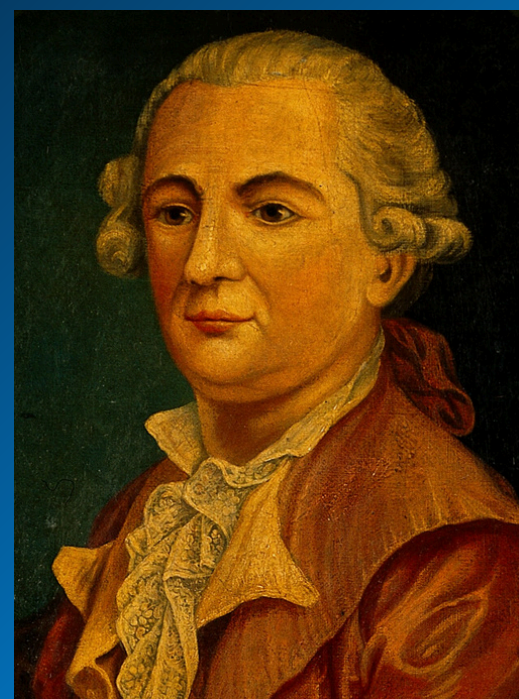


CLASSIC BIOMAGNETISM

Tales de Mileto
624-546 b.C.



Franz Anton Mesmer
(1734-1815)



Dr. Richard Broeringmeyer
(1923 - 1991)



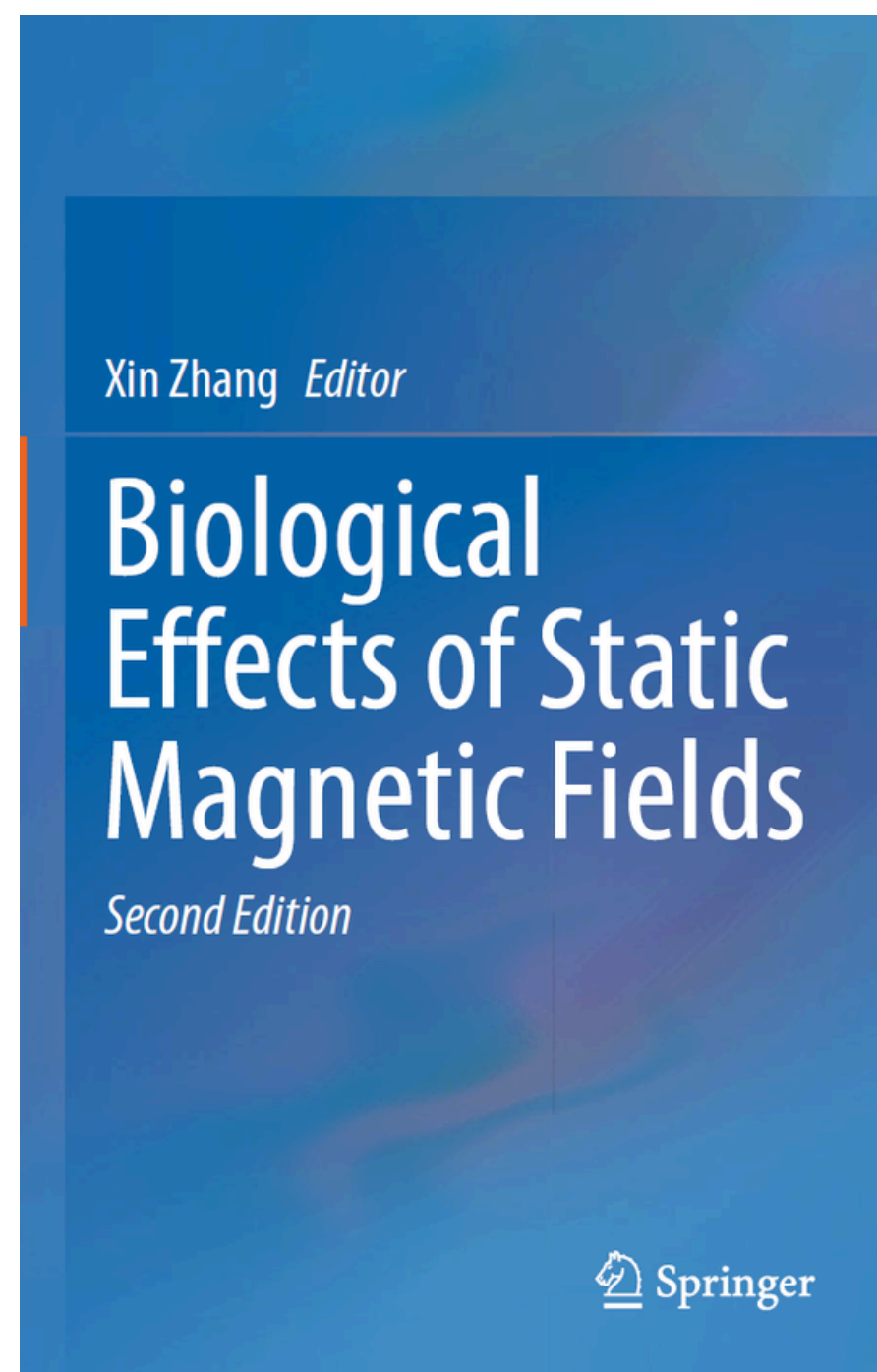
Dr. Isaac Goiz Durán
(1943 - 2020)



These biomagnetists are considered “Classical” because they share clinical advances, detailed descriptions of their therapeutic methods, and philosophical explanations behind the magnets action mechanisms. https://drive.google.com/drive/folders/1LFPkDHFbYzpCz4zCTeTWJI_UK58C2qDn?usp=sharing

MODERN BIOMAGNETISM

Ph. D. Zhang Xin



Dr. Xin Zhang graduated from the Health Science Center of Peking University (China) with a bachelor's degree in Medicine in 2001. She earned her doctorate in 2007 after studying mitosis and its regulation at Indiana University, Bloomington (USA).

In 2008, she began her postdoctoral research at Harvard Medical School and the Dana-Farber Cancer Institute in the field of chemical biology and cancer cell biology.

In 2012, she returned to China as a principal investigator at the Chinese Academy of Sciences (CAS), High Magnetic Field Laboratory, Hefei. She is currently vice director of the CAS High Magnetic Field Laboratory.

She has published more than 100 articles in journals such as PNAS, eLife, PLoS Biology, The Innovation, Advanced Science, and Research.

The Xin Zhang Lab

<http://xzhanglab.hmfl.cas.cn/en2022/>

PH. D. ZHANG XIN

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3 Molecular Mechanisms for Electromagnetic Field Biosensing

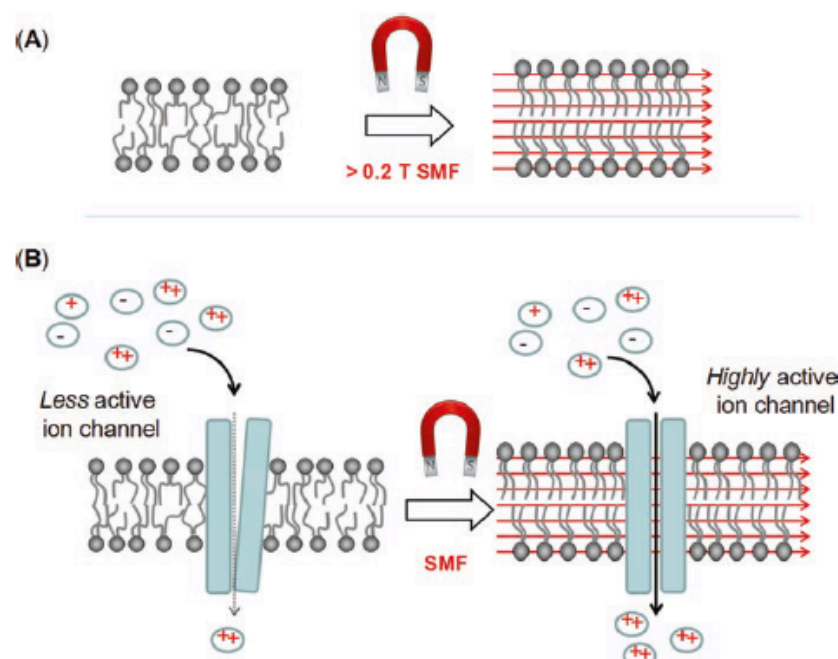
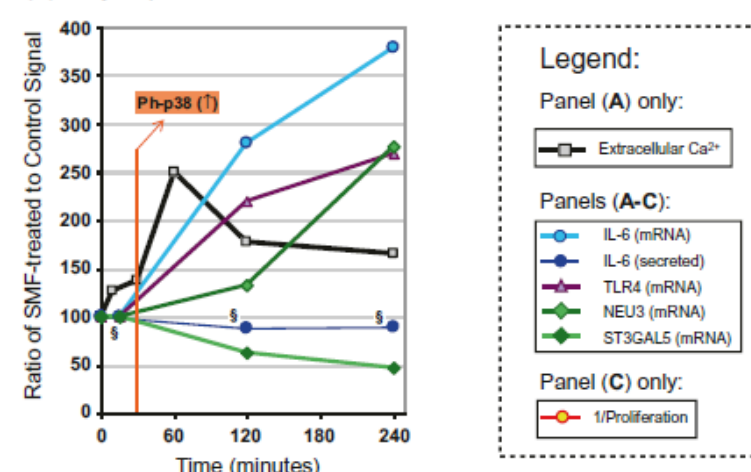


Fig. 3.4 Proposed mechanism for direct effects of SMF on biological membranes. (a) Based on literature reports of SMF effects on lipids (Braganza et al. 1984), we propose that field strengths of >0.2 T impose superdiagonal organization on lipid bilayers. (b) Extending this concept to biological membranes (i.e., lipid bilayers with embedded proteins such as the cartoon of an ion channel as shown), we found that calcium ion flux rapidly responds to ~0.25 T fields (Wang et al. 2010; Wang et al. 2009). This response can be explained by allosteric regulation of ion channel activity by the relative membrane organization and biophysical properties in presence and absence of the external SMF. This response is conceptually similar to a variation of the magnetite-based mechanism shown in Fig. 3.2 where ion channel activity is not modulated by direct action on the channel (as shown in that figure) but instead results from magnetite's action on cis elements in a membrane that – upon perturbing membrane structure or organization – have an effect on proximally located ion channels (This mechanism is described in detail elsewhere (Cadiou and McNaughton 2010))

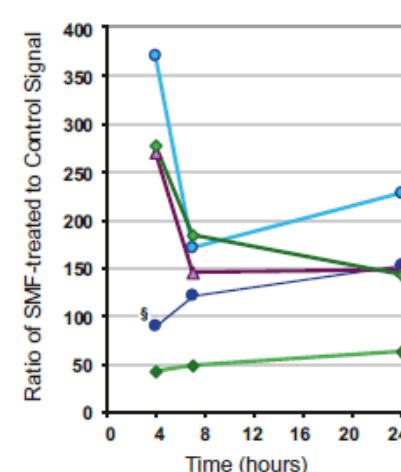
generating LacCer; at the same time loss of the biosynthetic enzyme ST3GAL5 prevent regeneration of GM3 (as well as other gangliosides such as GM1). The net effect of this functionally-coordinated response is diminution of cell surface levels of GM3, which we previously showed can affect cell surface signaling (Wang et al. 2006) and others have shown affect that gangliosides modulate calcium ion activity (Carlson et al. 1994). Accordingly, we speculate that SMF exposure immediately affects calcium ion channel activity through changes to the bulk biophysical properties of the surrounding membranes. This sets in motion a series of events that ultimately counteract the impact of SMF. In other words, the initial stimuli presented

3.5 Mechanisms for SMF Effects on Human Biology

(A) Early responses



(B) Intermediate responses



(C) Longer term responses

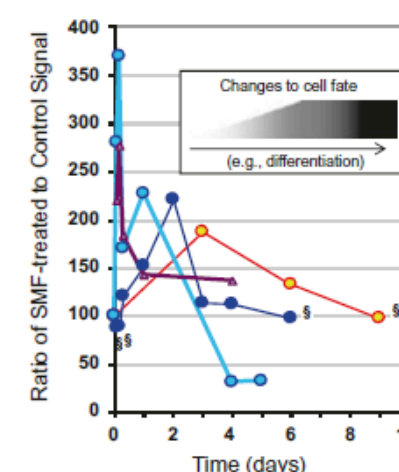


Fig. 3.5 Timeline of SMF-induced, IL-6 associated responses in hEBD LVEC cells. (a) early responses that occur within 4 h of the start of continuous SMF exposure include p38 phosphorylation by 30 min, calcium flux, and the other parameters denoted in panel (b), which shows intermediate responses that occur over the first day. Finally, (c) shows longer term responses over the first week or so of SMF exposure. Data is shown for $n \geq 3$ independent experiments and $p < 0.05$ for all data except for that indicated by “\$” where $p > 0.05$ (these data were analyzed by SD but error bars are omitted from these graphs for clarity). All data shown – except for the proliferation data in Panel c that gives the reciprocal relationship for cell proliferation – compares SMF-exposed to control cells with a value of 100 as a baseline (This figure is adapted from Wang and coauthors (Wang et al. 2009))

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3 Molecular Mechanisms for Electromagnetic Field Biosensing

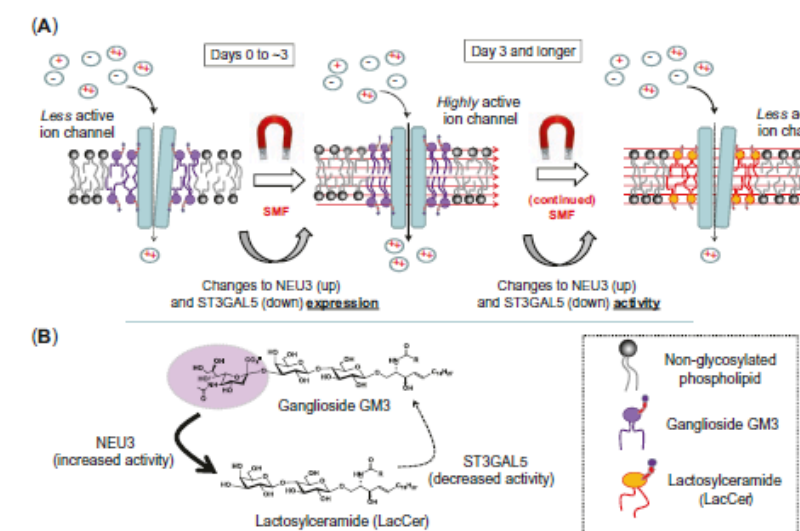


Fig. 3.6 Proposed mechanism for biphasic response to constant SMF exposure. (a) This proposal builds on the mechanism shown in Fig. 3.4 with the added provision that SMF exposure alone cannot fully convert low (or inactive) ion channels to a highly active form. Instead, the added contribution of ganglioside GM3 is required; for context GM3 is a prominent constituent of lipid rafts that surround membrane proteins and modulate their activity (this concept is explained in detail in Hakomori’s “glycosynapse” publications (Hakomori 2002; Hakomori 2004a; Hakomori 2004b; Mitsuzuka et al. 2005; Toledo et al. 2004)). As a consequence, over the initial period of SMF treatment (e.g., Days 0 to 3), SMF exposure and GM3’s impact combine to convert ion channels from a low to high activity state. During this time, however (as shown in Fig. 3.5), changes to the expression of NEU3 and ST3GAL5 lead to a later onset reduction in GM3 abundance (as shown in Panel b); in particular, GM3 becomes depleted after 2–3 days of SMF exposure when the newly made NEU3 becomes active. As proposed in the far right section of Panel a, SMF alone (i.e., in the absence of GM3) is not sufficient to maintain lipid conformation or biophysical properties to support “highly active” ion channel flux. (b) Biochemical details of NEU3 (a sialidase that removes sialic acid from gangliosides) and ST3GAL5 (the sialyltransferase that converts LacCer to GM3) are shown. The increase activity NEU3 converts GM3 to LacCer, which cannot be replenished at normal rates because of the concomitant decrease in ST3GAL3

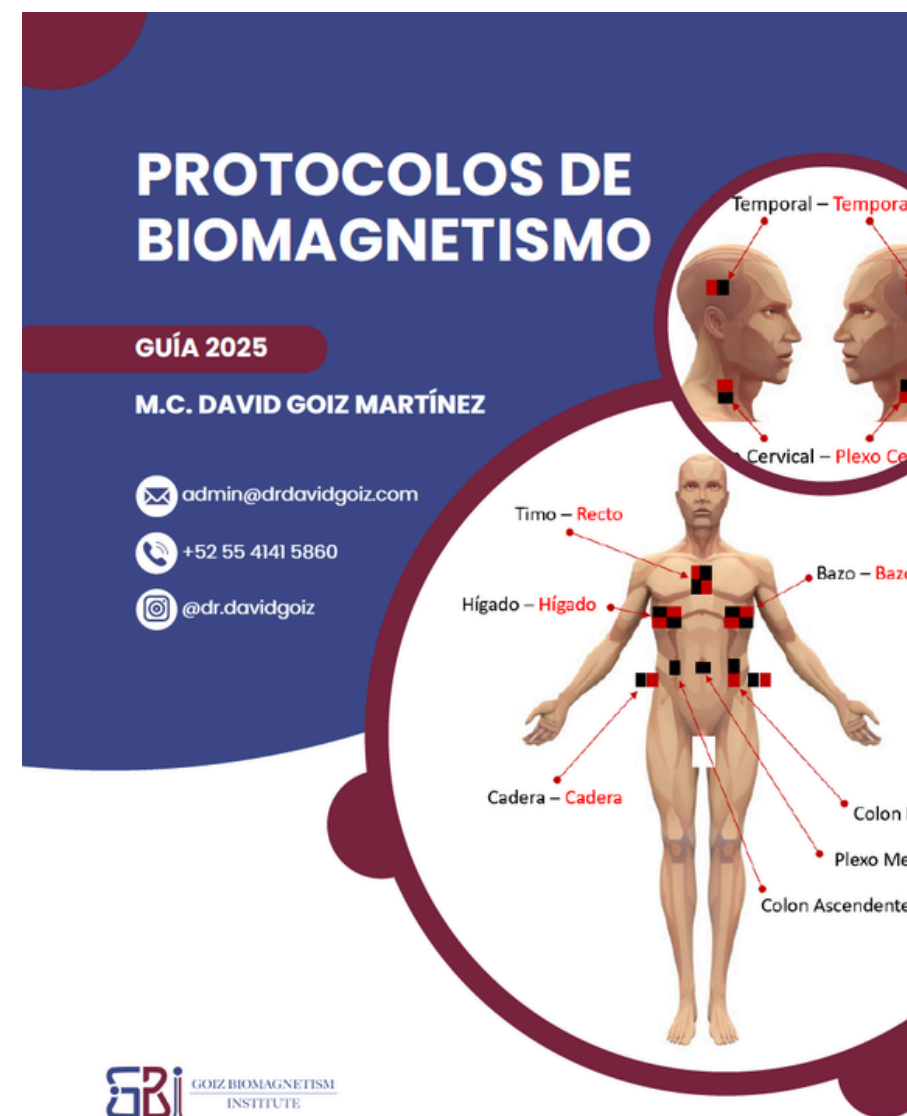
by SMF exposure is counteracted by longer-term (also SMF-induced) loss of GM3 (i.e., GM3 ultimately proves to be a stronger mediator of the responses studied than SMF), which ultimately attenuates and in fact reverses IL-6 production over longer exposure periods.

3.5.2.5 Lipid Membranes as a Magnetic Field Biosensor – Revisiting Earlier Evidence

In addition to the speculative mechanism just presented, we briefly revisit magnetic sensing in nematodes (Sect. 3.3.2.1), where specific neurons have been identified to be responsive to the GMF. Early studies, consistent with findings in mollusks and

MODERN BIOMAGNETISM

M.C. David Goiz
Martínez



I am a medical professional with 14 years of experience in the clinical application of static magnetic fields as a therapeutic adjunct in different medical areas:

- Metabolic health
- Intestinal health
- Neurosciences
- Infectious diseases
- Autoimmune diseases
- Pain and inflammation
- Rehabilitation
- Tumor processes

Passionate about dissemination, education, and medical-scientific exchange around magnetic therapies. Recognized for the ability to connect with the general public and influence medical leaders. I have skills in the development of presentations, teaching materials, and scientific lectures.

My main contribution to Biomagnetism is the incorporation of protocols for therapeutic and research purposes.

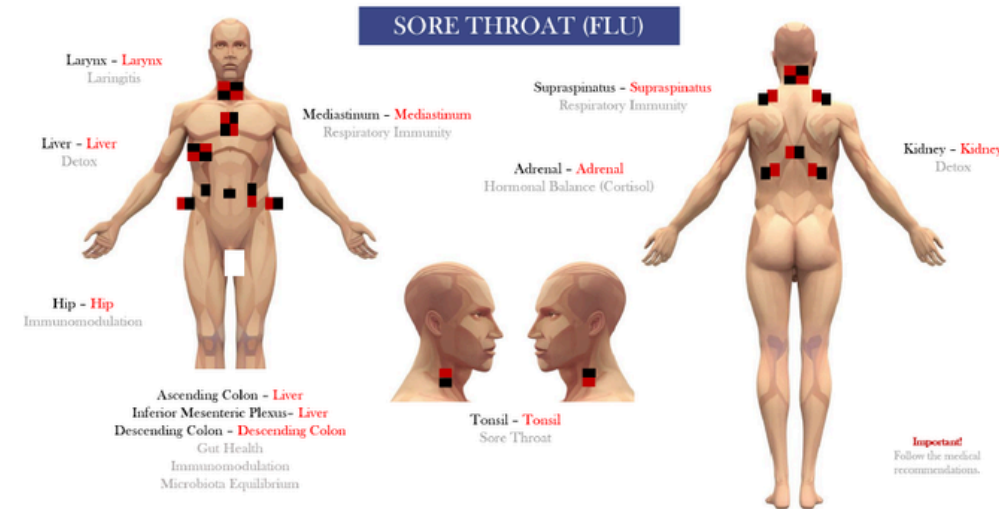
Atopic Dermatitis and Biomagnetism

<https://youtu.be/mFxoZLqpEj8?si=0yZbcHi9ZPWfwAdS>

M.C. DAVID GOIZ MARTÍNEZ

6. SORE THROAT (COLD OR FLU)

CATEGORY: Respiratory (sore throat, flu).
ROUTE OF ADMINISTRATION: Transdermal (through the skin or clothes)
Mild respiratory symptoms: Apply with ferrite magnets (≥1,000 gauss).
Moderate to severe respiratory symptoms: Apply with neodymium magnets (≥2,000 gauss).
DOSAGE: Acute symptoms: Consult your healthcare provider. May complement medical treatment with 30–60 minutes of magnet therapy, applied 1–2 times daily for 1–2 weeks.
Chronic symptoms: Follow up with your physician. May supplement medical treatment with 30–60 minutes of magnet therapy, applied 1–2 times weekly for at least 6 weeks (or indefinitely, as needed).
ACTION MECHANISM: Possible roles: ↑IL-6, immunomodulation, neurohormonemodulation.
INDICATIONS: The Sinusitis Protocol does not produce immediate effects (e.g., like a medical treatment). Clinical trials are recommended to evaluate its potential as a therapeutic adjuvant for improved short, medium, and long-term control of Sinusitis.
CONTRAINDICATIONS: Pregnancy, transplants and pacemaker.
ADVERSE EFFECTS: Anxiety.
PRECAUTIONS & WARNINGS: Use only as complementary therapy under medical supervision. Keep magnets away from children and electronic devices.



The Biomagnetic Pair is a non-invasive **technique**, developed by the Mexican scientist, Dr. Isaac **Goiz** Durán. It consists of scanning and the positioning of **magnets** in specific points of the body to maintain or restore the internal **balance**.

Remember always to use the four keywords that define the Biomagnetic Pair Systems:

1. **Technique**
2. **Goiz**
3. **Magnets**
4. **Balance**

A simpler way to explain the Biomagnetic Pair would be:

"The Biomagnetic Pair is a technique discovered by Dr. Isaac Goiz. It consists of placing magnets to facilitate the body's internal balance."



Scanning Methodology

Scanning specific areas of the body utilizing a magnet coupled with kinesiological testing, allows us to find alterations or imbalances in the organism.

The most used kinesiological test in BMP is called magnetopodal reflex, which consists of an involuntary and sustained contraction of a certain group of muscles on the right half of the body, being produced by the presence of a magnetic field in one of the altered points of the body. This reflex is more evident in the pelvic limbs because they are symmetrical, of great length, with a greater contractile response and have better technical management when utilizing both feet.

In order to verify the contraction reaction, it is necessary to follow a procedure that will be explained in detail later in chapter 7, which is replicated by positioning a (negative) magnet at each of the scanning points (chapters 9 and 15).

TYPES OF MAGNETS

Magnets are solid materials capable of generating a magnetic field.

Next, we will explain the characteristics and therapeutic applications of the magnets that are used more frequently in biomagnetism scanning.





Internal Factors

1. Age
2. Disease (Obesity, Diabetes, Hypertension, etc.)
3. Immunity (low, high, reactive)
4. Genetic predisposition
5. Mental and emotional state

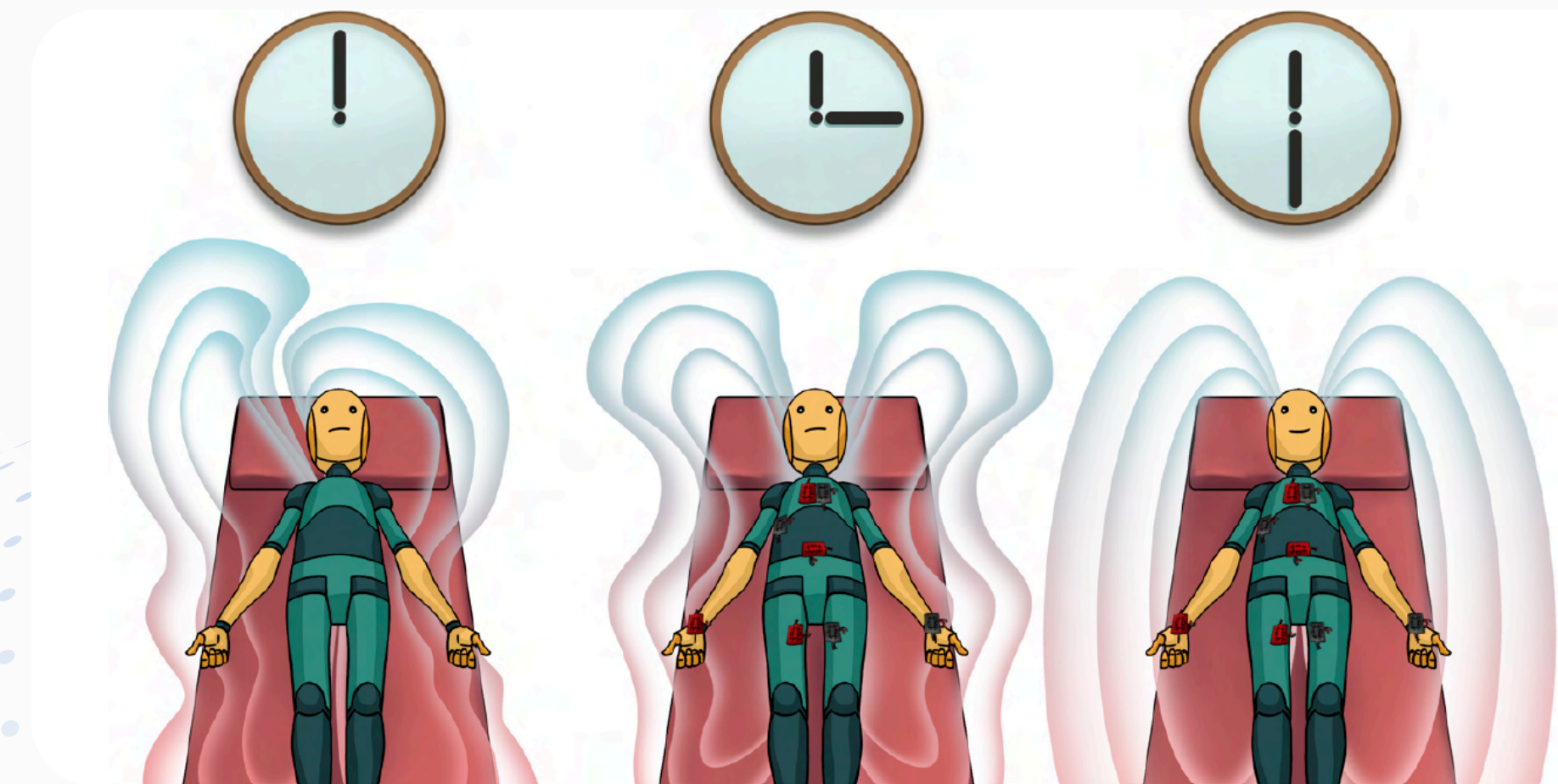


External Factors

6. Hydration and nutrition
7. Pathogenicity (infectious aggressiveness)
8. Dissemination (extent of the disease)
9. Environmental predisposition
10. External magnetic influence

MAGNETIC ALIGNMENT

There are factors presumed to significantly influence the therapeutic effectiveness of magnets. These can be divided into internal or external, and can strongly affect Biomagnetism therapy in terms of application time, number of treatments, and expected outcome.





MAGNETS

There are 4 types of magnets:

1. Ferrite Domino 5 x 2.5 x 1 cm (1,000 gauss)
2. Circular Neodymium 2–5 cm (>2,500 gauss)
3. Double-Polarity Ferrite 2–5 cm (1,000 gauss)
4. Double-Polarity Donut Ferrite 3–7 cm (1,000 gauss)

1 Ideal for scanning and protocols

2 Best option for severe infection and cancer

3 Very expensive; use only in pets or babies

4 Hard to find; they break easily. It is better to use them only on the back

BENEFITS

Increases

1. Immune response
2. Detoxification
3. Microbiota
4. Metabolic response
5. Tissue self-repair

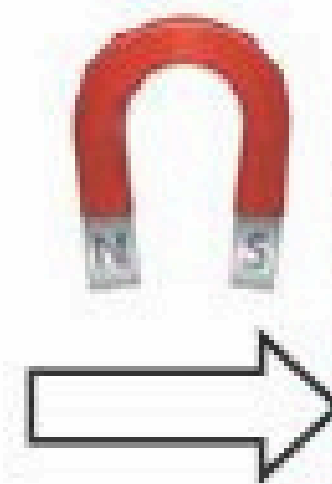
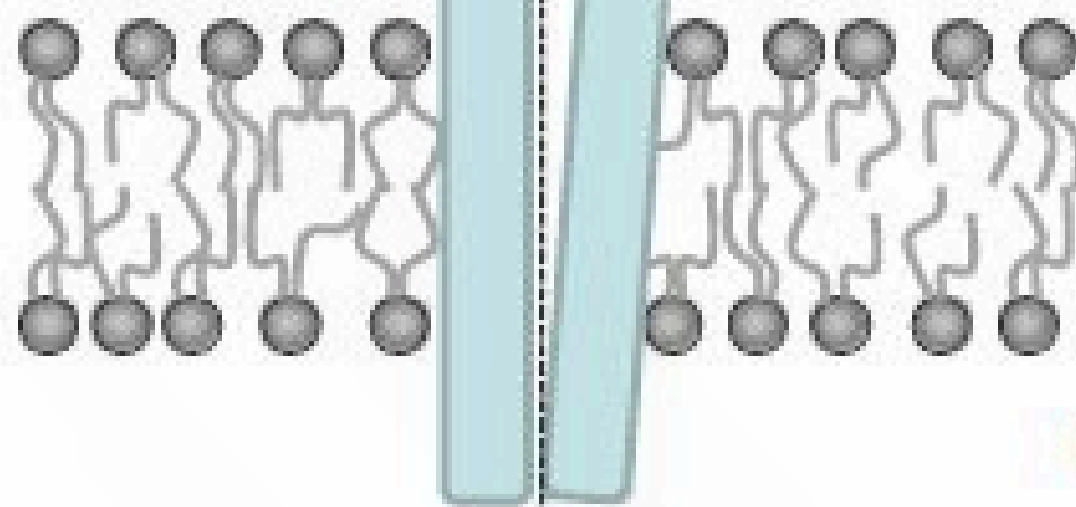
Decreases

1. Symptoms (pain and inflammation)
2. Harmful effects of stress
3. Risks and adverse effects
4. Tumor growth (slows it down)
5. Biofilms

Regulates

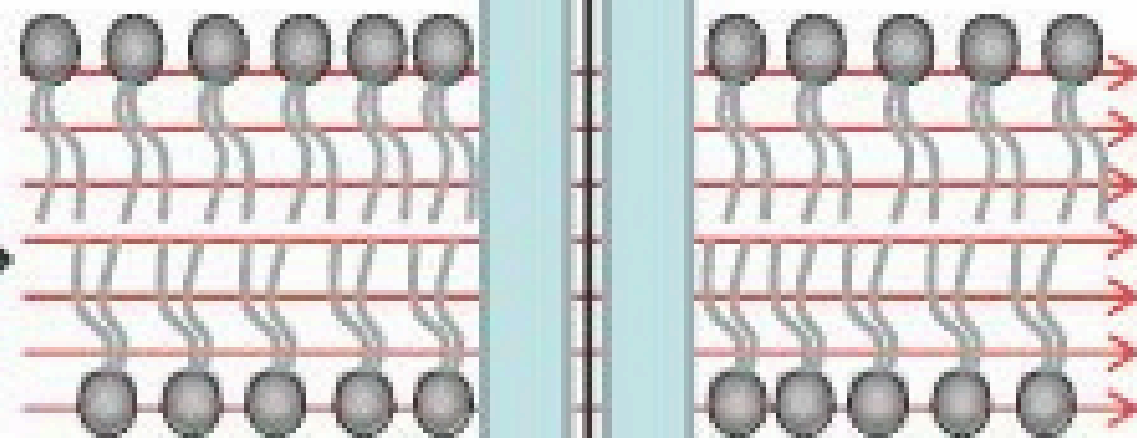
1. Immune system
2. Intestinal system
3. Nervous system
4. Hormonal system
5. Circulatory system

Less active
ion transporter



> 0.2 T SMF

Highly active
ion transporter



Medical Emergencies

1. Heart attack
2. Stroke
3. Severe hemorrhage
4. Airway obstruction
5. Severe trauma

Pshychiatric Emergencies

1. Risk of self-harm
2. Risk of suicide
3. Violent behavior
4. Substance abuse
5. Psychotic episode

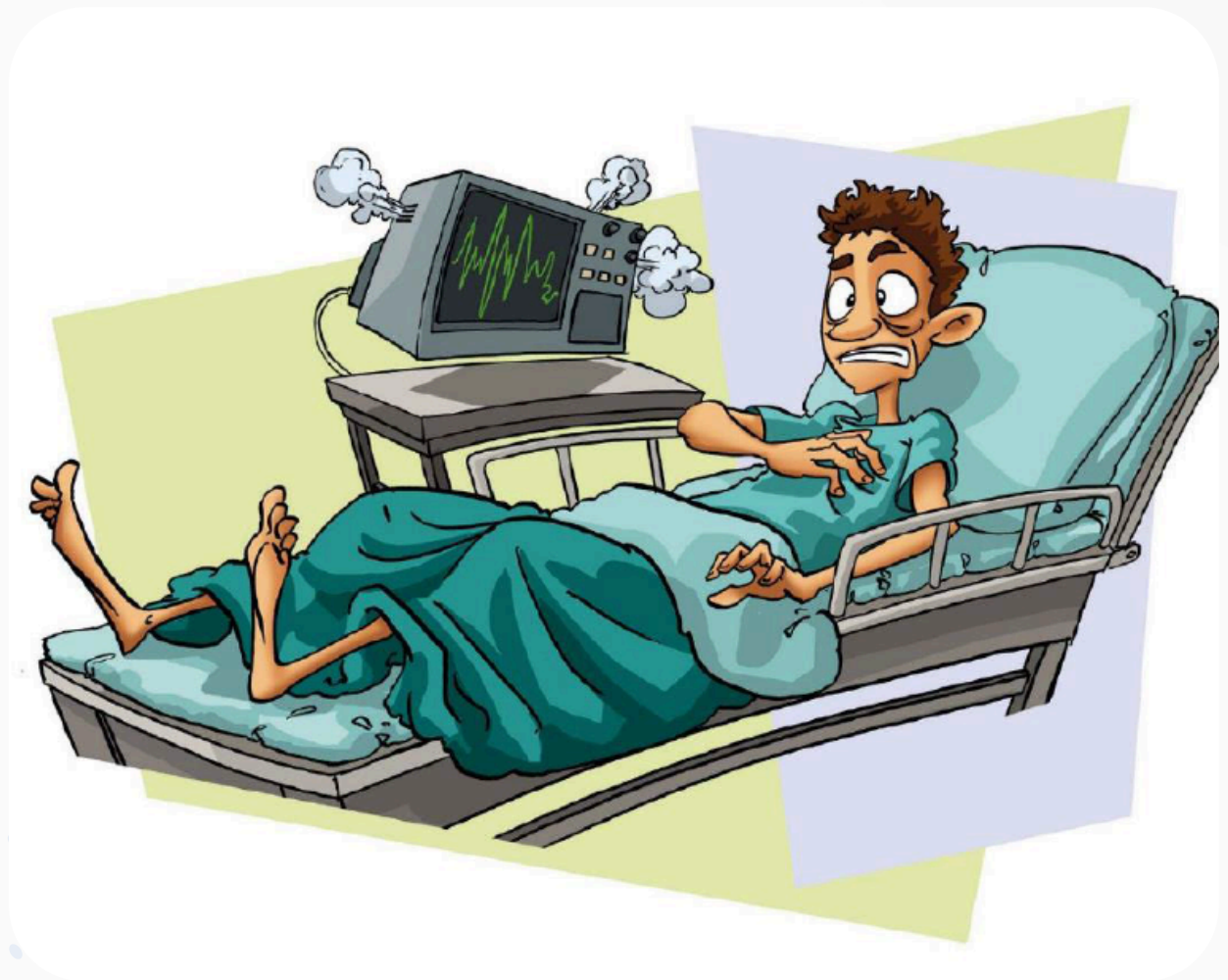
High Legal Risk

1. Pregnancy
2. Cancer (in some countries)
3. Fever in children
4. Transplants
5. Highly contagious disease

Electronic Devices

1. Pacemakers
2. Cardiac monitors
3. Spinal cord stimulators
4. Chips (Neuralink)
5. Bullets

CONTRA INDICATIONS



IMMEDIATE EFFECTS

01 Detoxification

03 Gut Health

02 Circulation

04 Perception

Positive Effects

1. Polyuria (detox)
2. Chills (detox)
3. Sweating (detox)
4. Reduced inflammation (circulation)
5. Skin coloration (circulation)
6. Expulsion of gas (gut health)
7. Analgesia (perception)
8. Relaxation (perception)
9. Drowsiness (perception)

Negative Effects

1. Headache (detox)
2. Dizziness (circulation)
3. Anxiety (perception)



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THANK YOU!

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