In the Court of Appeals Third District of Texas - Austin

TEXAS ASSOCIATION OF ACUPUNCTURE AND ORIENTAL MEDICINE,

Appellant,

v.

TEXAS BOARD OF CHIROPRACTIC EXAMINERS AND YVETTE YARBROUGH, EXECUTIVE DIRECTOR IN HER OFFICIAL CAPACITY,

Appellees

On Appeal from the 201st District Court, Travis County, Texas Cause No. D-1-GN-14-000355

BRIEF OF AMICUS CURIAE TEXAS MEDICAL ASSOCIATION

Donald P. Wilcox
State Bar No. 21449000
rocky.wilcox@texmed.org
Matthew T. Wall
State Bar No. 20756800
matt.wall@texmed.org
Texas Medical Association
401 West 15th Street
Austin, Texas 78701
Phone: (512) 370-1300

Phone: (512) 370-1300 Fax: (512) 370-1693

Attorneys for Amicus Curiae Texas Medical Association

In the Court of Appeals Third District of Texas - Austin

TEXAS ASSOCIATION OF ACUPUNCTURE AND ORIENTAL MEDICINE,

Appellant,

v.

TEXAS BOARD OF CHIROPRACTIC EXAMINERS AND YVETTE YARBROUGH, EXECUTIVE DIRECTOR IN HER OFFICIAL CAPACITY,

Appellees

On Appeal from the 201st District Court, Travis County, Texas Cause No. D-1-GN-14-000355

MOTION TO RECEIVE AND CONSIDER BRIEF OF AMICUS CURIAE TEXAS MEDICAL ASSOCIATION

To the Honorable Court of Appeals

Pursuant to Tex. R. App. P. 11, The Texas Medical Association respectfully requests that the Court of Appeals for the Third District of Texas receive and consider this *Amicus Curiae* brief in the above styled and numbered case.

IDENTITY OF PARTIES AND COUNSEL

Appellant/Texas Association of Acupuncture and Oriental Medicine

Craig T. Enoch Melissa A. Lorber Shelby O'Brien ENOCH KEVER PLLC 600 Congress Avenue, Suite 2800 Austin, Texas 78701

Appellee/Texas Board of Chiropractic Examiners and Yvette Yarbrough, Executive Director in her Official Capacity

Joe H. Thrash Assistant Attorney General Administrative Law Division P.O. Box 12548 Austin, Texas 78711

TABLE OF CONTENTS

IDE	NTITY OF PARTIES AND COUNSEL	iii
TAB	LE OF CONTENTS	iv
INDI	EX OF AUTHORITIES	v
STA'	TEMENT OF INTEREST OF AMICUS CURIAE	1
STA'	TEMENT OF THE CASE	2
ISSU	JES PRESENTED	2
STA	TEMENT OF FACTS	2
SUM	IMARY OF THE ARGUMENT	3
ARG	JUMENT	3
I.	The Acupuncture Rules Adopted by the Chiropractic Board Exceed Statutory Authority Under the Chiropractic Act	3
II.	The Chiropractic Act Does Not Authorize the Performance of Any Procedures Upon the Nervous System	6
III.	The Chiropractic Act Does Not Contain Any Provision Authorizing Chiropractors to Perform Acupuncture	8
PRA	YER	10
CER	TIFICATE OF SERVICE	11
CER	TIFICATE OF COMPLIANCE	12
APP	ENDIX	13

INDEX OF AUTHORITIES

Cases

Brooks v. Texas Medical Board, No. 03-14-00239-CV, 2015 WL 3827327 (Tex. App. – Austin, June 18, 2015, no pet. h.)	5
Dallas Merchants and Concessionaire's Ass'n v. City of Dallas, 852 S.W.2d 489 (Tex.1993)8-9	9
Pub. Util. Comm'n v. City Pub. Serv. Bd,, 53 S.W.3d 310 (Tex. 2001)11	1
State Agencies. v. R.R. Comm'n of Tex., 421 S.W.3d 690 (Tex. App. – Austin 2014, no pet.)	}
Tex. Bd. of Chiropractic Exam'rs v. Tex. Med. Ass'n, 375 S.W.3d 464 (Tex. App. – Austin 2012, pet. denied)	5
USA Waste Services of Houston, Inc. v. Strayhorn, 150 S.W.3d 491 (Tex. App. – Austin 2004, pet. denied)	9
Statutes	
Tex. Occ. Code § 151.002(a)(13)	4
TEX. OCC. CODE § 151.052(a)(3)	6
TEX. OCC. CODE § 165.052	4
TEX. OCC.CODE § 201.002(b)(1)	6
TEX. OCC.CODE § 201.002(b)(2)	6
TEX. OCC. CODE § 205.001(2)(A)	6
Tex. Occ. Code § 205.003(a)	9
TEX OCC CODE \$ 205 201 8-	g

Tex. Occ. Code § 205.206	9
Rules	
22 Tex. Admin. Code § 75.5	9
22 Tex. Admin. Code § 78.13(a)(5)	7
22 Tex. Admin. Code § 78.13(a)(8)	7
22 Tex. Admin. Code § 78.13(a)(9)	7
22 Tex. Admin. Code § 78.14	9
22 Tex. Admin. Code § 183.20(b)	9
Other Authority	
STEDMAN'S MEDICAL DICTIONARY (28TH ED.) ("biomechanics"), at 2214	ļ

STATEMENT OF INTEREST OF AMICUS CURIAE

The Texas Medical Association ("TMA") is a private, voluntary, non-profit association of more than 48,000 Texas physicians and medical students. TMA was founded in 1853 to serve the people of Texas in matters of medical care, prevention and cure of disease, and improvement of public health. Today, TMA's maxim continues in the same direction: Physicians caring for Texans. TMA's diverse physician members practice in all fields of medical specialization. TMA supports Texas physicians by providing distinctive solutions to the challenges they encounter in the care of patients.

In this case, TMA has an interest in the health and safety of patients treated in Texas by TMA physician members. TMA's mission is to improve the health of all Texans. One of the responsibilities of TMA and its members is to protect the integrity of medical licenses. This, in turn, means protecting the integrity of the Medical Practice Act, by ensuring that standards for the practice of medicine are adhered to.

Pursuant to Rule 11 of the Texas Rules of Appellate Procedure, this confirms that TMA received no compensation or fees in connection with the preparation or submission of this *amicus curiae* brief and will provide all attorney fees incurred in connection herewith.

STATEMENT OF THE CASE

The Texas Association of Acupuncture and Oriental Medicine "TAAOM") filed suit in the 201st District Court, Travis County, Texas (Cause No. D-1-GN-14-000355), challenging the validity of rules adopted by the Texas Board of Chiropractic Examiners ("Chiropractic Board") authorizing chiropractors to perform acupuncture. The TAAOM's request for relief included a request for invalidation of the pertinent rules. The trial court granted the Chiropractic Board's motion for summary judgment and denied the motion for summary judgment requested by the TAAOM. The TAAOM has appealed from that judgment issued by the trial court.

ISSUES PRESENTED

- **ISSUE 1:** The Acupuncture Rules adopted by the Chiropractic Board exceed statutory authority under the Chiropractic Act.
- **ISSUE 2:** The Chiropractic Act does not authorize the performance of any procedures upon the nervous system.
- **ISSUE 3:** The Chiropractic Act does not contain any provision authorizing chiropractors to perform acupuncture.

STATEMENT OF FACTS

TMA as *Amicus* adopts the Statement of Facts as set forth in the Brief of Appellant, Texas Association of Acupuncture and Oriental Medicine, which was filed with this Court on August 10, 2015.

SUMMARY OF THE ARGUMENT

The rules adopted by the Texas Board of Chiropractic Examiners (hereinafter "Chiropractic Board") that authorize chiropractors to perform acupuncture exceed the statutory authority of the Board under the Chiropractic Act. Additionally, the rules are not consistent with the Medical Practice Act's limited exemption for a licensed chiropractor who is engaged strictly in the practice of chiropractic as defined by law. The Chiropractic Act limits the practice of chiropractic to analyzing, examining, or evaluating the biomechanical condition of the spine or musculoskeletal system, and to performing nonsurgical, nonincisive procedures to improve the subluxation complex or biomechanics of the musculoskeletal system. The Chiropractic Act makes no reference to the nervous system; acupuncture, by contrast, involves stimulation of the central nervous system through various acupuncture points. Finally, the Chiropractic Act does not include any provision expressly or impliedly authorizing chiropractors to perform acupuncture. That act addresses biomechanical conditions of the musculoskeletal system, not acupuncture.

ARGUMENT

I. The Acupuncture Rules Adopted by the Chiropractic Board Exceed Statutory Authority Under the Chiropractic Act.

Chapter 201, Texas Occupations Code (the "Chiropractic Act"), governs the practice of chiropractic in Texas. It authorizes a chiropractor to "[use] objective or subjective means to analyze, examine, or evaluate the biomechanical condition of

the spine and musculoskeletal system of the human body;" and "[perform] nonsurgical, nonincisive procedures, including adjustment and manipulation, to improve the subluxation complex or the biomechanics of the musculoskeletal system." Tex. Occ. Code § 201.002(b)(1), (2). The term *biomechanics* is not defined in the Chiropractic Act. *Biomechanics* commonly refers to the application of mechanical principles to living entities. A medical dictionary defines *biomechanics* as "[t]he science concerned with the action of forces, internal or external, on the living body." STEDMAN'S MEDICAL DICTIONARY (28TH ED.), p. 221.

The Medical Practice Act defines "[p]racticing medicine," in part, as "the diagnosis, treatment, or offer to treat a mental or physical disease or disorder or a physical deformity or injury by any system or method, or the attempt to affect cures of those conditions...". Tex. Occ. Code § 151.002(a)(13). The act does not apply to "a licensed chiropractor engaged strictly in the practice of chiropractic as defined by law." Tex. Occ. Code § 151.052(a)(3).

A chiropractor must be engaged *strictly* in the practice of chiropractic as defined by law to avail himself of the Medical Practice Act's limited exemption. *Id*. (emphasis added). Failure to follow the terms of the Chiropractic Act subjects a chiropractor to potential enforcement action under the Medical Practice Act for the unauthorized practice of medicine. *See* TEX. OCC. CODE § 165.052. As this honorable Court wrote in another case involving the scope of chiropractic, "to the extent he

[i.e., a chiropractor] exceeds the statutory scope of chiropractic, he would subject himself to the Medical Practice Act – and practice medicine unlawfully." *Tex. Bd. of Chiropractic Exam'rs v. Tex. Med. Ass'n*, 375 S.W.3d 464, 467 (Tex. App. – Austin 2012, pet. denied).

The plain language of the Chiropractic Act restricts the practice of chiropractic to analyzing, examining or evaluating the biomechanical condition of the spine or musculoskeletal system, and to performing certain procedures to improve the subluxation complex or the biomechanics of the musculoskeletal system. TEX. OCC. CODE § 201.002(b)(1), (2). It does not include the nervous system. The Chiropractic Board has adopted rules that extend the definition of chiropractic beyond the limits of the Chiropractic Act. In adopting rules to include the performance of certain procedures on the nervous system, including acupuncture, the Chiropractic Board has exceeded its statutory authority to adopt rules regarding the analysis, examination or evaluation of the biomechanical condition of the spine and musculoskeletal system, and performance of nonsurgical, nonincisive procedures, including adjustment and manipulation, to improve the subluxation complex or the biomechanics of the musculoskeletal system. The adoption of such rules is inconsistent with the Medical Practice Act's requirement that a chiropractor be "engaged strictly in the practice of chiropractic as defined by law." TEX. OCC. CODE § 151.052(a)(3) (emphasis added). This honorable Court has reiterated this

statutory principle as recently as this year. In a case involving claims made by a chiropractor on her professional website, this Court held:

When engaged strictly in the practice of chiropractic as defined by law, a licensed chiropractor is not engaging in the unlicensed practice of medicine. But to the extent that a chiropractor exceeds the statutory scope of chiropractic, she would subject herself to the Medical Practice Act—and practice medicine unlawfully.

Brooks v. Texas Medical Board, No. 03-14-00239-CV, 2015 WL 3827327, at *2 (Tex. App. – Austin, June 18, 2015, no pet. h.)

II. The Chiropractic Act Does Not Authorize the Performance of Any Procedures Upon the Nervous System.

There is no reference to the performance of procedures upon the nervous system in the Chiropractic Act. Furthermore, the practice of chiropractic is limited by statute to analyzing, examining or evaluating the **biomechanical** condition of the spine and musculoskeletal system, and to performing nonsurgical, nonincisive procedures to improve the subluxation complex or the **biomechanics** of the musculoskeletal system. *See* Tex. Occ. Code § 201.002(b)(1), (2) (emphasis added). In contrast, the Acupuncture Act defines *acupuncture* as, in part, the nonsurgical, nonincisive insertion of an acupuncture needle to specific areas of the human body as a primary mode of therapy to treat and mitigate a human condition. *See* Tex. Occ. Code § 205.001(2)(A). The definition of acupuncture is broad in terms of the areas of the body to be treated with acupuncture needles; acting within the scope of the definition, acupuncturists use acupuncture needles to stimulate the central nervous

system at various acupuncture points. The acupuncture points appear to affect chemical neurotransmitters in the body.

The Chiropractic Board has no statutory authority to adopt rules authorizing chiropractors to use needles, or to perform any other procedure, on the nervous system. The Chiropractic Act makes no reference to treating the nervous system. Treating the nervous system with acupuncture needles is clearly beyond the scope of chiropractic in Texas. Yet, the Chiropractic Board's current rules define musculoskeletal system to include "nerves that move the body and maintain its form." 22 TEX. ADMIN. CODE § 78.13(a)(5) (emphasis added). The Chiropractic Board rules define *subluxation complex* as a "**neuro**musculoskeletal condition...." 22 TEX. ADMIN. CODE § 78.13(a)(9) (emphasis added). Subluxation is defined, in part, in the same rules as "[a] lesion or dysfunction in a joint or motion segment in which alignment, movement integrity and/or physiological function are altered.... It is essentially a functional entity, which may influence biomechanical and neural integrity." 22 TEX. ADMIN. CODE § 78.13(a)(8) (emphasis added). The chiropractic rules also define acupuncture to include "nerve stimulation using "short-needle insertion." See 22 TEX. ADMIN. CODE § 78.14 (emphasis added). The Texas Medical Association ("TMA" or "Amicus") asserts that is inappropriate for the Chiropractic Board through rule-making to manufacture its own definitions in such a way that it authorizes chiropractors to perform procedures on the nervous system. As the

Chiropractic Board has no statutory authority to adopt such rules, *Amicus* asserts that those rules do not support the Chiropractic Board's adoption of Section 78.14 of the chiropractic rules, and *Amicus* respectfully requests that Section 78.14 of the chiropractic rules be held to be void.

III. The Chiropractic Act Does Not Contain Any Provision Authorizing Chiropractors to Perform Acupuncture.

Like other administrative agencies, the Chiropractic Board possesses only those powers expressly conferred on it by the Texas Legislature. *Pub. Util. Comm'n v. City Pub. Serv. Bd*,, 53 S.W.3d 310, 317 (Tex. 2001). While the Texas Legislature has delegated rule-making authority to the Chiropractic Board, this grant of authority does not authorize the Chiropractic Board to adopt rules contrary to the underlying practice act. *See, e.g., State Agencies. v. R.R. Comm'n of Tex.*, 421 S.W.3d 690, 699 (Tex. App. – Austin 2014, no pet.).

The Chiropractic Board has attempted though rule-making to adopt rules allowing chiropractors to perform acupuncture, in violation of the Chiropractic Act. That act addresses biomechanical conditions of the musculoskeletal system, not acupuncture. It must be presumed that every word in a statute was chosen deliberately, and every word excluded was left out on purpose. *USA Waste Services of Houston, Inc. v. Strayhorn,* 150 S.W.3d 491, 494 (Tex. App. – Austin 2004, pet. denied); *Dallas Merchants and Concessionaire's Ass'n v. City of Dallas*, 852 S.W.2d 489, 493 (Tex. 1993). The Acupuncture Act, in contrast, prohibits a person

from practicing acupuncture "unless the person holds a license to practice acupuncture issued by the acupuncture board." TEX. OCC. CODE § 205.201. The act provides further that health care professionals who are licensed under another statute can perform acupuncture, provided they are acting within the scope of the license. *See* TEX. OCC. CODE § 205.003(a). *Amicus* contends that, since acupuncture is not within the scope of chiropractic licensure, it follows that the practice of acupuncture by a chiropractor violates the Acupuncture Act's prohibition against performing acupuncture without a license, and that such practice does not meet the Acupuncture Act's requirements for exemption from licensure.

There also are strong public policy reasons for the argument that the practice of chiropractic should not include acupuncture. Acupuncturists are required, *inter alia*, to complete a minimum of 1,800 instructional hours from an accredited acupuncture school. *See* Tex. Occ. Code § 205.206. Chiropractors performing acupuncture are required only, at minimum, to complete 100 hours of acupuncture instruction. 22 Tex. Admin. Code § 78.14. Acupuncturists must meet annual continuing education requirements (17 hours) as a condition of licensure. 22 Tex. Admin. Code § 183.20(b). While there are continuing education requirements for chiropractors, chiropractors are not required to meet any specific acupuncture continuing education requirements to practice acupuncture. *See* 22 Tex. Admin. Code § 75.5.

PRAYER

The Texas Medical Association, as *Amicus* in this case, prays that the Court reverse the trial court's judgment, and render judgment for Appellant, the Texas Association of Acupuncture and Oriental Medicine, by declaring invalid and enjoining 22 Texas Administrative Code §§ 78.13(a)(4), (b)(2), (e)(2)(C), and 78.14.

Respectfully submitted,

By:

DONALD P. WILCOX

State Bar No. 21449000 MATTHEW T. WALL

State Bar No. 20756800

TEXAS MEDICAL ASSOCIATION

401 WEST 15TH STREET

AUSTIN, TEXAS, 78701

Phone: (512) 370-1300 Fax: (512) 370-1693

Attorneys for Amicus Curiae Texas Medical Association

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT ON THIS 1st day of December, 2015, a true and correct copy of the foregoing document was electronically filed with the Clerk of the Court using the electronic case filing system of the Court, and that a true and correct copy was served by electronic service and/or electronic mail on the following:

Craig T. Enoch
Melissa A. Lorber
Shelby O'Brien
Enoch Kever PLLC
600 Congress Avenue
Suite 2800
Austin, Texas 78701
cenoch@enochkever.com
mlorber@enochkever.com
sobrien@enochkever.com

Counsel for Appellant

Joe H. Thrash Assistant Attorney General Administrative Law Section P.O. Box 12548 Austin, Texas 78711 Joe.Thrash@texasattorneygeneral.gov

Counsel for Appellees

Matthew T. Wall

Marthew T. Shall

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT the foregoing document is a computer-generated document containing 2,850 words. The undersigned relied upon the word count feature on his word processor in determining the word count.

Matthew T. Shall

Matthew T. Wall

In the Court of Appeals Third District of Texas - Austin

TEXAS ASSOCIATION OF ACUPUNCTURE AND ORIENTAL MEDICINE,

Appellant,

v.

TEXAS BOARD OF CHIROPRACTIC EXAMINERS AND YVETTE YARBROUGH, EXECUTIVE DIRECTOR IN HER OFFICIAL CAPACITY,

Appellees

On Appeal from the 201st District Court, Travis County, Texas Cause No. D-1-GN-14-000355

APPENDIX TO BRIEF OF AMICUS CURIAE TEXAS MEDICAL ASSOCIATION

TABLE OF CONTENTS

APPENDIX

1. STEDMAN'S MEDICAL DICTIONARY (28TH ED.) ("biomechanics")

STEDMAN'S Medical Dictionary

28th Edition

Illustrated in Color



LIPPINCOTT WILLIAMS & WILKINS

A Wolters Kluwer Company

Philadelphia • Baltimore • New York • London Buenos Aires • Hong Kong • Sydney • Tokyo plants.
g with
normal
se fall;
and in

discicquisietation nputer iologic

device other a to a

growth

elating

rapeuas and

çy. e phelyl

dar (or ir b. is isis on IA, its ression pe and

enom-

ects of

nechaduced,

it pro-

through the action of luciferases and with negligible production of heat, chemical energy being converted directly into light energy, syn cold light (1). 2. Any light produced by a living organism. [bio-+L. lumen (-inis), light]

bi-ol·y·sis (bī-ol'i-sis). Avoid the mispronunciation bioly'sis. Disintegration of organic matter through the chemical action of living organisms. [bio- + G. lysts, dissolution]

bi.o-lyt.ic (bi'ō-lit'ik). 1. Relating to biolysis. 2. Capable of destroying life.

bi-o-mac-ro-mol-e-cule (bi'ō-māk'rō-mol'ē-kyūl). A naturally occurring substance of large molecular weight (e.g., protein, rolla)

biomagification (bī'ō-mag-ni-fi-kā'shùn). A sequence of processes in an ecosystem that leads to increasing concentrations of chemical substances at higher levels in the food chain (maximum levels being reached in human beings, who are at the upper end of most food chains). [bio-+ magnification]

biomagnify (bī-ō-mag'ni-fī). Propensity for accumulated environmental chemicals to increase in relative concentrations at each level in the food-chain (i.e., eagles are likely to ingest toxins consumed by fish, their primary foodstuff).

biomarker (bī-ō-mark'ēr). A detectable cellular or molecular indicator of exposure, health effects, or susceptibility, which can be used to measure the absorbed, metabolized, or biologically effective dose of a substance, the response to the substance including susceptibility and resistance, idiosyncratic reactions, and other factors or conditions.

bi-o-mass (bi'ō-mas). The total weight of all living things in a given area, biotic community, species population, or habitat; a measure of total biotic productivity.

bi-o-ma-ter-i-al (bī'ō-ma-tē'rē-al). A synthetic or semisynthetic material used in a biologic system to construct an implantable prosthesis and chosen for its biocompatibility. [bio-+ material]

bi-ome (bī'ōm). The total complex of biotic communities occupying and characterizing a particular geographic area or zone. [bio-+-ome]

bi-o-me-chan-ics (bi'ō-me-kan'iks). The science concerned with the action of forces, internal or external, on the living body. dental b., syn dental biophysics.

bi-o-med-i-cal (bī'ō-med'i-kăl). 1. Pertaining to those aspects of the natural sciences, especially the biologic and physiologic sciences, that relate to or underlie medicine. 2. Biologic and medical, i.e., encompassing both the science(s) and the art of medicine.

bi-o-mem brane (brō-mem brān). A structure bounding a cell or cell organelle; it contains lipids, proteins, glycolipids, steroids, etc. syn membrane (2).

bi-om-e-ter (bī-om'ĕ-ter). A device for measuring carbon dioxide given off by organisms and, hence, for determining the quantity of living matter present. [bio-+G. metron, measure]

bi.o.me.tri.cian (bi'ō-me-trish'an). One who specializes in the science of biometry.

bi-om-e-try (bī-om'e-trē). The application of statistical methods to the study of numeric data based on biologic observations and phenomena. [bio- + G. metron, measure]

fetal b., ultrasound measurement of fetal dimensions to evaluate gestational age.

bi-o-mi-cro-scope (bī'ō-mī'krō-skōp). syn slitlamp

bi-o-mi-cros-co-py (bī'ō-mī-kros'kō-pē). 1. Microscopic examination of living tissue in the body. 2. Examination of the cornea, aqueous humor, lens, vitreous humor, and retina by use of a slitlamp combined with a binocular microscope.

blomimetic (bī-ō-mi-met'ik). Imitative of biologic process or life.

Bi-om-pha-la-ri-a (bī-om'fā-lā'rē-ā). An important genus of freshwater snails (family Planorbidae, subfamily Planorbinae), several species of which serve as intermediate hosts of Schistosoma mansoni in Africa, Saudi Arabia, Yemen, South America, and

the Caribbean. Host snails formerly were placed in the genera Australorbis, Tropicorbis, and Taphius but are no longer considered generically distinct.

bi·on (bī'on). A living thing. [G. pres. p. ntr. of bioō, to live] Bi·on·di (bē-on'dē), Aldolpho, Italian pathologist, 1846-1917.

SEE Biondi-Heidenhain stain.
bi-o-ne-cro-sis (bi'ō-ne-krō'sis). SYN necrobiosis.

bi-on-ic (bi-on'ik). Relating to or developed from bionics.

bi-on-ics (bī-on'iks). 1. The science of biologic functions and mechanisms as applied to electronic chemistry; such as computers, employing various aspects of physics, mathematics, and chemistry; e.g., improving cybernetic engineering by reference to the organization of the vertebrate nervous system. 2. The science of applying the knowledge gained by studying the characteristics of living organisms to the formulation of nonorganic devices and techniques. [bio-+ electronics]

bi-o-nom-ics (bī-ō-nom'iks). 1. syn bionomy. 2. syn ecology.

bi-on-o-my (bī-on'ō-mē). The laws of life; the science concerned with the laws regulating the vital functions..syn bionomics (1). [bio-+G. nomos, law]

bi-o-phage (bī'ō-fāj). Avoid the mispronunciation bi'ō-fahzh. An organism that derives the nourishment for its existence from another living organism.

bi-oph-a-gism (bī-of'ā-jizm). The deriving of nourishment from living organisms, syn biophagy. [bio-+G. phagō, to eat]

bi-oph-a-gous (bī-of'ā-gūs). Feeding on living organisms; denoting certain parasites.

bi-oph-a-gy (bī-of a-jē). syn biophagism.

bi-o-phar-ma-ceu-tics (bio-far'ma-sil'tiks). The study of the physical and chemical properties of a drug, and its dosage form, as related to the onset, duration, and intensity of drug action, including coconstituents and mode of manufacture.

bi-o-phy-lac-tic (bī'ō-fī-lak'tik). Relating to biophylaxis.

bi-o-phy-lax-is (bī'ō-fī-lak'sis). Obsolete term referring to nonspecific defense reactions of the body, e.g., phagocytosis, vascular and other reactions of inflammatory processes. [bio-+G. phylaxis, protection]

bi-o-phys-ics (bi-ō-phyz'iks). 1. The study of biologic processes and materials by means of the theories and tools of physics; the application of physical methods to analyze biologic prolems and processes. 2. The study of physical processes (e.g., electricity, luminescence) occurring in organisms.

cellular b., b. concerned with cellular processes.

dental b., the relationship between the biologic behavior of oral structures and the physical influence of a dental restoration. syn dental biomechanics.

medical b., b. related to diagnosis and therapy.

molecular b., b. concerned with membrane processes, conformational and configurational properties of macromolecules, bioelectrical phenomena, and the like.

radiation b., the study of the effects of radiation on cells, tissues, biomolecules, and living organisms.

bi-o-plasm (bi'o-plasm). Protoplasm, especially in its relation to living processes and development. [bio- + G. plasma, thing formed]

bl-o-plas-mic (bī-ō-plas'mik). Relating to bioplasm.

bi-o-poi-y-mer (bī'ō-poi'ō-mer). A naturally occurring compound that is a polymer containing identical or similar subunits. aperiodic b., a b. consisting of nonidentical subunits present in a nonperiodic sequence.

periodic b., a b. in which there are identical, repeating subunits.

patients for diagnostic examination. 2. A specimen obtained by b. See page B13. [bio- + G. opsis, vision]

aspiration b., syn needle b.

brush b., b. obtained by abrading the surface of a lesion with a brush to obtain cells and tissue for microscopic examination.