



Biophilia 2009

November 24-25 2009 in Havana

**7th INTERNATIONAL BIOPHILIA
REHABILITATION CONFERENCE**

IBRC 2009

Programs & Abstracts

Hosted by: International Biophilia Rehabilitation Academy; Cuban Society of Pharmacology;
Medical Research Center in Warsaw

Sponsored by: The Embassy of Cuba in Japan; Embassy of Japan in Cuba;
Japanese National Foundation, Association for Technical Aids;
Japanese Society for Rehabilitation of Persons with Disabilities

“On the 80th Anniversary of diplomatic relations between Japan and Cuba”

**JAPAN-CUBA HEALTH AND AGING INTERNATIONAL WORKSHOP (BIOPHILIA 2009)
7th INTERNATIONAL BIOPHILIA REHABILITATION CONFERENCE (IBRC 2009)**

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Presentation by Rene Delgado is prepared.

**Health and Aging International Workshop “BIOPHILIA 2009” on the 80th anniversary of diplomatic relations between Japan and Cuba
Seventh International Biophilia Rehabilitation Conference 2009.**

Greetings;

Taki TAKIZAWA, Shigeo

Chair of BIOPHILIA 2009 and Co-chair of IBRC 2009

President of the International Biophilia Rehabilitation Academy

In preparation for this conference, I enlisted cooperation from many officials of the Cuban embassy in Japan, especially Counselor Tania Dominguez, whom I appreciate and would like to thank from the bottom of my heart. Moreover, we will be holding the Health and Aging International Workshop on the 80th anniversary of diplomatic relations between Japan and Cuba, although I am a president of the International Biophilia Rehabilitation Academy, I serve as the co-chair of IBRC 2009.

When I co-hosted the first IBRC 2002 with the Saipan government, there were participants from the Department of Education for the Republic of Belau. When they participated again in the IBRC 2004, Philippines Manila, there was the presentation that the Biophilia Rehabilitation which is composed mainly of Takizawa Method and Motivative Exercise was carried out in their country. I heard of it and reviewed the report of the newspaper about it, and found that it was beneficial that I had organized the international conference.

Because Dr. Pokorski who had been the chair of the IBRC 2008 in Poland last year recommended Cuba to hold the IBRC 2009, I asked Dr. Casaco to be a chair if we held it there due to me being just a visitor and wanting someone more knowledgeable on the yearning island in the Caribbean Sea where Captain Drake and the pirates had sailed so many years ago. At the meeting with the Cuban embassy in Japan, I have known both the spirit of innovation of Cuba's medical science and the big influence to the Latin American countries.

These are contributing factors for not only holding our conference, IBRC 2009 but also a major factor in holding the workshop at the 80th anniversary of the Japan - Cuba diplomatic relations. In the workshop, we will present the autonomous rehabilitation by kinetic exercise which the patients do using the devices with help of the unaffected side movement proposed affected side passive movement that we named Motivative Exercise. I am expecting that students who participate and will be doctors upon graduation from their Latin American schools can perform the Biophilia Rehabilitation by the Takizawa Method and Motivative Exercise in their mother countries as demonstrated at the Saipan conference.

Greetings **“BIOPHILIA 2009”**

In facing a super-aged society, it is important and requested for disabled elderly not slip into "acceptance of disabilities and remaining disabilities" by the previous rehabilitation medicine but focus on "regaining physical functions as much as possible and enabling an independence living" by the Biophilia Rehabilitation.

The preparation of IBRC 2009 is going smoothly due to efforts of Dr. Diadelis, as the chair of the organizing committee who is a vice president of the Cuban Pharmacological Society. We are also recruiting general participants from Japan and other countries, providing conditions for them to participate in the opening ceremony. Participants are also increasing in number every year and our social mission is getting larger.

If we can continue increasing momentum in this conference, I expect that a Biophilia Rehabilitation Academy will be organized in Cuba, subsequently to Japan and Poland by focusing on the participation from Cuba. Moreover, it is sure that you, the participants from your countries, can be provided with substantial content.

I wish you a fruitful BIOPHILIA 2009 and IBRC 2009.

Thank you.

Address

Mieczyslaw Pokorski

Professor of Medical Research Center, Polish Academy of Sciences Warsaw, Poland

Director, International Biophilia Rehabilitation Academy

The International Biophilia Rehabilitation Academy (IBRA) is a growing international body devoted to innovative rehabilitation medicine.

The literary meaning of the word 'biophilia' is 'love' for 'life'. That is actually the essence of rehabilitation. Rehabilitation, in the past, was most often associated with neuro-musculo-skeletal recuperation after trauma or various somatic diseases. This meaning has considerably evolved in recent times. We now talk about organ, like the lung, or system, like the respiratory system, rehabilitation. Psychological and anti-stress rehabilitation has moved to the center stage of late, which, in particular, concerns counteracting of the aging process. Since the aging process is not a pathological condition, the latter area of rehabilitation is not related to a disease – quite a change from the original concepts of medical rehabilitation.

Aging is inevitable. We witness a rapid extension of the life span, as individuals get ever closer to the biological limit of life. That, understandably, causes a range of medical problems. Rehabilitation aims at slowing of the aging process, making the life of better quality in old age, and promoting healthy life style. 'Love for the life' is the psychological basis of rehabilitation success. Rehabilitation research is thus not only about methods and technical innovations to improve physical functioning, but also to give psychological strength to overcome stigmatization of disabled or aged persons and to change attitudes toward them.

IBRA organizes conferences on rehabilitative medicine and innovations in it. It was my honor to chair the previous year's conference in Warsaw, Poland. The present conference in Havana covers a broad range of aspects of rehabilitative medicine. The goal is to have clinically oriented conferences, which, however, cannot take place without the underlying basic research.

IBRA endeavors to contribute to the improvement of people's lives and welfare, in particular, those who live into the old age; by doing so, IBRA proves the excellence and standing in the rehabilitation field.

Greetings **“IBRC 2009”**

“BIOPHILIA 2009”

Seventh International Biophilia Rehabilitation Conference 2009 and Health and Aging International Workshop on the 80th anniversary of diplomatic relations between Japan and Cuba

On behalf of Cuban Pharmacology Society, it is a real pleasure for us to be a co sponsorship of IBRC 2009. This is the first time that our society will exchange about this subject, we expect the participation of our specialists in this meeting and the participants will know the development of Cuba in this topic.

Thank you visiting Cuba a beautiful island for holding the IRBC 2009, you will arrive to Havana city a lovely Capital full of history and one of the safest city in Latin America. Everything will be organized for you, just enjoy it.

This year we celebrate the 80th anniversary enterprise of the Japan - Cuba diplomatic relations and this is another reason for the holding the meeting in Cuba. I wish all of you a lot of success to this meeting.

Thank you so much
Dr. Diadelis Remirez
Chair of the Organizing Committee.

**Seventh International Biophilia Rehabilitation Conference 2009.
“Hermanos Amejeiras Hospital, Havana, Cuba. November 24 - 25, 2009**

Message from the Chair of the Conference.

On behalf of the Organizing Committee, I am privileged to welcome you to the Seventh International Biophilia Rehabilitation Conference and to the City of Havana, Cuba. The International Biophilia based in Japan, the Cuban Society of Pharmacology and the Medical Research Center in Warsaw, Poland and on the context of the 80th Anniversary of the diplomatic relations between Japan and Cuba, are proud to be the hosts of this interesting scientific event.

The Scientific Committee has prepared a diverse scientific program structured around the theme of rehabilitation. Beside the classical psychological and physical aspects of rehabilitation we are specially focus on the inevitable and physiological process of aging and on the rehabilitation of the patient living with cancer, since with the new, efficient and low toxic biopharmaceutical treatments cancer is now considered a chronic disease.

While attending the conference you will joined by many scientifics coming from different countries who will be presenting their latest research findings in rehabilitation taking into account that the slogan of the Conference 'love for life' , the meaning of the word biophilia.

Cuba is a small developing country with a good health system and an average life expectancy nearing 80 years, and the country boasts over 1,800 centenarians.

Havana will be the perfect host city for a Conference as it is a multicultural, multiracial, and dynamic city known for its friendliness, warm hospitality, nice beaches and vibrant tropical dances as well as for its academic and biotechnology centers.

I wish you a warm welcome to Havana, and a scientifically rewarding and personally memorable experience at the Seventh International Biophilia Rehabilitation Conference.

Angel Casacó Parada MD., Ph.D.
Chair, IBRC 2009

Greetings “**BIOPHILIA 2009 / IBRC 2009**”

GREETINGS

Tania Dominguez Rosas
Counselor for Scientific and Cultural Affairs
Embassy of Cuba in Japan

It is a great pleasure to extend this message of support to the 7th INTERNATIONAL BIOPHILIA REHABILITATION CONFERENCE (IBRC 2009) and Cuba JAPAN-CUBA HEALTH AND AGING INTERNATIONAL WORKSHOP

(Biophilia 2009) (November 24 and 25, 2009) that will take place on the auspicious occasions of the 80th anniversary of the establishing of diplomatic relations between Japan and Cuba and the 50th anniversary of the Cuban Revolution during 2009.

The event will bring together scientists from different parts of the world which offer the opportunity to promote scientific exchange and understanding and enhance the friendship among them as well as the development of new links in the fields of science and technology. I would like to congratulate the organizers, participants and all who contributed to make this event possible, wishing you all great success.

GREETINGS

Masuo Nishibayashi

Ambassador Extraordinary and Plenipotentiary of Japan to the Republic of Cuba

I am very pleased to learn that “Japan - Cuba Health Aging International Workshop (Biophilia 2009)” and “7th International Biophilia Rehabilitation Conference (IBRC 2009)” are held in Havana in this memorable year of the 80th anniversary of the establishment of diplomatic relations between Japan and Cuba.

Both Cuba and Japan are well known as the society of longevity and high standard of medical care..

No doubt it is meaningful to review how disabled elderly can lead healthy and independent life.

Therefore, I find it very significant that in this workshop the researchers make presentations of their recent studies and exchange their views on this important issue.

I would like to extend my best wishes for the success of this workshop and for the further development of cooperative relations between our two countries in this field.

日本・キューバ外交関係樹立80周年の記念すべき年に、ハバナにおいて「日本－キューバ健康と高齢化の国際ワークショップ」及び「第7回国際バイオフィリアリハビリテーション大会」が開催されることを大変嬉しく思います。

日本とキューバは共に世界的にもよく知られた長寿国であり、また医療水準の高い国ですが、障害を持った高齢者が如何に健康的に自立して生きていくかという極めて重要な議題について、最新の研究に基づく発表と意見交換を行うことは、大変興味深く意義深い事であると思います。

今回のワークショップの成功と今後共この分野での二国間の協力関係の増進を心から祈念致します。

在キューバ日本国特命全権大使

西林 万寿夫

Greetings “**BIOPHILIA 2009**”

**Greetings,
Representing citizen participants**

I congratulate all of you on your opening of Biophilia 2009 and IBRC 2009.

I heard that citizen participants were accepted this time, so I applied to this conference. I received this greeting opportunity unexpectedly representing citizen participants. This participation was invited by President Takizawa.

I am his teacher of his high school days. I remember he said he wanted to work for people at that time. After graduating from college, he was elected as a city councilman and worked hard for citizens. After that he had a big chance to run as a candidate of prefectural assembly chairperson, but he resigned from all his political work suddenly. I was very surprised, because he was a promising politician.

But I found the reason today when I came here. It seems that he paid big sacrifice in order to realize his dream of contributing to society and people. He said "I can contribute to human beings greatly with my friends by restructuring of Rehabilitation medicine." I think so, too.

I believe that the zeal of all the participants surely roots in Central America and a big success will be achieved.

Thank you !

Susumu Fukui,

Former President of the Association of Kanagawa Prefectural Highschools' Principals in Japan
Former Professor of Senzoku Gakuen Junior college

Organizing Committee

Diadelis Ramirez Figueredo, MD, PhD

Cuba

Angel Casacó Parada, MD, PhD

Cuba

René Delgado, MD , PhD

Cuba

Yolanda Torres, MD, PhD

Cuba

Taki Takizawa, Shigeo, MA

Japan

Takuji Shirasawa, MD, PhD

Japan

Yoshiyasu Takefuji , PhD

Japan

Mietek Pokorski, MD, PhD

Poland

W. James Weese, PhD

Canada

Jorge A. Sison, MD , PhD

Philippines

Celia Lamkin, MD

Saipan

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Counselor
(Saipan)

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Shigeo Takizawa

Inventor, Founder and President

Biophilia Institute JAPAN)

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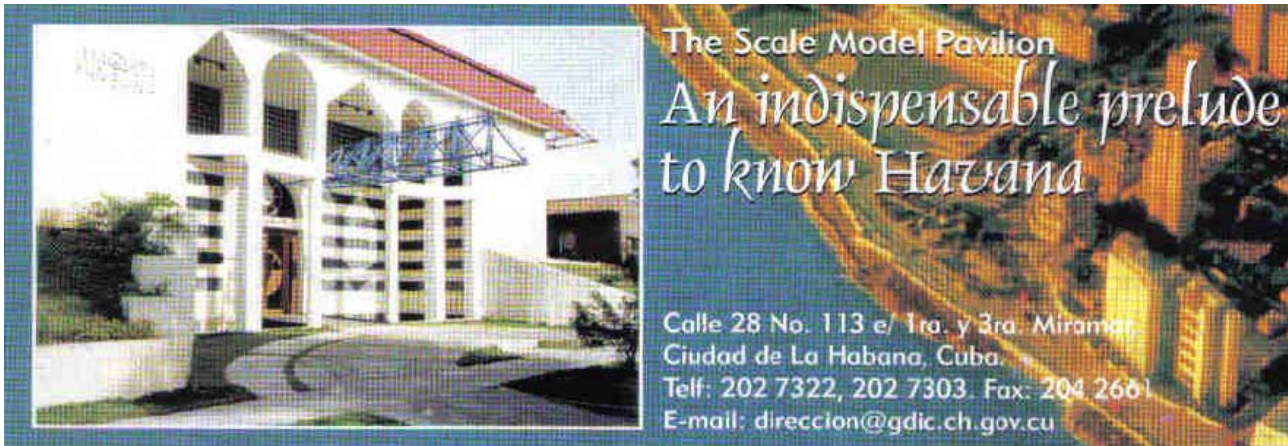
Rehabilitation Medicine

Okayama Rehabilitation Hospital (JAPAN)

General Information

Venue:

Biophilia 2009 and IBRC 2009 International Conference will be held in la Maqueta de la Habana [Calle 28 No. 113 e/1ra y 3ra, Miramar, Ciudad de La Habana, Cuba].



Admission to Sessions:

All delegates are requested to wear their name badges to all sessions and functions.

Registration and Accommodation:

Registration: The registration desk will be located at la Maqueta de la Habana which is the place for this conference in the morning on Nov. 24th.

Accommodation: For your accommodation, "Oasis Panorama" hotel is recommended. From "Oasis Panorama" to "la Maqueta de la Habana", a free shuttle bus is available for all the participants in every morning during this conference. The bus will leave "Oasis Panorama" at 8:45.

(Address of Oasis Panorama: 70 E/ 1ra Y 3ra, Miramar, C. Havana)

For your presentation:

For your presentation, please use Power-Point files or Open Office org Impress files.

Conference Banquet:

The conference banquet will be carried out, and we have been planning for this.

*Biophilia 2009-IBRC2009 Program***November 24, 2009**

9:00- 9:20	Welcome to Biophilia 2009 – opening remarks by Dr. Casaco and Dr. Diadelis
9:20- 9:30	Welcome words and Greetings for 80 th Anniversary by Cuban Government
9:30- 9:40	Greetings for 80 th Anniversary by Japanese Embassy in Cuba
9:40- 9:45	Welcome words and Greetings for 80 th Anniversary by Havana city
9:45-10:00	Biophilia the objective of the meeting Taki Takizawa Introduction of Japanese participants
10:00-10:20	National Academy Greetings Mietek Pokorski Introduction of Polish participants

Session 1

10: 20-10:40	Rehabilitation in Cuba Jorge Martin Cordero , MD. PhD, President of the Cuban Rehabilitation Society
10:40- 11:00	Anti-Aging Medicine in Japan Takuji Shirasawa , MD. PhD, Juntendo University, <i>San Lázaro y L, Ciudad de La Habana 4, Cuba. Telef.</i>
11:20-11:40	Antioxidants and ageing Gregorio Martínez Sánchez , MD. PhD, <i>Centro de Estudios para las Investigaciones y las Evaluaciones Biológicas. Instituto de Farmacia y Alimentos. Universidad de La Habana.</i>
11.40-12:00	MEDITATION AND PSYCHOLOGICAL FUNCTIONING Mietek Pokorski MD. PhD, ^{1,2} J. Antosiewicz MD. PhD, ² , and A. Suchorzynska ¹ , MD. PhD, ¹ Medical Research Center, Polish Academy of Sciences, Warsaw, Poland; ² Institute of Psychology, Opole University, Opole, Poland
12:00-12:20	Relationship between hospitals of acute phase and recovery phase in Japan (by clinical path) Yoshiko Morita , MD., Okayama Rehabilitation Hospital,
12:20-12:40	Discussion
14:45-16:00	Visit to Rehab centre

Session 2

Program

- 16:30-16:50 The device development study of the effect giving to a sympathetic nerve function by the motivative exercise and limbs movement
Akira Iemoto, PhD, Taki Takizawa Shigeo, Tetsuhiko Kimura, Biophilia Institute
- 16:50-17:10 Verification of the brain functional mapping by Motivative Exercise
Taki Takizawa, Shigeo, M.A., Founder and Inventor; Biophilia Institute
Yoshiyasu Takefuji, PhD, Keio University
- 17:10-17:40 Discussion

November 25, 2009

Speech Session 3

- 9:20-9:40 Anesthesia-related Mortality and Morbidity in Japan
Kiyoshi Morita, MD. PhD, President of the Okayama University Hospital
- 9:40-10:00 ROLE OF PHYSICAL ACTIVITY IN TREATMENT OF CHILDREN WITH TYPE 1 DIABETES MELLITUS
A. Zebrowska, MD. PhD ¹, **M. Plewa**, MD. PhD ²
¹Faculty of Physical Education, ²Faculty of Physiotherapy,
The Jerzy Kukuczka Academy of Physical Education, Katowice, Poland
- 10:00-10:20 BIOFLAVONOIDS IN ANTI-COUGH REHABILITATIVE TREATMENT
Mietek. Pokorski, MD. PhD. **J. Antosiewicz**, MD. PhD,
Medical Research Center, Polish Academy of Sciences, Warsaw, Poland;
- 10:20-10:40 Discussion
- 10:40- 11:00 Pulmonary Rehabilitation
Yolanda Torres, MD. PhD, Rehabilitation Centre "Julito Diaz Hospital",
- 11:00-11:20 Pulmonary rehabilitation in patients with Idiopathic pulmonary fibrosis with inspiratory muscle training
Dariusz Jastrzebski and Jerzy Kozielski, MD. PhD, the clinic of diseases Płuc and the consumptive people of a Silesian of medical academy
- 11:20-11:40 Rehabilitation in cancer patients
Angel Casaco, MD. PhD, Institution. Center of Molecular Immunology,
- 11.40 – 12:00 **Presentation by Rene Delgado**, MD. PhD. is prepared.
- 12.00 – 12:20 Discussion
- 12:20 Closure ceremony

In the afternoon on November 25 Free to Join, BIOPHILIA 2009

3:00pm-5.00pm	At ELAM. BIOPHILIA 2009 , Conference with translator.
Closure party	

Biophilia Rehabilitation for you and your people who are waiting your return in your country

Taki TAKIZAWA, Shigeo
President of the International Biophilia Rehabilitation Academy

Introduction

The society of population pyramid inverted comes due to human beings' longevity by progress of science and technology.

Japan had the highest rates of life expectancy in 2003, which is 81.8 years old in the member countries of the Organization for Economic Cooperation and Development (OECD). The elderly population as of October 1, 2007 is 27,440,000 people, which exceeding the 870,000 corresponding periods of last year (26,600,000: the previous year). An aging rate reaches to 21.5%, and both became the highest ever. Disabled elderly will increase this appearance of population.

Disabled elderly by the hemiplegia and lower extremity fracture due to the cerebrovascular disease try to improve physical conditions by the passive exercise performed by physical therapists until today. A lot of them got the contracture and became bedridden by the difficulty of walking, because there is a limit in the human resources of physical therapists.

The author reported the patented devices were developed and used in order to solve the problem, of which disabled people can be rehabilitated to the acquisition of walking from bedridden. The author published a book about the fact that rehabilitation method has been performed on 193 patients in a geriatric hospital for the bedridden, and 59 of them have re-acquired walking. in 1996.

The method was patented by the US Patent Office and named Takizawa method. The movement of own functional extremity can accompany the movement of own impaired extremity by help of the devices. The Academy names the movement of the impaired extremity accompanied that is an exercise for the impaired extremity the motivative exercise because it is important and necessary that both of own motivation of the patients to acquire walking from bedridden and the physical therapist motivates the patients to do. The rehabilitation based on the motivative exercise has realized for disabled patients to acquire walking from bedridden.

Purpose

- The author will present; i the results of the studies by the Japanese national Grants are shown <http://ci.nii.ac.jp/naid/130000091693/>,
ii the results of the world wide related studies are shown

BIOPHILIA 2009 on Nov. 25

http://www.istage.ist.go.jp/article/brj/3/1/3_17/article,

iii the method will be explained in order to make the students teach to own countries nationality

<http://www.patentstorm.us/patents/7153250.html> and

iv the device will be explained in order to produce those in own countries by your self

<http://www.csun.edu/cod/conf/2000/proceedings/0166Takizawa.htm>

in order to implement the method and devices into the countries in Central America..

Experience

When I co-hosted the first IBRC 2002 with the Saipan government in the Pacific Ocean, there were participants from the Department of Education for the Republic of Belau. When they participated again in the IBRC 2004, Philippines Manila, there was the presentation that the Biophilia Rehabilitation which is composed of Takizawa Method and Motivative Exercise was carried out in their country. I had heard of it and reviewed the report of the newspaper about it.

Conclusion

I thought and found that it was beneficial to organize the international conference. I truly hope that my presentation at the Latin America Medical Scholl would help the students to introduce the Method to own countries. Introduction will raise the Rehabilitation medicine of each country surely, and will raise each people's welfare surely. I give my lecture by expecting the realization.

Antioxidants and ageing

Gregorio Martínez Sánchez

Centro de Estudios para las Investigaciones y las Evaluaciones Biológicas. Instituto de Farmacia y Alimentos. Universidad de La Habana. San Lázaro y L, Ciudad de La Habana 4, Cuba. Telef. 537-2718534, Fax. 537-336811 E-Mail: gregorioms@infomed.sld.cu

Key words: ageing, antioxidants, free radicals, oxidative stress

Background

One of the most widely accepted theories proposed to explain ageing is the free radical theory, according to which oxygen-derived free radicals cause age-related impairment through oxidative damage to biomolecules, with mitochondria being the main target of free radical attack. Since oxygen radicals are needed for many metabolic and physiological processes, an equilibrium between radical production and their antioxidant-linked inactivation is required to preserve health. Thus, senescence is the result of an imbalance between free radical production and antioxidant defences, with concomitant oxidative stress and age-dependent functional decline. This process is especially evident in the immune cells, which use free radicals in their functions and suffer a senescent deterioration probably linked to oxygen stress. Conversely, several laboratories, including our own, have shown that antioxidants preserve an adequate function of immune cells against homeostatic disturbances caused by oxidative stress, such as that involved with age. Therefore, since the immune system is an indicator of health and a longevity predictor, the protection of this system afforded by dietary antioxidant supplementation may play an important role in order to achieve a healthy ageing.

Purpose

We will analyse the main concept about oxidative stress and antioxidant, the role of oxidative stress in the physiological signal mechanism control. We will discuss the main theories about aging and its confluence in the theory of mitochondrial ageing.

We will talk about some substances which can be proposed as new antiaging strategies because of their capacity to remodel some biological functions in old animals and humans.

Their role as possible antiaging strategies in healthy people in relation to neuroendocrine-immune responses will be discussed.

Considerations

As a mechanism of the ageing becomes clear by the scientific study, it has been believed that oxidative stress is an accelerator of the ageing. Still it is too critical to take antioxidants in large quantities for anti-ageing, and it should be needed to clarify the efficacy of anti-oxidative therapy by the scientific evidence. The beneficial role of antioxidant supplementation to healthy individuals remains controversial, but needs to be evaluated in the sick elderly.

Anti-Aging Medicine in Japan

Takuji Shirasawa MD.Ph.D

President of Japanese Biophilia Rehabilitation Academy

Director, Japanese Society of Anti-Aging Medicine

Professor, Department of Aging Control Medicine,

Juntendo University School of Medicine

Abstract

When we discuss advances in longevity research during lectures and seminars, the question of the deciding factor for longevity often comes up. Even without looking at examples of research in molecular biology research, it is obvious to most that genetics play a major factor in longevity. The longest-lived human recorded was a French woman named Jeanne Calment, who died at age 122. All her family was long-lived. The quest for the identification of longevity genes by studying centenarian families has been explored for a decade, but no bona-fide longevity gene was identified. The environmental factors influencing the lifespan of human beings, such as nutrition, physical exercise, and mental relaxation play an important role in the determination of an individual lifespan. The mortality rates of lifestyle-related diseases such as heart disease, stroke, and cancer becoming getting higher and higher in Japan as well as in western countries where much of the population is graying. The preventive measures for lifestyle-related diseases such as nutritional intervention or regular physical exercise should be introduced for further extension of the healthy lifespan. Caloric restriction in experimental animals has been shown to extend the lifespan of animals with the decreased frequency of age-related diseases. Regular physical exercise stimulates the adipose tissues to secrete beneficial adipose hormones, such as adiponectin that suppress the progression of atherosclerosis and insulin resistance in type II DM and metabolic syndrome. In the lecture, I will focus on the Japanese-style diets, physical exercises, and challenging spirit towards life, we, which were implicated from active Japanese centenarians enrolled in the study.

MEDITATION AND PSYCHOLOGICAL FUNCTIONING

M. Pokorski^{1, 2}, J. Antosiewicz², and A. Suchorzynska¹

¹Medical Research Center, Polish Academy of Sciences, Warsaw, Poland; ²Institute of Psychology, Opole University, Opole, Poland

Meditation is thought to have positive effects on psychosomatic health and thus is an attractive form of rehabilitative strategies. Dependency of such effects on the type of meditation is unclear. In this study we examined the effects of two fundamentally different meditative disciplines, Zazen whose practitioners calm the body and mind in the sitting lotus-like posture and Tai Chi which advocates soft, but energetic, marital art techniques. We compared the effects of both disciplines on emotional intelligence, mood, and coping with stress. We also asked a question of whether the decision to mediate might be underlain by a specific personality pattern. The study was one of questionnaire survey. A total of 48 healthy volunteers were studied, divided into 3 group: non-meditating, and regularly practicing Zazen and Tai Chi. We found that individuals practicing both Zazen and Tai Chi significantly less engage into a disadvantageous, avoidance-oriented style of coping with stress than the non-mediating ones. Zazen disciples had the lowest moody tense arousal. Both ways of meditation had to do with enhanced openness to experience. However, Zazen disciples appeared less extroversive and less conscientious than both Tai Chi and non-meditating ones. There were no differences in emotional intelligence among the groups. The results show that both meditative disciplines help cope with stress, but Zazen may have an edge over Tai Chi in mood improvement, although the differences between the two are modest. We conclude that both meditative disciplines may be useful in psychological rehabilitation.

Relationship between acute and sub-acute (recovery) phase hospital in Japan (by clinical path)

Yoshiko Morita MD

Department of rehabilitation1, Okayama Rehabilitation Hospital

(Abstract) Japanese Government declared the strategy to reduce medical fee and also bed-ridden patients in 2007. It was the Projects to target several definite diseases. So called 4 diseases and 5 enterprises. In 4 diseases, they consist of cancer, diabetes mellitus, acute myocardial infarction, and stroke.

Among them stroke is the worst reason to outcome the patients to bed-ridden in my country, over 1/3 of all bedridden in 2002. Also fracture is popular to make them to bed-ridden, 10% of all.

To treat stroke and fractured patients better and go back home smoothly, our government leads us to use the path. Its main purpose is to save time and money within medical public fund, because the medical fee increasing higher and higher in next twenty-five years. They suggest us to make and use the clinical path between acute and sub-acute hospitals at first to make relationship effectively and seamlessly when one patient transfer one to another hospital.

Then I'll show you the real path and the effectiveness and also problems.

Improvement Report for a Measuring Device of Motivative Exercise

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We have been dealing with a measuring device to improve. The points of the improvement are “extension of timing”, “improvement of the measurement data display”, and “adding a voice function to announce the number of the practice”.

As a result below, we report that the device which is able to collect and analyze biological data were developed, and we started a registered clinical test by collecting the data.

Device: we named the dorsi-plantar flexion training device as “PATA” and the device of expanding a range of motion of knee as “KORO”.

1. The measurement accuracy of the each KORO and PATA is as follows.

<KORO> Front-back movement: ± 0.1 mm, Horizontal move: ± 0.1 mm

<PATA> Foot hoard angle: ± 0.18 degree, 500 P/R, 4 multiplying

2. The standards fro the improvement of the devices.

i: Assigning repeated numbers of times:

ii: Assigning time to train:

A user inputs the number of the repeated times for “*i*” or the repeated time in minutes for “*ii*”, and “PATA-KORO” announces the numbers to go through with its sound. The device will announce the end of the training and store the data automatically in a file. The specified number of repeated times or time will be displayed on the screen panel with the name of the movement.

A user can stop the training anytime.

3. The measurement data provided from the device will be stored as a file in a folder automatically.

Therefore, it becomes possible to assess and analyze data after the measurement.

4. We succeeded to add a voice function to announce the number of the practice with the announce system by the Microsoft software.

5. Utilization devices: these sensors below

- Photo electronic sensor VP-90, KEYENCE CORP.

- Rotary encoder E6A2-CWZ3C, OMRON Corp.

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Verification of the brain functional mapping by Motivative Exercise

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The future research guide of Motivative Exercise is shown in the following researches.

- (1) The mechanism related to the possibility of the bilateral training effective as a hypothesis is that the bilateral training affects the activity of related brain cortex and abates cross-inhibition of both sides of brain. (Cauraugh JH)
- (2) Symmetrical Pattern of the unaffected contralateral upper limbs produced the resistance movement of the affected upper limbs by Irradiation, and this is interpreted as that to which it raised cell activity on a brain level. (Jill Whittall)
- (3) The activation of neural stem cells (NSC) is promoted by the exercise in the mice of the experiment. (Henriette van Praag)
- (4) NSC moved toward an infarct domain in vivo (including the movement from the opposite side of the hemisphere). This result was obtained by a clarification of the movement of NSC from the region of transplantation which is away from a pathological change. NSC then twist together with chemokine producing cell when the doctors guide the nerve damage with a mouse and incubate cells in a fluorescent stain enabling them to pursue the trajectory of cells under a microscope, investigating whether SDF-1A (Stromal Cell-Derived Factor 1 Alpha) guides NSC in vivo or not. (Imitola J)

These research results seem to foresee the effect of Motivative Exercise. Based on researches of predecessors, we will try to analyze Motivative Exercise from the view point of brain science using fMRI and fNIRS (Functional Optical Image for Research). We report the research design that was searched with a healthy person.



The devices for fMRI and fNIRS



SignaHD x 3.0T (GE)

NIRS (near-infrared spectroscopy) FOIRE-3000 (Shimadzu)

Anesthesia- related Mortality and Morbidity in Japan

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I would like to show the data from Japan about the mortality and morbidity related in anesthesiology. **Japanese Society of Anesthesiologist**, so called JSA, have established in 1954. The members of JSA are ten thousands, and number of JSA board certificated anesthesiologist was 6 thousands, **In JSA**, we have a committee on operating room safety. In this committee, there are four divisions. One is them is division of anesthetic safety information, which correlating the data, especially focused on mortality and morbidity related with anesthesia.

First Study of Anesthesia-related mortality and morbidity was conducting from 1994 to 1998. Second trial was performed from 1999 to 2003, the now third trial have been well-undertaken from 2004 and will finish in end of this year.

For 5 years in second trial, we have about 5.2 million anesthetic cases. Among them, about 13 thousands patients have any incidence of anesthesia related critical events. Among these patients, there were 3200 cases of cardiac arrest, 3400 cases who died within 7 days after surgery and 200 cases of vegetable state post-operatively.

This results means in the Japanese hospital with JSA board certificated anesthesiologist, per 10 thousands anesthetic cases, cardiac arrest was happened in 7.12 cases, severe hypoxia was in 7.67 cases, severe hypo-tensions in 19.17 cases and 7.17 cases died within 7 days after operation with any reasons. If we focused on the incidence related solely anesthetic management, the death with 7days was in 0.21 cases per 10 thousands which are similar with other developed country.

The mortality has been decreased year by year. The strategies generated from our survey for anesthetic related mortality and morbidity might be contributed with this favorable trends. End of this year, we will finish the third trial started in 2004, then results will be reported in 2009. I believe, the results from this new survey will make our anesthesia safer.

We change the methods to on-line database system. The hospital belong to JSA will use the same database. We can collect the whole data for each anesthetic case.

Using this huge database, we are going to be able to perform more detailed analysis as like, the multivariate logistic analysis.

ROLE OF PHYSICAL ACTIVITY IN TREATMENT OF CHILDREN WITH TYPE 1 DIABETES MELLITUS

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Insulin therapy, dietary management and physical activity constitute essential elements in blood glucose regulation for individuals with type 1 diabetes (T1D). Children with T1D obtain similar health benefits from physical exercise as adults, however due to spontaneity of their physical activity, some changes observed in their adaptation to exercise should be considered. The results showed that children with T1D appeared to spend less time in physical activity than their non-diabetic peers. Regular physical activity was associated with better metabolic control, cardiovascular functions and its benefits include improvement of insulin sensitivity, decrease of fat mass, normalization of lipid profile, regulation of blood pressure and improvement of physical capacity.

Key words: type 1 diabetes, children, and physical activity

BIOFLAVONOIDS IN ANTI-COUGH REHABILITATIVE TREATMENT

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Nasal hypersecretion and cough characterize respiratory allergies, and precede infective airway inflammation. Cough exerts detrimental effects on psychosomatic health. Rehabilitative strategies in cough are ill-defined. Here, we examined the potential antitussive effects of a pharmacological mixture of the flavonoid rutin and vitamin C, both having antioxidant, antiinflammatory, and immune-enhancing properties. We addressed the issue by examining citric acid-induced cough in ovalbumin (OVA)-sensitized and later OVA-challenged guinea pigs, a model which resembles human allergic rhinitis. The subgroup of a major interest was the one in which cough was assessed in the OVA-challenged animals pretreated orally with rutin+vitamin C for 2 weeks. On average, we found that the number of coughs, due to OVA challenges, which was increased in untreated rhinitis, returned to the control level after rutin+vitamin C pretreatment. We conclude that a rutin+vitamin C blend has clear antitussive and antirhinitic effects. Thus, this medication has a role in maintaining the 'nose health' and in respiratory cough rehabilitation.

Pulmonary rehabilitation

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Objective: To present the latest scientific evidences in the field of pulmonary rehabilitation and the experiences in the Pulmonary Rehabilitation Service at the reference National Center 'Julio Diaz'.

Materials and Methods: A review of all significant scientific documentation published by the leading societies in pulmonary rehabilitation, pneumology, and thorax surgery was made.

Results: We present special normative that have been emitted by ATS/ERS, AACPR and SEPAR. Also a clinic practical guide related with air ways permeation was produced by AACPR. We compile the latest scientific evidences in pulmonary rehabilitation in patients with obstructive and not obstructive diseases pre and post surgical rehabilitation and also in other diseases with incidence in pulmonary function. We present our experiences in the field with more than 15 years practice in our service.

These results are related mainly with patients suffering neurological diseases with breathing compromise and also with chronic obstructive pulmonary illness.

Conclusion: In the treatment of pulmonary rehabilitation scientific evidence documented by leading societies is conclusive in the sense of the fundamental importance of physical training of the inferior extremities both for resistance and strength. Our experience is in coincidence with the more serious scientific reports.

Pulmonary rehabilitation in patients with Idiopathic pulmonary fibrosis with inspiratory muscle training.

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Summary:

Evaluation of effectiveness pulmonary rehabilitation in patients with idiopathic pulmonary fibrosis (IPF) has not yet been presented in medical literature. The objective of the study is to analyze the influence of inspiratory muscle training on dyspnoea (BDI), quality of life, results of 6 MW test and maximal inspiratory pressure (MIP) in pts. with IPF. The research was conducted before and after 12 weeks of pulmonary rehabilitation simultaneously on 2 groups of patients: study group (SG) – 16 patients – with inspiratory muscle training added to general body conditioning and in control group (CG) – 14 pts. - who performed only general body conditioning. After 12 weeks of rehabilitation in SG we noticed the significant decrease of dyspnoea ($p=0,027$) and increase of distance in 6 MWP ($p=0,004$), increase of MIP ($p=0,006$), decrease of dyspnoea in BDI ($p=0,001$) and improvement quality of life ($p=0,029$) in comparison with the initial data. No improvement in sensation of dyspnoea and MIP was noticed in CG. We have concluded that adding inspiratory muscle training increase effectiveness of pulmonary rehabilitation in IPF patients.

The role of biotechnology in the rehabilitation of the patients suffering from cancer.

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The incidence of cancer in Developed Countries as well as in Cuba is high; and it will continue increasing due to the cumulative probability related to the increase in life expectancy. Improvements in early diagnosis and treatment have significantly increased survival rates in recent years. Nowadays, many cancers can be considered as chronic diseases as diabetes mellitus or arterial hypertension are because they are related to senescence processes, they have no spontaneous regression or cure, they have slow but continuous progress, the outcome depend on the rate of progression, they are compatible with good quality of life (QOL) for a time, they are depending on the continuous care and the medical intervention aiming is to slow the progression rate, to improve the QOL and to prevent complications. Many biotechnology-derived biopharmaceuticals including cancer vaccines and monoclonal antibodies could be responsible of these effects due to they are very specificity to the malignant cells, they have lower toxicity and can be administered for longer period of time as compared to the traditional citostatic anticancer drugs. Physical and psychological therapy interventions, both established and new, often can reverse or ameliorate the impairments found in these patients, improving their ability to carry out daily tasks and actions and to participate in life situations. Measuring the efficacy of physical therapy interventions in each of these dimensions is challenging but essential for developing and delivering optimal care for these patients. Oncology rehabilitation has long been a part of management of cancer, but with increased survivorship and the development of new very-specific and very low toxic biotechnology-derived biopharmaceuticals, these efforts have evolved from simple supportive and palliative care to now include complex rehabilitation interventions designed to restore the integrity of organ structure and function, and to adapt to the environment so as to allow full participation in daily activities and life roles.

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