

# CONTENT

<b>NO</b>	<b>TOPIC</b>	<b>SPEAKER</b>	<b>PAGE</b>
1	Physiology of Ageing	Prof. Dr. Dusan Hamar	1
2	Psychology Aspects of Ageing	Assoc. Prof. Dr. Lim Boon Hooi	2
3	Yoga for Fall Prevention	Dr. Sivaneswaran Poobalasingam	3-4
4	Active Lifestyle for The Elderly	Dr. Sivaneswaran Poobalasingam	5-6
5	Community Exercise Programs for The Ageing Population	Assoc. Prof. Dr. Hanson Huang	7
6	Core Strength Exercise for Seniors (Workshop)	Assoc. Prof. Dr. Lim Boon Hooi	8
7	The Effects and Mechanisms of Exercise on Cancer Prevention and Treatment in The Elderly	Assoc. Prof. Dr. Hanson Huang	9-10
8	Healthcare System Among Ageing Population in Malaysia	Ms. Tammy Pan	11
9	Active Ageing Bone Remodeling	Dr. Adrian Khu	12-13
10	Exercise Technology for The Elderly	Mr. Kentaro Esaki	14
11	Exercise with Isokinetic Resistance for Healthy Aging	Dr. Jin Jong Chen	15-16
12	Cardiac Rehabilitation Risk of NCD	Assoc. Prof. Dr. Hashbullah Ismail	17-18
13	Creating Heart Safe Community in Exercise	Dr. Luah Lean Wah	19-20
14	High-Quality CPR And Automated External Defibrillator (AED)	Dr. Jimmy Jot	21
15	Effect Of Vibrations on Aging	Dr. Hjh Adlina Suleiman	22
16	The LOVE Healing-Quantum Qi Therapy	Dr. Tan Aik Chuan	23
17	Neurodegenerative Diseases	Dr. Cecilia Chan	24

## **Physiology of Aging**

*By Dusan Hamar*

Center of Active Aging, Faculty of Physical Education and Sports, Comenius University,  
Bratislava, Slovakia.

The aging is a natural progression of human life cycle starting with conception, proceeding to birth, growth, and maturation, passing adult period and finishing with old age and death. Age related changes, starting already after maturation, are characterised by deterioration of function of particular organ systems, namely cardiorespiratory, musculoskeletal, neural, reproduction, sensory, and gastrointestinal. Worsening of physiological functions accompanied by negative morphological changes, though at the beginning barely noticeable, may have insignificant impact on activities of daily living and finally also on quality of life. Gradual loss of cardiorespiratory function leads to decreased tolerance of aerobic exercise. In addition, increase of perceived exertion, while performing tasks of everyday life, impede physical activity with further deterioration of physical fitness. Such a vicious cycle can only be broken by voluntary physical activity. The similar concept applies to muscle strength. Its rapid loss in subjects over 60 accounts for about 1.5% annually. If further accelerated by lack of physical activity, it may not only substantially limit many tasks of daily life, as raising from chair, stepping the stairs or even carry shopping bag, but also negatively affects control of static and dynamic balance with significant increase risk of falling and resulting injuries. Other negative phenomenon of aging is a loss of bone mass and its mineral density may remain silent for years only becoming evident by sudden pathological fracture of vertebrae or hip. Deterioration of immune functions, both cellular and humoral, leads to increased incidence of oncological diseases as well as more difficult coping with infection diseases. Changes of cognitive functions, namely if aggravated by pathological neurodegenerative processes affecting brain tissue, may have very negative consequences not only for affected seniors themselves, but also for individuals living with or taking care of them. Though the age-related changes depend to large extent on genetic disposition they can be substantially modified by environmental factors, namely diet and exercise. That means that most of the negative changes can be slowed down, or even temporarily reversed by an active healthy lifestyle. This may not only increase quality of life of senior citizens, but also positively affect socioeconomic status of entire society.

## **Psychology Aspects of Ageing**

Associate Professor Dr Lim Boon Hooi  
SEGi University  
Kota Damansara, Selangor,  
Malaysia  
+60172802632  
[lboonhooi62@gmail.com](mailto:lboonhooi62@gmail.com)



### **Abstract**

This paper describe that ageing is a universal phenomenon and natural biological process of the life cycle. The increase in the number of older people worldwide, alongside an increase in life expectancy, has led to a more attention to the psychological factors of ageing. There is a growing body of evidence suggesting that successful ageing is multidimensional, including a level of psychological, physical and social, and well-being. Old age is usually in connection with the different types of problems encountered by the aged, has physical diseases, psychological illness and adjustment problems are quite common during this phase of life. Old age is likely to be a time of depression, family relationships change, occupational status is lost and friend's die, decreased physical vigour forces for the elderly people to give up many activities that formerly brought satisfaction, financial resources become so limited, and are a cause of acute anxiety. Older people may experience the same life stressors common to all people, however they have additional stress in the form of a significant ongoing loss in capacities and a decline in functional ability, they also may experience reduced mobility, chronic pain, frailty, diabetes, hearing loss, osteoarthritis, or other health problems, all requiring some form of long-term care. The most common mental and neurological disorders in older people are dementia and depression. This paper suggests that management with empathy to treat this problem such as good listening/counselling skills, attention on interaction between psychology, physical activity, and health such as exercise, diet, sleep. Final part of this paper proposes conditions contributing to happiness for the seniors.

## **Yoga For Fall Prevention**

Dr Sivaneswaran Poobalasingam Md, Dip IBLM Nisha  
Lakshmanan  
Ivana Christy Saldanha

### **Abstract**

Falls are common among the ageing population especially over the age of 65. A fall is defined as a person's trunk, knee or hand, unintentionally coming to rest on the ground or some level below the waist. Falls are the leading cause of injury and death related to injury in this age group making falls a public health concern in particular among the ageing population. In the United States one person over the age of 65 has a fall every second of every day. One third of individuals over 65 and over half of people over 85 have a fall at least once every year.

Falls result in trauma which can lead to chronic disability, assisted living or even death. A fall can also lead to fear of falling and this in turn reduces physical activity which leads to physical deconditioning. This can increase the risk for future falls.

Causes of falls are multifactorial. Falls can be caused by sarcopenia, loss of flexibility in the joints, poor balance and gait, poor eyesight, medical conditions such as diabetes, postural hypotension, cardiovascular disease and incontinence amongst others.

Falls are preventable and not necessarily and inevitable part of ageing. Clinical guidelines from around the world recommend multifactorial interventions for fall prevention with the key component being exercise. Exercise that improves flexibility, balance, gait and strength can play a key role in reducing the incidence of falls in the ageing population.

The use of therapeutic yoga to prevent falls and reduce the risk of falling in older adults has gained popularity in recent years. Yoga a popular form of complementary medicine is one of the 10 most commonly used forms of complementary medicine. Yoga which dates back 5000 years, is a holistic system for promoting homeostasis at the physical, mental and emotional level. Yoga has become a trendy form of exercise in the last quarter of a century. One of the reasons for the popularity of yoga is that there are classes for all age groups. Yoga with its low impact gentle movements are suitable for seniors. Furthermore, yoga poses can be modified to suit an

individual's needs.

Studies show that yoga improves flexibility, gait, balance, muscle strength and posture. Yoga also improves confidence and promotes awareness. This helps to prevent falls and manage the fear of falling. In a published study, it was found that yoga can reduce the risk of fall by 48%. In addition to preventing falls yoga also improves health, wellness and quality of life in seniors. Yoga therapy is a promising intervention for prevention of falls given the multitude health benefits attributed to the practice of yoga and few contraindications or side-effects.

## **Active Lifestyle for The Elderly**

By Dr. Sivaneswaran Poobalasingam Md, Dip IBLM

### **Abstract**

Worldwide people are living longer. Most people can expect to live into their sixties and beyond. Based on the United Nations definition, Malaysia is now classified as an ageing society. The percentage of population over the age of 65 increased from 7.0% to 7.3% between 2021 and 2022. As the distribution of the population of a country shifts towards older ages, it brings with its new challenges.

According to a study from the American Association of Retired Persons, those over the age of 65 lead inactive lives due to physical, emotional and mental limitations that interfere with their ability to connect with the outside world. Some of the challenges faced by the elderly are that they are more likely to have disability and non-communicable diseases such as diabetes, coronary artery disease, osteoarthritis, depression and more. The elderly is likely to be less active, less mobile, socially isolated and lonely.

An active lifestyle promotes healthy ageing and longevity. Unfortunately, statistics show that 50% of adults do not lead an active lifestyle. According to the World Health Organisation physical inactivity is a primary cause of premature death.

Being physically active has a host of benefits that includes positive physical and mental health. Physical activity has been shown to reduce the risk of chronic diseases such as diabetes, obesity, heart disease and more. Physical activity also improves the immune system and build strong bones and muscles. Physical activity promotes the release of endorphins which promote positive feelings, reduces stress, anxiety and depressive symptoms. Regular physical activity also improves cognitive function, focus, productivity and sleep. Leading an active lifestyle enables one to form social connections, reduces the risk of loneliness and social isolation and promotes happiness.

While physical activity is an important component of active living, it does not capture fully the essence of active living. The elderly should embrace the tenets of lifestyle medicine where the six pillars of lifestyle medicine nutrition, physical activity, stress management, restorative

sleep, social connectivity and absence of smoking and alcohol in moderation will help promote physical, mental and emotional health and keep them engaged with the world.

*“Adding Years to Your Life and Life to Your Years”*

Dr. David L. Katz

Founder, Yale University’s Griffin Research Centre

## Community Exercise Programs for The Aging Population

Associate Prof. Hanson Huang Sen-Fang,  
Tzu Chi University, Hualien Taiwan, ROC.

### Abstract

Over the past 20 years, the life expectancy in Taiwan has increased by 3.6 years for males, life expectancy at birth 77.7 years and 4.3 years for females, 84.3 years. At the same time, the elderly population, aged over 65 has doubled. Taiwan became an aging society in 1993 (7.1%), became an aged society in 2018 (14.6%), and is projected to become a super-aged society in 2025 (20.0%). Meanwhile, the total fertility rate has been lower than 1.2 since 2003 and fell to 0.98 in 2021. With the rapid growth of the elderly population and low birth rate, the total dependency ratio is continuing to be deteriorated. In 2022, about 4.0 working-age people support 1 elderly person and is projected to decrease to 1.1 by 2070. Combined old age-dependency ratio with child-dependency ratio, the total dependency ratio is expected to exceed 100 in 2060, meaning that the number of dependents will be greater than the working-age population. The epigenetic aging clock had been scientifically documented as the most promising biological age predictor. Epigenetic aging as determined with DNA methylation (DNAm) clocks is accelerated in consequence of several diseases and further negatively affected by concomitant conditions of certain lifestyles. On the other hand, there are some hereditary and environmental factors that are associated with slowed epigenetic aging, includes regular exercise. Accordingly, expects to reduce the negative impact on society as the rapid change population structure in Taiwan, a pilot project conducted by Department of Health Promotion, Ministry of Health and Welfare, 14 **Fitness Clubs for Seniors** were set up in communities by January 2020- June 2021 in Taiwan. Moreover, 288 million NTD (~\$9.6 million) has been budgeted to set up more Fitness Clubs for Seniors in 2021-2025. Total 288 **Fitness Clubs for Seniors** will be set up in communities nationwide by 2025, includes 25 in 2021, 75 in 2022, 29 in 2023, 36 in 2024 and 123 in 2025. All **Fitness Clubs for Seniors** are most financially supported by central government, supervised by local governments and managed by public or private institutes or associations in communities. Total 142 Fitness Clubs for Seniors will have been established nationwide in Taiwan by the end 2023. This presentation will present the currently developing trend of aging population exercise program in communities in Taiwan. An aging population exercise intervention strategy, an SOAP+4P model, subjective (S) and objective (O) data collection, assessment of collected data (A), and set the purpose (P) of exercise plan (P1), exercise phase (P2), exercise program (P3) and exercise prescription (P4), will be introduced and proposed for implementing community exercise programs for the aging population.



## Core Strength Exercise for Seniors (Workshop)



Associate Professor Dr. Lim Boon Hooi  
SEGi University  
Kota Damansara  
Selangor  
MALAYSIA  
[Iboonhooi62@gmail.com](mailto:Iboonhooi62@gmail.com)  
+60172802632

### Abstract

In recent years, core training has been widely studied since it has been considered a pivotal issue in health, rehabilitation and sports performance. This workshop comprised of theory and hands-on practical sessions. In theory session, the location of core strength muscles will be illustrated. Anatomically, the core region has been described as the area bounded by the abdominal muscles in the front, by paraspinal and gluteal muscles in the back, by diaphragm on the top and by pelvic floor and girdle musculature at the bottom. The core represents the connection between lower and upper limbs and should be considered as a functional unit in which different muscles interact, even if not located in the thoraco-lumbar region. The important of core strength on lower back pain in general public, seniors and athletes will be described. Previous studies revealed that core training has been shown to be related to reduced symptoms among low-back pain sufferers in general public and seniors. The theory also will be clarified the important of core strength exercise to enhance balance among older adults to prevent falls. Studies related to increasing balance ability in development of seniors will be interpreted. Next part of this theory session, I would like to propose a new invented core strength exercise - 360° TitaniUM Core Strength Exercise@ to strengthen the core muscles, enable to reduce the lower back pain problem, enhancing the balance among older adults. This workshop will be concluded with practical session with the 360° TitaniUM Core Strength Exercise@ assisted by demonstration and explanation.

**Keywords:** *Core Strength Exercise, Lower Back Pain, Balance, 360° TitaniUM Core Strength Exercise@,*

# **The Effects and Mechanisms of Exercise on Cancer Prevention and Treatment in The Elderly**

Associate Prof. Hanson Huang Sen-Fang  
Tzu Chi University, Hualien Taiwan

## **Abstract**

According to the key facts released by WHO, the pace of population aging is much faster than ever. In 2020, the population older than 60 years outnumbered the population younger than 5 years. It is predicted that the proportion of the world's population older than 60 years will increase from 12% to 22% between 2015 and 2050. Cancer is one of leading causes of death, accounting for around 10 million deaths in 2020, or nearly one in six deaths worldwide. The International Agency for Research on Cancer (IARC) recognized 10.1 million new cancer cases in 2000, 18.1 million in 2018 and is expecting 27 million new cases per year by 2040. Breast, lung, colon and rectum and prostate cancers are the most common cancers. Cancer can develop at any age, but the incidence of cancer rises dramatically at a later stage in life. Only about 1.7% of all cancer-related deaths in both sexes occur before the age of 40 years, and almost 90% of cancers are diagnosed in those people older than 50 years. The elderly, people aged 65 years and above, are 11 times more likely to develop cancer, compared to younger people. Nearly 50%-70% of people aged 65 or older have cancer. This is most likely due to the accumulation of risk factors for specific cancers, which increase with age and less effective cellular repair mechanisms, or mutations accumulate in our tissues throughout life, and some of these mutations contribute to cancers. Since the global population is aging, cancer among the elderly is a health burden that will continue to grow in the next two decades, and will be a harsh challenge to societal healthcare system and economy in most of countries. Around one-third of deaths from cancer are due to tobacco use, overweight and obesity, abnormal alcohol consumption, unhealthy diet, and physical inactivity. It is predicted that around 40% of cancer cases could be prevented by tackling risk factors relating to diet, nutrition and physical activity. Strong scientific evidence derived from mounting epidemiological studies has shown that regular exercise or increased physical activity reduced the risk of some cancer morbidity and mortality. Systematic review and meta-analysis studies also confirmed that exercise intervention benefited lowering the risk of mortality and recurrence in patients with cancer. In addition to reducing the incidence of cancer, exercise can enhance the efficacy of certain types of approved anticancer treatments such as targeted therapy, immunotherapy, and radiotherapy and reduce the symptoms/side effects of cancer and its treatment includes fatigue, cancer cachexia, cognitive impairment, and depression. The mechanisms mediating these effects include the regulation of intratumoral angiogenesis, myokines, adipokines and their associated pathways,

cancer metabolism, and anticancer immunity. This presentation will present the currently scientific evidence on the effect and mechanisms of exercise on cancer prevention and treatment in the elderly. Exercise guidelines and principles for cancer survivors in elderly will be discussed and proposed as well.

# Healthcare System Among Ageing Population in Malaysia

Tammy Pan Jia Yee, Ts Benedict Linang, Nur Husna Ismail

## ABSTRACT

The silver tsunami refers to the rapidly aging population that is occurring globally. There are several factors contributing to this phenomenon, including increased life expectancy, declining birth rates, and the cumulative impact of past variations in death and birth rates. The aging of the baby-boomer generation, low fertility rates, increased life expectancy, and reduced old-age mortality have all contributed to population aging. This demographic shift has been metaphorically described as a "silver tsunami" or a "gray tsunami", highlighting the magnitude and impact of this population change. The term "silver tsunami" is a vivid metaphor used to describe the rapid and widespread phenomenon of population aging in the 21st century. The "silver tsunami" metaphor emphasizes the overwhelming nature of this demographic change, likening it to a powerful and unstoppable force. An exploration of the healthcare challenges associated with an aging population, including increased demand for geriatric healthcare services, management of chronic diseases, and the need for long-term care facilities Malaysia is projected to achieve aging nation status by 2035, with approximately 15 per cent of the population being senior citizens. Moreover, based on the discussions, this study is to identify caregivers currently lack sufficient knowledge to meet the specific needs of the elderly, and also is to identify and understand how Malaysia's healthcare system can be adjusted to effectively cater to the aging population's requirements.

*Keywords: ageing population, silver tsunami, caregivers, healthcare system, well-being*

## **Active Ageing Bone Remodeling**

Dr. Adrian Khu, Sp. OT, FICS, AIFO-K

### **Abstract**

As the global population ages, active ageing has emerged as a key concept to promote the overall well-being and independence of older individuals. However, the ageing process is associated with changes in bone health, leading to a significant challenge for older adults and healthcare providers alike. Bone remodelling, a dynamic process involving bone resorption and formation, plays a pivotal role in maintaining bone strength and structure throughout life. This abstract explores the intricacies of bone remodelling in the context of active ageing, highlighting related issues and potential opportunities for intervention. During active ageing, bone remodelling becomes altered, favoring bone resorption over bone formation, leading to a gradual decline in bone mineral density and increased risk of fractures. This imbalance arises due to various factors, including hormonal changes, reduced physical activity, and inadequate nutrition. Additionally, chronic diseases and medications used to manage age-related conditions can further compound bone health challenges in the elderly population. The consequences of impaired bone remodelling in older individuals are substantial. Bone fractures not only result in pain and disability but can also lead to a reduced quality of life and increased healthcare burden. To address this critical issue, interventions that support active ageing and bone health are essential. Promoting physical activity and exercise tailored to the needs and capabilities of older adults can help preserve bone mass, improve balance, and reduce the risk of falls. Adequate intake of calcium, vitamin D, and other bone-supportive nutrients through a balanced diet or supplementation can also play a vital role in maintaining bone health. Furthermore, medical interventions such as pharmacotherapy for osteoporosis management and hormone replacement therapy can be considered under the guidance of healthcare professionals. However, a comprehensive approach that combines lifestyle modifications, nutrition, and medical management is likely to yield the most effective outcomes in supporting bone health during active ageing. In conclusion, active ageing presents both challenges and opportunities concerning bone remodelling and overall bone health. Understanding the complexities of bone remodelling in older adults is crucial for identifying potential intervention strategies. By emphasizing physical activity, nutrition, and evidence-based medical interventions,

we can enhance bone health in the elderly population, promoting their independence and well-being throughout their ageing journey.

**Keywords:** Active Ageing, Bone Remodelling, Fractures, Osteoporosis Management, Intervention Strategies.

## **Exercise Technology for The Elderly**

Kentaro Esaki CEO of Esaki Medical Instrument, Co., Ltd

[kesaki@esakimedical.co.jp](mailto:kesaki@esakimedical.co.jp)

These days, it is well known that exercise has a positive effect on health. However, there are three key points that should be noted when the elderly is encouraged to exercise.

1. Age-related muscle weakness
2. cognitive decline
3. Risk factors due to hormonal imbalance

First of all, it is said that after the age of 20, even if you exercise normally, you will lose 1% of your muscle mass every year.

Secondly, elderly people have declining cognitive functions, there are many risks associated with walking outside. For example, Japanese traffic lights are designed for 1m/sec, but even elderly people with a walking speed of 1m/sec or more are asked to walk while thinking about something (because they usually walk while making decisions) called a task walk. In this case, the walking speed is significantly reduced compared to normal walking. In other words, exercising outside is itself a risk for elderly people with declining cognitive functions.

It is also necessary to consider the increase in risk factors associated with aging and hormonal changes. For example, it is well known that women are at increased risk of osteoporosis due to changes in hormonal balance after menopause, the difference between women's healthy life expectancy and average life expectancy is 12 years in Japan, which is a factor in rising medical costs.

Of course, exercise for the elderly, it is essential to provide generous indoor support from a safety standpoint. However the shortage of nursing care workers is also a serious problem due to low salaries and harsh labor.

The Turtle Gym founded and developed by Esaki Medical in 2011, is a training device packed with revolutionary technology born to solve this problem. We would like you to deepen your understanding of exercise technology for the elderly while introducing the development process, comparison with other machines, and cooperation with ASICS and Tryus(elderly care center by ASICS)

## **Exercise With Isokinetic Resistance for Healthy Aging**

By Dr Jin Jong Chen MD PhD  
President of Taiwan Society of Exercise Medicine

Sarcopenia is a common condition that affects 10% of adults who are over 50 years old. It can decrease life expectancy and quality of life and is one of the most important causes of functional decline and loss of independence in older adults. The best resistance training exercises for elderly are isokinetic exercise. Four commonly used isokinetic dynamometers are: Cybex, Biodex, Kin-Com, and Lido. Major benefits of Isokinetic exercise are: (1) maintain adequate resistance throughout the range of motion, (2) reduced risk of injury. (3) easy monitoring and tracking. Exercise with isokinetic machine is a type of strength training that uses specialized equipment to maintain a constant speed of movement and can be used for strength training, rehabilitation, and testing. However, it also has some disadvantages, such as: (1) It requires specialized equipment that can be very expensive and not widely available.

(2) It may not be very practical or functional for everyday activities or sports performance, as most isokinetic machines isolate single joints and do not mimic natural movements. (3) It may not be very effective for increasing muscle mass or power, as it does not overload the muscles with enough resistance or intensity. (4) It may cause muscle soreness due to the high tension and stress experienced during the exercise. In order to reduce the adverse limitations of isokinetic strength training, some alternative muscle strength training, such as hydraulic and pneumatic resistance training, came into being since they are more affordable and accessible than isokinetic exercise machines. Curves is a very popular fitness franchise that offers a 30- minute circuit workout for women using hydraulic resistance machines. They adapt to the user's strength and speed, as they provide more resistance when the user pushes harder and less resistance when the user slows down. Hydraulic-resistance exercise elicits significant improvements in strength and power in older adults. On the other end, HUR uses pneumatic technology to provide smooth and safe resistance that adapts to the user's force. They also use smart touch technology to monitor and track the user's progress and performance, offers intelligent computerized training equipment and evidence-based exercising concepts for senior exercise, rehabilitation, wellness, and sports performance. However, both Curves and HUR are not true isokinetic machines, as they do not maintain a constant speed of movement. In this presentation, I would like to introduce a Taiwan-



developed isokinetic training system that combines the advantages of Curves and HUR. Turtle Gym uses patented isokinetic design and smart technology to collect and analyse the user's exercise data and health status. Turtle Gym, which integrates artificial intelligence, isokinetic technology and vibration therapy, will be able to provide an effective, safe and comfortable solution to combat sarcopenia and aging disabilities.

## Cardiac Rehabilitation: Risk of Sudden Cardiac Death

Hashbullah Ismail, UiTM, [hashbullah@uitm.edu.my](mailto:hashbullah@uitm.edu.my) ; Lee Chee Pheng, ACEM; Mohd Noorazam Abd Razak,UiTM

**Introduction:** Cardiac Rehabilitation (CR) involves a variety of therapies, including exercise, risk factor education, behaviour change and psychological support. Exercise-based CR is an essential part of chronic heart failure (CHF) care and a priority in countries with a high prevalence of CHF. Cardiac rehabilitation can reduce the risk of sudden cardiac death (SCD) and future heart problems.

**Purpose:** Firstly, to use a cardiac rehabilitation as a clinically effective and cost-effective intervention for patients to improve mortality, morbidity, and health-related quality of life (HRQoL) in people with CHF. Secondly, to provide an evidence-base of safe and practical guidelines for the implementation of exercise rehabilitation in chronic disease population. **Methods:** First, a systematic review and meta-analysis was conducted to compare the effect of exercise – based cardiac rehabilitation in heart failure patients. Second, an analysis of published exercise – based cardiac rehabilitation programs was conducted to investigate if variation in aerobic exercise training intensity produced different effect sizes for cardiovascular responses, adherence, cardiac events, mortality, and hospitalization rates in heart failure patients.

**Results:** There was a significantly lower withdrawal ratio in the high intensity training versus control groups (log rank  $\chi^2 = 5.73$ ,  $p < 0.05$ ) for death, or (log rank  $\chi^2 = 0.23$ ,  $p > 0.05$ ) for cardiac events in high intensity studies. There were no hospital admissions in the high intensity training groups and no deaths were reported, from any of the high intensity exercise groups; however, there were two deaths in the non-control groups. Statistically, in young people (<35 years of age), the incidence of all sudden deaths (including non-cardiac causes) is 1.5 - 6.5 per 100 000 persons per year. **Discussion:** Left ventricular dysfunction is a major independent predictor of total and sudden cardiac mortality in patients with ischaemic and nonischaemic cardiomyopathy. Survivors of cardiac arrest who have a left ventricular ejection fraction is less than 30%. The risk of sudden cardiac death exceeds 30% over 1 to 3 years if the patients do not have inducible ventricular tachycardia, between 15% and 50% in those who have inducible ventricular tachyarrhythmias despite drug therapy that suppresses the inducible arrhythmias. Risk factors of sudden cardiac death are age, left ventricular hypertrophy, hypertension, intraventricular conduction block, high cholesterol, glucose intolerance, decreased vital capacity and smoking. Four variables identify patients at increased risk of sudden cardiac death: syncope at the time of the first documented episode of arrhythmia, NYHA class III or IV, ventricular tachycardia/fibrillation occurring early after myocardial infarction (3 days to 2 months) and history

of previous myocardial infarctions or family history. **In conclusion**, exercise-based cardiac rehabilitation (CR) provides important benefits of likely reducing risks of all-cause mortality, myocardial infarction (MI), all-cause hospitalization, and associated health care costs, and improving health-related quality of life (HRQoL) and safe to the heart failure patients. Effective and efficient measures should be addressed to reduce the burden of sudden cardiac death.

Keywords: Cardiac Rehabilitation, Sudden Cardiac Death, Chronic Heart Failure

**Title: Creating A Heart Safe Community in Exercise**  
by Dato' Dr Luah Lean Wah

Abstract

Sudden Cardiac Arrest (SCA) poses a significant risk, even in the context of exercise medicine. As individuals engage in physical activity, the potential for SCA incidents increases, necessitating the implementation of effective resuscitation strategies. This abstract examines the importance of high-quality CPR and the utilization of AEDs in exercise medicine settings. It also explores real-life examples of SCA incidents during exercise and outlines key steps to create a Heart Safe community within the exercise medicine domain.

The first section delves into the unique aspects of SCA within the exercise medicine context. While exercise offers numerous health benefits, it also raises the likelihood of SCA in susceptible individuals with underlying heart conditions. Understanding the interplay between exercise-induced cardiac stress and the risk of SCA is crucial for designing appropriate prevention and emergency response protocols.

The second section emphasizes the critical role of high-quality CPR during SCA incidents. Effective chest compressions and rescue breaths are vital for maintaining blood flow and oxygenation, improving the likelihood of successful defibrillation with an AED. Training exercise professionals and fitness enthusiasts in high-quality CPR is imperative to ensure prompt and efficient resuscitation in the event of an SCA.

The third section focuses on the importance of AEDs in exercise medicine settings. Specifically, AEDs which are designed with features that support high-quality CPR, such as real-time feedback on compression depth and rate. The portable and user-friendly nature enables quick access and efficient deployment during an emergency. The abstract highlights studies and evidence that demonstrate the effectiveness of AEDs with real-time feedback in achieving higher survival rates in exercise-related SCA incidents.

The fourth section presents real-life examples of SCA incidents occurring during exercise activities. These cases illustrate the unpredictability of SCA and underscore the necessity for proactive preparedness. By showcasing how AEDs and high-quality CPR contributed to

successful resuscitation, these examples serve as compelling evidence for the value of implementing such strategies in exercise medicine.

In conclusion, these abstract highlights the critical role of high-quality CPR and AEDs in exercise medicine to effectively address the potential occurrence of Sudden Cardiac Arrest. The integration of AEDs and CPR training in exercise facilities can significantly improve the chances of survival in the event of an SCA incident. By sharing real-life examples and outlining the steps to create a Heart Safe community in exercise medicine, this abstract aim to raise awareness and drive action towards better preparedness and enhanced cardiac safety in physical activity settings.

## **High-Quality CPR and Automated External Defibrillator (AED) by Dr Jimmy Jot**

### **Abstract**

Sudden Cardiac Arrest (SCA) remains a life-threatening event, demanding swift and effective action to improve survival outcomes. Automated External Defibrillators (AEDs) and High-Quality Cardiopulmonary Resuscitation (CPR) are essential components of the chain of survival during SCA incidents. This abstract highlights the significance of a hands-on workshop using ZOLL AEDs to train participants in High-Quality CPR, empowering them with life-saving skills and the confidence to respond proactively during sudden cardiac emergencies.

The first part emphasizes the urgency of addressing SCA and its impact on global health. Sudden Cardiac Arrest strikes unexpectedly, causing an abrupt cessation of heart function and necessitating immediate intervention to restore normal rhythm. The combination of early defibrillation using AEDs and effective High-Quality CPR is vital for maximizing survival rates in these critical moments.

The second part focuses on the features and advantages of AEDs with real-time feedback. AEDs that provide real-time feedback on CPR performance, ensures participants achieve optimal chest compressions, and appropriate rhythm assessments. The user-friendly design of ZOLL AEDs enables both healthcare professionals and lay rescuers to confidently utilize these devices during emergencies.

At the same time, the workshop underscores the importance of High-Quality CPR training in conjunction with AED usage. Participants in the hands-on workshop receive instruction on proper CPR techniques, emphasizing the critical role of continuous chest compressions. Hands-on practice with ZOLL AEDs and manikins allows participants to hone their skills in a simulated real-life setting, fostering preparedness for actual emergencies.

In conclusion, the workshop is designed to provide participants lifesaving knowledge on SCA recognition, immediate activation of emergency services, hands-on AED usage, and the delivery of High-Quality CPR. Thus, empowering individuals can become effective first responders in saving lives during critical cardiac emergencies.

# **Effect Of Vibrations on Aging**

By Dr. Hjh Adlina Suleiman

## **Abstract**

Aging is a process caused by but not limited to oxidative stress, progressive degeneration of tissues, mutations, aggregation of proteins which over time are associated with weakening immune system leading to increasing susceptibility to disease and death.

We are constantly exposed to electromagnetic waves that come from sources such as telecommunication towers, high tension wires and WiFi. Researchers have found that vibrations and the electromagnetic energy associated with them cause changes in human cells, which can then affect how the body functions. Different molecules vibrate at different rates and those rates can speed up or slow down if conditions around the molecules change.

Yet, there are vibrations that can heal us, from sounds waves to vibration rods and low frequency resonance.

This presentation aims to explain:

1. What are frequencies and vibrations? How do they affect us?
2. What is vibration medicine/frequency therapy?
3. What is Electromagnetic Fields and Electromagnetic Hypersensitivity?  
Do they affect health and aging?
4. Protect against harmful frequencies, treat with beneficial frequencies.

**KEYWORDS:** Vibrations, Aging, Electromagnetic Hypersensitivity

## **The LOVE Healing – QQT**

*Prof. Dr. Tan Aik Chuan, Wellness Mandalas and Rayonex Biomedical Sdn Bhd*

### **Abstract**

Albert Einstein said that "future medicine will be the medicine of frequencies." Base on this view, we successful to reach the new milestone. We are applying new concept of medicine as Vibrational Medicine to analysis and harmonizing to improve or solve health issues. Given what we know about consciousness, energy, vibration and frequency, how do you think frequencies are used medically to heal people and remove disease from the body? In order to achieve the purpose of LOVE healing, we boldly developed this complete system so called Quantum Qi Therapy, QQT:AI Infrasound Body Balance System. According to the System developer Dr. William Lu, the system is coordinated with: 1. Latest communication technology as such iCloud, iPhone, Bluetooth, Wi-Fi, and Data. 2. Artificial Intelligence (AI). 3. Big Data; at least 1.5 million patient data-base. 4. Artificial Cell Chip consisted 274 types of health cell resonant. 5. Acupuncture points, Meridian and Chakra frequencies. 6. GPS, Earth Science and Astrophysics. 7. Transferring Frequencies. The system operation principle is integrating the above key items to generated the vibration as infrasound as same as the sound in the mother's womb. The generation of this particular vibration is based on the personal data and the results of instrument detection through AI analysis, and then sent back from the iCloud to the instrument to introduce these Infrasound into the body through the first cervical vertebra (C1), and then conduct it to the cells of the whole body through the spinal cord within 6 minutes of harmonization. Shoulder and waist balance must be measured by using the leveling meter before and after harmonization. The whole process of treatment is carried out under painless, safe, fast and effective conditions. The result showed that 80% of the treated patients (first time) responded that their sleep quality has improved, they feel muscle relaxation and also regulate their biology clock. Those with unbalanced waist and shoulders can be aligned. Because the cells of the whole body are harmonized, no matter directly or indirectly, it can promote blood circulation, activate cells (especially nerve and muscle) and enhance self-healing ability. Since all these health problems are encountered by the elderly even the younger, why not put forward the concept of integrated advanced preventive medicine, integrating cell nuclear magnetic resonance medicine, traditional Chinese medicine, western medicine, natural medicine, and cellular nutrition. The only one in the world that uses 4D-QRS nuclear magnetic resonance energy comparison scanner, Jingyuan acupoint diagnostic instrument, and Rayonex Biomedical's analysis and harmonizing devices for comprehensive detection and comparison.



# **Neurodegenerative Diseases**

by Dr. Cecilia Chan

## **Abstract**

Neurodegenerative diseases encompass an array of medical conditions that have an impact on the survival and function of neurons in the brain. Dementia is a syndrome as a result of many diseases which over time destroy nerve cells and damage the brain, which leads to deterioration in cognitive function (WHO,2023). A global demographic trend is showing that rates of dementia are increasing, and it is projected that 82 million of us will be living with dementia by 2030 (World Health Organization, 2020). This trend is also affecting Malaysians. Alzheimer's Disease Foundation, Malaysia (ADFM) in 2020, reports that the population of Malaysians living with dementia, in its advanced stage, is estimated to be 204,000 to 264,000 (8.5 percent to 11 percent). It is projected that it will be increased from 637,500 to 825,000 by the year 2050, an increase of 312 percent. There is a spectrum of causes of dementia which includes primary neurologic, neuropsychiatric as well as medical conditions. It is usual for multiple diseases to contribute to any one person's dementia.

Neurodegenerative-related dementias, such as Alzheimer's disease and dementia with Lewy bodies, are most common in the elderly. Whilst there have seen significant advancements in molecular neuroimaging, in understanding clinicopathologic correlation, and in the development of novel biomarkers, disease-modifying therapies for neurodegenerative dementias are still unavailable. Dementia remains to be a complex and multifaceted condition. Since the causes of dementia are multi-factorial and the nature of dementia's symptoms are multi-faceted, the varied and complicated consequences of the disability require a holistic approach to support people living with dementia.

It is therefore imperative that until then our focus must also include how to care for and support those living with dementia to improve the overall quality of life for those living with dementia and their family members.