THE LONGEVIST มนุษย์จะมีชีวิตที่ยืนยาว

English sample

I have known Dr. On, Dr. Narin Surasinthan, since our first year at the Faculty of Medicine, Siriraj Hospital, in 1993.

Over the past three decades, through our years of study, training, and medical work together, one thing I have always seen in Dr. On, and which has never changed, is his sincere commitment to caring for patients so that they are strong in both body and mind. His goal is not merely to help them recover from illness, but to help them enjoy a good quality of life in the long term.

That is why I am especially pleased to have the opportunity to write an endorsement for this book. This is the second time I have written an endorsement for a valuable work by my friend. The first was for *Longevity by Design*, around a year ago.

After his first book proved to Thai society that health knowledge, when communicated accurately, accessibly, and with people at its center, can truly change behavior, transform the way people view self care, and help move society toward becoming a "healthy society," *The Longevist* shows once again that this is not just an ordinary health book. It is a work that beautifully connects modern medical science with the real lives of people.

The concepts of "biological age" and the "Hallmarks of Aging," explained through the metaphor of the body as a "city," allow readers who are not doctors to understand complex cellular level issues in a concrete and practical way that can be applied in everyday life.

As a senator and Vice Chair of the Senate Public Health Committee, I see the value of this book beyond the individual level. The knowledge in this book clearly reflects that "investment in preventive health is the most worthwhile economic investment a country can make."

If people understand the mechanisms of physical decline, learn how to slow aging, reduce chronic disease, and extend their healthy lifespan or healthspan, the country can reduce public health expenses, minimize the loss of workforce capacity, and increase its long term competitiveness.

I would like to express my sincere admiration for *The Longevist*. It is not merely a health book, but a powerful "policy tool" in the hands of the public. My friend is one of the few doctors who can take scientific innovation and global level insights and translate them into language that Thai readers can understand and feel inspired to act on. This book is yet another testament to his role as a thought leader in health.

I sincerely hope that *The Longevist* will be widely read, not only by those who wish to live longer, but by everyone who wishes to live a strong, energetic, valuable, and dignified life until their final day.

With great respect and friendship,
Dr. Weeraphan Suwannamai

I have always believed that our true age is not determined by the number on our ID card, but by the condition of our body, mind, and the life force we still carry each day.

The Longevist is not merely a general health book. It is a map that helps us understand the “mechanisms of aging” at the cellular level through the framework of the 12 Hallmarks of Aging. It allows us to see that aging is a process that can be “slowed, adjusted, and managed” if we understand it correctly.

The book also provides theoretical knowledge in an easy to understand way through the concept of the Longevity 5 Levels, transforming our understanding of aging into tangible stages of health care that can be put into practice, from basic physical care to designing a life filled with energy, meaning, and long term freedom.

Ultimately, I believe this book does not tell us to fear aging. Instead, it teaches us to respect our own bodies, to choose how we eat, how we sleep, and how we live with the understanding that every decision we make today is shaping the quality of our lives 10 to 30 years from now.

Most importantly, reading this book feels like a gradual process of reflection, allowing us to reconsider what it means to live a long life with quality and meaning for ourselves.

Rawit Hanutsaha
CEO of Srichand and Mission To The Moon

We may have once believed that aging is inevitable, but this book will change the way you think. The doctor explains the 12 Hallmarks of Aging exceptionally well.

This is not just a general health guide. It is an in depth handbook that brings together molecular science and practical steps readers can actually follow, so that you do not simply live longer, but live longer with quality, vitality, and real life force.

Jessica Tu
Founder of the platform and application Be Fit With Jess

Author's Note

Imagine that you have two close friends who were born in the same year, only a few months apart. After several decades, you all meet again at a class reunion, only to find that the two of them look as if they are ten years apart in age.

One friend looks youthful, with smooth, bright skin. They move with ease and speak clearly. The other looks tired, with wrinkled skin and sluggish movements. Their memory is not as sharp as it used to be, and they often complain of aches, back pain, and poor sleep.

They are the same age, so why can people look so different?

Before we explain that, we first need to understand that there are two types of age.

1. **Chronological Age**
   This is the number based on the year you were born, the age shown on your ID card. It increases every year for everyone, without exception.
2. **Biological Age**
   This is the number that reflects the actual deterioration of the cells and systems in your body. It may be decades older or younger than your chronological age.

Biological age is what makes people age differently, even when the age on their ID cards is the same.

The question is, can we extend our biological age?

The answer is yes, absolutely.

In 2013, leading scientists from Europe discovered that aging does not happen by chance. It is caused by 12 mechanisms that gradually damage our bodies, known as the **Hallmarks of Aging**. This discovery became an important compass for the study of longevity.

What is exciting is that we can slow down, stop, or even reverse these mechanisms of aging in order to extend our biological age.

To put it simply, imagine that your body is a great metropolis, a large city with complex systems at work. Your cells are like millions of workers who must work together 24 hours a day. But as time passes, the cells begin to deteriorate and malfunction. Our bodies then begin to decline, and this appears as what we call “aging.”

If we learn how to repair, maintain, and care for the city’s infrastructure and internal systems, we can help the city slow its decline and return to a state of vitality, much like when it was first built.

This book is a repair and maintenance manual for the city of life inside your body, guiding you toward the path of healthy longevity.

Inside, you will begin by testing for yourself how strong your body truly is, something that may not be visible from the

outside. Then you will learn why aging happens, with the answers found deep at the cellular level.

The key highlight of this book is the **12 Hallmarks of Aging**, the hidden mechanisms behind aging. You will discover the different ways your body can deteriorate, the factors and behaviors that accelerate aging, and, on the other hand, the ways we can slow down the mechanisms of aging.

Ultimately, this book leads you toward becoming a **Longevist**, which does not simply mean being someone who lives a long life. It means being able to design your own life so that you can live longer with quality, energy, meaning, and freedom until your final day.

Longevists are not afraid of aging, because they know they can control and slow it down.

Longevists do not exercise merely to look good. They do it so that they can still have strong muscles even in their seventies.

Longevists never neglect sleep, because they know it helps slow brain decline and supports a longer life.

Longevists pay attention to every meal, because they know what harms the body and what helps restore it.

Longevists respect their own bodies, because they know the body is always ready to recover when it is properly cared for.

The era of believing that “aging” is something inevitable is over. This is a time when we can face aging and fight back through knowledge, technology, and the right way of living.

Let us begin with a simple self assessment of biological age on the next page.

A Simple Way to Assess Your Biological Age by Yourself

Normally, biological age can be measured in several ways, whether by examining telomere length or by using a cellular aging tool known as the **Epigenetic Clock**, both of which require testing at a hospital or specialized medical center.

However, we can also estimate biological age in a simple way through **physical fitness tests**. This is a long accepted method and serves as a kind of "reality check" for the body. It can tell us whether our muscles can still support us, whether the heart and lungs can still pump efficiently, and whether the nervous system remains strong enough to control movement properly.

People with strong physical fitness tend to have a biological age younger than their chronological age, and are more likely to continue living actively for many years.

The table on the next page shows basic physical fitness standards divided by age group. It consists of four main tests. Try checking which age range your body performs like.

If you can meet the standard for a younger age group, your body is strong.

If you perform below the standard, it may be a sign that the cells in your body are aging faster than your chronological age.

But if you perform above the standard, it suggests that your body may be biologically younger than your chronological age.

Test	Age Range	Standard
Sitting down and standing up from the floor	Under 26	Within 3 seconds
	26 to 35	Within 4 seconds
	36 to 45	Within 5 seconds
	46 to 65	Within 8 seconds
	Over 65	Within 10 seconds
One leg balance	Under 26	More than 45 seconds
	26 to 35	30 to 45 seconds
	36 to 45	15 to 30 seconds
	46 to 65	20 seconds
	Over 65	More than 10 seconds
400 meter walk	Under 26	Under 4 minutes
	26 to 35	4 to 5 minutes

	36 to 45	5 to 6 minutes
	46 to 65	6 to 7 minutes
	Over 65	Use the 6 minute walk test and measure distance instead. The standard range is 512 to 640 meters for men and 457 to 580 meters for women.
Grip strength	Under 26	Men at least 50 kg, women at least 30 kg
	26 to 35	Men 52 kg, women 33 kg
	36 to 45	Men 53 kg, women 34 kg
	46 to 65	Men 48 kg, women 31 kg
	Over 65	Men 44 kg, women 27 kg

When Humans Can Overcome Aging

“Aging” is one of the greatest forces that humankind across all cultures has tried to understand for hundreds of years. Our ancestors believed that aging was a tragedy sent by the gods, the loss of life force, or an unavoidable law of nature.

Later, humans began to study aging more seriously. But before we move on to explore the “mechanisms of aging,” which form the heart of this book, let us first trace the evolution of aging research, from its earliest beginnings to the discovery of ideas that completely transformed the field of medicine. This will help us understand the subject more deeply.

1882

The Pioneering Era of Aging Research

Before the world had medical science as we know it today, humans had almost no tools or body of knowledge to explain why we age. Why does skin that was once smooth begin to wrinkle and form lines? Why does hair that was once thick and dark begin to turn completely white? Why does a body that was once strong gradually decline as time passes?

In the view of people in earlier eras, aging was part of the laws of nature, something no one could fight against. It was

like the rising and setting of the sun, or the changing of the seasons according to the cycle of nature.

One of the earliest concepts of aging was the **Wear and Tear Theory**, proposed by German biologist Dr. August Weismann in 1882. From observing that the human body shares similarities with a machine, the beating of the heart was compared to an engine that must pump continuously 24 hours a day. The joints were compared to moving parts that must open and close countless times. Bones, muscles, tendons, and every layer of skin were like components in a clock. Every part would eventually wear down, deteriorate, and break.

Although the Wear and Tear Theory may seem simple, it was one of the concepts closest to scientific theory in that era. Over time, it became an important foundation that led humans to ask new questions and challenge old beliefs about aging, such as:

If the body is like a machine that wears down, can we slow that wear and tear?

Is there a way to repair the body in the same way we repair a machine?

Is aging truly something predetermined from the beginning and impossible to change?

These questions gradually sparked curiosity and led to serious observation, experimentation, and research. This began with noticing that certain living things seemed to live longer than others, then moved on to experiments with herbs and foods

that might help slow aging, and eventually to detailed studies of every system in the body.

This was the origin of the study of aging, or **gerontology**. It was a major revolution in thought, shifting the human view of aging from an unavoidable fate to something that might be measured, and perhaps even controlled.

Mid 20th Century

The Beginning of Aging Science

After humans had long regarded “aging” as a matter of fate and physical wear, a new generation of scientists finally began studying aging in a more systematic and clearly scientific way. The mid 20th century therefore became a turning point in the history of medicine.

Nathan Shock, an American scientist honored as the “father of gerontology,” was among the first to declare that aging was not merely the deterioration of the body over time. Instead, it was a biological process with mechanisms of its own.

Shock established a laboratory at the National Institute on Aging in the United States, dedicated to the direct study of aging. He began measuring changes in the body systematically. His work revealed that aging does not suddenly begin when we reach 60 or 70. Rather, it is a process that has been gradually unfolding since early adulthood.

He found that after the age of 30, kidney function declines by about 1 percent per year. After the age of 35, bone mass begins to decrease, and muscle mass also declines by about 1 percent per year. These discoveries made the picture of aging far clearer than before.

Later, in 1956, biochemist Denham Harman proposed the **Free Radical Theory**, which created a major shift in the field. He observed that every time the body uses energy, whether through breathing, digesting food, or repairing cells, it produces by products in the form of unstable molecules called **free radicals**.

These free radicals try to steal electrons from other molecules, triggering oxidation reactions that damage DNA, cell membranes, and even the mitochondria, the energy factories of the cell.

If we were to make a comparison, free radicals are like rust on an old car. They gradually spread and corrode the structure. The same kind of damage accumulates inside our cells. As these small injuries build up over time, the structure of the entire body begins to deteriorate.

The Free Radical Theory was the first serious explanation of aging at the cellular and molecular level in medical history. It also opened the door to many new ideas, including antioxidant rich foods, medicines that protect cells from damage, and lifestyle approaches that help reduce the risk caused by oxidative reactions.

The medical world also began to view older adults in a new way. They needed specialized care. The field of **geriatrics** was born, focusing on complex chronic diseases, different responses to medication compared with other age groups, and common health problems among older adults, such as dementia, balance decline, and even mental health issues such as loneliness and loss.