

MOOC 14 Presentation of Illness Symptoms in Older Adults

Chapter One - Understanding Ageing

Before starting this course, please think about the following questions.

- Who are the aged?
- Why do we age?
- How do we age?
- Can we stop ageing?
- What should we do to prepare for healthy ageing?

What are your answers? What are the older adults' answers?

Let's watch the below videos to know more about their thoughts and some recommendations shared by healthcare professionals.

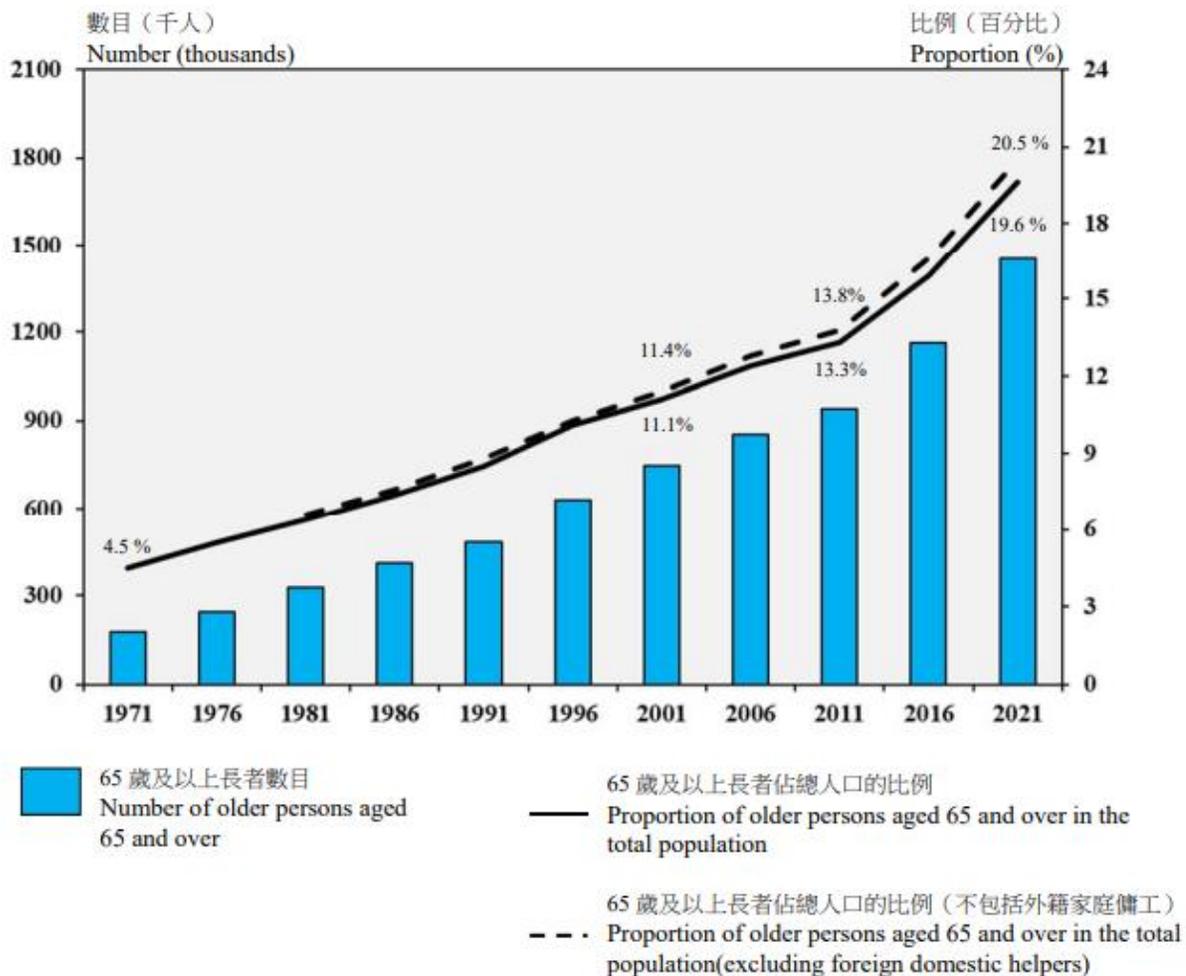
After watching the videos, did you find the answer?

Let's start the course to have a more thorough understanding of ageing.

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Do You Know the Ageing Trend in Hong Kong and How Is It Compared to Other Parts of the World?

圖 3.1 1971 年至 2021 年的 65 歲及以上長者數目及比例
Chart 3.1 Number and proportion of older persons aged 65 and over, 1971-2021



(Census and Statistics Department, Hong Kong Special Administrative Region, 2023)

Table 1: Key ageing indicators of Hong Kong and selected economies

	Share of elderly in the population			Elderly support ratio			Median age of the population		
	2018 (actual)	(projected)		2018 (actual)	(projected)		2018 (actual)	(projected)	
		2038	2066		2038	2066		2038	2066
Hong Kong	17.9^{&}	31.9	36.6	3.93^{&}	1.83	1.48	45.3^{&}	51.5	54.5
Japan	28.0	34.4	38.4 ^{**}	2.13	1.60	1.34 ^{**}	46.3 [^]	-	-
South Korea	14.2 [@]	31.3	42.5 ^{**}	5.11 [@]	1.84	1.13 ^{**}	42.4 [@]	52.3	58.7 ^{**}
Taiwan	14.4	29.0	41.2 ^{**}	5.04	2.09	1.21 ^{**}	41.4	51.7	57.8 ^{**}
Australia	15.4 [@]	18.9	20.9	4.27 [@]	3.34	2.96	37.3 [@]	39.1	40.7
Canada	16.9 [@]	24.0	25.6 [§]	3.98 [@]	2.52	2.30 [§]	40.6 [@]	43.9	44.2 [§]
Italy	22.4 [^]	32.7	32.7	2.86 [^]	1.67	1.65	45.9 [^]	51.7[*]	50.6 ^{**}
UK	18.2 [@]	24.2	26.5	3.52 [@]	2.46	2.17	40.1 [@]	43.3	44.5
US	14.6 [^]	21.5	24.5	4.52 [^]	2.82	2.39	37.6 [^]	41.2 [*]	42.9 ^{**}

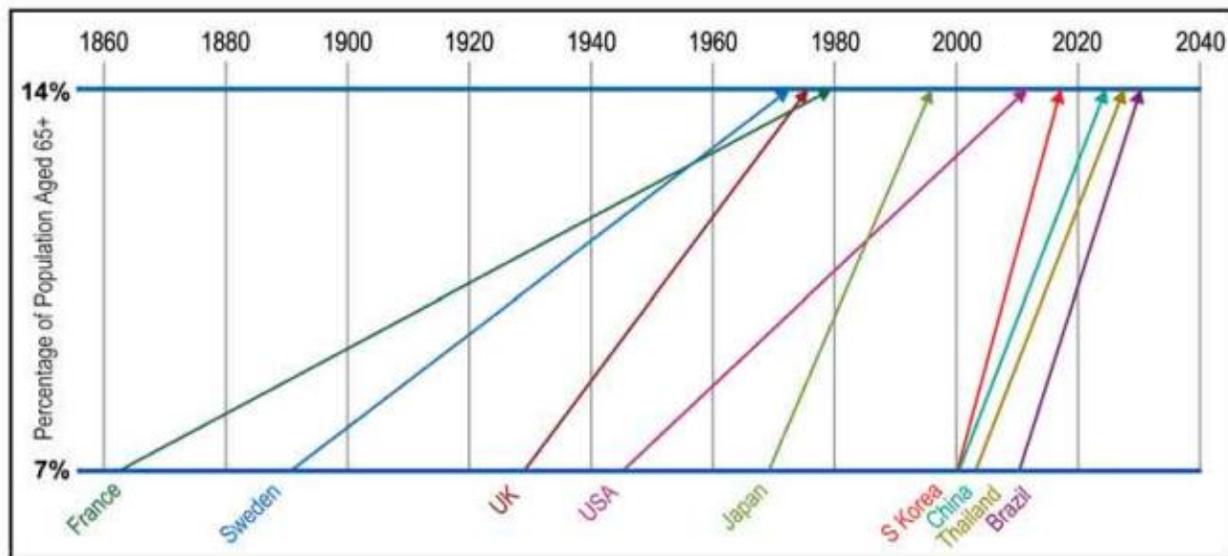
Notes: (&) Provisional figures. (※) Projections up to 2065. (*) Projected figures in 2040.
 (§) Projections up to 2063. (@) Only 2017 data are available. (^) Only 2015 data are available.
 Elderly support ratio refers to the number of people aged 15-64 per elder aged 65 and above.

Sources: Census and Statistics Department, government official data and academic publications of some selected economies and United Nations *World Population Prospects: The 2017 Revision*.

(Hong Kong Economic and Trade Office, 2019)

Speed of Population Ageing

Time required / expected for the proportion of elderly population to rise from 7% to 14%



Source: Kinsella K, He W. *An Aging World: 2008*. Washington, DC: National Institute on Aging and U.S. Census Bureau, 2009.

(National Institute on Aging, 2017)

What is Ageing?

- Ageing is a gradual, continuous process of natural change that begins in early adulthood.
- Many bodily functions begin to decline during early middle age.
- There is no specific age at which people become old or elderly.
- The designation of age 65 as the beginning of old age is arbitrary and may be influenced by socioeconomic factors.
- Factors such as retirement age and subverted medical care coverage entitlement may play a role in determining the perception of old age.

Normal Ageing

- Although people age somewhat differently, some changes result from internal processes, that is, from ageing itself.
- Thus, such changes, although undesired, are considered normal and are sometimes called "pure ageing", "usual ageing" or "senescence".
- These changes occur in everyone who lives long enough, and that universality is part of the definition of pure ageing.
- For example, presbyopia occurs in virtually all older people and is considered normal ageing.

Three Kinds of Age

- **Chronological age** is based solely on the passage of time. It is a person's age in years. Chronologic age has limited significance in terms of health.
- **Biological age** refers to changes in the body that commonly occur as people age. Most noticeable differences in apparent age among people of similar chronologic age are caused by lifestyle, habit, and subtle effects of disease rather than by differences in actual ageing.
- **Psychological age** is based on how people act and feel. For example, an 80-year-old who works, plans, looks forward to future events, and participates in many activities is considered psychologically younger.

Why Do We Age?

Three Major Social Theories of Ageing

- Disengagement theory (Cumming & Henry 1961)
 - a natural withdrawal or disengagement from life roles as the way to greater life satisfaction for older adults.
- Activity theory (Lemon, Bengtson, & Peterson 1972)
 - maintenance of activity is critical to high levels of life satisfaction in old age.
- Continuity theory (Atchley 1989)
 - preserve and maintain both internal psychological structure and external structure in the social and physical environment by making adaptive choices that allow them to feel a sense of continuity between past and current events.

These theories discussed how individual adapt and adjust to the changes associated with ageing.
(Putnam, 2002)

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Ageing Cells

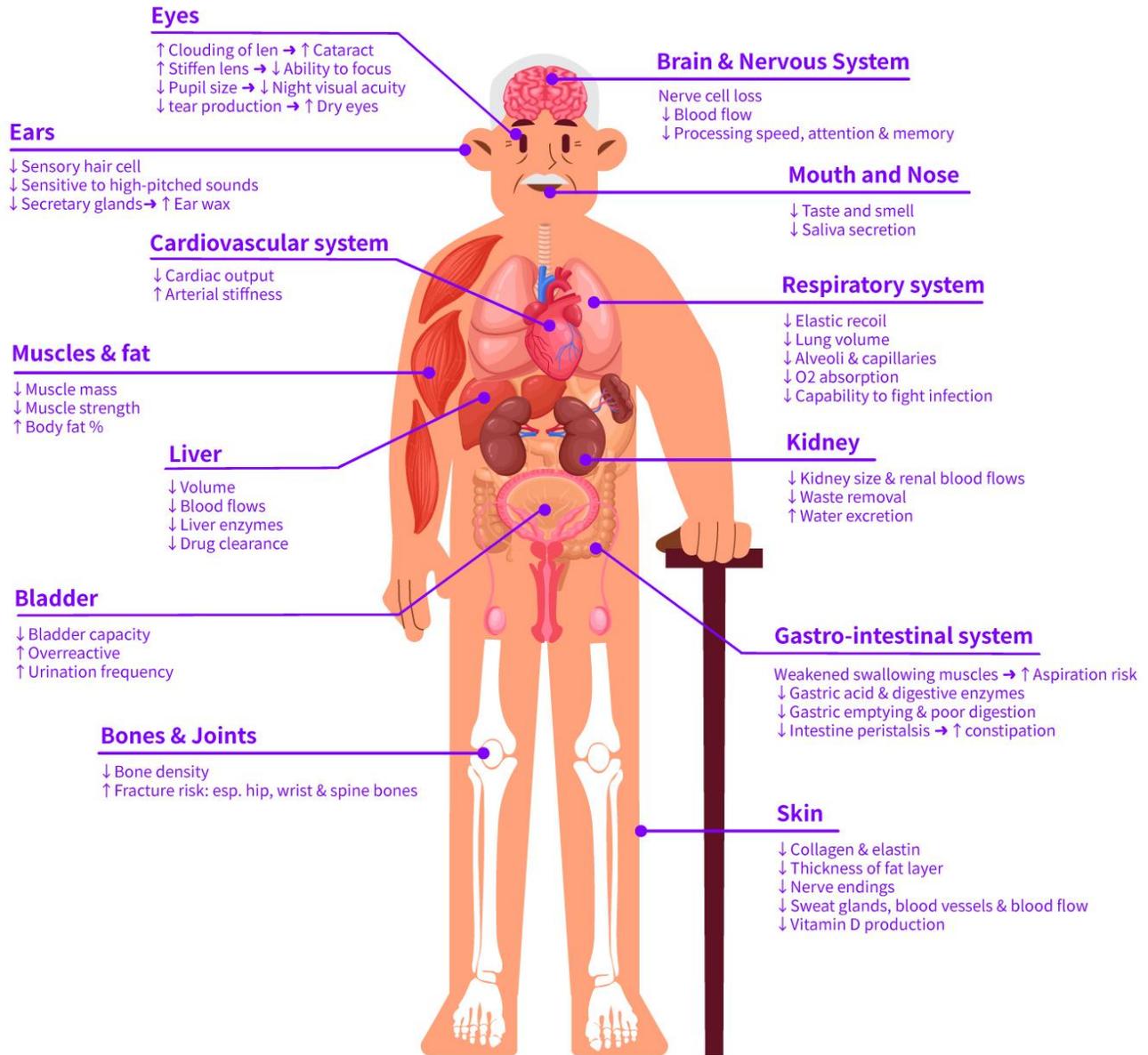
- Old cells sometimes die because they are programmed to do so. The genes of cells program a process that, when triggered, results in death of the cell. This programmed death, called apoptosis, is a kind of cell suicide. The ageing of a cell is one trigger to make room for new cells.
- Old cells also die because they can divide only a limited number of times. This limit is programmed by genes. When a cell can no longer divide, it grows larger, exists for a while, then dies. The mechanism that limits cell division involves a structure called a **telomere** which are used to move the cell's genetic material in preparation for cell division. Every time a cell divides, the telomeres shorten a bit. Eventually, the telomeres become so short that the cell can no longer divide. When a cell stops dividing, it is called senescence.



- Cells may also be damaged by harmful external substances, such as radiation, sunlight, and chemotherapy drugs or by certain by-products of their own normal activities. These by-products, called free radicals, are given off when cells produce energy.

How Do We Age?

Ageing Organs



Apart from the organ functions decline when we age, we are also facing some hormonal changes during the transition from middle age to old age. Do you know what menopause and andropause (male menopause) is?

Can We Not Age?

Tips for Healthy Ageing

- After all, ageing is inevitable and it is a normal process for everyone, regardless of their wealth, status or background.
- The point is how we can age successfully.
- Maintaining good lifestyle habits, e.g. healthy eating, regular exercise and build up social connection. Many people can still have a healthy ageing process and enjoy their golden years with grace and joy.

Ageing is inevitable. The point is how we can age successfully. Please move forward to *Chapter 2 Healthy Ageing and Ageing Trajectory* for the answer.

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– End of Chapter 1 –

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