

## **WILL YOU LIVE HEALTHFULLY TO 100? 15 TIPS**

Follow this checklist of 15 tips and you could add up to 77 years to your life. Sound too good to be true? Not according to new research from (UK) Norwich Union. Simple things, such as enjoying a good laugh and eating healthfully, can give a huge boost to your longevity.

- 1. Be married/live with a partner — add 1 year.** Norwich Union data show that people who are married or live with a partner can expect to live on average a year more than their single friends.
- 2. Maintain a healthy weight — add 6 years.** Being severely obese (having a body mass index above 40) could reduce your life expectancy by around 4 years. (A healthy BMI level is between 18.5 and 25). On the other hand, being underweight might reduce your life expectancy by 2 years, so maintaining a healthy weight is vital.
- 3. Don't smoke — add 10 years.** Research carried out at the University of Helsinki has found that people who don't smoke can expect to live up to 10 years longer than those who smoke 20 cigarettes a day.
- 4. Love to laugh — add 8 years.** People who laugh for 15 minutes each day could add an extra 8 years to their lives.
- 5. Be a woman — add 3.3 years.** Around the world, women tend to outlive men by around 3%. According to UK Government statistics, UK women now have a projected average life expectancy of 91.8 years at birth, compared to 88.5 years for men.
- 6. Clear out the clutter — add 1 year.** People who live in jumble and chaos are more likely to feel stressed and depressed.
- 7. Eat well — add 6.6 years.** According to Erasmus University in Rotterdam, a diet that includes daily consumption of vegetables, fruits and almonds could extend life expectancy by up to 6.6 years.
- 8. Eat less meat — add 3.6 years.** A study carried out at (USA) Loma Linda University found that people who ate meat less than once a week on average lived 3.6 years longer than their carnivore counterparts.
- 9. Have a positive outlook — add 9 years.** Studies have shown that those with an optimistic outlook are less prone to viruses and recover quicker from illnesses and injuries. These people tend to act in 'healthier' ways than negative people, by taking more exercise and enjoying social activities.

**10.** Live in Eastbourne (if you live in UK) — add 6.2 years. According to The University of Sheffield, inhabitants of West Eastbourne in East Sussex have the

longest life expectancy of any town in Great Britain, living 6.2 years higher than the national GB average. Central Livingston in East Central Scotland has the lowest life expectancy in Great Britain at 67.2 years.

**11.** Keep the faith — add 3 years. Numerous studies have unearthed links between having a faith and enjoying a long life. According to The University of Pittsburgh, people who attend weekly religious service can expect to live around 3 years longer than non-attenders.

**12.** Be born later — add up to 6.1 years. According to the UK Government Actuary's Department (GAD), people born 25 years ago had an average life expectancy of 84.6 years for men and 88.5 years for women. People born in 2009 now have an average life expectancy of 88.5 (males) and 91.8 (females). Predictions from GAD suggest that people born 25 years from now could live as long as 91.7 (men) and 94.6 (women).

**13.** Get a good night's sleep — add 5 years. Poor sleep can contribute to a number of medical factors that put people at risk of heart disease. Those who regularly get at least 6 or 7 hours' sleep can hope to live up to 5 years longer than those who sleep badly.

**14.** Floss your teeth — add 6 years. Flossing your teeth daily can add as much as 6 years to your life expectancy by removing harmful bacteria that contribute to cardiovascular disease.

**15.** Get a pet — add 2 years. US research shows that people with pets are less likely to suffer from depression and receive less medical care than those without. Also, stroking a pet can reduce blood pressure and stress levels.

## USEFUL DEFINITIONS

Age 100 = Centenarian

Age 110 = Supercentenarian

Age 120 = Megacentenarian

Age 122 = World's oldest documented person (Jeanne Calment, France, 1875 – 1997)

The world's second oldest, Sarah Knauss of the USA, died at 119. (1880-1999).

This means that Jeanne Calment was also the world's first (and, so far, only) documented megacentenarian. Interesting, as well, is that extreme longevity has RECEDED since 1999. For the last two decades and more, no one has even come near 120, much less 122.

“Being young is a state of mind. It doesn't depend on one's body. I'm actually still a young girl; it's just that I haven't looked so good for the past seventy years.”

Jeanne Calment

## **Will You Live to 100?**

Living to 100 involves an enormous amount of luck. The born-with-the-right-genes luck, as well as the not-getting-hit-by-a-bus luck. But, obviously, longevity is much more than happenstance and distracted drivers.

Environmental factors and the choices we make play a huge role in our ability to live to a healthy old age. Lifestyle changes—not smoking, following a vegetable-centric diet, drinking minimally, maintaining an attitude of gratitude, meditating, exercising—are proven to increase our longevity. But here's the key: These choices don't just affect mortality rates; even more importantly, they have an impact on our overall health and wellbeing. We don't just have a longer life; we have a better life.

People who live to 100 are markedly healthier than others. No one fully understands why this is so, but it points to what we know intuitively: Not getting sick in the first place affects longevity. Maintaining health at the cellular level by making smart, healthful choices every day pays off.

In 2024 we celebrate my 80st. For decades, we've been stacking the deck in our favour, so we can remain healthy to 100 and well beyond. And you can do the same.

## Lessons of the World's Supercentarians

by Rachel Nuwer

Reaching a hundredth birthday is always cause for celebration, but these days there are so many centenarians around that scientists don't even bother trying to keep track of them all. Indeed, in 2012 the United Nations estimated that there were about 316,600 people over 100 living around the world. By 2050, that number — unbelievably — is expected to rise to over three million.

A much more exclusive club, therefore, are the supercentenarians, or people who live to 110 or older. The Gerontology Research Group, a global team headquartered in Los Angeles, maintains the go-to database for keeping track of the oldest among us. Until this week, there were 53 supercentenarians. Sadly, the death of the oldest, Misao Okawa of Japan, was announced on 1 April. She was 117.

Okawa was born in 1898, and there are now just four living people — three Americans and one Italian, all women — who were born before 1900. That is, they have lived to see three centuries. You might call these four people “tricenta-centenarians\*” if giving their group a name (although language experts may have a better suggestion), and what makes them unique is that the world won't see another set until 2100. This loss will likely happen in less than a decade, as supercentenarians tend to hold their venerated title only fleetingly.

Time's unrelenting march means there's a steady turnover of the world's oldest, causing experts across many fields — biology, history, cultural anthropology — to scramble to learn what they can from these extraordinary people while they are still here. And it's not only their health secrets that they stand to teach us.

The most obvious reason to study the oldest people alive today is for clues to healthy ageing. Supercentenarians often “seem to be born with slower clocks than the rest of us,” says Stuart Kim, a developmental biologist at Stanford University. When supercentenarians are 60, they appear to be 40; when they are 90, they seem about 70. “When you meet them,” Kim says, “they all look and act 20 years younger than they actually are.”

Take Besse Brown Cooper, born in 1896 in Tennessee, who lived to be 116 and 100 days — setting the record for the 10th-oldest known person ever to have lived. “A lot of people | talk to just howl in horror and say, ‘Oh gosh, | wouldn't want to live that long!’” says Besse's grandson, Paul Cooper, who runs a nonprofit named in his grandmother's honour that provides support for supercentenarians. But despite the cringes that Besse's age sometimes inspired, his grandmother, he says, never seemed old to him. She had no cause to visit a geriatric doctor; she lived at home and worked in her garden until age 105; and

she was an avid reader until 113. “My grandma showed me that healthy ageing is absolutely phenomenal,” Cooper says. “It’s not something to fear.”

Researchers are attempting to reveal the genetic and environmental cornerstones that form the basis of Besse’s and others’ extreme, healthy longevity. So far, they know that heredity — whether a person has long-lived relatives — is one of the main predictors. “There’s no way to make it to 110 unless you win the genetic lottery at birth,” says Jay Olshansky, a professor of public health at the University of Illinois. But he and others have not been able to pin down the particular genes responsible for extreme longevity, partly because it’s difficult to get an adequate sample size for studying supercentenarians. But as more people reach the outer limits of a human lifespan, the studies will increase in robustness.

According to Thomas Perls, a professor of medicine and geriatrics at Boston University and director of the New England Centenarian Study at Boston Medical Center, such research “will yield clues not so much about how to get more people to extreme ages, but how to help them avoid or delay diseases like Alzheimer’s, strokes, heart disease and cancer.” In other words, there will likely never come a time when the majority will make it to 110, but insights gleaned from those who do might help the rest of us increase our odds of living full, healthy lives to 85 or 90.

Supercentenarians’ and centenarians’ value to society, however, does not end with the somewhat selfish pursuit of using them to figure out how to make our own old ages more enjoyable. Every elder contains a wealth of knowledge, leading some to refer to them as living historical treasures. Importantly, their personal accounts are not filtered through the lens of what a third party — a historian, a documentary filmmaker, a journalist — deems worthy of recording. Unedited, first-hand insight is something that has been largely absent from the official history record until relatively recently, says Doug Boyd, director of the Louie B Nunn Center for Oral History at the University of Kentucky Libraries.

“It’s also about attaining a deeper meaning and understanding,” Boyd continues. As decades pass, people are better able to see the forest through the trees of everyday living, to organise their thoughts and to derive lessons and understanding from life’s ups and downs. Often, their stories also convey a complexity of feeling that is lost in second or third-hand accounts.

“We can be moved by a film, but not to the same degree as when we hear something directly from another person,” Cooper says. “The depth of emotion that is conveyed when someone tells you a story face-to-face is irreplaceable.”

That’s why Boyd is digitising his entire collection of oral histories of 9,400-plus recordings into a searchable, freely available database. Instead of 500 people accessing the collection each year, now users top 8,000 per month. As those stories make their way into high school classrooms, podcasts and social media, they could start to shape the way we

think about history — and the lifetime’s worth of knowledge and experience held within older people. “I really do think that a more informed, dynamic public memory is going to emerge as we start to see the walls of oral history archives coming down,” Boyd says. “The recorded human voice telling stories and grappling with life’s questions firsthand will take on an ever-increasing cultural value.”

Years of experience can also give older people a unique take on current events. “It’s really a very different perspective,” adds Perls, who recalls a conversation he had at the height of the economic recession, in 2008, with Walter Breuning, a Montana native who lived to be 114. “He told me, ‘You should try eating grass every day for a year like we did in Great Falls during the Depression, and then let’s see if you think you’re bad off now.’” Quite.

The wisdom of elders is, of course, something that cultures outside the West have long taken to heart. In Japan, 43% of seniors live with their children — a figure that has declined drastically over the past few decades, but still far exceeds that of Western cultures. Mayumi Hayashi, a research fellow at the Institute of Gerontology at King’s College London, grew up in a three-generational household. Her grandparents — with their love of harmony, hierarchy and the emperor, and their distaste for strong opinions and individualism — provided a window into Japan’s past. Their generation represented the last living vestiges of traditional Japanese society, which took a dramatic turn after World War II. “Their culture and their values were so different and, to me, seemed completely old-fashioned,” Hayashi says. “But having my grandparents around while I was growing up made me more aware of older people and also showed me how quickly Japan had bought into Americanised ideas.”

Or as Olshansky puts it: “Would we all benefit from spending more time with wiser, smarter, older people? Yes, absolutely.

One major misconception about ageing that centenarians’ challenge is that growing old automatically entails physical and mental impairments. But Olshansky and his colleagues have found that the presumed link between declining health and age does not stand up to real-world data.

“Most of what we think are age-associated problems are not due to ageing itself but to the things we do to ourselves, like smoking, drinking too much, or being overweight,” Perls says. “Those are the things that lead to disabilities that we see with ageing.” In reality, many people – even those who are 85 and older – have the same health and fitness profiles as those who are 20 to 30 years younger. Chronological age, a growing number of experts argue, is not a valid form of measuring health.

“ I think most would agree that they’d much rather have a healthy 70-year-old who’s had 30 years experience at the controls of a 747 than some new guy,” Perls says.

Holding a job at 70 or 80, however, is very different than doing so at 100. Yet there are

striking examples of people who did successfully carry on working after they hit the century mark. Ephraim Engleman, a rheumatologist, still saw patients at his University of California, San Francisco, office. He's not the first physician to demonstrate such strong work ethic. W G "Curly" Watson, a doctor from Augusta, Georgia, practiced medicine until he died at age 102, having delivered some 15,000 babies over his 50 year career. And Leila Denmark, who was the only woman in her medical school class of 1928, worked as a physician until the age of 103 and then enjoyed a 10-year retirement until her death at 113.

Despite all that the elderly can contribute, old age is sometimes seen as something to be ignored or feared. Ageism will probably never be defeated entirely, but the age at which societal discrimination begins may soon be pushed back, as already evidenced by phrases such as "70 is the new 50." As more and more people in their 80s and 90s lead rich, full lives, Perls says, that phrase will likely continue to be adjusted accordingly.

In Japan, that already seems to be happening. "ninety isn't old in the Japanese sense," Hayashi says. Around 100-plus? Then we celebrate."

This is likely because older people are omnipresent in that country, where one in four citizens is over the age of 65 nearly 55,000 of which are centenarians. They are also an exceptionally active group. When Hayashi gets up at sunrise in Japan, she finds the streets crowded with older couples and singles out for their morning stroll. After their morning walk, many Japanese retirees then spend their day working as volunteers, where they regularly interact with younger people. Theirs is also the only country in the world that has a formal bank holiday dedicated to honouring all older people.

Japan can serve as a positive example of what is possible as other populations around the world mature. While the number of people who must move into nursing homes will rise dramatically, so, too, will the number of vibrant, fully engaged senior citizens who continue to live at home unaided and work or volunteer well into their 80s, 90s or even 100s. This will likely be especially true as the first wave of baby boomers begins to crash against the retirement wall. As Olshansky says: "We consider ourselves rebels, those of us from the 70s. can assure you, we're going to protest age discrimination."

"We'll change things," he says, "and you younger people will benefit."



## **BLUE ZONES: FIVE PLACES WHERE PEOPLE SLOW DOWN AGEING**

Around the world, people are living longer, healthier lives than ever before. One area this is most visible is in the number of centenarians, or people living to the age of 100. In 1840, there were 90 centenarians in the United States—one for every 189,000 people—according to United States Census Bureau records. Today, there are more than 53,000—or one for every 5,800 people. Though we know people are living longer, we don't necessarily know how they do it.

After discovering that there are longevity hot spots where people tend to live especially long, writer Dan Buettner spent over a decade locating and documenting these areas, dubbed "blue zones." "I increasingly was interested in mysteries that dealt with the human condition," says Buettner, a National Geographic fellow.

Through that research, he found several factors that might prolong health and life for people in blue zones. "Longevity is a consequence of constant, long term little things," Buettner says. "There's no silver bullet." Buettner shared the findings in his books *The Blue Zones* (2009) and *Thrive* (2010); here are some of the high points:

### **Ikaria, Greece: Enjoy a nap after tea**

Residents of this Greek island are three times as likely to reach age 90 as people in the U.S. Living to nonagenarian status may be more likely when you get some bonus shut-eye.

Among Ikarian elders who regularly nap in the middle of the day (90 percent of them, according to a 2011 study in *Cardiology Research and Practice*), none of them exhibited symptoms of depression, while many of the non-nappers did. A broader study examining the sleeping behaviors of all Greeks found that those who cat-napped for at least 30 minutes had a 37 percent lower risk of dying from heart disease than those who didn't.

Being under Sandman's spell isn't the only thing helping them live longer: They also regularly enjoy herbal tea. Traditional Greek teas include wild mint, which fights gingivitis and gastrointestinal disorders; rosemary for gout; and artemisia for blood circulation. Many local teas also contain mild diuretics that can treat hypertension. This may explain why Ikaria has half the rate of cardiovascular disease compared to the rest of the region.

### **Okinawa, Japan: Maintain positive relationships**

Living to an average of 83 years, Japan is the nation with the highest life expectancy in the world, reports the World Health Organization.

Okinawans are especially long-lived, and are three times as likely to reach 100 as

Americans. Buettner attributes that feat to close ties with social networks. “Having a grounding sense of purpose is something we see in all five Blue Zones,” he says.

Okinawans remain faithful to traditional Japanese culture, including an emphasis on maintaining lifelong friendships called moais, which provide emotional and social support. The moais are cultivated throughout adolescence, and the members become confidants for the rest of their lives.

Just the presence of moais can be a benefit, as it increases social interaction and support. Take, for example, a study in *Social Science & Medicine* that examined the mental health of older adults in Japan. Those who weren’t married reported a higher positive well-being and less distress in their lives when they had social support. Simply put, the closer your friendships, the happier you'll be.

### **Loma Linda, California: Eat your veggies**

Sixty miles east of Los Angeles lies Loma Linda, where the proportion of people aged 85 or over is more than double that of the rest of California. Roughly four in 10 Loma Lindans are Seventh-day Adventists, whose adherents live longer than any other religious group in America, according to [www.BlueZones.com](http://www.BlueZones.com). The Adventist faith endorses healthy living by discouraging smoking and alcohol consumption, and encouraging exercise.

A study, funded in part by the National Cancer Institute, examined the eating habits of 73,000 Adventist’s from across the U.S. and Canada. The vegetarians in the group were 12 percent less likely to die of cardiovascular disease, diabetes, and renal disorders combined than the non-vegetarians.

Another study found that female Adventist vegetarians live four years longer, and males live seven years longer than other Californians. The study concluded that regular consumption of nuts, fruits, vegetables and greens was associated with reduced mortality rates.

### **Nicoya, Costa Rica: Drink some juice**

In Nicoya, a man at age 60 has twice the chance of reaching 90 as a man living in France, Japan, or the U.S. It may have something to do with their diet. Nicoyans typically eat their biggest meal in the morning and their smallest at night, which Buettner says helps them avoid overeating. “The Blue Zoners eat a lot of food, but the key is their foods are calorically less dense,” Buettner adds. “It’s not that Americans are stuffing their face all the time, it’s that we’re eating a little too much every day—about 200 calories more than we should.”

Large quantities of tropical fruit, which are low in calories, are staples at meals in Nicoya.

Oranges, sweet lemons, and a variety of banana are popular choices. Nicoyans also eat a couple of more distinctive fruits: marofion, a red-orange fruit with more vitamin C than oranges, and the anona, a pear-like fruit rich in antioxidants. Some studies have shown an association between a reduced risk of cancer and diets that are high in foods that contain vitamin C, but lab tests studying use of synthetic vitamin C by itself have produced mixed results.

### **Sardinia, Italy: Take a walk**

In addition to a large number of centenarians, Sardinia is also home to a remarkably high population of sheep, considering its size. The Mediterranean island's shepherd and farming community is loaded with centenarian men who, in their younger years, regularly walked up to ten miles a day across rugged terrain to tend to their shepherding duties, according to [www.BlueZones.com](http://www.BlueZones.com).

Daily trips to the grocery store are also carried out on foot, and climbing stairs in the multi-story homes provides more exercise.

## **When You Die, What Will You Regret?**

We recommend a book: *The Top Five Regrets of The Dying*, by Bronnie Ware — a Sydney nurse who has cared for patients in the last weeks of their lives for many years.

**Regret #1.** I wish I'd had the courage to live a life true to myself, not the life others expected of me.

According to Bronnie, “This was the most common regret of all. When people realise that their life is almost over and look back clearly on it, it is easy to see how many dreams have gone unfulfilled.”

**Regret #2.** I wish I hadn't worked so hard.

“This came from every male patient that I nursed. They missed their children's youth, and their partner's companionship.”

(Most of the patients Bronnie nursed were of a generation in which the breadwinners were predominantly male. However, women who worked outside the home also spoke of this regret.)

**Regret #3.** I wish I'd had the courage to express my feelings.

“Many people suppressed their feelings to keep peace with others. They settled for a mediocre existence and never became who they were truly capable of becoming. Many developed illnesses exacerbated by their bitterness and resentment.”

**Regret #4.** I wish I had stayed in touch with my friends.

“Many had become so caught up in their own lives that they let golden friendships slip by over the years. There were many deep regrets about not giving friendships the time and effort that they deserved. Everyone misses their friends when they are dying.”

**Regret #5.** I wish I had let myself be happier.

“This is a surprisingly common one. Many did not realize until the end that happiness is a choice. They had stayed stuck in old patterns and habits. The so-called ‘comfort’ of familiarity overflowed into their emotions, as well as their physical lives. Fear of change had them pretending to others, and to themselves, that they were content — while deep within, they longed to laugh properly and have silliness in their life again.”

## **The New England Centenarian Study**

Welcome to the largest and most comprehensive study of centenarians and their families in the world!

### **To Discover the Secrets of A Long Healthy and Happy Life...**

Our two major studies are the New England Centenarian Study (founded 1995) and the multi-center Long Life Family Study (Boston Medical Center is one of five study sites), established in 2006.

We are actively seeking participants for the New England Centenarian Study. The criteria are simply subjects' age 103+ years old or 100+ years with siblings.

If you would like to contact the study, please call us at USA 888-333-6327 where you will hear a menu to be connected to a member of the research staff (please choose this option). You can also email the study manager, Stacy Andersen PhD at [stacy@bu.edu](mailto:stacy@bu.edu) or the Principal Investigator, Thomas Perls MD, MPH at [thperls@bu.edu](mailto:thperls@bu.edu).

### **A Summary of Our Key Findings:**

Exceptional longevity runs strongly in families:

Among centenarians, disability is typically compressed towards at least their early- to mid-nineties:

With even older ages of survival, (age 105+) morbidity is also compressed towards the end of these exceptionally long lives;

The genetic influence upon survival increases with older and older ages of survival beyond the nonagenarian years;

This genetic influence probably involves many genetic variants with individually modest effects, but, as a group, they have a strong effect;

For some rare exceptions, centenarians have just as many disease- associated genetic variants as the average population. Thus, their genetic advantage is likely due to variants that slow aging and decrease risk for age-related diseases such as heart disease, stroke, cancer, diabetes and Alzheimer's.

You may also be interested in the work of the Sens Foundation – which develops and promotes Rejuvenations Biotechnology. [www.sens.org](http://www.sens.org).