

No, you can't reverse aging by injecting 'young blood' and fasting. But that doesn't stop people trying

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Credit: Shutterstock

Like many celebrities and entrepreneurs, 45-year-old US tech billionaire Bryan Johnson is [trying to reverse the aging process](#).

Spending an average of US\$2 million a year on an anti-aging regimen, Johnson [claims](#) he now ages slower than some children. He explains: "the pace my body accumulates aging damage is less than the average ten

year old."

Many of Johnson's age-reversal methods are questionable, involve dodgy science, and have known side effects.

While you can't stop the aging process, and the gradual decline our bodies experience as we advance in years, there are some things we can all do—for free—to maintain our health as we age.

What does Johnson do? And is it scientific?

Fasting

Johnson reports fasting for 23 hours a day. He then eats [one meal a day](#): 2,250 calories of nutrient-dense food "customized" to his body's needs.

Eating for time-restricted periods in the day can have a [positive effect](#) on how we [metabolize nutrients](#), inflammation levels, hormonal regulation, and [cardiometabolic health](#) ([blood sugar](#), [triglycerides](#), cholesterol, [blood pressure](#), BMI and waist circumference).

However, a Spartan-like food intake can [impair](#) how our body responds to sugar (known as glucose tolerance). And it's not necessarily any more effective for weight maintenance than [reducing calorie intake at each meal](#).

Large-scale, long-term human trials are needed to confirm the [limited risk-benefit](#) findings of fasting.

Acid peels

Johnson has weekly [acid peels](#) (which use a mild acid to exfoliate the skin) to maintain a "youthful glow."

But you cannot smooth sagging facial skin or remove deep scars or wrinkles. Acid peels also [come with risks](#), including organ damage, infection, scarring and swelling.

Plasma infusions

Perhaps the most bizarre youth-inducing procedure Johnson has attempted is receiving blood transfusions from his 17-year-old son.

US biotech companies have explored [plasma infusions](#) to tackle age-related diseases in humans for decades. But there are no proven clinical benefits.

[Side effects from blood transfusions](#) include blood-borne infections, fever and allergic reactions.

Historical attempts to stay youthful

Humans have been experimenting with [anti-aging methods for centuries](#). These have included all sorts of behavioral and lifestyle practices that are quirky, questionable, and even sadistic.

Ancient practices included [crocodile dung face masks](#), which the Greeks and Romans used to brighten their complexions.

Romans also used [donkey milk](#) and [swan fat](#) to minimize wrinkles, due to their acclaimed rejuvenating properties.

[Cleopatra](#) apparently took daily baths in sour donkey milk. To sustain this lavish habit, she had a [herd of 700 donkeys](#). Sour milk contains [lactic acid](#), a naturally occurring [alpha-hydroxy acid \(AHA\)](#) that exists in many modern-day exfoliants. So this idea was grounded in basic science, at least.

During the 16th and 17th century, "Countess Dracula" aka [Elizabeth Bathory](#) allegedly resorted to serial killing to quench her thirst for youthfulness, [bathing in the blood of her young victims](#).

The quest continues with cryotherapy

Fountain of youth fixations have inspired many contemporary anti-aging trends. Exposure to cold is a firm favorite.

[Some research](#) suggests this could have [benefits](#) relating to longevity, by slowing cellular degeneration, [stimulating collagen and elastin production](#), increasing the metabolism, and reducing inflammation.

Dutch motivational speaker Wim Hof includes [cold water immersion](#) as one of the three pillars of his [Wim Hof Method](#) to "increase mind-body connection."

Athletes such as [Cristiano Ronaldo](#) use [cryotherapy](#), exposing their bodies to extremely cold temperatures for two to four minutes to decrease the signs of aging and enhance their general health.

However, the [risks of cryotherapy](#) include [bone fractures](#), frostbite, nerve damage, bleeding, cramping, swelling and skin infections.

So what can we do to age well?

Two of the more mainstream anti-aging methods that Johnson recommends are the daily self-care habits of sleep and exercise.

He has a [strict sleep schedule](#) that involves retiring to bed at 8pm, with a one-hour wind-down in a darkened room.

Adults report poorer sleep quality and difficulty being able to sleep for

long enough [as they age](#). Sleeping too much or too little is [associated with](#) a greater risk of obesity, heart disease and premature death.

Developing a regular sleep routine, reducing bedroom distractions such as mobile phones, and exercising regularly can all help to [alleviate sleep problems](#).

Exercise, often cited as a [wonder drug for healthy aging](#), is something Johnson takes very seriously. He does a "[Blueprint](#)" workout that includes specially designed daily techniques, as well as [high-intensity interval training sessions](#), hiking and playing sport.

From middle age onwards, we all need to exercise regularly, to increase our muscle mass, bone density, strength, endurance, coordination and balance. One of the greatest health risks for older people is [falling](#), which balance, flexibility, endurance and strength training [can help](#) reduce. Physical activity can bring [social benefits](#) in [older adults](#) if undertaken in groups, and there are well-known [mental health gains](#).

Small changes in sleep, diet (eating [plenty of vegetables, fruit, wholegrains, healthy fats, and enough protein](#)), and exercise can support [healthy aging](#), reducing the chance of early death, and helping us all to lead an active and independent life in our senior years. Now that is something worth investing in.

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