

## **No Play No Gain: Is Exercise as Medicine Too Bitter a Pill to Swallow?**

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Despite the benefits of physical activity and exercise for health, recent research suggests that physical inactivity is endemic to our modern lifestyles. Most adults are risking their health by failing to get enough physical activity.

Is exercise as medicine too bitter a pill to swallow?

Even Muhammad Ali declared disdain for his exercise regimen,

“I hated every minute of training, but I said, ‘Don’t quit. Suffer now and live the rest of your life as a champion.’” [1]

As far back as 2500 BC in China, exercise for health promotion was documented [2]. In 600 BC, the surgeon Susrata, who lived nearly 150 years before Hippocrates, recommended moderate daily exercise and that physical activity should be used to treat obesity and diabetes [3]. Hippocrates promoted and prescribed exercise for physical health:

“That which is used develops, and that which is not used wastes away. If there is any deficiency in exercise, the body will become liable to disease, defective in growth and age quickly.” [5]

He also spoke on the benefits for mental health too,

“If you are in a bad mood go for a walk. If you are still in a bad mood go for another walk!” [5].

If exercise came in pill form, we would only be too eager to take our keep-fit medicine. Even small doses extend longevity and prevent disease. [4]

Systematic research on this topic which began in the middle of the 20th century found increased heart disease risk with individuals in sedentary occupations than individuals in active occupations [6].

Recent studies tell us that exercise reduces all-cause mortality risk, [7] reduces cardiovascular-related events [8], as well as warding off chronic lifestyle conditions such as type 2 diabetes [9], obesity [10, 11], metabolic syndrome [12, 13], dementia [14, 15], cancer [16, 17], chronic stress [18] and mental health disorders [19, 20].

Secondary prevention of coronary heart disease, stroke, heart failure, and prediabetes with physical activity is as effective as many drug interventions without the cost or side-effect burden of pharmaceuticals [21].

Measures to encourage physical activity as a strategy to tackle the emerging burden of chronic conditions such as the U.S. Surgeon General’s call to action, as well as other Western government approaches to increase participation, are discouraging [22, 23].

**WHAT ARE THE PHYSICAL ACTIVITY RECOMMENDATIONS?**

According to the World Health Organisation (WHO) and public health recommendations around the world adults aged 18-64 should do at least 150 minutes of moderate-intensity physical activity, or at least 75 minutes of vigorous-intensity physical activity weekly or a combination of the two [24].

There is a dose-response relationship, increasing to beyond 300 minutes a week of moderate-intensity physical activity or 150 minutes a week of vigorous-intensity physical activity, and you will gain even more health benefits [25].

#### MANKIND'S PATH TO A SEDENTARY LIFESTYLE

We do not do enough when it comes to physical activity. Sedentarism is in stark contrast to our ancestral past. Our ancient ancestors chased prey as hunter-gatherers and avoided predation. They walked vast distances to gather, scavenge and forage for food. They had to be lean and fit in order to survive. For over 99 per cent of human prehistory, we lived as a species on the move [26,27,28].

More recently we were involved extensively with manual labour on farms and factories; we spent more time walking, did housework without the aid of labour-saving devices and spent no-time watching TV, playing computer video-games or browsing online [28].

Modern-day hunter-gatherers such as the Hadza spend vast amounts of their day in moderate-to-vigorous-intensity activity and engage in 14 times as much movement in comparison to large epidemiological studies in the USA. The Hadza maintain this activity throughout their lifespan with low evidence of risk factors for cardiovascular disease and optimal levels for biomarkers of health [29].

#### HOW MANY OF US MEET THE GUIDELINES?

The percentage of US adults who regularly engage in the recommended amount of leisure-time exercise is estimated at approximately 30% [25]. Adherence to physical activity recommendations according to accelerometer-measured activity is significantly lower than self-reported data [30, 31, 32]. (see Table 1)

**Table 1.**

Category	Self-Reported	Accelerometer
UK Adult	35%	5%
US Adult	21%	5%
US Children	36%	8%
US Teen	25%	8%

We do not have to go back that far to see evidence of a more active life, our grandparents were more active than our parents were, our parents were more active than we were and our children are likely to be less active than we are. We work more, with less labour. We have more leisure options, but less leisure time. We can perform more tasks but are less able to do so these tasks ourselves [28].

## MAYBE WORKOUTS ARE NOT WORKING OUT

Even though gym memberships are becoming increasingly popular and offer increasingly diverse options, the attrition rate is high. According to research by the IHRSA (The International Health Racquet and Sportsclub Association) and FIA (The Fitness Industry Association) gyms lose up to 50% of their members annually [33, 34]. Gyms supply a product that everyone wants, but that few people use. A study of nearly 8000 gym members found that members visited 4.5 times a month on average and paid \$17 more per visit than those who paid for a 10-use pass at \$10 per visit [35].

A variety of factors that deter individuals from exercising include a lack of one or more of the following: motivation, time, energy, access to equipment, facilities, training partner, and self-efficacy [35, 36, 37, 38].

One overlooked factor is the association of exercise with significant discomfort – often we are targeted with marketing motivation such as “No Pain, No Gain!”, “My warm-up is your workout!” and similar mantras, which have limited appeal.

## PLAYOUT RATHER THAN WORKOUT?

Physical activity appears to be more regimented and less joyful in adults than in children, and recent research suggests that adults have lost their sense of play [40], especially concerning interactive social play [41]

We need to be reintroduced to the basic movement patterns that got us here [27] and instead of focusing on punishing workouts, we should focus on movement that will give us joy and pleasure. [28]

Movement connects us with the world in a variety of explorative and playful ways that are often overlooked and undervalued but essential for the mind, body and the brain. [42]

## CONCLUSION

There is a universally low rate of regular exercise and physical activity participation, ignorance of the ongoing problem of exercise program adherence and a focus on exercise for aesthetics or health rather than joy.

Despite appearing frivolous, play is essential for healthy human development and could increase levels of physical activity participation. Not just for kids, but for adults too. [43]

Strategies should be developed to reframe fitness as fun based on playouts rather than workouts to engage otherwise inactive individuals.

Alternative approaches should be adopted to ensure that adults see joy and wellbeing as an essential part of their physical activity journey.

There may be a benefit in conducting randomised controlled trials examining play-based regimens vs conventional fitness programs to support improved mental and physical health, quality of life (QoL) markers and functional capability in greater depth.

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