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## The Benefits of Physical Fitness

The age structure of the population has changed over the past few decades and today there are many more old people. New achievements and findings in the fields of medicine and hygiene as well as "the good life" are the chief reasons for this. But boredom in work and leisure represent the other side of the medal and it is above all the elderly who are affected by these negative aspects. Fitness and sport are of a different world, the world of happiness and pleasure in life. Fitness can therefore be beneficial to all age groups.

What is fitness? Physical capacity for performance plus health are an acceptable if only general definition. Physical capacity for work is comprised of the basic elements of physical strength, stamina and mobility, while health also includes well-being of mind and soul. In our language usage physical performance dominates and English therefore speaks of physical fitness. Single qualities such as muscular strength can be measured, but fitness as a whole is difficult to assess. There is no simple test that tells us how much fitness, say, a forty- or fifty-year-old needs.

What then is age? Apparently a silly question. But the difference between age according to the calendar and biological age shows that a definition of age is not all that simple. A growth curve reveals that the aging process already starts shortly after the age of 25. The curve for physical capacity for work takes a very similar course. But it is extremely difficult, if not impossible, to draw such a curve for the course of our health. Health is not dependent on age, at least not entirely. This fact shows that it is also quite a problem to draw what could be called a fitness-age curve. The aging process varies in each individual. For example, A will get grey hair at age 40, B at age 65. Such variations also occur in the individual elements of sport. Generally speaking, one is inclined to say that speed and reaction drop off rather quickly with advancing age, while will-power and endurance do so more slowly. Even the motivation changes, so that, for example, playing active football rapidly loses its attractiveness after age 30, while that of a sport demanding endurance and stamina, like hiking or jogging, is more likely to increase.

These differences grow with advancing age, especially so since the aging process can be influenced—up to a point—by fitness training. A well-trained fifty-year-old has a higher capacity for physical work than an untrained thirty-year-old.

### How Much Fitness Do We Need?

A rule of thumb compiled by Hollmann says that to compensate the lack of exercise of today's way of life five minutes of physical exercise per day at a pulse rate of 120 is necessary. To avert a coronary—so Cooper—one should make a daily run of about 30 minutes' duration. Opinions are this far apart! And so it is here perhaps better to ask "why" instead of "how much".

The growth curve shows three sections with different demands in the way of fitness training.

- (1) Increasing the performance capacity till the age of 20.
- (2) Maintaining this capacity from age 20 to 35.
- (3) Slowing down the trend to lower performance after age 35.

The process of natural development and aging is often disturbed by an unnatural way of life, by consumption of alcohol as well as by the stress of our daily work and leisure. All these factors have to be compensated by a certain amount of fitness training.

The question of "Why fitness?" has yet another aspect. We have already stated that fitness can slow down the aging process. This aging

process begins in the cells and the tissues. A good supply of blood plays a major role. An old medical adage says: "A person is as old as his blood vessels." It therefore stands to reason that the circulatory organs have to be exercised to achieve this slowing-down of the aging process, and the daily run of 30 minutes is a good way of doing this. Activities such as slow walks, leisurely swimming and even weekend skiing are not enough.

One of the most intensive fitness programmes is conducted by the astronauts, even though their activities later seldom demand hard physical work. Their often extreme environmental conditions, however, require a certain reserve. The same is often true of the rest of us in our highly technical life. A certain reserve of fitness is necessary.

Finally we want to be fit to indulge in our hobbies and sports. If we are able to perform well, active sport can be a pleasure even at an advanced age. It is then an equaliser and a relaxant, an experience and an adventure. These thoughts on "Why fitness?" thus lead to the surprising conclusion that fitness training should be increased rather than decreased as we grow older.

The next question is this: Is fitness training at all effective at an advanced age? Hettinger has conducted exact studies about muscle strength. The curve is about the same as that of growth. At the age of 65 for example a man's capability of achieving more strength through training is less than that of a ten-year-old boy. One may assume that all physical capacities are about the same. An important point is, however, that progress can be achieved with systematic training up to a very advanced age. But there are differences between beginners, people who have not done any sport in years, and those who have exercised regularly.

We have to keep in mind the following points:

(1) Even top athletes retain their high physical fitness only if they keep up regular training.

(2) Athletes who once had high physical fitness regain this faster after an interruption than others.

(3) The older the athlete, the longer it takes him to make progress. An example from studies in the USA: To be able to do 10 km in one hour, it takes a thirty-year-old beginner 2 to 3 months of training, a forty-year-old beginner 6 months, a fifty-year-old one year and a sixty-year-old about two years.

(4) The older the athlete, the more difficult it is to overcome training interruptions. After the age of 50 training should be continuous.

(5) Pleasure, ambition and trying to achieve a set goal may often lead an elderly person to train too much or to run too fast. The performance of a young person cannot be used as a yardstick for the older athlete.

### **The Most Difficult Phase**

The most difficult phase for an elderly beginner is to get used to regular training. Progress comes slow, in its stead there are sore muscles and tired bones. It is easy to get discouraged. For those who have trained before, wanting to do too much is probably the main problem. The growth curve has shown us that the capacity for performance gets less as one gets older. So, if we can do less, we tend to blame our age. The real reason, however, is much more likely to be lack of training. Proof of this are the popular long distance marches. Through these we know that the capacity for good performance is very high even at an advanced age. The best time, for instance, for a sixty-five-year-old in the Marathon (42 km) is around 3 hours, and a sixty-nine-year-old ran the distance in under 4 hours.

—Swissair Gazette.