



Football, as seen here in South Africa, is the ideal way to stay fit and healthy, particularly as it is effective and free.

# Football is the best healthcare

Staying healthy need not be a chore. An hour of football three times a week keeps you physically and mentally fit – and is fun, too.

BY KATHARINA GRIMM

The health of the 250 million people who play football worldwide is a central concern of FIFA, and the world governing body is now able to do more in this area than ever before, because the results of scientific studies have proved what many in the football family have thought for a long time: in the long term, regular exercise, such as playing football, is the best guarantee of health.

In 1997, the World Health Organization (WHO) named lack of exercise as the most frequent cause of coronary artery disease. Since then, our understanding of the fatal consequences of physical inactivity has steadily

increased. The typical image of a heart attack candidate used to be a man who smokes with high blood pressure and high blood lipid levels, but today the risk profile for cardiovascular disease is very different. The main risk factor is obesity, the epidemic of our times. Anyone with a body mass index (weight in kg/height in m<sup>2</sup>) of over 25 is said to be overweight.

“More important than the BMI, however, is where the fat is – it is particularly dangerous in and around the abdomen,” explains Professor Jiri Dvorak, FIFA’s chief medical officer. Your belt size is a useful guide. For men it should be below 94cm, for women 80cm. Belt sizes greater than 102cm and 88cm respectively significantly increase the risk of cardiovascular disease.

Scientifically, obesity is considered a chronic inflammatory disease. Various substances are produced in the fat tissue that trigger inflammatory reactions in other parts of the body such as the arteries, and thus other diseases such as arteriosclerosis.

Yet there is no reason for people who simply cannot lose weight to despair, because studies have shown that regular exercise can compensate for a few excess kilos. It has a beneficial effect on normal-weight, overweight and obese individuals alike. Exercise lowers the blood pressure, for example, independently of weight. Unfit persons of normal weight are three times more likely to die at a young age than overweight ones who exercise. Becoming more active and by burning off as little as 1,000 kilocalories more per week (see inset) will reduce your likelihood of dying by 20%.

#### SWAP THE SOFA FOR THE PITCH

The benefits of physical training are no longer seen solely in terms of its effect on the cardiovascular system, but also with regard to the metabolism. This is because exercise has a beneficial effect on blood lipid and insulin levels, clot formation, inflammation and the nervous system – even below the threshold at which it enhances the circulation. Increasingly, doctors are seeing an independent protective mechanism in this that is much more than just a side-effect of cardiovascular

training, especially with regard to disease prevention.

Generally, awareness campaigns have ensured that most of us know exercise keeps us physically and mentally fit. But that does not necessarily mean we exercise more. The large discrepancy between knowledge and behaviour is a primary healthcare problem. Why exert yourself, force yourself and dispense with comfort when you (still) feel so good? Many well-intended active programmes fail because later diseases do not appear an immediate threat.

Religiously running, walking or going to the gym three times a week requires a lot of self-discipline, especially if you do not particularly enjoy it. Apart from the fact that not everyone is so iron-willed, it would not have an optimum effect, because for something to be genuinely good for our health we have to take pleasure in it. Our physical health is substantially determined by psychological influences, after all. “This is where football has an enormous advantage,” stresses Professor Dvorak. “If you enjoy playing the game and are able to live out your exercise preferences in doing so, you will keep doing it. Ultimately it is the psychosocial factors, not the biological ones, that fire our enthusiasm for exercise in the long term. And only then does it have an optimum preventive effect.”

This applies especially to children and adolescents, who readily take to football in contrast to many other offerings, where coercion, monotony or pressure to perform tend to put them off. In a major schools campaign against obesity in Germany, football achieved the biggest effect of all exercise offerings, especially among girls. “For children, exercise has to be varied. It should strengthen the bones, stimulate the circulation, build up the muscles, maintain their flexibility and improve their adroitness,” explains FIFA’s chief medical officer. “Football can do all these things, and it’s fun as well.”

#### THREE TIMES A WEEK

But can football, when played just for fun, really achieve the desired effect? A recently published study investigated the physical exertion involved in playing indoor five-a-side football. It revealed

that the recreational players performed at 70% of their maximum heart rate for more than 90% of a 30-minute game. Football is thus strenuous enough to enhance your stamina and circulation.

Irrespective of the position you play, your weight and your ability, you work off about 110 to 200 kilocalories every quarter of an hour playing football, which is comparable with jogging, fast skiing and climbing stairs, and more than tennis or power walking.

## What is right for you?

General recommendations for disease prevention and treatment:

Generally, men and women of all ages are advised to do at least half an hour of medium-intensity exercise a day – enough to make you slightly breathless, without having to break sweat. Most everyday activities, such as brisk walking, cycling, shovelling snow and gardening, will suffice. This corresponds to an additional calorie burn of 1,000 kilocalories a week.

If you wish to do more for yourself and your health, you should do additional training to increase your stamina, strength and flexibility (at least three 20-60 minute sessions per week at a level of exertion that makes you sweat slightly and increases your breathing rate. All movement-intensive sports, such as running, cycling, swimming and, of course, football, are suitable.

Men over 40, women over 50 and people with known cardiovascular disease or risk factors should consult a doctor before commencing any sporting activity.

Children and adolescents: adolescents in their final years of school should exercise for at least an hour a day, younger children for significantly longer.



## Prevention and treatment through sport/football

The preventive and therapeutic effect of regular physical activity has been demonstrated by scientific studies into the following diseases:

- Back pain: strong preventive effect, posture stabilisation, muscle strengthening
- Reduced insulin sensitivity (preliminary stage of diabetes): enhanced uptake of glucose from the blood, increased insulin sensitivity, reduction of blood pressure
- Diabetes (diabetes mellitus type 2): enhanced uptake of glucose from the blood, increased insulin sensitivity, improved glucose control
- Diabetes (diabetes mellitus type 1): reduced insulin requirement, better blood lipid levels
- Increased blood lipid levels: muscles burn more fat than carbohydrates, thus increasing the "good" and reducing the "bad" cholesterol
- Hypertension: reduction of both blood pressure values, reduction of stress hormones, relaxation of the blood vessel walls, improved heart function
- Obesity: breakdown of fat in general and, in particular, in and around the abdomen, counters muscle degeneration during a diet and helps to maintain weight
- Heart attack, coronary heart disease (calcification of coronary vessels): improved blood flow, less clot formation, blood pressure and lipid reduction, vessel widening etc.
- Cardiac insufficiency: improved cardiac output, less cardiac enlargement, favourable myocardial change, reduction of stress hormones
- Chronic pulmonary emphysema: improved general cardiopulmonary condition
- Intermittent claudication (peripheral artery occlusive disease): vascularisation, extended walking range, pain relief, improved quality of life
- Joint attrition (arthrosis): enhanced muscle function stabilising the joint
- Rheumatism: anti-inflammatory effect
- Osteoporosis: enhanced bone density, fall avoidance
- Asthma: improved general cardiopulmonary condition, reduced breathing work (training after treatment with short-acting medication)
- Colonic cancer, breast cancer: improved quality of life, alleviation of discomfort, likely to play some part in preventing cancer
- Fibromyalgia, chronic fatigue syndrome: helps to break the vicious circle of inactivity and reduced capacity
- Depression: fitness and muscle training improves well-being, offers a distraction and induces beneficial hormone changes

▶ But how much is enough? In principle, the more you exercise, the more beneficial it is. If you do more than the minimum recommendation, you can enhance your performance capability, the preventive effect against diseases and your sense of well-being. Yet this relationship shows saturation, as the benefit increases only negligibly above an additional weekly burn of 3,000 calories, which corresponds to running 50 kilometres.

It remains debatable whether it is enough to engage only in weekend exercise after spending five sluggish days at work. Experimental investigations indicate that the positive metabolic effect on blood pressure, blood lipids and insulin lasts between a few hours and two days at the most. Moreover, it appears to last longer when a person is engaging in average activity levels than when they reach maximum workload. So hyperactivity on a Sunday is not the solution. "Based on current findings, it appears that playing football for an hour three times a week is the ideal recipe for achieving a lasting effect," says Dvorak. "And it is realistic..."

The barrier to playing football is a low one, especially in less developed countries. Pitches, balls and goals can quickly be improvised. There is enormous potential here for emerging and developing nations with neither the financial or human resources nor the infrastructure for extensive sports offerings. In view of the constantly rising

rates of obesity, hypertension, diabetes and other civilisation diseases in many countries in Africa, Asia, South America and in island nations, the targeted promotion of (street) football in such regions could prove an ideal preventive tool for the respective nation's health and open up entirely new dimensions.

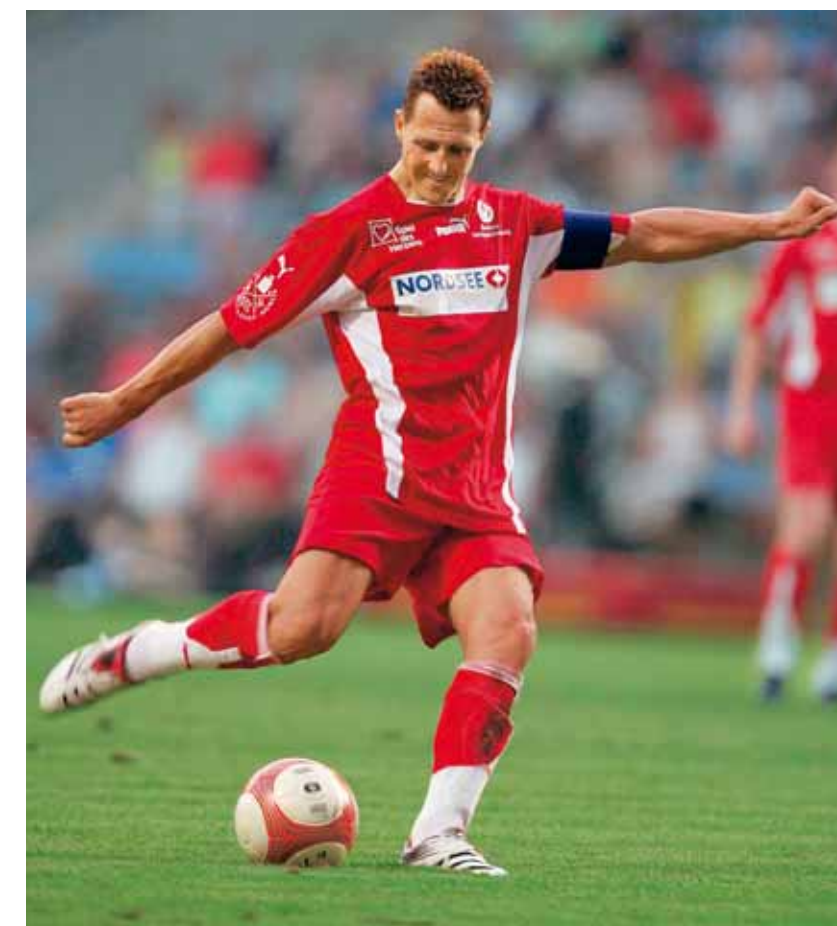
### HIGH TRAINING VOLUME

Compared with the enormous benefits, the risk of sustaining an injury (through overuse) when engaging in the recommended activity appears low. The number of overuse injuries of the locomotor system increases only at a high training volume. In addition, the risk of injury can be reduced by various measures, especially in football. "The FIFA Medical Assessment and Research Centre (F-MARC) has been addressing the issue of injury prevention for many years to ensure people can derive maximum enjoyment and benefit from football," says Professor Dvorak. "With clear rules, fair play, a careful warm-up routine and suitable equipment, much can be achieved, especially in amateur and recreational football."

As a general rule, the risks involved in physical activity for a recreational footballer represent far less of a danger than the much greater threat posed by lack of exercise and are usually overestimated.

Although few people can become rich and famous through football, everyone can become and stay physically and

mentally healthy, and do so with fun and passion. Football can not only make the world a better place, it can also make it a more healthy one. So stay on the ball. ■

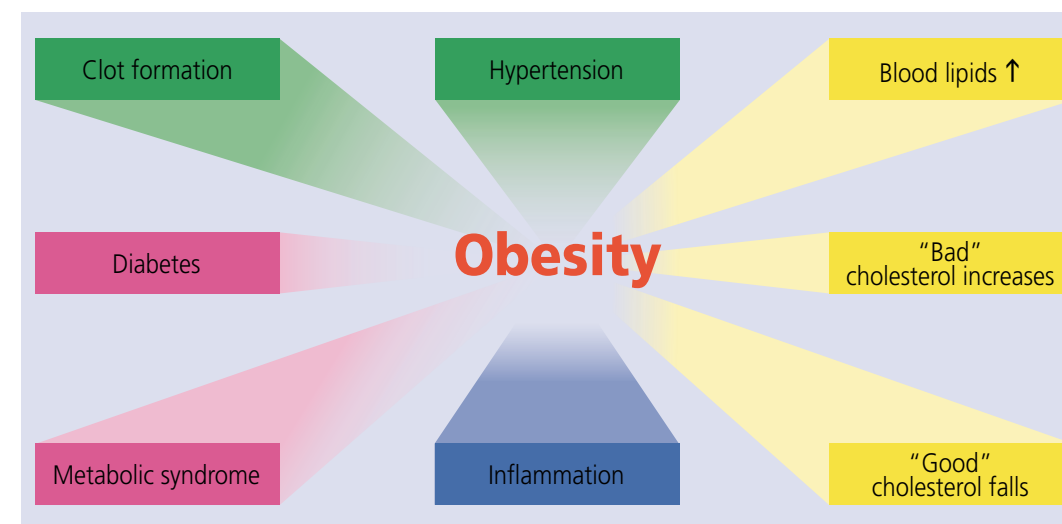


Formula 1 legend Michael Schumacher is another who plays football to stay healthy.

PHOTOS: FOTO-NET, FIFA, IMAGO



Men should not exceed 94cm around the waist.



Obesity: the prime risk factor for many diseases.