

# EXERCISE- SENSE Vs NON-SENSE.

**Prof. B.M.Hegde,**

One of my old students, a retired professor of medicine in Kerala Govt. service, came to see me the other day. They retire early in Kerala. He was morphologically looking very young! I complimented him on his good looks. "Sir, it is due to my daily power-lifting practice. That gives me real zest for life. If I do not practice power lifting daily I just can not work. It is very good for health," he said. He went on "Of course, it gives me raised blood pressure. So what I regularly take blood pressure pills and see that it is under control all the time."

If this is the 'health awareness' of a retired professor of medicine, I strongly feel that the lay man needs definite guidelines about exercise vis-à-vis health. ***Never be under the impression that physical fitness is synonymous with good health.*** Nothing could be farther from the truth. Physical fitness has its own charm and advantages like better social acceptability, quick reflexes, and better capacity to do physical work. There it ends. Health, that too good health, is an altogether different cup of tea.

## ***Isometric Exercise:***

The type of exercise the professor of medicine was talking about could be classified as isometric exercise (***Static Exercise***), where the muscle or a group of muscles, tense up as the person strains. This brings about significant changes in the working of the heart and the blood vessels that it could, most of the time, do more harm than good. If one gets to know the changes inside the human system, it is surprising that so many do isometrics daily and get away with it. The adverse changes that take place after such strenuous isometric exercise may have moderate changes in the heart and blood vessels function in young age, but as age advances these changes are so marked that they are definitely detrimental to health.

We shall look at these changes in some detail so that the practitioners get a clear picture of the risk they are taking in the fond hope that it improves their cardiovascular fitness like the dynamic exercise, **walking**. The type of isometric exercise that people commonly do is ***weight lifting, power lifting, push-ups, pull-ups etc.*** In day to day life people do lots of static forms of effort, like lifting heavy objects, holding or carrying objects held in the hand, pushing furniture (car), opening doors or windows that are difficult to open, holding arms overhead even without carrying load etc. These put a lot of static effort on the hand and girdle muscles.

Isometric exercise does give some added strength to the concerned muscles at a very high level of muscle tension (at least 50% of its total tension). ***Apart from this seemingly apparent good effect, static exercise does not give any increase in aerobic capacity or cardiovascular efficiency, and there is no benefit to total fitness, as accrues in dynamic exercise.*** At a level of 50% increase in muscle tension the person could hold that only for a period of 1-2 minutes. The blood pressures, both systolic and diastolic, increase significantly with this kind of exercise; while in a dynamic exercise the heart rate keeps going up but the blood pressure does not rise so much as in isometric exercise. ***In addition, the heart's output per beat (stroke output) does not increase in static exercise, if anything it goes down and the increased demand by the muscle for blood will have to come from the raised heart rate alone!*** This, coupled with increased peripheral resistance to blood flow, (not a healthy sign) makes up for the need to raise the blood pressure. ***This unusual increase in pressure is very dangerous for people with any heart disease or people even with latent coronary heart disease.*** Look at what happened to Winston Churchill in 1941 AD: He was trying to open a window (it is lifting

heavy wooden window shutter up to let some fresh air come into the room) and the window was badly stuck to the wooden frame in the wall.

***“It was hot last night and I got up to open the window. It was very stiff. I had to use considerable force and I noticed all at once that I was short of breath. I had a dull pain over my heart. It went down to my left arm. It didn’t last very long, but it has never happened before. What is it? Is my heart all right? I thought of sending for you, but it passed off”.***

Source: Churchill: The struggle for survival 1940-65. Houghton Muffin Co, Boston 1966. Page 17.

In addition, those who are obese, those who are otherwise infirm, and the aged have very flabby muscles which are less able to perform isometric exercise. When they practise any one of the above mentioned static exercises, their blood pressure hits the roof! ***If there is one kind of exercise that hardly does any good to body’s working it is isometric exercise.***

### ***Isotonic Exercise: (dynamic exercise)***

Man is made to work and if he works very hard, in the old fashioned way, he does not have to do any exercise to keep him fit. Unfortunately the so-called civilization seems to have forced man into inactivity, what with all the technological gadgetry there is no need for man even to move out of his chair! Consequently, every one needs daily exercise to keep fit and avoid precocious degenerative diseases. Many have a wrong idea that to keep fit one must jog and sweat, or play tennis and get sweating etc. Nothing could be farther from the truth. Walking, that too at one’s own pace, enjoying Nature on the way, is the best way to get enough exercise. If one could walk up and down gradients it is that much better. The good that walking does in terms of physiology is equal to the product of body weight into distance. While walking up a gradient this gets compounded by gravity in addition.

The benefit does not change by jogging, or other more strenuous activities, where some degree of isometric strain is added, not to speak of the dangers of damaging ones knee and ankle joints in the long run by jogging or playing all kinds of funny games. In a humorous article *Fit for What?* Prof. Lawrence Moorehouse, the NASA’s exercise chief, asks the lay man the question and goes on to answer himself. ***“If you run you are fit for running, if you play tennis you are fit for tennis and so on, but none of these activities confer any degree of benefit for your total wellbeing.”***

Exercise physiology is one of the most misunderstood areas by the lay man, aided and abetted by the hi-tech industry pushing the jogging and playing outfits and shoes in a big way. The latter is one of the biggest industries, netting billions of dollars. They will continue brainwashing the gullible public relentlessly. One has to read the beautiful editorial written years ago by the then editor of the leading *American Heart Journal*, George Burch entitled ***Run to Death!*** to understand this correctly. The additional danger is the mindset that one has to finish jogging a particular distance at any cost. Many joggers did not register the warning signal of shortness of breath while jogging and dropped down dead. The impulse of breathlessness, when relayed to the brain, is blocked by the substrate competition of a stronger impulse of compulsive urge to finish the jogging in the time slot set by the jogger. It is also known that while struggling to finish at the end of the run the heart muscle gets over stimulated by chemicals called catecholamines. Some of these cells die unnaturally each time a runner runs for the kill.

Work very hard, avoid lifts when feasible, never keep still for any length of time, keep exercising the feet even when seated, avoid deep sleep with sleeping pills for long periods of time, keep relaxing and contracting your muscle groups while stationary are all methods to keep the cardiovascular system in good health. Finally a word of caution! Do not think that you will live forever by regular exercise. You will certainly not succeed. It is true, though; that regular exercise keeps you physically fit as long as you live. Enjoy what you do and

take time to enjoy the beauty and bounties of Nature when you exercise. Love every one and do not harbour hatred while exercising, you will love life. Good Luck!