

Fat kids need less intensive exercise for effective weight loss

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Fat kids are better off doing less intensive exercise if they are to shed the pounds effectively, suggests a study of pubescent boys, published ahead of print in the *British Journal of Sports Medicine*.

The researchers assessed the rate at which fat was burned (fat oxidation) during graded leg cycling exercises in thirty 12 year old boys, 17 of whom were obese. The others were lean and healthy.

The intensity of the exercises increased every 3.5 minutes, with the aim of finding the level of exercise intensity required to burn off the most fat, known as the "Fat Max."

The Fat Max is determined by the amount of oxygen breathed in and the amount of carbon dioxide breathed out per minute as the exercise intensity increases, calculated as the VO₂ peak.

The results showed that the average values of the VO₂ peak for the two groups varied considerably, with the lean boys burning much more fat than the fat boys at higher exercise intensity.

Among the lean boys the VO₂ peak steadily increased before it began to level off at around 50%, although it was still increasing at 60%.

The VO₂ peak also increased in the obese boys, reaching the same level as the lean boys at 30%, equating to low intensity exercise.

But it then levelled off, before falling sharply at 50%, equating to moderate intensity exercise.

In other words, obese boys reached their Fat Max at much lower levels of exercise intensity than the lean boys. And more intensive exercise did not burn off more fat for them.

The authors suggest that this is because obesity, and the sedentary lifestyle it induces, reduces

muscle capacity as well as its requirement for, and ability to use, fat as fuel.

And obesity changes muscle type. Obese people have higher levels of type 2 "fast twitch" muscle fibres, which burn off more carbohydrate. Lean people have a higher proportion of type 1 muscle fibres, which burn off more fat, they add.

Source: British Medical Journal

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