



## JUNIORS: POSSIBLE SPINAL DAMAGE IN JUNIORS FROM CARRYING HEAVY GOLF BAGS

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Back problems constitute one of the most troublesome and irritating medical problems in adults in this country today. The problems vary from minor low back pain, through "slipped discs", to full blown spinal deformity. Although there is no specific scientific evidence to prove so - the experiment/study has never been done - it is believed that many of these problems start in younger life while the spine is still growing.

The spines of pre pubertal children are composed of a mixture of bone and cartilage. At puberty, secondary centres of ossification appear in three or four locations in each of the bones that make up the spine, the vertebrae. From these centres new bone grows to replace the cartilage until, at about the age of 25, spinal ossification is complete.

It is believed that during this growth process, carrying excessive weight, which is transmitted down through the spinal column, will have a detrimental effect of the growth formation of this new bone. This can result in: narrowing of the body of the vertebrae; distortion of the little joints between the individual vertebrae; minor alterations in the normal curvature of the spine; and, it is believed, to a condition known as "spondylolisthesis", which is a well known cause of low back problems later in life.

The question is: *what constitutes an abnormal load for the growing spine?*

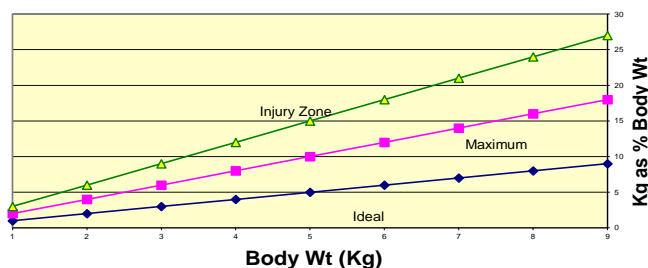
Unfortunately, the answer is nobody is sure. However, based on empirical information, the National Back Pain Association, offer the following guidelines for school satchel weights:

10% Body Weight	Ideal
20% Body Weight	Maximum
30% Body Weight	High risk of injury

These guidelines are not intended to be literally translated into recommended weights for golf bags, which, in the course of a normal round of golf will be carried for a considerably longer period than a school satchel in a journey to and from school. In addition, in the summer school holidays, many juniors play 36 holes a day, which will compound the problem. Consequently, it is considered that the maximum of 20% may be considered too permissive in these circumstances and the target should be less than that.

A carrying bag (with collapsible, standing legs) containing 14 clubs and golf balls, can weigh up to about 9 10 Kg, which will constitute a significant carrying load for the immature developing spine according to the above guidelines. The graph gives an illustration of various carrying load weights ('Y' axis) plotted as a percentage of total body weight ('X' axis), with the weight of the average carrying golf bag shown as the ideal. From this graph it will be seen that, even by the more permissive 20% limit, any junior weighing 50 Kg (about 8 stone), or less, should not carry a bag weighing 10 Kg.

Possible Spinal Damage in Juniors from carrying Golf Bags



To err on the side of caution, it is recommended that any junior weighing 60 Kg (about 9 stone), or less, should not carry their bag. Alternatively, should the player wish to carry a bag, its weight should be adjusted - by removing some clubs - to ensure that it does not exceed 15% of the individual's body weight, although it is accepted it would be difficult to regulate this solution.

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