

# Ergonomic Health + Safety for Children

We are very aware of health + Safety in the workplace nowadays. But it is not only the teachers and adults who are 'working' in the school environment - do we consider all the ergonomic risks for our growing children in the environments that they learn?

The issue of the increasing weight of schoolbags is well known. A child may be carrying up to 30% of their body weight on a regular basis. But it is the way that it is handled – lifted, carried, supported,



put down – that is as important as the bulk or weight of the bag itself. Back pack bags should ideally be carried using both shoulder straps – carrying on one side, as tends to be the trend, puts significant pressures more to one side and may cause the spine to be bent sideways and twisted. Does child slump while carrying the bag? How far do they have to carry it? Better still, ergonomically, would be if the trend in primary schools to use roller bags could be continued into secondary schools – bags such as those used for business by solicitors and accountants to carry large loads of documents + a laptop computer or sports kitbags with wheels. This would require somewhat of a culture change however. At least if those students with back or neck pains could begin using these types of bags and hence protect their spines from further injury.

Suitable bags for carrying laptops / tablets may be required. The carrying harness and straps should be adjusted appropriately to position the lumbar support in the correct place. The use of lockers in school needs to be considered – Are they big enough, can bags, books and clothes fit in? Are they positioned between knuckle and shoulder height? Does the child have to stoop / bend over for prolonged periods of time to get things in / out of the locker?

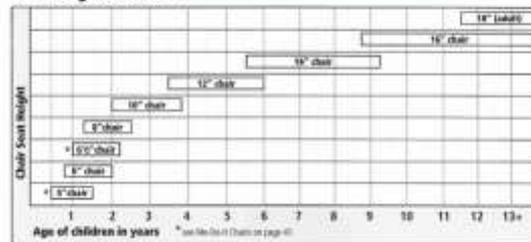
European Standards have been developed to provide guidance with regard to the dimensions for suitable sized furniture in schools.

## European standard EN 1729-1

- Dimensions for tables and chairs for pupils aged 2-18+
- 8 sizes (sizemarks 0 to 7) of fixed height chairs and matching tables to fit the range of pupils



## Chair Height Guidelines

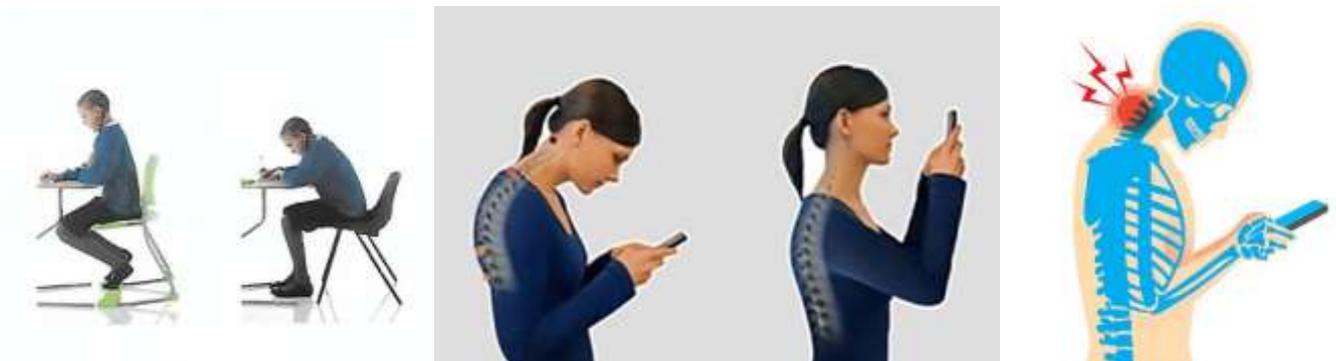


## Table Top Height Guidelines

Chair Seat Height	12"	14"	16"	18"	20"	22"	24"	26"	28"
Table Top Height	12"	14"	16"	18"	20"	22"	24"	26"	28"
Desk Top Height (with allowance for storage compartments)	30"	32"	34"	36"	38"	40"	42"	44"	46"

The increased use of smartphones/ tablet computers and laptops has also caused postural strains associated with sitting and reading to be increased, leading to the so called 'iPad' / 'text' neck syndromes. Children need to be advised to raise the devices higher up in front of their face when reading, texting or watching videos on the device. The body position is a key factor in determining the position of the head and neck and therefore an upright posture that is neither bent to front or side or twisted should always be used. When using digital devices on a desk they should use suitable stands or other accessories to angle the screen up towards them, thereby reducing the need for them to lean the head + neck / seated body forward to see the screen.

Reflections from glass screens on devices can cause increased eye strain so lighting can be important. Efforts to avoid unwanted reflections and to make suitable changes to device settings should be made as needed. Parents should be aware that children may need to be assessed for suitable spectacles if they have significant screen contact time throughout the day.



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