



Puget Sound Human Factors & Ergonomics Society

Dear School Administrators and Teachers,

The Puget Sound Human Factors and Ergonomics Society (PSHFES) is the local chapter of the Human Factors and Ergonomics Society, a national professional organization of ergonomists. Ergonomists help fit tasks to people to reduce the risk for injuries and improve work conditions. This is primarily achieved by providing education and suitable equipment so people can perform activities, such as using computers, more comfortably. Today's children are the first generation to be exposed to the use of computers, cell phones and other similar technology early on, and in most aspects of their life. The PSHFES Ergonomics for Schools Project Committee has developed an educational module, **Technically Cool Computing**, which teaches children appropriate posture while using a computer, as well as practical ways to adapt their workstation to better fit their bodies in order to reduce exposure to risk factors for musculoskeletal disorders.

Children, as well as adults, can have discomfort with computer use. Up to 58% of middle school-aged children have pain associated with computer use, according to a 2002 study.^[1,2,3,4] Several educational organizations have cautioned that widespread computer use exposes children to risks for repetitive stress injuries, pain and dysfunction in muscles and tendons, which can limit participation in other activities.^[5,6] Additional research suggests that pain in childhood may be a predictor of future discomfort and an increased risk of injury in adulthood.^[7,12,13] Studies have also shown that children's body postures are awkward while using computers in part because most equipment and furniture does not fit their small and ever-changing stature, which can increase their risk for discomfort and injury.^[8,11,12]

There is good news! Many studies have shown interventions, such as posture education and furniture that fits kids' smaller bodies help reduce discomfort, much the same as in adults.^[1,8,9] In the first pilot of the Technically Cool Computing (TCC) project in 2009, 72% of students were able to recognize non-neutral postures and 61% of students were successful in correcting non-neutral postures at their computer workstations. In addition, 89% of students felt they could repeat the exercise at home on their own computers. The most recent pilots, using a newly revised curriculum, resulted in 100% of students able to recognize risk-producing postures and also successful in correcting awkward postures at their classroom computer workstations.

PSHFES has piloted this project with 4th, 5th and 6th grade classes with great success. We invite you to use this curriculum to help educate children in developing healthy computing habits.

Sincerely,

Community Projects Chairperson
Puget Sound Human Factors and Ergonomics Society
communityprojects@pshfes.org
www.pshfes.org

References

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Other references:

Cornell: <http://ergo.human.cornell.edu/MBergo/intro.html>

Stretch breaks and other tips: <http://people.bu.edu/kjacobs/index.shtml>

Ergonomics for kids: <http://www.cehd.umn.edu/kls/ecee/default.html>

Ergo comics for kids: <http://ergo.human.cornell.edu/CUergocomics.htm>

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