

Improved ergonomics for kids

By Jennifer Lingafelter

Before you begin

This session's objective is to increase employees' awareness of the potential risks to their families' health and safety. The risk factors associated with poor ergonomics occur not only in the workplace but also at home. The same principles apply to both.



Introduction

When an eight-year old child played tennis, she swung the racket to hit the ball. However, she looked confused when the ball did not return far. She became frustrated and was ready to quit because she usually won her tennis matches. That is, she won virtual matches on a gaming system.

From the time a child grasps an object or holds an electronic toy, the repetitive motion of pressing buttons begins. Computer games are available for children as young as 18 months. Unfortunately, when the child plays a computer game, he or she sits at the family computer using a chair and a desk that are too large for his or her body. As a result, the child leans forward in the chair, raises his or her arms and dangles his or her legs for long periods.

As the child enters elementary school, the child fills backpacks with textbooks. This causes a child to carry 20 percent, 30 percent and even 60 percent of his or her body weight. Often times, the child wears the backpack incorrectly, or the backpack design prevents even loading. This puts the child at greater risk for a back injury.

Musculoskeletal disorders

Because of environmental changes, our younger population is at risk for developing musculoskeletal disorders. Common types of injuries that result from repetitive activities, sustained awkward postures and heavy loads are musculoskeletal disorders (MSDs).

In the past, there was a misconception that MSDs occur only in the workplace. Now, we see how they affect our home life and our children's lives. The good news is you can prevent MSDs through awareness, changes in behavior and improved designs. The tips below may help your child use his or her computer, backpack and gaming system.

Computer workstation tips

The goal is to provide furniture or accessories that will allow your child to sit in the neutral posture explained below. Most furniture is not designed for smaller people. Children's furniture may fit their needs better.

Place the computer on a lower table with a smaller sized chair. The table is likely to be a play table that is low to the ground.

- o If family members share the computer, mount an adjustable tray on the desk/table to allow everyone the ability to raise/lower the keyboard and mouse to his or her typing height.
- o If a standard sized chair is used, place pillows behind the child and use a booster seat to raise the child.
- o Look for chairs without armrests to allow the child to scoot in close to the desk.
- o If a child cannot place his or her feet flat on the floor, use a footrest to support them in a firm position.

- o Position the screen so the child does not have to tilt his/her head up or down while viewing it.
- o The distance between the monitor and the child should allow the child to sit against the chair's backrest without leaning forward.
- o Place papers or books on a document holder to keep the head in a straight position.
- o If you use a book, prop the book up at an angle to reduce the amount of head tilt.
- o Use a smaller mouse marketed as a travel mouse.

Backpack tips

- o Encourage children to use both straps on their backpacks.
- o Position the backpack so the center is level with the child's hips or waist – not high on the back.
- o If provided, use a hip belt to reduce back strain.
- o Use the compartments on the backpack to distribute the load better.
- o Look for straps that are wide and padded. Wider straps more evenly distribute the weight across the neck/shoulders.
- o Load the heavier items closer to the back.
- o Do not overstuff backpacks. However, a child may carry items such as lunch boxes, gym clothes, etc.
- o Do not purchase large backpacks so they are not overloaded.
- o Check to see if the students' books are available online and keep the hardcover books at school.

According to the American Occupational Therapy Association, keep the weight of the contents under 15 percent of the child's weight. For example, a 75-pound child's backpack should weigh less than 11 pounds.

Gaming-systems tips

- o Encourage the child to take breaks while playing. If needed, set a timer and pause the game.
- o Instruct the child to hold the controls loosely in his or her hand.
- o If seated, provide the child pillows or a reclined seat to support the child in a more relaxed posture.
- o To reduce repetitive button presses, set up shortcut keys.
- o To eliminate glare, adjust the lighting. However, do not turn off all the lights.
- o To prevent overuse of muscle groups, limit game-playing time.

A child may have difficulty understanding ergonomics' rationale and concepts. However, adults may help select the backpack design, provide better furniture and control gaming practices. As children get older and become aware of ergonomics, they may make changes to help prevent MSDs from occurring at home and in the workplace.

Group activities

Group members discuss changes they like to make related to their children's computer workstations and the use of backpack(s) and game systems.

References

Websites

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