

Are Backpacks Making Our Children Beasts of Burden?

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Abstract: More than 40 million US students carry school backpacks. Increasingly heavy school backpacks are putting the nation's students at risk and may be causing long-term damage to their growing bodies. More than 25,000 occupational therapy practitioners work with children and can advise parents on ways to avoid backpack-related problems. Because many occupational therapy practitioners are already working with children, the American Occupational Therapy Association, Inc. (AOTA) was the natural choice for retailer L.L. Bean, Inc. to partner with in a public safety initiative to promote healthy school backpack use. Both organizations' Web sites and a brochure available at L.L. Bean, retail outlets, offer tips for parents and children on choosing the correct backpack design, loading, and wearing backpacks. This paper will describe and demonstrate the public safety initiative between AOTA, Inc. and L.L. Bean, Inc. as an example of an innovative partnership in public health and ergonomics.

INTRODUCTION

In the U.S., it is estimated that more than 40 million youths carry their school materials in backpacks (Wang, Pascoe, Weimar, 2001). Everyday these youths carry backpacks filled with books, bottles of water, laptop computers, and other items that create a strain on their growing bodies. In 1999, the use of backpacks resulted in more than 6,000 injuries in the U.S. alone (Pascoe, Pascoe, Wang, Shim, 1997; Hamilton, 2001). Approximately 23% of elementary youths and about 33% of secondary school youths complain of backaches (Roth, 2001). Despite recent media coverage and concerns of health professional, such as occupational therapy practitioners, regarding heavy backpack use by children, there is a paucity of research on its effects.

Collaboration

Concerned that increasingly heavy school backpacks may be putting schoolchildren at risk of long-term health problems, in 2001, the American Occupational Therapy Association, Inc. (AOTA), based in Bethesda, Maryland teamed up with the L.L. Bean Company, of Freeport, Maine to raise awareness about safe and healthy school backpack use. L.L. Bean, Inc., founded in 1912, is a leading retailer of quality apparel and gear, such as school backpacks for men, women and children who love the outdoors.

The American Occupational Therapy Association was founded in 1917 and represents 50,000 occupational therapy practitioners and students. People of all ages who have health problems benefit from occupational therapy to improve skills needed to perform everyday activities or "occupations" at

home, work, or school. Occupational therapists and occupational therapy assistants are trained in helping children with a broad range of issues. In addition to proper school backpack use that can affect a child's performance and health, occupational therapy practitioners address proper computer use, handwriting, and behavioral problems. One-fourth of AOTA's members work with children, in schools and pediatric units of hospitals and on a daily basis, bring practical solutions to ergonomics issues.

AOTA, Inc. was a natural choice for the partnership with L.L. Bean because so many occupational therapy practitioners are already working with and are familiar with health issues facing children and the company had become concerned that loading too much into a school backpack could potentially lead to injuries or just be uncomfortable to the user.

OUTCOMES OF THE COLLABORATIVE PROCESS

The national public information campaign on promoting healthy backpack use began with the development of a brochure, hangtag, video news release, sample talking scripts for presentations, and sample press releases for the print and broadcast media. AOTA and L.L. Bean collaborated to produce a brochure with tips for properly selecting, loading and wearing a backpack (Figure 1). This brochure has been distributed in L.L. Bean stores and mailed with their catalogs, and placed on both organizations' Web sites for easy download: www.llbean.com and www.aota.org. A consolidated version of the brochure appears on all hangtags attached to L.L. Bean school backpacks.

Audience viewers for television

An approximately two minute video news release (VNR) on backpack safety was produced in 2001 by AOTA and L.L. Bean and released nationally. It aired on 81 local and nation broadcast station to 3,795,000 viewers (AOTA, 2002). The VNR aired in five of the top 10 major markets including New York, Los Angeles, Chicago, Philadelphia and Washington, DC (AOTA, 2002).

Audience viewers for newspapers

A syndicated news release on promoting backpack safety was placed in 212 local and national newspapers, including daily, weekly, monthly and special interest publications. The total readership was 18,539,804 (circulation not available for some newspapers). The placement was in 30 of the top 50 markets (AOTA, 2002).

Content Analysis

In total, the national public information campaign on promoting healthy backpack reached approximately 23 million through coverage in 212 newspapers and 81 television stations (AOTA, 2002). Approximately 91% of the newspaper articles included the campaign message that: Backpacks that are excessively heavy or carried incorrectly may cause significant pain and injury to growing bodies and that to reduce the risk of injury, parents should monitor the weight of the backpack and how their children load and carry them. 9% were clips that directed the reader to view AOTA, Inc. and L.L. Bean's Web sites for more information on backpack safety tips (AOTA, 2002).

Figure 1: Contents of Backpack Brochure

The brochure was designed to address three important factors in school backpack use: selecting a pack, loading a pack, and wearing a pack.

Selecting a pack

Choose a pack that's appropriate to the child's size and age. School backpacks come in different sizes for different ages.

Select a pack with well-padded shoulder straps. The shoulders and neck are rich in blood vessels and nerves that when constricted can cause pain and tingling in the neck, arms, and hands.

Choose a pack with a waist belt to be fastened for extra support and to help transfer the weight from the shoulders to the body's trunk and hips.

Consider a pack with reflective trim to increase visibility of kids who carry the school backpack in the evening.

When shopping for a school backpack, take along books and other materials that the child would carry to judge how each pack varies when fully loaded.

Loading a pack

Never allow a child to carry more than 15% of his or her body weight. That means a child who weighs 100 pounds should not carry a school backpack that weighs more than 15 pounds.

Load heaviest items closest to the child's back.

Pack items neatly and organized to keep books and materials from sliding around in the pack, shifting the weight.

If a pack is too heavy, consider using one on wheels.

Wearing a pack:

Always wear both shoulder straps to distribute weight evenly.

Wearing a pack slung over one shoulder can cause a person to lean to one side and curve the spine.

Adjust the shoulder straps so that the pack fits snugly to the child's back. A pack that hangs loosely from the back can pull the child backwards and strain muscles between the shoulders.

The bottom of the pack should rest in the curve of the lower back. It should never rest more than four inches below the child's waistline.

CONCLUSION

The partnership established between AOTA and L.L. Bean is a good example of the fruits borne by creative marketing efforts on an important public health issue because school backpacks are used by more than 40 million students. Through free tips on backpack safety available on the AOTA and L.L. Bean Web sites, brochures and hang tags on L.L. Bean school backpacks, a Video News Release on backpack safety, and a syndicated news release on promoting backpack safety, they are providing parents and students with tips for choosing, loading, and wearing backpacks in ways that are safe and healthy.

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