

## **Medscape General Medicine**

# Conference Coverage: Selected Presentations From the Annual Scientific Meeting of NAASO-The Obesity Society; October 20-24, 2006; Boston, Massachusetts

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## **Introduction**

The 2006 Annual Scientific Meeting of the North American Association for the Study of Obesity (NAASO) - The Obesity Society was recently held in Boston, Massachusetts. Since 1982, The Obesity Society has focused on the promotion of research, education and advocacy to better understand, prevent and treat obesity. Oral presentations and poster sessions revolved around 4 thematic tracks, offering the most recent obesity research and interventions: Cell and Molecular Biology, Integrative Biology, Clinical Studies, and Population Studies. With more than 2,200 in attendance, including many world-renowned experts in the obesity field and over 100 educational sessions, this is North America's largest and most influential obesity-related conference. This paper highlights selected presentations from this conference.

## **Initial Follow-up Evaluation of the First Boarding School for Overweight Teenagers: Sustained Substantial Weight Losses at Academy of the Sierras (AOS)**

Healthy Living Academies (HLA) offer multidisciplinary, comprehensive immersion programs designed to develop good and healthy eating habits that are sustainable. HLA services 460 campers/students per session, ages 5-22, through 6 intensive residential programs. The programs include:

- 1 school: Academy of the Sierras (California; 80 boys/girls, 13-18 years);
- 4 camp programs targeting children: Wellspring New York Camp (175 girls, 14-22 years); Wellspring Adventure Camp (North Carolina; 100 boys/girls, 11-16 years); Wellspring Adventure Camp California (50 boys/girls, 13-18 years); and Wellspring United Kingdom (300 boys/girls, 12-17 years);
- 1 family camp: Wellspring Family Camp (Michigan; 30 boys/girls, 5-13 years with their parents).

Each site's team consists of an MD, nurse, psychiatrist and psychologists, social workers, recreational therapists, exercise physiologists, personal trainers, dietitians, counselors and the Academies faculty. Together they address dietary management, activity management, education, clinical program, and cognitive behavior therapy (CBT), and they also provide family workshops and continued aftercare.

Intensive CBT emphasizes the development of healthy obsessions, also referred to as positive addiction or adaptive perfection. Similar to athletes, participants are taught to set goals, self-monitor, evaluate, and then respond with change or maintenance. As the weight controllers leave the program, the emphasis is to focus on internal structures (healthy obsessions), conflict resolution, and the skills required to bridge the total immersion experience and the real-world, external culture.

During one academic year, parents reported a decrease in total and emotional problems (Child Depression Inventories scores decreased from 65% to 55%) and functional problems (from 62% to 54%).

The educational component addresses both nutritional and emotional components. On campus, tremendous effort is made to establish a milieu-by-level system that recognizes "it is cool to be a long-term weight controller." An elaborate token economy system develops self-management skills and greater independence through rewards and consequences linked to clearly defined expectations.

High caloric expenditure includes taking more than 10,000 steps/day, as measured on pedometers; plus weekly events such as dances, canoeing, and weight-training -- activities that offer social interactions and are perceived by heavy children as fun.

Taste and dietary variety are important factors to becoming an effective weight loss controller. Daily menus, including 3 meals and 2 healthy snacks, are prepared to be flavorful and satiating. The nutrition component revolves around a very-low-fat diet, with unlimited low-density foods such as soups, fresh fruit, fat-free yogurt, fat-free tuna salad, and fat-free cottage cheese. Although there is no caloric goal, student logs and external monitoring each indicate energy intake averages of 1200 kcal/day, with dietary fat of approximately 8 g/day. Utilizing a "think, ink & link" log, participants complete daily self-monitoring records including pedometer step count, additional exercise, food eaten, calories, and grams of fat. Satiety does not appear to be a problem; 3-day hunger scores remained fairly flat from morning (3.0) until before bed (2.5), and students did not complain about hunger.

Preliminary data were presented from the initial 8 boys and 7 girls, age  $14.9 \pm 1.9$  years (mean  $\pm$  SD). Their initial percent-overweight was  $100\% \pm 28\%$ , the treatment length was  $31.2 \pm 7.6$  weeks, and the follow-up period was 10 months.

Compared with other published control outcomes studies (1960-2005), HLA short- and long-term treatment results are markedly more favorable. While other treatment programs were able to decrease percent overweight by about 12%, Wellspring campers were able to decrease percent overweight by 17%, and Academy of the Sierras students decreased by 58% by the end of the sessions. At least 6 months post treatment, other treatment groups began to gradually regain weight, yet both HLA groups were able to maintain or better their loss. Fitness levels also improved by 40.4%, as indicated by a timed mile at entry (mean: 19.6 min/mile; range 15-29.5) and week 32 (mean: 12.2 min/mile; range 9-15).

The resulting dramatic and sustainable weight loss seen in the initial data from HLA supports the use of immersion programs that remove children from their obesogenic environments and provide intense, comprehensive therapy and education, modeling, and support for both the child and family. HLA demonstrates that this weight loss model effectively reduces weight in adolescents through sustainable behaviors. The next question is: How do we expand this successful model into a more affordable, and therefore more available, treatment option?