

### Market Segment

- Bariatric-Weight Management

### Company/Facility

- University of Nevada School of Medicine/Center for Nutrition and Metabolic Disorders

### ICD-9-cm & CPT Codes

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- 278.0 Obesity

#### CPT Codes

- 94690: Expired air analysis \*
- 97802-03: MNT
- 96150-02: HB
- 99201-14: EM

\*Measurement can be billed separately or in conjunction with a patient office visit. Reimbursement cannot be guaranteed and is determined on an individual basis; most insurance carriers will cover the procedure if medical necessity is shown.

### WatchWT System

- WatchWT MedGem indirect calorimeter

### References

1. Boutelle, K.N. and D.S. Krischenbaum, Further Support for Consistent Self-Monitoring as a Vital Component of Successful Weight Control. Obesity Research, 1998. 6(3):p.219-224.

2. Boutelle, K.N., et al., How Can Obese Weight Controllers Minimize Weight Gain During the High Risk Holiday Season? By Self-Monitoring Very Consistently. Health Psychology, 1999. 18(4):p.364-368.

3. The Diabetes Prevention Program (DPP): description of lifestyle intervention. Diabetes Care, 2002. 25(12):p.2165-71

## Overview of Program

The Center for Nutrition and Metabolic Disorders (CNMD) at the University of Nevada School of Medicine assists with the evaluation and treatment to self-referred motivated individuals and physician referred medical patients through an experienced interdisciplinary team including physicians, registered dietitians, exercise/physical activity consultants and behavior specialists. The team provides a comprehensive program utilizing individualized dietary approaches for successful long-term weight management. Individuals in the program receive a physical examination and comprehensive medical evaluation, including resting metabolic rate measurements, body composition analysis, and body measurements. The registered dietitians develop individualized calorie prescriptions and activity goals based on measured resting metabolic rate and lifestyle activity. The program has a strong behavior modification emphasis, including software for self-monitoring and remote monitoring feedback via the web. Participants then are offered a variety of 6-month follow-up programs tailored to meet their individual goals and needs. Assessments are made after significant weight losses of 20 lbs and/or 6-month intervals.

## Weight Management Application

Utilizing this individualized approach to weight management, CNMD reported the following weight loss among their current participants:

- 53% lost  $\geq 5$  their body weight
- 15% lost  $\geq 10\%$  of their body weight
- 5% lost  $\geq 20\%$  of their body weight

Of those currently participating in the program,  $\geq 70\%$  have lost enough body weight to impact their health risk. The attrition rate is very low and patients continue in the program for long term follow-up of weight maintenance and prevention of weight gain and/or regain.

Daily monitoring of dietary intake and physical activity are key components to changing diet and exercise habits. Self-monitoring has been identified as one of the most effective strategies for weight loss and weight maintenance<sup>(1,2)</sup>. Self-monitoring was stressed as one of, if not the most, important strategy for changing diet and exercise behaviors<sup>(3)</sup>.

CNMD encourages the use of BalanceLog® software, for quick and easy self-monitoring. BalanceLog software provides food logging, exercise logging, and summary reports that reinforce the concept of balancing energy intake and energy expenditure.

When CNMD compared weight loss among BalanceLog users and non-BalanceLog users, they reported a clinically meaningful difference in weight loss success. Individuals using BalanceLog had an average rate of weight loss  $\geq 1.0$  lb/week, while those not using the software had an average rate of weight loss of about 0.5 lb/week. As a result, clients track their food intake on a regular basis using BalanceLog.

## Bariatric Application

The CNMD assists with the evaluation and treatment of patients electing to have surgical treatment for morbid obesity. The interdisciplinary team includes physicians, registered dietitians and behavioral specialists.

CNMD includes resting metabolic rate measurements, in both pre- and post-surgery assessments. Their data shows clinically significant decreases in RMR post surgery. This is a commonly accepted characteristic of weight loss. Among 12 bariatric patients, average age of 47 years and average baseline BMI of 44.1 kg/m<sup>2</sup>, the average weight loss was 53 lbs at 3 months post-surgery. The average decrease in RMR was 739 kcal/day. The average RMR was 2391 kcal/day pre-surgery and 1652 kcal/day post-surgery. Additionally, the changes were unique among individuals. For example, of the individuals who lost between 40-50 lbs, changes in metabolic rate varied 3-fold (-370 kcal/day to -1070 kcal/day).

The individual differences and dramatic changes in RMR during weight loss highlights the importance of measuring RMR to provide individual clients with a valid and personalized weight management plan. This is especially true for patients who attempt to lose weight prior to bariatric surgery or require additional assistance post surgery.