

## 授課講師學經歷

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課程名稱(主題)	不復胖的臨床研究綜論
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## 授課內容摘要

體重減輕及維持都是一件困難的工作，有決心和毅力是成功關鍵，建議如下

### (一) 目標設定

建議設定一個體重的目標，要鼓勵肥胖者在 3-6 個月內達到這個目標，並繼續維持。

### (二) 以減少熱量攝取當作主要目標

減重初期介入以降低熱量攝取為主，研究顯示限制熱量及脂肪攝取是首要的方式。減少熱量攝取的方法，包括，營養師諮詢指導、使用固定份量或代餐等。

### (三) 增進體能活動

增加體能活動是維持減重成果最重要的預測因子，應鼓勵肥胖者減肥後增加日常生活的體能活動，最近的研究顯示越多的體能活動可以達到越多的減重效果，因此，剛開始最好設定每週 150 分鐘運動，經過一段時間，要將運動增加到每周 300 分鐘來達到長期維持減重效果的目的。

### (四) 讓病人覺得自己是有義務並時時自我警惕

改變飲食及運動習慣是很困難的，減重成功後必須改變原有的飲食型態與不動的生活方式，社會支持系統以及環境的架構要能支持這個改變，自我監控飲食與活動、每天量體重、規律的與治療人員接觸等都是很重要的自我警惕方式。

### (五) 教導解決相關問題的技巧及預防復胖

教導減重者預見體重控制會發生的困難並預先計畫應付的辦法，一般常見的困難或狀況包括正面的社會事件(例如，派對、假期)和負面的事件(例如，沮喪、生氣、無聊)，減重者必須瞭解不管他們的計畫如何，他們都會偶而經歷懶惰或偏離健康飲食和運動習慣的情形，重要的是如何快速的矯正這些現象避免復胖。

### (六) 讓減重者瞭解成功減重及維持是可以做到的

社會上有許多相當負面的宣傳，認為體重控制對許多人而言是不可能的事，這個預期失敗的心理可能導致病人真的減重失敗。因此，只要有信心，減肥後一定可以長期維持不復胖。

## 不復胖的臨床研究綜論

台北醫學大學·雙和醫院  
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## 美麗與現實

- 夢幻減重 (Dream Weight Loss): -36%
- 歡喜減重 (Happy Weight Loss): -29%
- 勉強接受減重 (Acceptable Weight Loss): -23%
- 失望減重 (Disappointed Weight Loss): -14%
- 建議減重 (Modest Weight Loss): -5-10%

## Definition of Weight Loss Maintenance

- 5~10% of body weight loss and maintained for 6 months
- Wing and Hill proposed that successful weight loss maintainers be defined as "individuals who have intentionally lost at least 10% of their body weight and kept it off at least one year"
- Greater initial weight loss more likely to weight regain
- Greater loss regain more, but achieve the best long-term outcomes.

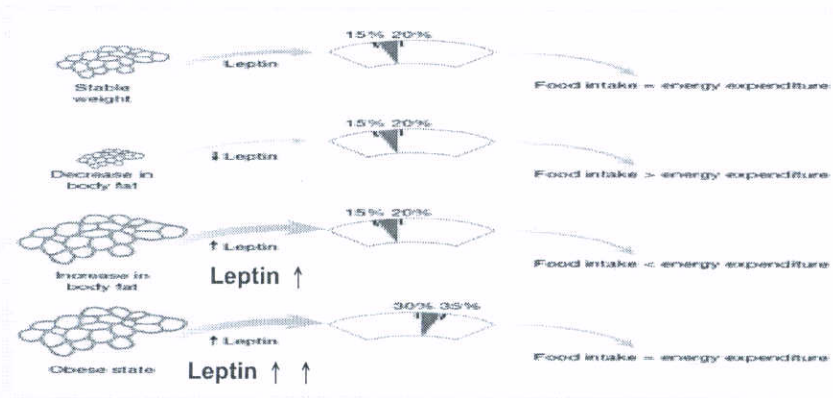
- 0.1kg/month

## What Makes Weight Loss Maintenance so Difficult?

- Decreases in metabolic rate
- Changes in catecholamine excretion and thyroid function
- Increase in ghrelin
- Changes in lipoprotein lipase activity

LepTIN

## Leptin and Adipose Tissue

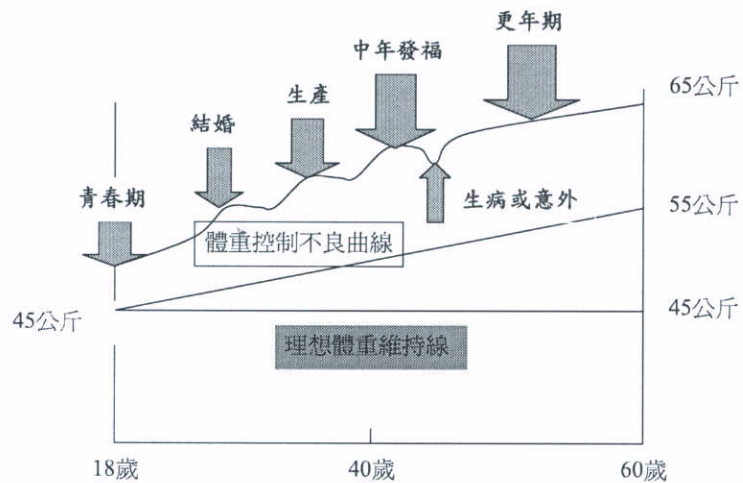


Nature 2000;404:632

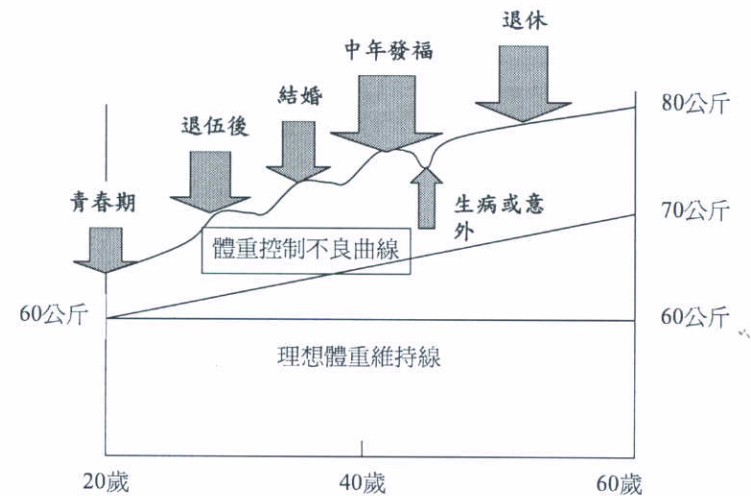
## What Makes Weight Loss Maintenance so Difficult?

- Become bored on restricted diets
- More responsive to palatable foods and social cues
- Decrease motivation, such as appearance, health
- “costs” of adhering to a weight loss regimen

## 女人體重演化期



## 男人體重演化期

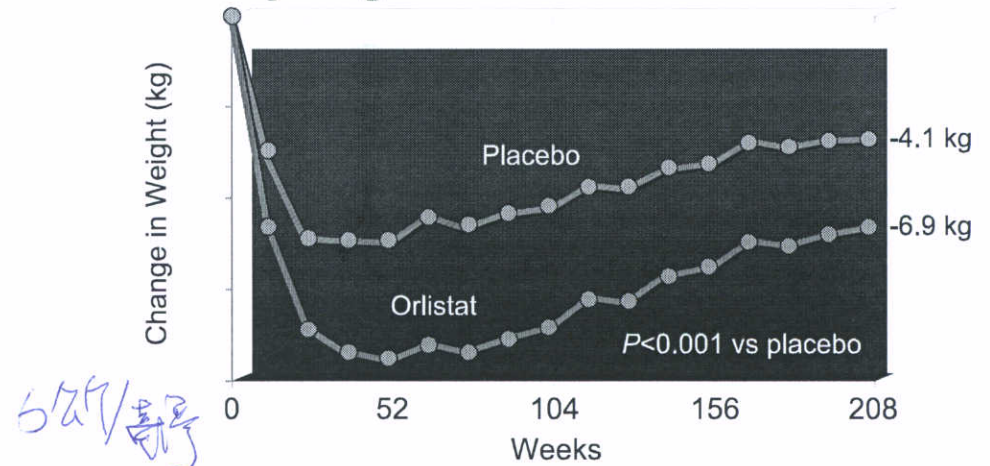


## The Challenge of Obesity Treatment: avoiding weight regain

- Avoiding weight regain is a challenge for many patients.
- Continued contact with a health care provider after weight loss is beneficial.
- Behavioral factors are associated with sustained weight loss.
- Exercise specialists and dietitians can provide support for sustained weight loss.
- Simple pragmatic programs may suffice.

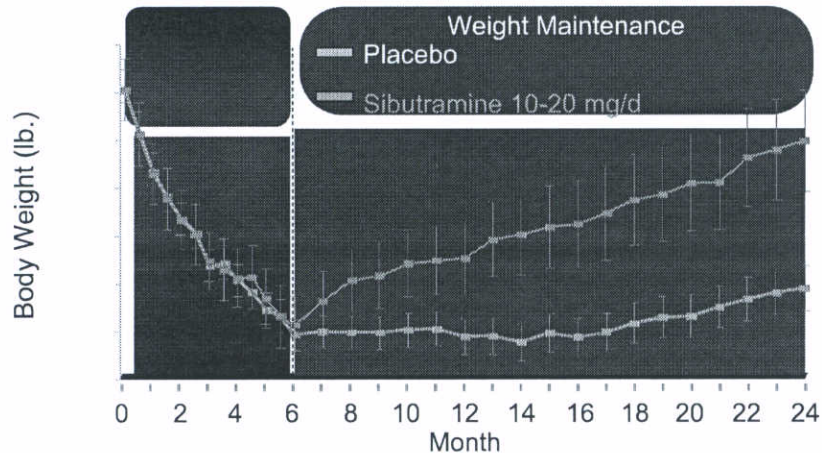
CMAJ 2009

## Effect of Long-term Orlistat Therapy on Body Weight



Torgenson et al. Diabetes Care 2004;27:155

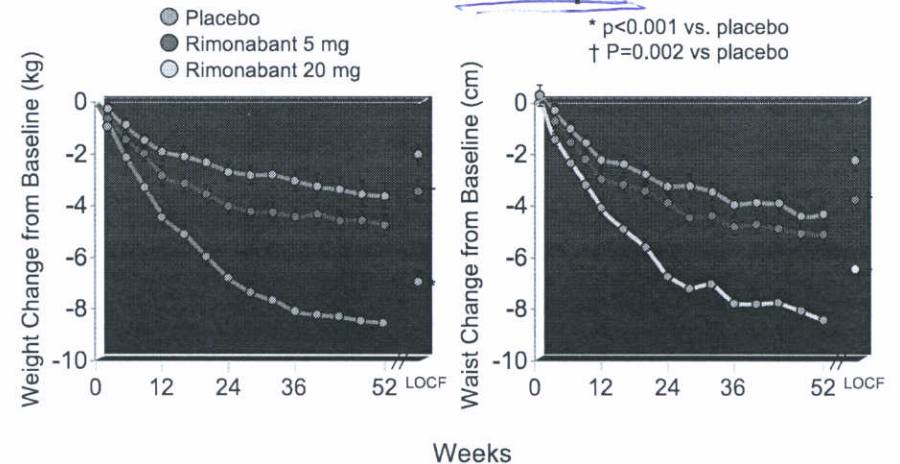
## Initial Responders to Sibutramine Can Maintain Long-term Weight Loss



Randomization at 6 months in those with  $\geq 5\%$  weight loss.

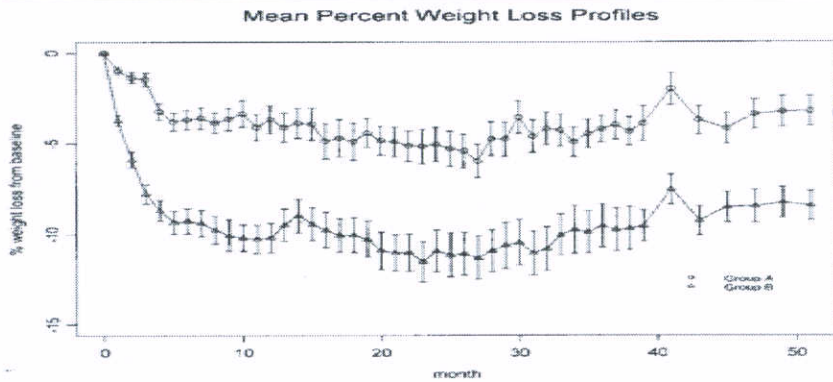
James et al. *Lancet* 2000;356:2119.

## Change from Baseline in Body Weight and Waist Circumference: RIO-Europe



Van Gaal LF et al. *Lancet* 2005;365:1389-1397.

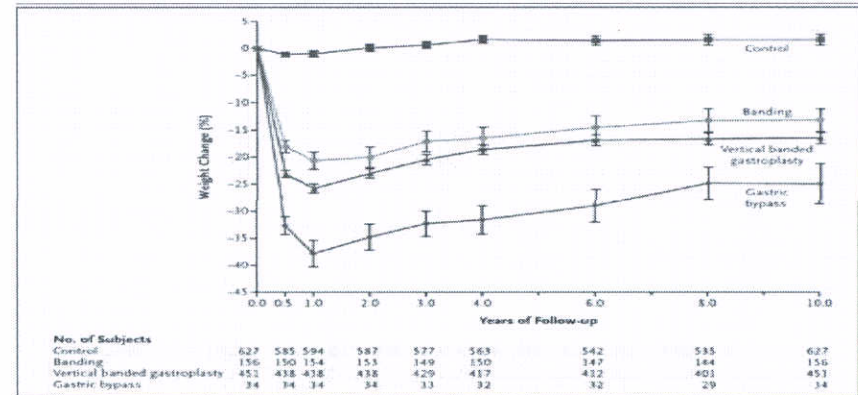
## Meal Replacement and Weight Maintenance



2餐/天  
2餐/天  
Slim-fat

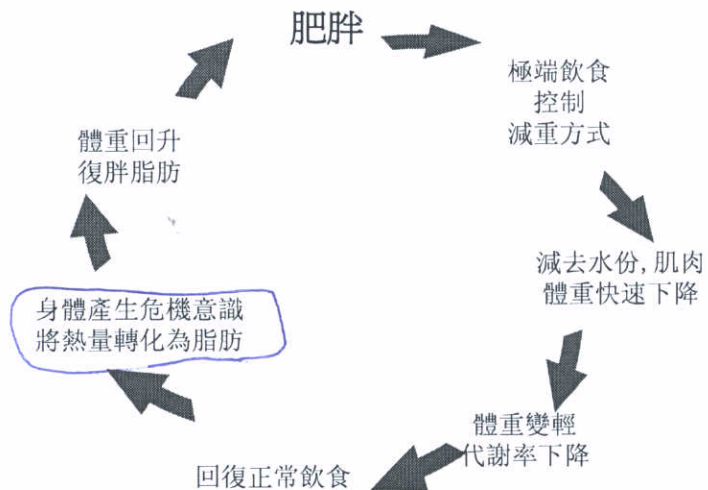
Obes Res 2000;8:399-402

## Bariatric Surgery and Weight Maintenance



N Engl J Med. 2004;351:2683-93

## Consequence of Poor Weight Maintenance: Yo-yo effect



## Weight Maintenance Strategies

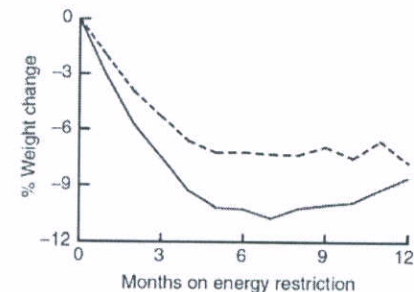
- Eating habits
- Self-monitoring
- Physical activity

## Dietary Intake in Long-term Weight Control

- Total calories
  - Calories and fat intake
  - LCD Vs. VLCD
- Macronutrient
  - Low fat Vs. low CHO
  - Adherence
- Simplicity
  - Meal replacement

Low-GI

## Low or Moderate Dietary Energy Restriction for Long-term Weight Loss: What Works Best?

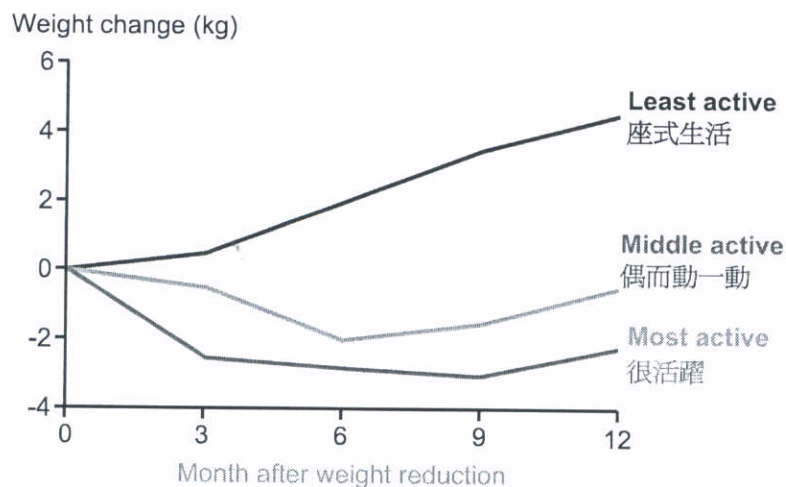


**Figure 1** Mean percentage weight change in the 10% (dotted line) and 30% (solid line) energy-restricted (ER) groups over 12 months. Significant change in percent weight over time ( $P < 0.001$ ), no significant difference in change in percent weight overtime between the 10 and 30%ER ( $P = 0.87$ ).

Obesity, 2009

## 如何避免復胖？

### Body weight changes and physical activity

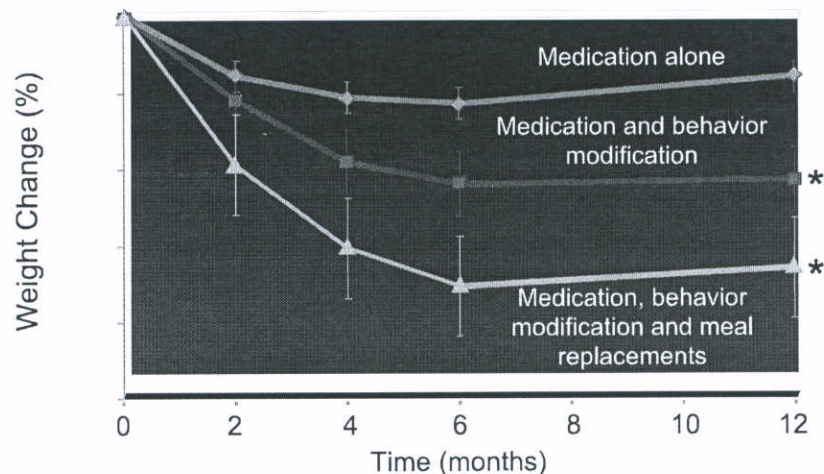


Andersen et al. JAMA 1999;281: 335-40

## Improving Long-term Adherence to Physical Activity

- Short bouts
- Home exercise equipment
- Small incentives 誘因
- Pedometers
- Group and supporter

## Additive Effects of Behavior and Diet Therapy with Pharmacotherapy for Obesity



\* $P < 0.05$  vs medication alone.

Wadden et al. *Arch Intern Med* 2001;161:218.

## Behavioral Strategy in Weight Maintenance

- Extended contact
- Clinical visit
- Phone call
- Internet
- Social support
- Problem solving and Relapse prevention

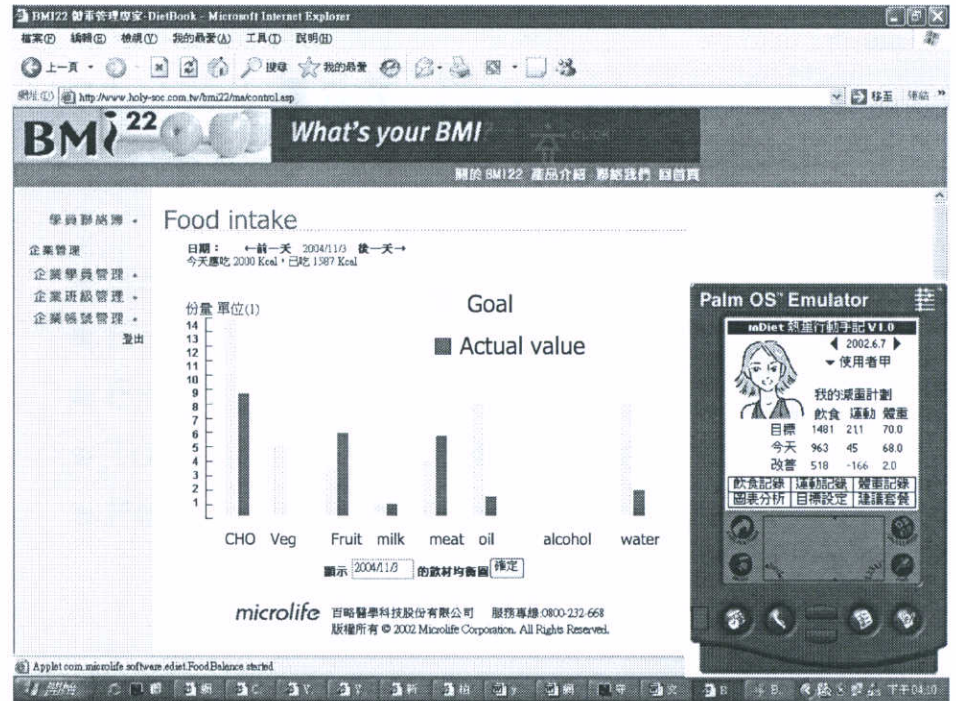
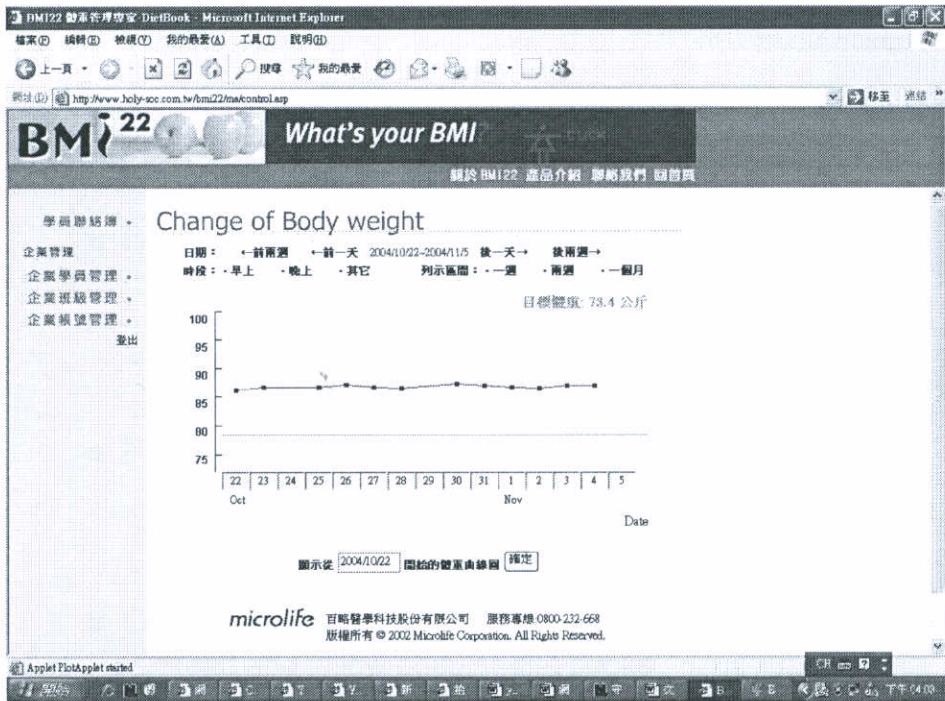
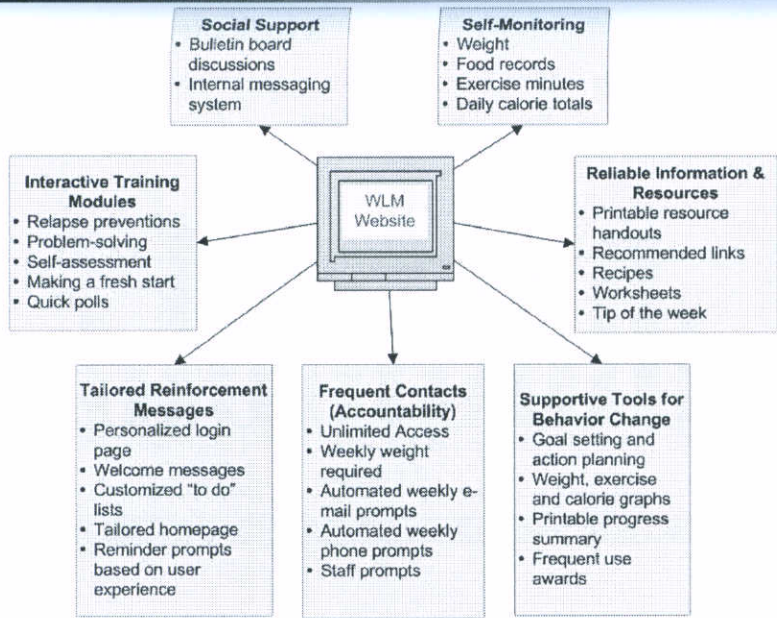
## Long-term Behavioral Modification Programs

- The spa
- Starvation
- Long-term treatment strategies
- Weight-loss camps
- Day care treatment
- The Internet and website

Obes Rev. 2008

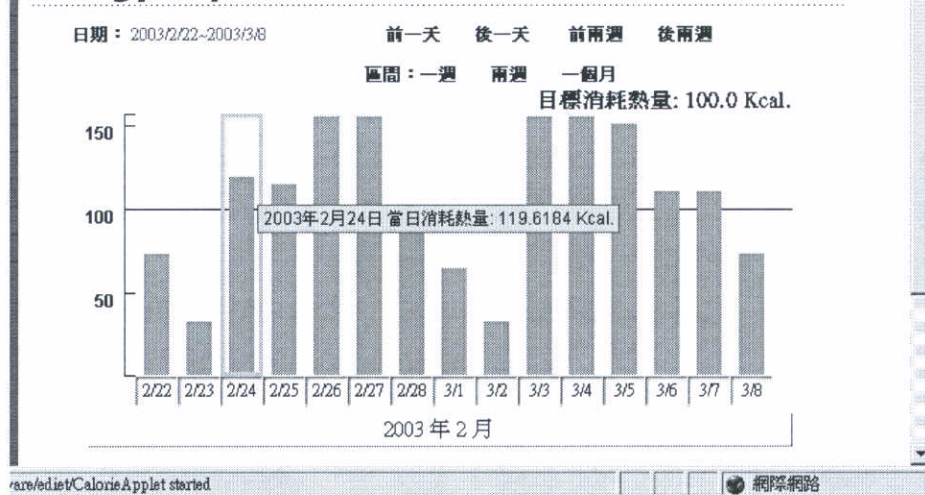
## Objectives of the WLM Interactive Behavior Change Website

- Reinforce existing behavioral self-management strategies
- Facilitate and encourage new self-management skills
- Improve self-efficacy for long-term weight management
- Remain fresh and inviting to encourage regular, long-term contact
- Promote social support among website users





## Energy expenditure



## The National Weight Control Registry (NWCR)

- 1994, Drs. Rena Wing and James Hill
- 18 years-old or older
- Have maintained a weight loss of at least 30 lbs. for at least one year
- More than 6000 participants enrolled to date
- Predominately female (77%)
- Before losing weight, the average BMI of 36.7

## What Makes Difference between Successful and Unsuccessful Maintainers

- Dietary
  - Eat >5 fruits/vegetables a day
  - Use prepackaged meals
  - Practice portion control
  - Count fat grams/choose low-fat food
- Physical activity
  - Exercise 30-60 min per day
  - Keep records for exercise
  - Make specific plans for exercise
- Others
  - Read and follow popular diet books

IJO, 2008

## What Makes Difference between Successful and Unsuccessful Maintainers

- Job commitments
- Healthy eating too expensive
- Exercise too time consuming
- Too easy to slip back into old habits
- Perceived difficulty of managing weight

IJO, 2008

## Weight Maintenance, Behaviors and Barriers

**Table 6** Final logistic regression model on successful weight loss maintenance outcome

<i>Dependent variable</i>	<i>Odds ratio (95% CI)</i>	<i>P-value</i>
Time since treatment	0.95 (0.91, 0.99)	0.011
Maximum weight loss on study	0.85 (0.78, 0.93)	<0.001
Exercise 30–60 min per day	<u>5.09 (1.69, 15.36)</u>	0.004
<i>Perceived difficulty of managing weight</i>		
Impossible	1.00	
Very difficult	2.80 (0.81, 9.69)	0.103
Fairly difficult	8.07 (2.21, 29.48)	0.002
Easy/relatively easy	<u>24.08 (2.24, 259.4)</u>	0.009

Abbreviation: CI, confidence interval.

IJO, 2008

## Experience from NWCR

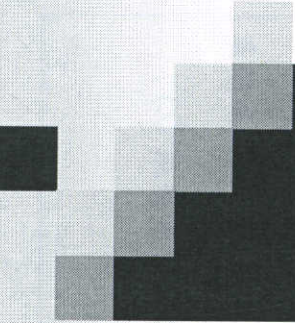
- Self-monitoring
  - Weight self regularly (at least once/week)
  - Count calories
- Dietary Intake
  - Consume a low-calorie, low-fat diet
  - Eat breakfast regularly
  - Limit portion sizes
  - Limit intake of high fat/high calorie foods
- Physical Activity
  - Engage in high levels of physical activity (>300 min/week)

## What Successful Registry Weight Loss Members Do?

- A low daily caloric intake
- Most meals are prepared at home
- Rarely eat fast food
- Very little variety in their diet
- self-monitoring
- Count calories
- Walking and cycling
- Watch 6-10 hr/week TV (Vs. 28 hr)

## Summary

- Goal setting
- Targeting decreased caloric intake
- Increasing physical activity
- Making patients accountable and vigilant
- Teaching skills related to problem solving and relapse prevention
- Helping patients realize that successful weight loss maintenance is possible



Thanks for your attention

劉燦宏