

授課講師學經歷

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課程名稱(主題)	如何維持減肥後之體重
服務單位(包含職稱)	內湖長春診所
學歷	1. 中山醫學院醫學系畢業 2. 台北醫學大學保健營養學系碩士畢業
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授課內容摘要

減重後，復胖一直是減重者之夢魘；要如何保持不復胖是患者與醫師(或專業指導者)，都要學習的課題。

(一) 患者要學習的課題

1. 認清造成肥胖之成因:<eg; 肥胖基因、飲食行為模式、生活模式>
2. 減重過程中是採取哪一種模式<eg; 藥物模式、運動模式、飲食模式、禁食模式>
3. 減重成效評估:是否只是減少水份?是否是屬快速減重?
4. 減重後之心理調適問題:如是否視體重為健康之要素; 體重控制之動力是否存在; 外在飲食環境; 飲食模式是否有正向之改變

(二) 醫師(或專業指導者)之角色

1. 減重病患之歸類:<eg; 經常重覆減重者、是否為遺傳性肥胖之基因型肥胖、藥物性肥胖、時差性肥胖、暴食症性肥胖等…之區別診斷之建立)
2. 減重治療之模式:藥物治療; 藥物之種類控制食慾、提升新陳代謝率、中樞性食慾控制劑、末梢性待參控制劑、脂肪吸收抑制劑等…
3. 減重期間之配套措施是否完配: 飲食流量表之建立、飲食行為模式之紀錄
4. 減重後之追蹤方案:<eg; 不定期之間歇性治療之必要性)
5. 建立與病患雙向互動之可行策略:<eg; 定期之減重成果檢測)

復胖防治措施

劉伯恩 馬偕護專講師

如何維持減肥後之體重 (13:20~14:10)

(1)復胖率之統計

模式:藥物減重

時間:95.2~97.2 兩年期間

地區:台北、台中、桃園、新竹、高雄、嘉義、基隆、台南

人數:2058

男女: 4:1

比例: 6 ms 內 79.8% (停藥後比減重前↑10%)

藥物減重

1 yr 內 35% (停藥後比減重前↑10%)

※非藥物減重之復胖率

模式:低卡代餐+運動+飲食紀錄

人數:52

年齡:25~60yrs

男女: 5:1

比例: 6 ms 內 21.3% (停止後比減重前↑10%)

1 yr 內 32.5% (停止後比減重前↑10%)

- (2)復胖率因素之探討
- 1.體質因素
 (eg.) 遺傳性體質：如：TTO、Polymorphisms SOSC3, STAT3
 - 2.藥物因素
 (eg.) ADEK、安眠藥、鎮靜劑、高血壓用藥、糖尿病用藥
 - 3.環境因素
 (eg.) 人工冬眠環境、居住環境因素
 - 4.不當的減肥模式
 (a) 非藥物模式：苦肉計減肥法、超低熱量減重法、民間偏方減重法、激烈運動減重法
 (b) 藥物模式：中樞神經藥物的過度使用(over use)及過量使用(over dose)
 甲狀腺素減重法、利尿劑減重法

防止復胖策略

- 1.運動措施
- 2.飲食措施
- 3.藥物措施

(3)防止復胖的方法

- 『1』 Physical Activity in Relation to Long-term Weight Maintenance After Intentional Weight Loss in Premenopausal Women.
- (A) The type and amount of physical activity (PA) needed for prevention of weight regain are not well understood.
- (B) 4558 premenopausal women who were 26-45 years old in 1991 and had lost >5% of their body weight in the previous 2 years.

(C) BMI ≥ 25 → -1.36Kg (30min/day)
BMI ≥ 25 → -3.26Kg → jogging running
BMI ≥ 25 → -1.69Kg → brisk walking

D) 運動處方之設計

- 【a】:以2週為單位
- 【b】:以3~4種不同運動模式 (eg.) 慢跑、體操、游泳、網球...
- 【c】:運動前後一小時內，避免高蛋白、高熱量食物之攝取
- 【d】:同種運動模式以兩週為上限，以防止產生運動抗耐性

適當體適能運動在維持不復胖之角色

根據American College of Sports Medicine (ACSM) 的研究指出

- (1) 每週有 150-250 min 之中等強度運動，是最有效防止復胖之運動模式。
- (2) 每週多於150-250 min 之運動，是最據臨床減重效果之運動。

飢餓感可藉由運動來改善
(The effectis of exercese regalutha)

根據 Norwegian University Norway的研究發現

- (1)短期食慾的調控可藉著運動來調控
- (2)其作用的機轉主要是藉著運動後，身體會釋放出飽足感的胜肽元素 (postprandial release of satiety peptides)
- (3)有些研究報告指出：適當的體適能運動，可以使血液中的serofonuin上升，因此可以達到食慾控制的目的。

Table 30.2 Basic principles for weight-reducing diets

<i>Reduce fat intake</i>
• Eliminate fat when possible (no fat on bread, lean meat products, control of hidden fat sources such as desserts, pastries, confectionery, sausages, patés etc.)
• Substitute (use low fat products when possible)
• Introduce low fat cooking methods (instead of frying use grilling, broiling, fat spray use etc.)
<i>Reduce certain carbohydrates</i>
• Eliminate sugar, sweet and soft drinks, confectionery, puddings, ice-cream etc.
• Limit alcohol consumption
• Substitute sugar with artificial sweeteners when possible
• Increase the consumption of high fibre vegetables such as beans, lentils, wholemeal, bread, cabbage etc.

Table 30.1 Characteristics of macronutrients (modified after Blundell (5))

	Fat	Protein	Carbohydrate	Alcohol
Ability to bring eating to an end	Low	High	Intermediate	Stimulates appetite
Ability to suppress hunger	Low	High	High	Stimulates appetite
Contribution to daily energy intake	High	Low	High	Varies
Energy density	High	Low	Low	High
Storage capacity in body	High	None	Low	None
Metabolic pathway to transfer excess intake to another compartment	No	Yes	Yes	Yes
Autoregulation (ability to stimulate own oxidation on intake)	Poor	Good	Good	Poor
Calories per gram	9	4	4	7

Table 30.3 Characteristics of a balanced low calorie diet for long-term use (in part based on the NIH Guidelines (8))

Nutrient	Recommended intake
Calorie ^a	Approximately 500 to 1000 kcal/day reduction from usual intake
Total fat ^a	30% or less of total calories
Saturated fatty acids	≤ 10% of total calories
Monounsaturated fatty acids	Up to 15% of total calories
Polyunsaturated fatty acids	Up to 10% of total calories
Cholesterol ^a	< 300 mg/day
Protein ^a	Approximately 15% of total calories
Carbohydrate ^a	55% or more of total calories
Fibre	20–30 g/day
Vitamins, minerals and trace elements ^b	From natural sources according to recommended national daily intake

Table 30.4 Behavioural techniques to improve effects of dietary treatment for obesity. Examples of advice

- Plan cooking so that there are no leftovers
- Serve meals on small size plates
- Never eat out of kitchen utensils
- Always eat at the same place
- Concentrate on food, avoid external distractions
- Chew each bite at least 20 times
- Put down knife and fork between each bite
- Let each meal last at least 20 minutes
- Remove leftovers out of sight immediately after meal
- Cover food with invisible plastic cover or aluminium foil to avoid eating cues
- Never shop on empty stomach
- Always make a shopping list
- Shop with others, to control spontaneous purchases of unintended items

Table 12.4 Characteristics of individuals maintaining a weight loss of at least 30 pounds (13.6 kg) for at least one year

Body weight loss	30.1 kg
Duration of maintenance	5.7 years
Relative fat intake	25% of total energy intake
Physical activity participation*	11 847 kJ/week

*Including strenuous physical activities.
Adapted from McGuire *et al.* (57).

Table 30.5 Effects of dietary fibre on weight reduction

Reference	Energy intake (kJ/day)	Added fibre (g/day)	Number of patients	Duration (weeks)	Initial BMI (kg/m ²)	Mean weight reduction (kg)	
						Fibre	Placebo
Ryttig <i>et al.</i> (1985) (37)	5000	7	89	11	29.0	6.3	4.2
Solum <i>et al.</i> (1987) (38)	5000	6	60	12	26.8	8.5	6.4
Ryttig <i>et al.</i> (1989) (39)	5000/6700 (ad lib)	7/6/6	97	11/26/52	27.4	3.8	2.8
Ryttig (1990) (40)	5000	6/4	53	24	27.5	8.0	5.8
Rigaud <i>et al.</i> (1990) (41)	7376/7544	7	52	24	29.3	5.3	2.9
Rössner <i>et al.</i> (1987) (42)	5880/4550	5	60	8	36.3	7.0	6.0
Rössner <i>et al.</i> (1987) (42)	6720	7	45	12	35.9	6.2	4.1

Table 30.6 Effects of dietary fibre in obesity treatment

- Dietary fibre increases food volume, reduces energy density and exerts a displacement effect
- Dietary fibre increases chewing work and prolongs mealtime
- Dietary fibre-rich food retains satiety more than diets poor in dietary fibre
- Dietary fibre (soluble) maintains glucose homeostasis in the circulation for longer periods
- Dietary fibre (soluble) may reduce low density lipoprotein cholesterol levels
- Dietary fibre (non-soluble) improves gastrointestinal function and prevents constipation

Table 12.1 Effects of leptin and insulin (euglycemia) on energy balance

Variables	Leptin	Insulin
Energy intake	↓	↓
Energy expenditure	↑	↑
Activity level	↑	?
Neuropeptide Y	↓	↓
Sympathetic nervous system activity	↑	↑

Table 12.2 Opposite (A) and concordant (B) effects of physical activity and metabolic cardiovascular syndrome related to fat gain

	Physical activity effect	Variables	Metabolic cardiovascular syndrome
A	↓	Blood pressure	↑
	↓	Plasma glucose	↑
	↓	Plasma insulin	↑
	↓	Plasma triacylglycerols	↑
	↓	Plasma total cholesterol	↑
	↑	Plasma HDL cholesterol	↓
	↓	Plasma apoB*	↑
	↓	Plasma cholesterol: HDL cholesterol	↑
	↑	LDL particle size ^a	↓
B	↑	SNS activity	↑
	↑	Energy expenditure	↑
	↑	Fat oxidation	↑

*Additional atherogenic features of the metabolic cardiovascular syndrome (31).

HDL, high density lipoprotein; LDL, low density lipoprotein; SNS, sympathetic nervous system; apoB, apolipoprotein B.

Table 12.3 Energy intake, expenditure and balance over 2 days under high or low fat conditions following a moderate intensity exercise session

Variables	Post-exercise period	
	Low fat diet	High fat diet
Energy intake (MJ)	25.7 ± 3.3	32.2 ± 5.1
Energy expenditure (MJ)	29.9 ± 7.3	29.1 ± 6.2
Energy balance (MJ)	-4.2	3.1

Adapted from Tremblay *et al.* (49).

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飲食及運動之調整速度應從小量開始
(Small changes in nutrition and physical activity)

USA East Carolina University 研究顯示

ASPIRE group → 4wks → - 4.4kg

Atasnd group → 4wks → - 1.1kg

Atasnd group → 4wks → + 1.1kg

(2) ASPIRE group → 3ms → + 4.1kg

alernatine group → 3ms → + 0.9kg

因此在防止復胖策略上，剛開始之飲食與運動之調適要從小量及微量開使。

(4)藥物處方之設計

《一》漸減式

- a:劑量之遞減 (eg.) 10mg → 5mg → 2.5mg
- b:次數之遞減 (eg.) qid → tid → bid → QD

《二》偶而式

- a:大餐時服用一次
- b:體重開始回升↑1%時服用一週或3天

《三》避免使用易產生抗藥性之藥品種類

- a:中樞神經興奮劑
- b:利尿劑

(6)藥物維持不復胖之治療時間

(一)第一次減重者

遞減期→ 3ms

(二)重覆減重超過3次者

遞減期→ 6ms

(三)最近一次減>10%

遞減期→ 2ms

(四)最近一次減>20%

遞減期→ 3ms

(五)最近一次減>30%

遞減期→ 6ms

(5)心理輔導

1:協談式

2:安慰劑之使用
