

Aim to maintain a healthy weight throughout life





'Globesity'

- Overweight people now outnumber the under nourished
- Globally there are 1 billion overweight adults and 300 million of these are obese
- In contrast 800 million do not have enough to eat
- By 2010 developing countries will have caught up



But what do people really think?

A study looked at young women and mothers of school aged children in NZ and overseas

- Divided: People are aware of the rising rate of obesity, but divided over how serious a problem it is, or whether it is a problem to be overweight
- Concern about obesity among women was more about attractiveness than how it affected their health
- People see obesity as a personal responsibility



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○ Why? Obesity...

- Impaired glucose tolerance and type 2 diabetes and other metabolic conditions
- Cardiovascular disease
- Osteoarthritis
- Obstructive sleep disorder
- Infertility
- Low self-esteem
- Discrimination
- Depression
- Breast Cancer
- Colorectal cancer
- Reduced quality of life
- Reduced life expectancy



Aim to maintain a healthy weight throughout life

- Why? Obesity =
 - More than half the adult population in NZ is overweight or obese
 - >1000 deaths per year (2x road toll)
 - \$300 million in NZ
 - Type 2 diabetes;
 - \$540 million in 2006-7
 - 213 600 people = 6.7% of the adult popn
 - 90% of Type 2 diabetics are obese
 - Socioeconomic inequality



Why is it all so complicated?

The Conundrum

- Lots of choice
- Super sizing our meals / Portion distortion
- Fast food was a treat
- We didn't have the choice of 300 muesli bars
- We didn't eat food on the run
- People move less now

Why is it all so complicated?

○ “I know I should be more active, but, I just can’t find the _____ ”

- MOTIVATION
 - TIME
 - ENERGY
 - SUPPORT FROM OTHERS
- = Obstacles to Action



○ Physical Activity:
“No pain, no gain”
- WRONG!



What determines weight?

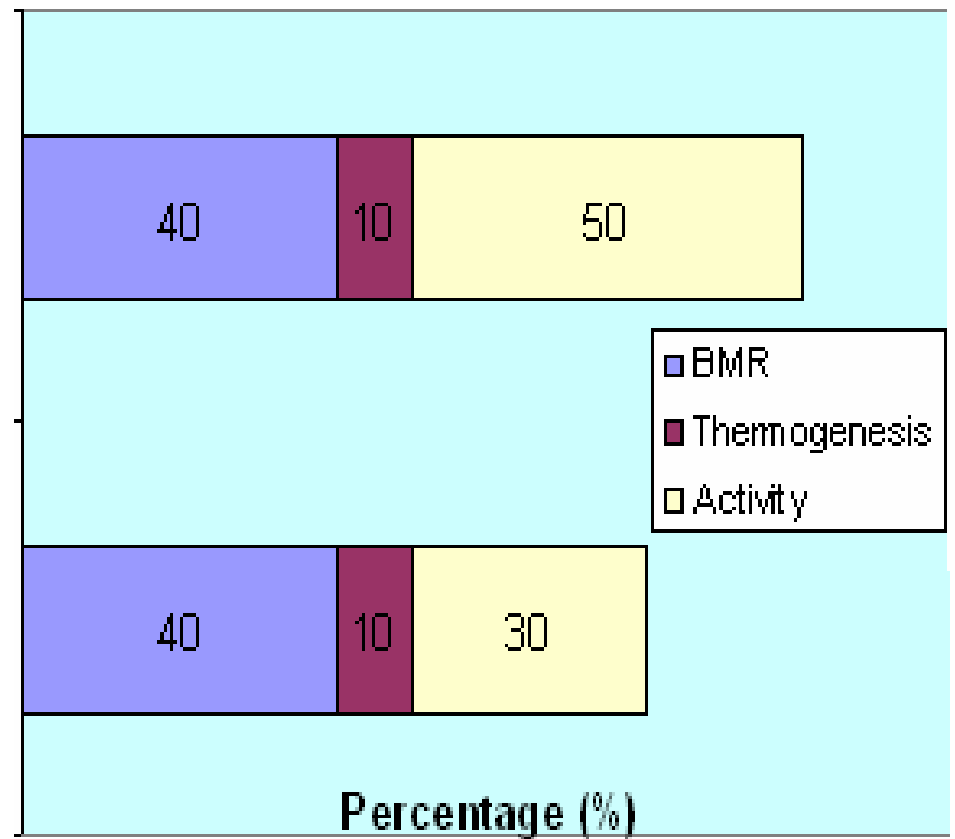
$$\begin{aligned} & \circ \text{ Energy intake} \\ & \quad + \\ & \text{Energy expenditure} \\ & \quad = \\ & \text{Energy balance} \end{aligned}$$



Energy expenditure

Person doing heavy manual labour

Sedentary Person



Physical Activity

- Being physically active is important to help maintain a healthy weight
- “Any physical activity is better than none, although more is better than a little”
- Small changes can make a big difference!





- “30 mins of moderate PA on most days can improve glucose metabolism, blood pressure, cholesterol, and body weight.”
 - WHO “Reducing risks, promoting healthy life”, 2002.
- For cancer prevention, the more PA, the lower the risk of cancer, and adding some vigorous PA will give extra protection against heart disease and better fitness.

Small changes make a difference

○ Eg. 1

- Short brisk walk car to office 10min
 - Short brisk walk at lunch 10 min
 - Short brisk walk office to car 10 min
- = 30 mins




○ Eg. 2

- Go to bed 10 mins earlier
- Get up 20 mins earlier
- Brisk 30 min walk before work
- (And get ready 10 mins faster!)



= 30 mins





So how do we measure whether we are overweight or obese?

- BMI (Body Mass Index)

$$\frac{\text{Weight (kg)}}{\text{Height squared (m}^2\text{)}}$$

- Classifies adults > 18 years

When it doesn't work

James a 19 year old rower
6ft 2ins (1.88m) tall
8 st (99kg)

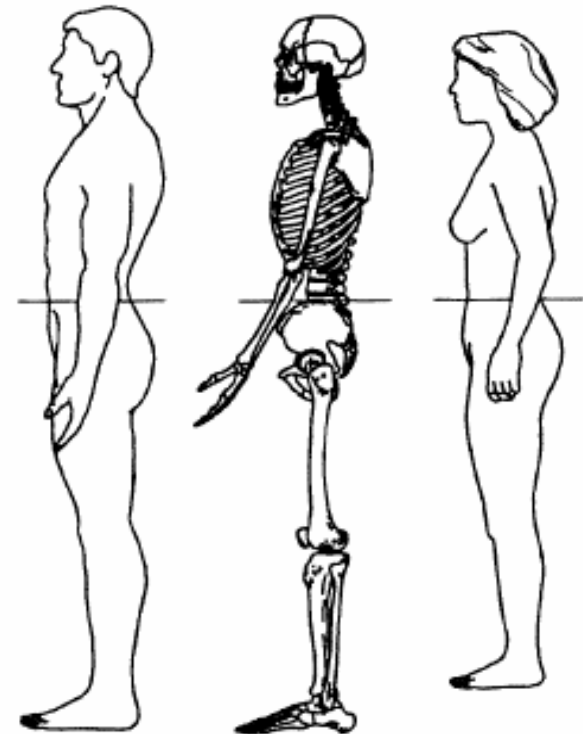
$$\text{BMI} = \frac{99 \text{ kg}}{(1.88\text{m})^2} = 28$$



He is at the top end of the overweight category, borderline obese

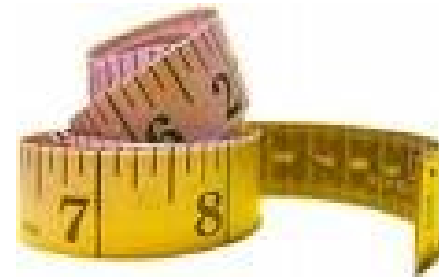
So how do we measure whether we are overweight or obese (CONT)

- Waist circumference (WC)
- Measure of abdominal obesity (fat around the middle)
- Waist size may pose more heart disease risk than weight

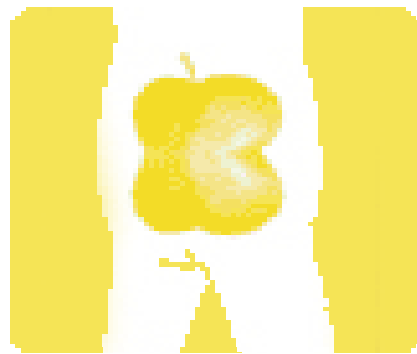
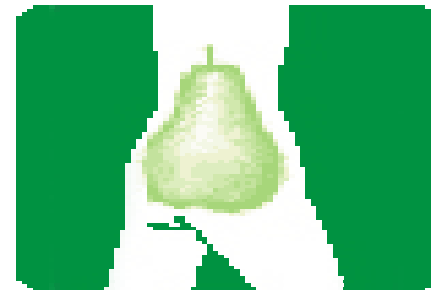
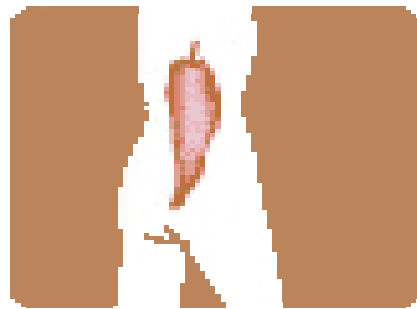


Measuring your waist circumference (WC)

- Place a tape measure around the narrowest point of your waist (between your lower ribs and your hips)
- Breathe out and measure the circumference



An easier way to look at things





- Which body shape pose the most risk?

- Most risk: Apple

- Next is the yellow shape

- Then pear, and chilli

- Most of us store body fat in one of two distinct ways – around hips and thighs, or around our middle

- Note: The emerging research suggests that BMI is no longer the best predictor of future health problems. BMI still has some value as a rough screening tool. However it is becoming clear that fat deposited around the middle (waist) is a more important risk factor.

Looking to the future.....

Body Volume Index (BVI)

- 3D white light non-radioactive scanner
- Non-invasive
- Quick: 7 sec
- ↓ Error rate (uniform)



BVI

- Body Shape + Body fat
- Designed calculate risks associated with persons shape
- Health risk indicator
 - Bloods
 - Body fat
 - Body weight by part



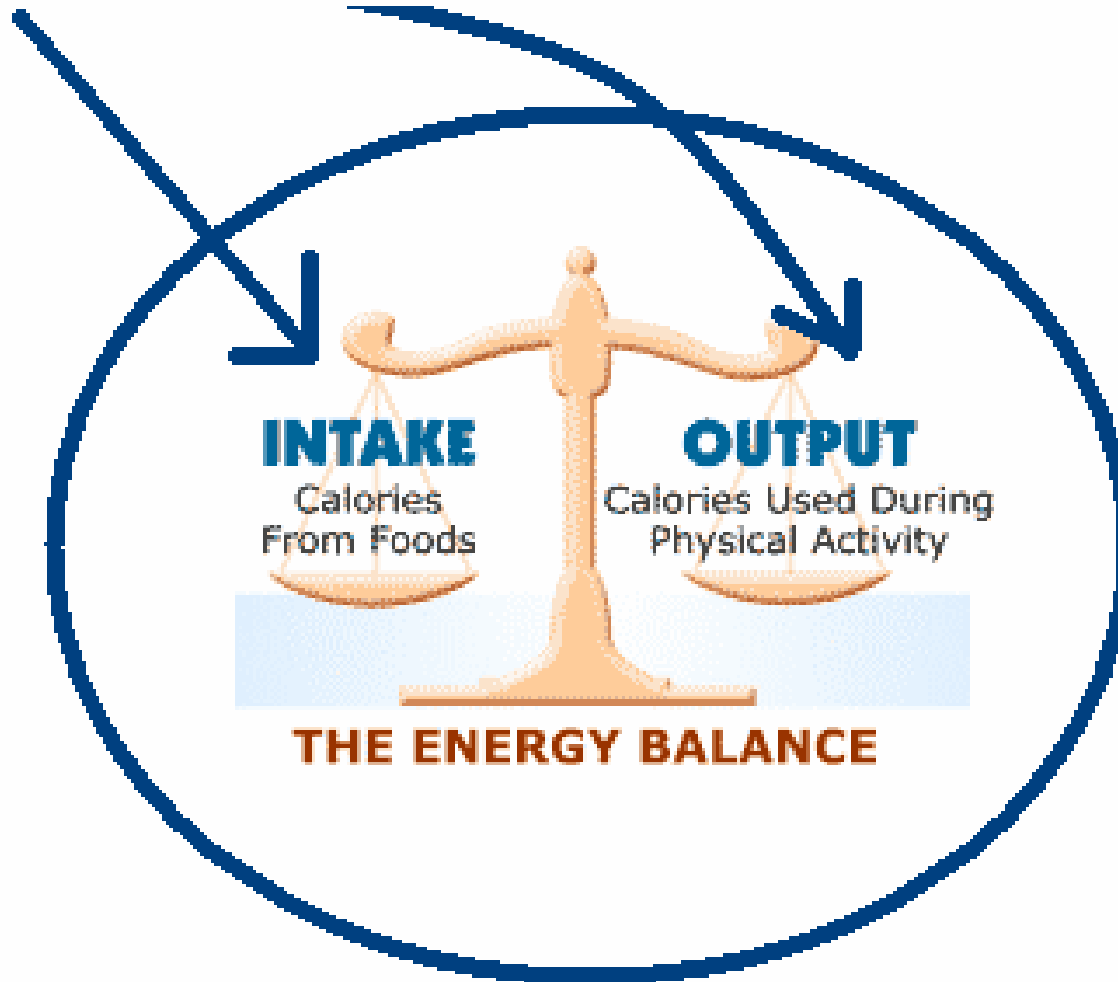
"Virtual Model"



Some times it is about being aware

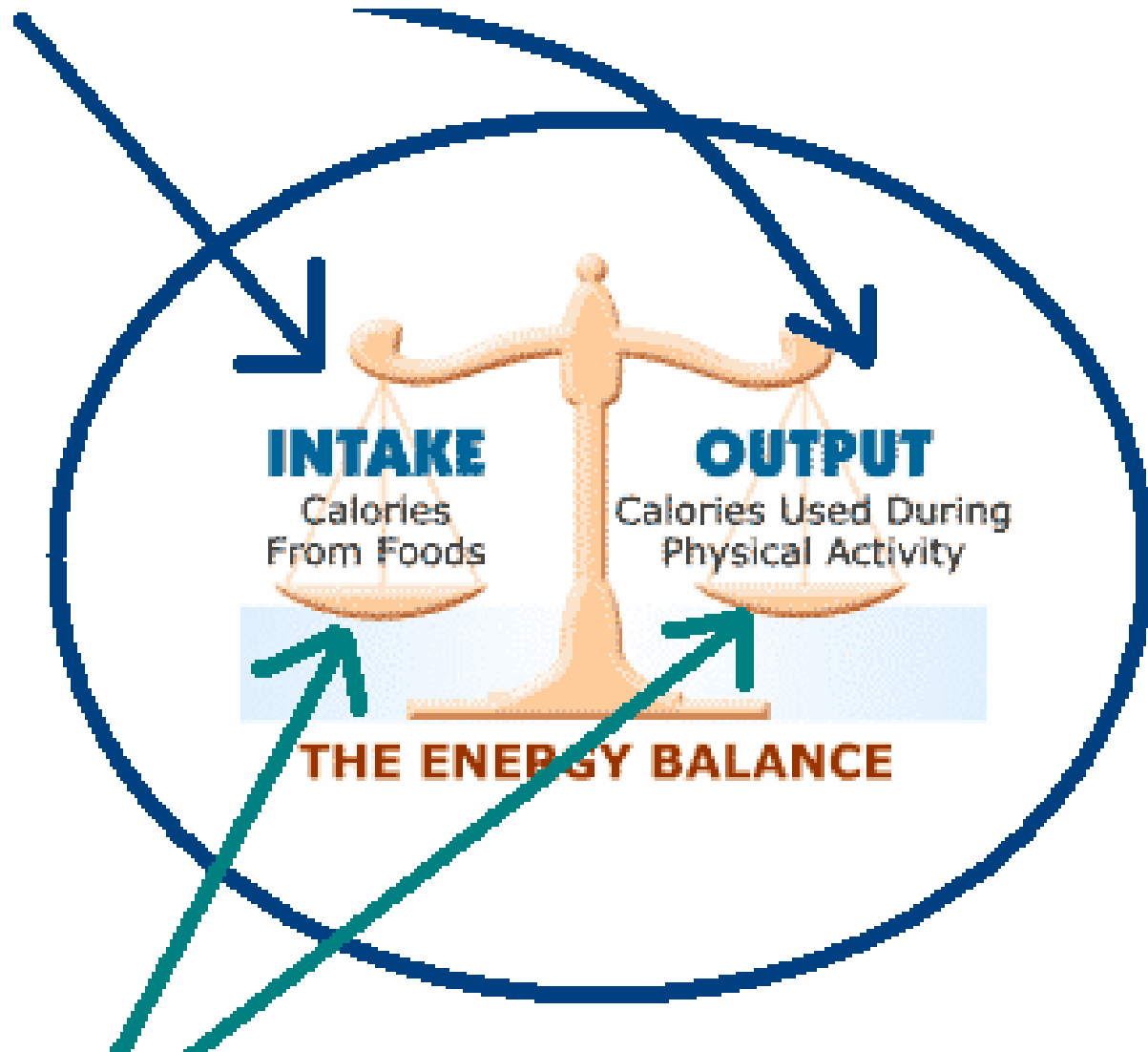
- Eating patterns questionnaire
- Changing eating patterns

Environment



Obesity has been described as a “normal response to an abnormal environment”

Environment



Behaviour