



**This is your  
presentation  
title**

**Obesity Treatment  
Pyramid**



وزن ایده آل

فرمول Hamwi

مردان: ۴۸ کیلوگرم برای ۱۵۲/۴ سانتی متر اول قد + ۱/۱ کیلوگرم برای هر سانتی متر اضافه قد  
زنان: ۴۵ کیلوگرم برای ۱۵۲/۴ سانتی متر اول قد + ۰/۹ کیلوگرم برای هر سانتی متر اضافه قد

تعیین اندازه جثه با استفاده از فرمول: محیط مچ دست / قد  $r = (\text{cm})$

اندازه جثه	مردان	زنان
کوچک	$> 10/4$	$> 11$
متوسط	$9/6 - 10/4$	$10/1 - 11$
بزرگ	$< 9/6$	$< 10/1$

محدوده BMI نرمال	محدوده سنی
۱۹-۲۴	۱۹-۲۴ سالگی
۲۰-۲۵	۲۵-۳۴ سالگی
۲۱-۲۶	۳۵-۴۴ سالگی
۲۲-۲۷	۴۵-۵۴ سالگی
۲۳-۲۸	۵۵-۶۴ سالگی
۲۴-۲۹	۶۵ > سالگی

وزن ایده آل

BMI



کالری متابولیسم پایه

هریس بندیکت

(سن بر حسب سال)  $6/8$  - (قد بر حسب سانتی متر)  $5$  + (وزن بر حسب کیلو گرم)  $13/7$  +  $66$  = انرژی متابولیسم پایه در مردان

(کیلوکالری در روز)

(سن بر حسب سال)  $4/7$  - (قد بر حسب سانتی متر)  $1/8$  + (وزن بر حسب کیلو گرم)  $9/6$  +  $655$  = انرژی متابولیسم پایه در خانم ها

(کیلوکالری در روز)

کالری متابولیسم پایه

مفلین

۵+ (سن بر حسب سال) - ۵ (قد بر حسب سانتی متر)  $\frac{6}{25}$  + (وزن بر حسب کیلو گرم)  $10 =$  انرژی متابولیسم پایه در مردان

(کیلوکالری در روز)

۱۶۱- (سن بر حسب سال) - ۵ (قد بر حسب سانتی متر)  $\frac{6}{25}$  + (وزن بر حسب کیلو گرم)  $10 =$  انرژی متابولیسم پایه در خانم ها

(کیلوکالری در روز)

کالری متابولیسم پایه

فرمول ساده و  
کاربردی

$24 \times 1 \times (\text{کیلوکالری در روز}) = \text{انرژی متابولیسم پایه در مردان}$

$24 \times 0.95 \times (\text{کیلوکالری در روز}) = \text{انرژی متابولیسم پایه در زنان}$

وزن ایده آل اصلاح  
شده

$$AIBW = \text{وزن ایده ال} + [ (\text{وزن فعلی} - \text{وزن ایده ال}) \times 0.25 ]$$



کالری مورد نیاز  
فعالیت بدنی

۳۰/۱ × انرژی متابولیسم پایه = انرژی مورد نیاز برای فعالیت های بدنی خیلی سبک (کیلوکالری در روز)

۵۰/۱ × انرژی متابولیسم پایه = انرژی مورد نیاز برای فعالیت های بدنی سبک (کیلوکالری در روز)

۸۰/۱ × انرژی متابولیسم پایه = انرژی مورد نیاز برای فعالیت های بدنی متوسط (کیلوکالری در روز)

۲/۵-۱ × انرژی متابولیسم پایه = انرژی مورد نیاز برای فعالیت های بدنی سنگین (کیلوکالری در روز)

✓ حفظ حداقلهای هرم غذایی

✓ میزان مجاز شکر؟

✓ میزان مجاز کاهش کالری

✓ حفظ وزن کاهش یافته

✓ افزایش دریافت پروتئین در زمان کاهش کالری دریافتی

✓ تجویز مولتی ویتامین مینرال

✓ کاهش تدریجی کالری دریافتی

✓ توجه به ترجیحات غذایی فرد

نکات مورد توجه

فرمول Hamwi

*X According to the Institute of Medicine's report,  
Weighing the Options:*

*X Successful long-term weight control by our  
definition means losing at least 5% of body  
weight and keeping it below our definition of  
significant weight loss for at least one year.*

*X Weight loss of only 5% to 10% of body weight  
may improve many of the problems  
associated with overweight, such as high  
blood pressure and diabetes.*

Weight Change  
New Criteria for  
Success



- X Aerobic exercise from 40-60 minutes can raise REE the following day for 19-24 hours*
- X Caffeine mildly raises REE*
- X Resistance work over time will increase lean mass and raise REE for that weight*
- X Calorie restriction lowers REE*
- X Weight loss of 10-20% reduces REE – (lasts at least 3-5 years)*

What modifies  
the REE over  
time?



- ✓ *Diets providing 200-800 kcals/day*
- ✓ *Hypocaloric but relatively rich in protein (.8-1.5 g/kg/day)*
- ✓ *Designed to include adequate vitamins, minerals, electrolytes, and EFAs*
- ✓ *Completely replace usual meal intake*
- ✓ *Usually given for 12-16 weeks*
- ✓ *Usually reserved for those with BMI > 30; or 27-30 with risk factors*
- ✓ ***Where very low calorie diets are indicated for rapid weight loss, these should be conducted under medical supervision.***

Very Low Calorie Diets  
(VLCD)

## Very Low Calorie Diets (VLCD)



## Low Calorie Diets (LCD)



Which diet type  
is most effective  
in achieving a  
5kg weight loss  
target

### Do they work ?

Low calorie diets (1,000-1,600 Kcal/day) and very low calorie diets (1000 Kcal/day) are associated with modest weight loss (5-6%) at 12 months follow up.

### Which works best ?

Although VLCD are associated with greater weight loss in the short term (three to four months) this difference is not sustained at 12 months.

- *Having patients focus on reducing carbohydrates rather than reducing calories and/or fat may be a short term strategy for some individuals.*
- *Research indicates that focusing on reducing carbohydrate intake (<35% of kcals from carbohydrates) results in reduced energy intake.*
- *Consumption of a low-carbohydrate diet is associated with a greater weight and fat loss than traditional reduced calorie diets during the first 6 months, but these differences are not significant after 1 year.*  
***Fair, Conditional***

## Low Carbohydrate Diets



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## Low Fat Diets



## Low Carbohydrate diets



Which diet type is most effective in achieving a 5kg weight loss target ?

### Do they work ?

Both low carbohydrate (< 30 g/day) and low fat (< 30% of total daily energy intake from fat) diets are associated with modest weight loss (5kg) at 12 months. At six months there is significant difference in favour of low carbohydrate diets but this is not maintained at 12 months *Nordmann, A.J.,(2006) 1++*

### Which works best ?

There was no significant difference between low fat diets and a range of other dietary interventions at 18 months' *Cochrane Review (2007) 1++*



**X** *R.9.0 For people who have difficulty with self selection and/or portion control, meal replacements (e.g., liquid meals, meal bars, calorie-controlled packaged meals) may be used as part of the diet component of a comprehensive weight management program.*

**X** *Substituting one or two daily meals or snacks with meal replacements is a successful weight loss and weight maintenance strategy.*  
***Strong, Conditional***

## Meal Replacements



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**X** *R.11a A low glycemic index diet is **not** recommended for weight loss or weight maintenance as part of a comprehensive weight management program, since it has not been shown to be effective in these areas.*

***Strong, Imperative***

Low Glycemic Index Diets

- X Uses real food*
- X Contains 1.5 g protein/kg IBW as lean meat, fish and poultry*
- X May include low-carbohydrate vegetables*
- X Only fat is that present in the protein sources*

Protein Sparing  
Modified Fast (PSMF)



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**X** The initial goal of weight loss therapy is to reduce body weight by approximately 10 percent from baseline. Once this goal is achieved, then further weight loss can be attempted, if necessary.

**X** A reasonable time line for a 10 percent reduction in body weight is 6 months.

**X** Experience reveals that lost weight is usually regained unless a weight maintenance program, consisting of diet therapy, physical activity and behavior therapy, is continued indefinitely.

Goals for Weight  
Loss  
And Management



*X For overweight individuals with BMIs in the typical range of 27 to 35 kg/m<sup>2</sup>, a decrease of 300 to 500 kcal/day will result in weight losses of about ½ to 1 lb per week.*

*X A 10 percent weight loss could be achieved within 6 months.*

*X For more severely obese individuals (BMI > 35), deficits of up to 500 to 1,000 kcal/day will lead to weight losses of about 1 to 2 lb per week.*

*X A 10 percent weight loss could be achieved within 6 months.*

Goals for Weight  
Loss  
And Management

- X After 6 months of weight loss treatment, the individual should be assessed.*
- X If no further weight loss is needed, then the current weight should be maintained.*
- X Sustained physical activity is particularly important in the prevention of weight regain.*
- X If further weight loss is desired, another attempt at weight reduction can be made.*

Goals for Weight  
Loss  
And Management

- X Achievement of healthy body weight  
(or close to desired BMI)*
- X Select a realistic goal—no more than 1 to 1.5  
lb/week*
- X Prevent loss of LBM, especially from heart and  
brain*
- X Support psychosocial factors*

Goals for Weight  
Loss  
And Management



*X Men will lose weight faster than women of similar size, due to higher LBM and RMR*

*X A heavier person (who has higher energy needs) will lose weight faster than a smaller person on the same caloric regimen*

**Rates of Weight  
Loss Vary**

- X Research shows that approximately 4.5 hours of moderate intensity exercise (55-69% max HR) that results in an energy expenditure of at least 2000 calories per week, in combination with a reduced caloric intake, will produce desirable results.*
- X Intermittent exercise (10-15 minutes sessions) that accumulate to 30-40 minutes per day, seems to be as effective as continuous sessions.*
- X Start slowly...*

Determining  
Exercise Needs

*X Short bout exercise (10 minute intervals of moderate activity) practiced multiple times per day; shown to have better adherence in meeting exercise goals, with similar level of fitness.*

Lifestyle Activities



The 2005 Dietary Guidelines for Americans recommend the following for adults:

To reduce the risk of chronic diseases in adulthood:

Engage in at least 30 minutes of moderate-intensity physical activity, above usual activity, at work or home on most days of the week.

To help manage weight and prevent gradual, unhealthy weight gain in adulthood: Engage in approximately 60 minutes of moderate- to vigorous-intensity activity on most days of the week while not exceeding caloric intake requirements.

To sustain weight loss in adulthood:

Participate in at least 60 to 90 minutes of daily moderate- to vigorous-intensity physical activity while not exceeding caloric intake requirements. (Some may need to contact their healthcare provider before participating in this level of activity.)

How Much  
Physical Activity  
a Day?

*X Aerobic Activity: 30-60 minutes  
of moderate to vigorous activity  
most days of the week (e.g.  
brisk walking, stationary bike,  
swimming)*

*X Strengthening/Resistance 3  
days a week*

General Exercise Goal  
Recommendations

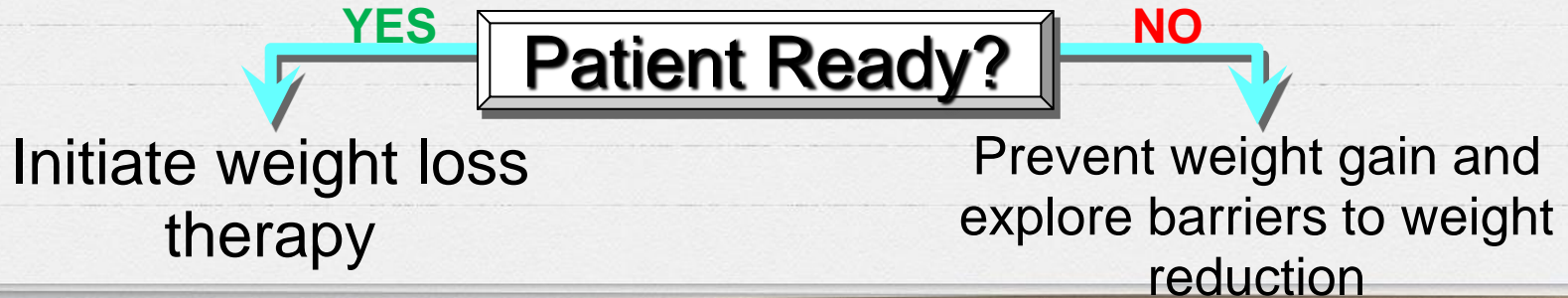
*Behavioral Therapy in  
Weight Management*





- X** Motivation: Patient is ready to make long-term changes in activity AND diet to lead to a lower weight
- X** Stress level: Patient is free of major life crises
- X** Psychiatric issues: Patient does not have untreated or under treated depression, substance abuse, bulimia nervosa
- X** Medical issues: Patient medical problems are stable
- X** Time availability: Patient can devote 15-30 min/d to weight control for next 26 weeks

Assessing Weight Loss Readiness



- X MI emphasizes the identification of differences between a client's current behavior and his/her desired goals.*
- X MI acknowledges ambivalence and "resistance" as part of the process vs. a lack of motivation.*
- X MI requires the helper to be reflective vs. directive.*

Motivational  
Interviewing (MI)

*How important is it for you right now to change your behaviors?*

*On a scale of 0-10 what number would you give yourself?*

0.....1  
0

*Not at all important*

*extremely important*

*What would need to happen for you to go from x to y?*

Importance/Confidence  
Scale



*If you decide to change, how confident are you that you could do it?*

*On a scale of 0-10 what number would you give yourself?*

*0.....1*

*0*

*Not at all confident  
confident*

*extremely*

*What would need to happen for you to go from  
x to y?*

Importance/Confidence  
Scale

*X If a client answers either question between 1-4, assume they are in pre-contemplation and consider the following steps:*

- X Validate their experience*
- X Acknowledge the client's control of decision*
- X Give your opinion on the medical benefits of weight loss*
- X Explore concerns from the client's view*
- X Acknowledge possible feelings of being pressured to change*
- X Validate that they are not ready and that it is solely their decision*
- X State that, at this time they are not ready, but that it is possible they may feel differently at a future time.*

Where to go from here...

*X Answers between 5-7 indicate some continued ambivalence, assume clients are in contemplation.*

*X Validate client's experience*

*X Restate that the decision to change is still completely their own*

*X Clarify pros and cons of changing behavior*

*X Leave opportunity for continued movement toward change.*

Where to go from here...



*X If answers are between 8-10,  
assume they are ready to take  
action and help prepare them for  
behavior change.*

- X Praise decision to change behavior*
- X Identify and assist in problem solving  
regarding obstacles*
- X Encourage small initial steps*
- X Help identify social supports*
- X Provide future follow-up appointments  
to assist with adherence*

Where to go from  
here...

*X Self-monitoring*

*X Recording food intake/evaluating  
nutrients*

*X Recording physical activity*

*X Stimulus control techniques*

*X Time*

*X Place*

*X Activity*

*X Sight/smell*

*X Emotions*

Behavioral Treatment  
Methods

*X Associated with significant health benefits.*

*X Single best predictor of weight maintenance.*

*X Not associated with short-term weight loss.*

Behavioral Treatment  
Methods  
Rationale for Increasing  
Physical Activity



*X Identify barriers*

*X Lack of time*

*X Lack of motivation*

*X Increased safety concerns*

*X Prescribe small changes*

*X Take the stairs*

*X Gardening*

*X Walking during work*

Behavioral Treatment  
Methods  
Increasing Physical  
Activity

*X 10% reduction over 20 to 24 weeks*

*X 33% regain at one year*

*X More weight regained over time*

Behavioral Treatment  
Results

- X Self-monitoring*
- X Stress management*
- X Stimulus control*
- X Problem-solving*
- X Contingency management*
- X Cognitive restructuring*
- X Social support*

Behavioral Therapy:  
NIH Guidelines



**X** *R.13.0 A comprehensive weight management program should make maximum use of multiple strategies for behavior therapy (e.g. self monitoring, stress management, stimulus control, problem solving, contingency management, cognitive restructuring, and social support).*

**X** *Behavior therapy in addition to diet and physical activity leads to additional weight loss. Continued behavioral interventions may be necessary to prevent a return to baseline weight. **Strong, Imperative***

Behavior Therapy in  
Wt Mgt

- X Records of place and time of food intake*
- X Accompanying thoughts and feelings*
- X Helps identify the physical and emotional settings in which eating occurs*
- X Provides feedback on progress and puts responsibility on the patient*

Self Monitoring

*X Process for defining the eating or weight problem*

*X Generating possible solutions; evaluating the solutions, choosing the best one*

*X Trialing the new behavior, evaluating outcome and generating alternatives*

Problem Solving



## *Modification of*

- ✗ The settings or the chain of events that precede eating*
- ✗ The kinds of foods consumed*
- ✗ The consequences of eating*
  - ✗ Become mindful of satiety cues*
  - ✗ Put fork down between bites*
  - ✗ Pausing during meals*

Stimulus Control

- X Teaches patients to identify, challenge, and correct negative thoughts*
- X Positive self-talk*

Cognitive Restructuring



*X Most effective in mildly obese (20-40% overweight)*

*X Patients can maintain losses of 20-25 pounds*

*X Longer programs more successful*

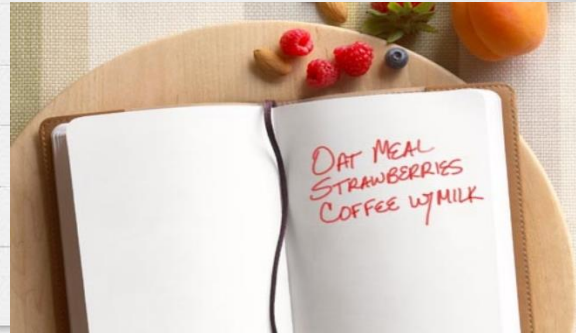
*X Many patients regain the weight they lost over time*

Behavior Modification



## Importance of Food Diaries

- *Self monitoring is an important behavioural strategy (O'Neill, 2001)*
- *Evidence to support those that have lost weight and successfully maintained weight loss for >2 yrs have regular self monitoring as a feature (Colvin et al, 1983)*



**X** *R.7.0 Total caloric intake should be distributed throughout the day, with the consumption of 4 to 5 meals/snacks per day including breakfast.*

**X** *Consumption of greater energy intake during the day may be preferable to evening consumption. **Fair, Imperative***

Eating Frequency  
and Patterns



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*X R.8.0 Portion control should be included as part of a comprehensive weight management program. Portion control at meals and snacks results in reduced energy intake and weight loss. **Fair, Imperative***

Portion Control



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*X Research shows that appointments 1-2 times a month for at least 16 weeks are most effective in establishing behavior changes. Long-term frequent follow-up needed for maintenance.*

*X Follow-up can be in person, group visit, on-line or by phone*

How do I follow-up with clients/patients?

- X Solution-focused brief therapy*
- X 5 As*
- X Motivational interviewing*
- X Personal improvement (systems approach)*
- X Diet and activity prescriptions*

*Make your approach:*

- X Non-judgmental*
- X Patient-centered*
- X Focused*
- X Documentation friendly*

Pick your counseling  
tool

**X** *R.3.0. Medical Nutrition Therapy for weight loss should last at least 6 months or until weight loss goals are achieved, with implementation of a weight maintenance program after that time.*

**X** *Greater frequency of contacts between the patient and practitioner may lead to more successful weight loss and maintenance.*

***Strong, Imperative***

Optimal Length of Wt  
Mgt Therapy



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- X Continued care*
- X Sustaining dietary changes*
- X Exercise*
- X Pharmacotherapy*

Improving Weight-loss  
Maintenance

- X Allow flexibility in making food choices while limiting total caloric intake*
- X Provides framework for healthy balance of nutrients*
- X May be too complex or restrictive for some clients*

Exchange System Diets

# Food Intake Patterns

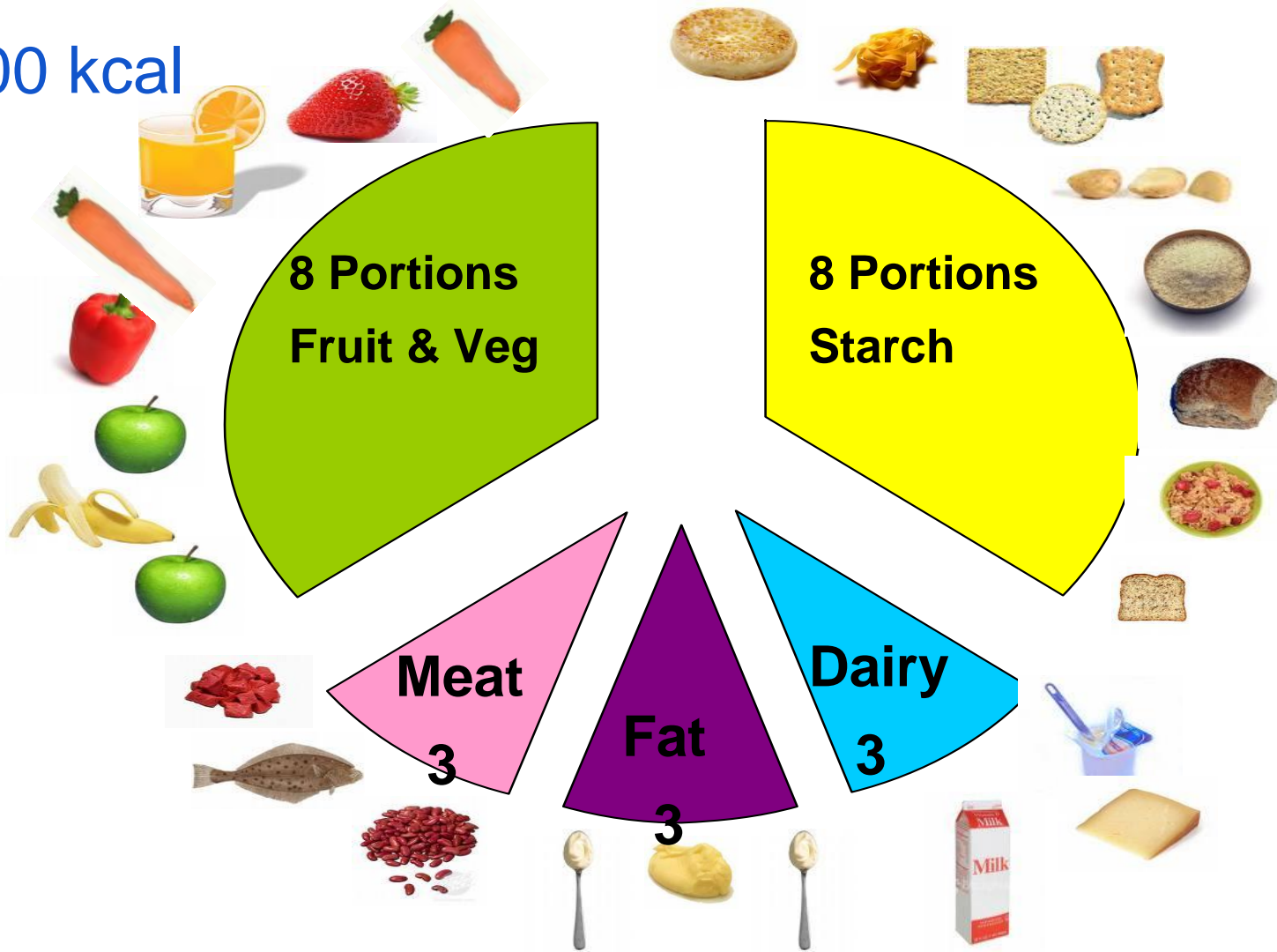
Kcals	1400	1600	1800	2000	2200	2400	2600	2800
Fruit	1.5 c	1.5 c	1.5 c	2 c	2 c	2 c	2 c	2.5 c
Veg	1.5 c	2 c	2.5 c	2.5 c	3 c	3 c	3.5 c	3.5 c
Grain	5 oz	5 oz	6 oz	6 oz	7 oz	8 oz	9 oz	10 oz
Meat/Beans	4 oz	5 oz	5 oz	5.5 oz	6 oz	6.5 oz	6.5 oz	7 oz
Milk	2 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
Oils	4 tsp	5 tsp	5 tsp	6 tsp	6 tsp	7 tsp	8 tsp	8 tsp
Extra* kcal	171	182	195	267	290	362	410	426



# Personalised Dietary Prescription of 2000 calories per day

<b>Food Group</b>	<b>Portions recommended per day</b>
Starches	8
Fruit and Vegetables	8
Dairy	3
Meat, Fish & Alternatives	3
Fats (butter, low fat spreads, mayonnaise, ghee, salad creams)	3
Extras	<b>200 calories</b>

2000 kcal



200 kcal

# 2000 Calorie Day Breakfast



x Starches 1 +2

x Dairy 1

x Fat 1

x Fruit 1

x Meat 1/2



# Lunch



x Starches	2
x Dairy	1
x Fat	1 +1
x Fruit & Veg	1 +1
x Meat/Fish	1 <sub>60</sub>

## Serving Sizes

1 cup of cereal = a fist



1/2 cup of cooked rice, pasta, or potato = 1/2 baseball



1 baked potato = a fist



1 medium fruit = a baseball



1/2 cup of fresh fruit = 1/2 baseball



1 1/2 ounces of low-fat or fat-free cheese = 4 stacked dice



1/2 cup of ice cream = 1/2 baseball



2 tablespoons of peanut butter = a ping-pong ball

