

## DEPARTMENT OF PSYCHOLOGICAL MEDICINE

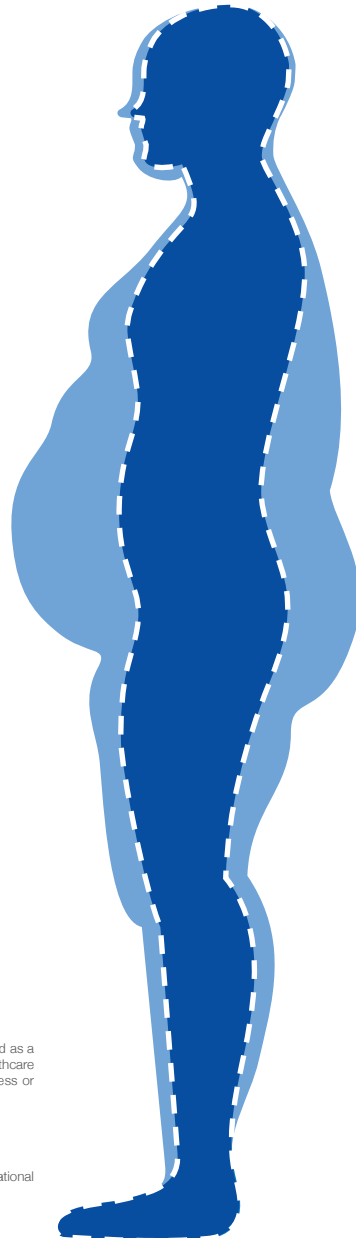
### Special acknowledgements:

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- Department of Rehabilitation, NUH, for advice on weight management through exercise
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The information provided in this publication is meant purely for educational purposes and may not be used as a substitute for medical diagnosis or treatment. You should seek the advice of your doctor or a qualified healthcare provider before starting any treatment or if you have any questions related to your health, physical fitness or medical conditions.

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# MANAGEMENT OF METABOLIC SYNDROME

DEPARTMENT OF  
PSYCHOLOGICAL  
MEDICINE

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# DO YOU HAVE A HEALTHY WEIGHT?

## Body Mass Index

$$\text{Body Mass Index} = \frac{\text{Weight (in kg)}}{\text{Height}^2 \text{ (in m)}}$$

WHO Classification	Body Mass Index (BMI)	Cardiovascular Disease Risk	Asian BMI Cut-off Points for Action
Underweight	< 18.5		
Normal range	18.5 - 24.9	Low	18.5 - 22.9
Overweight	≥ 25.0		
Pre-Obese	25.0 - 29.9	Moderate	23.0 - 27.4
Obese Class I	30.0 - 34.9	High	27.5 - 32.4
Obese Class II	35.0 - 39.9	Very High	32.5 - 37.4
Obese Class III	≥ 40.0		

## Waist Circumference

Population at Risk	Waist Circumference (cm/inch)	
	Men	Women
Asian	≥ 90 (35.5 inch)	≥ 80 (31.5 inch)
Caucasians	≥ 102 (40 inch)	≥ 88 (34.5 inch)

# METABOLIC SYNDROME

Metabolic syndrome is a group of five risk factors that can increase your chances of developing heart disease, diabetes and stroke.

The five risk factors include:

- Increased blood pressure (greater than 130/85)
- High blood sugar levels (insulin resistance)
- High triglyceride levels
- Low levels of good cholesterol (HDL)
- Excess fat around the waist



# ANTI-PSYCHOTIC DRUGS AND METABOLIC SYNDROME

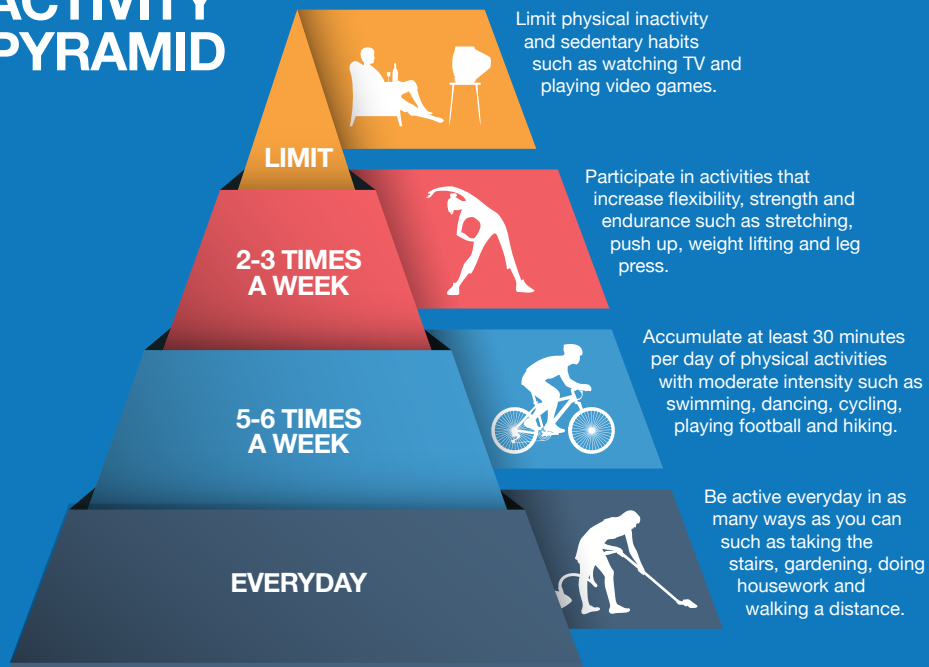
- Antipsychotic medications are prescribed to reduce psychotic symptoms
- The common side effects of antipsychotic medications are:
  - Sleepiness and slowness
  - Stiffness and tremors
  - Weight gain
  - Interference with your sex life
  - Increase in blood pressure
- Weight gain due to the use of antipsychotic medications can increase the risk of developing metabolic syndrome

# 'PLAN'

## TO COMBAT ANTIPSYCHOTIC RELATED WEIGHT GAIN

- P**: Physical Activity
- L**: Lifestyle and Diet Changes
- A**: Alcohol Moderation
- N**: No to Smoking

## PHYSICAL ACTIVITY PYRAMID



\*You may need to consult your doctor or physiotherapist on suitable exercises based on your current medical condition.

## INCREASE YOUR LIFESTYLE ACTIVITY

- Cut down on sedentary activities or add physical activity in these routines
  - Stationary cycling while watching TV
- Try to pick up an active hobby such as brisk walking, dancing or gardening
- Be active in your daily life
  - Climb the stairs instead of taking the lift
  - Walk to the nearby market instead of taking a bus
  - Park at the far end of the carpark
  - Do housework e.g. mop the floor or wash your car
  - Take a 15 minutes walk after lunch and/or dinner

## GENERAL TIPS FOR EXERCISING

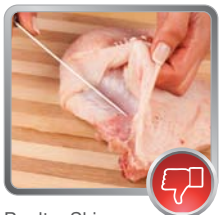
- Find a goal that motivates you
- Set aside fixed timings for your exercise
- Get an exercise partner or join an exercise class
- Be prepared to overcome the initial fatigue and difficulties – it gets easier each time you do it
- Stay hydrated before, during and after exercise
- Wear suitable clothes and footwear
- Wait at least one hour after eating or taking medications before exercising
- Avoid exercising when it is particularly hot/humid
- Avoid taking hot/cold showers immediately after exercise
- When carrying out your exercise programme, you should only increase one aspect of the programme (i.e. frequency, intensity or time) at any one time

# LIFESTYLE AND DIET CHANGES

## HOW TO REDUCE THE AMOUNT OF FAT IN YOUR DIET

- Avoid fried or oily foods
- Choose healthier cooking methods
  - Boil, grill, bake or stew
  - Remove visible fats on meat and poultry skin before cooking
  - Replace coconut milk with low fat milk
- Choose low fat dairy products
- Choose healthier hawker foods
- Avoid adding gravy, sauces or dressings to your food

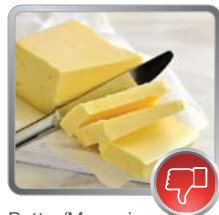
## SOURCES OF DIETARY FATS



Poultry Skin



Cooking Oil



Butter/Margarine



Cream/Dressings



Coconut Cream



Visible Fats

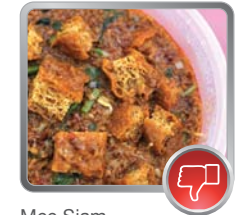
## FAT CONTENT IN HAWKER FOODS



Char Kway Teow



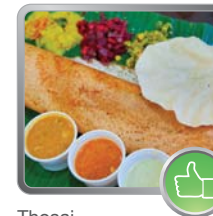
Roti Prata



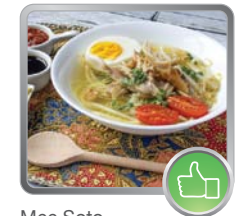
Mee Siam



Kway Teow Soup



Thosai



Mee Soto

## FAT CONTENT IN LOCAL SNACKS



French Fries



Curry Puff



Butter Cake



Plain Biscuits



Baked Potato



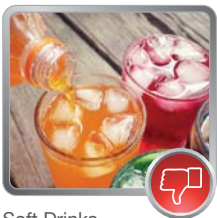
Steamed Yam Cake

# LIFESTYLE AND DIET CHANGES

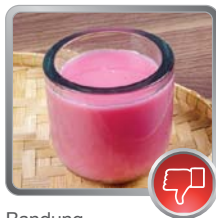
## HOW TO REDUCE THE AMOUNT OF SUGAR IN YOUR DIET

- Do not add sugar to foods and drinks
  - Replace with artificial sweeteners if necessary
- Avoid sugary foods and drinks e.g. cakes, pastries, kuehs, chocolates, sweets and soft drinks
- Choose drinks with low calories e.g. freshly brewed tea
- Replace desserts with a serving of fresh fruits

## SUGAR CONTENT IN DRINKS



Soft Drinks



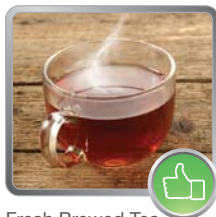
Bandung



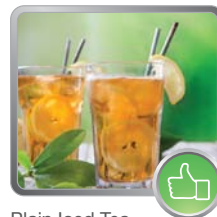
Fruit Juice



Bubble Tea with Milk



Fresh Brewed Tea



Plain Iced Tea without Sugar

## SUGAR CONTENT IN DESSERTS



Hot Fudge Sundae



Bubor Cha Cha



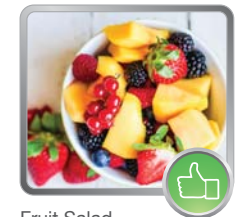
Chocolate Bar



Muffins



Low Fat Yoghurt



Fruit Salad



Plain Biscuits

# LIFESTYLE AND DIET CHANGES

## SOURCES OF HIGH FIBRE FOOD



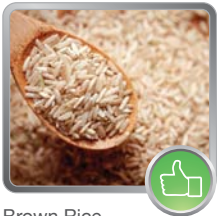
Fruits



Vegetables



Beans and Lentils



Brown Rice



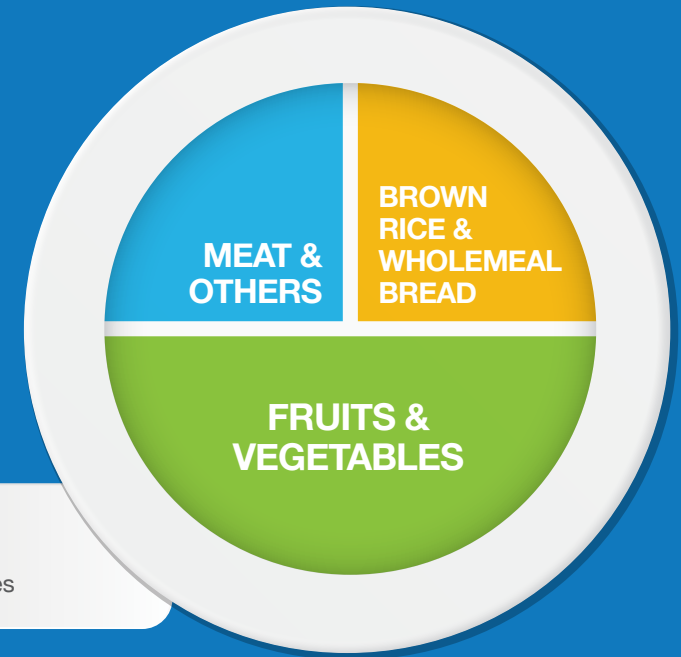
Oats



High Fibre Cereals

MANAGEMENT OF  
METABOLIC SYNDROME

## HEALTHY DIET



Key eating habits include:

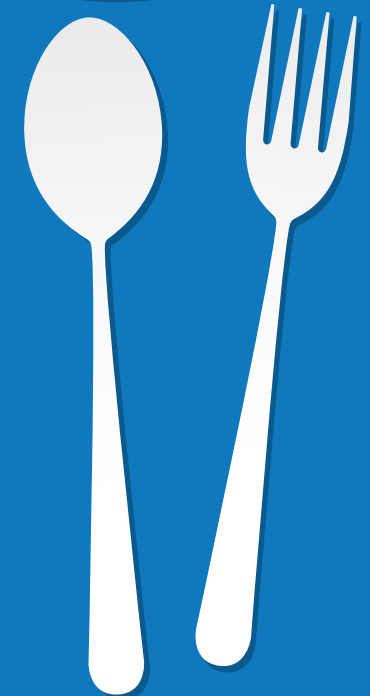
Eat more fruits and vegetables

Take whole grains if possible

Meat is a good source of protein

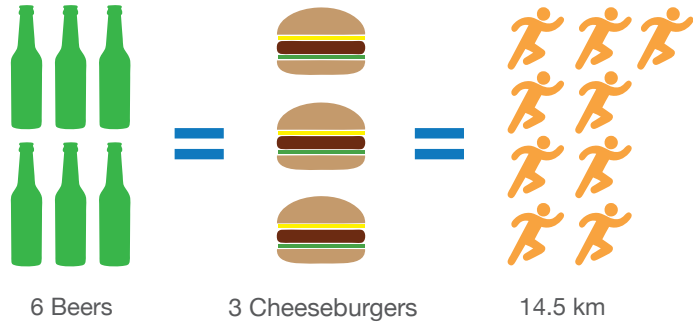
Choose healthier oils i.e. olive, canola, soy, sunflower and peanut oils

Choose plain water instead of sweetened drinks



# ALCOHOL MODERATION

## Alcohol & Calories



You should reduce your alcohol intake to make it easier to lose weight



MANAGEMENT OF METABOLIC SYNDROME

# NO TO SMOKING



Simple as **ABCD!**

## **A**lternative Activities

Replace smoking with alternatives i.e. listening to music, playing game, chatting with someone, taking sugar free sweets or taking a walk.

## **B**reathing exercise

Take deep and slow breaths to relax your mind and body.

## **C**ooling off

Cool off with a drink or water. Drink slowly and enjoy it!

## **D**elay the next stick

At times, you will overcome the craving after a while. Distract yourself!



## ALTERNATIVE MEDICATIONS TO MANAGE ANTIPSYCHOTIC-RELATED WEIGHT GAIN

- Aripiprazole
  - No effect on weight gain
  - Minimal effect on glucose and cholesterol levels
- Metformin
  - Off label use
  - Reduces effect of weight gain from antipsychotic drugs

### References

1: The Maudsley Prescribing Guidelines in Psychiatry 12th Edition 2: Nasrallah HA. Atypical antipsychotic-induced metabolic side effects: insights from receptor-binding profiles. *Molecular Psychiatry* 2008;13(1):27-35 3: Maayan L et al. Effectiveness of medications used to attenuate antipsychotic-related weight gain and metabolic abnormalities: a systematic review and meta-analysis. *Neuropsychopharmacology* 2010; 35:1520-1530

## MONITOR YOUR BMI

Date	Height (m)	Weight (kg)	BMI (weight/height <sup>2</sup> )

## MY WEIGHT TREND

Month																				
Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
↑ 5 kg																				
↑ 4 kg																				
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