Definition of obesity
Overweight (including obesity) is defined as weight exceeding 120% of the median weight-for-height. (please refer to the table overleaf.) Body Mass Index is used for male students with height > 175cm and female students with height > 165cm. BMI ≥ 25 indicates obesity.

Causes of obesity
1. Increased calorie intake
   - binge eating
   - frequent intake of sugary and fatty foods, fast food and food from restaurants
   - emotional problems leading to bulimia or other abnormal eating patterns
2. Decreased energy expenditure, lack of exercise
   - sedentary lifestyle e.g. watching TV, playing TV games, computer games
   - heavy homework, use of leisure time for study
   - parents do not encourage exercise or cannot spare time to arrange exercise for their children
3. Others e.g. hereditary factors, effects of illnesses or drugs

Impact of obesity
1. Physical
   - may increase the workload of the different organs of the body leading to various illnesses and a shortened lifespan. There is an increased risk of diseases like hypertension, heart disease, stroke, diabetes, backache, sleep apnea, gall stone, hernia, arthritis

2. Social
   - may be clumsy and slow
   - have poor exercise tolerance
   - have no enthusiasm in school activities or sports programmes
   - may be teased or rejected by classmates and friends

3. Psychological
   - may lack confidence in one's appearance resulting in a poor self-image

Prevention of obesity in students
- Student – be determined to stop binge eating and to control the desire for food
- Parents – know more about food; understand that being fat is not necessarily a sign of good health or blessing
  - set up a good eating example for children to follow
- School – tuck shop should avoid selling high calorie foods e.g. soft drinks, chicken wings
  - supply healthy lunch boxes without too much meat or oily food

Essential factors for weight control
1. Overweight students and their parents have to acknowledge the fact that it is essential to improve the condition and work out a weight control plan together.
2. Maintain a healthy lifestyle and good eating habits in the family. Parents and other family members should strongly encourage the children to use their determination and confidence to develop good eating habits and to increase exercise level. Do not yield to all their demands and spoil them.
3. Check the student's weight and height regularly in order to increase one's confidence in the process of weight control.
4. Teach students how to handle their emotions appropriately.

Weight control tips
1. Encourage students to follow the Healthy Eating Food Pyramid to eat various kind of foods in right proportion. Develop a healthy eating habit and do not be picky.

<table>
<thead>
<tr>
<th>Fat/oil, salt &amp; sugar</th>
<th>Eat the least</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat, fish, egg &amp; alternatives</td>
<td>Eat moderately</td>
</tr>
<tr>
<td>Milk &amp; alternatives</td>
<td>Eat more</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables</td>
<td>Eat the most</td>
</tr>
<tr>
<td>Grains</td>
<td></td>
</tr>
</tbody>
</table>

2. Avoid eating too much meat and foods with high sugar content or high calories including:
   - fried food e.g. French fries, potato chips, spring rolls
   - meat with a high fat content e.g. luncheon meat, fatty meat, preserved meat, skin of roasted meat
   - snacks e.g. instant noodles, cup noodles, meat sausages, chicken wings
• sugary foods e.g. candies, chocolates, cakes, desserts, soft drinks, packed drinks, ice-cream, sweet preserved fruits

3. Choose low-calorie foods for snacks e.g. fruits, cherry tomatoes, skimmed milk, boiled corn, chestnuts

4. Cooking tips
• use less sugar, oil and sauces when marinating food
• steam or boil the food instead of frying
• remove fatty meat, skin and subcutaneous fat layer of poultry
• avoid cooking meat in large pieces e.g. whole drumsticks, chicken wings, pork chop and steak; try sliced, shredded or diced meat instead to reduce the amount of meat intake

5. Eating habits
• space out the 3 main meals evenly
• never skip breakfast
• avoid meals before bedtime
• keep meal times regular and the amount of food intake constant; chew food thoroughly
• avoid watching television, reading or playing during meals
• avoid condiments e.g. tomato ketchup, salad dressings
• remove the skin of poultry and fat from meat

6. Change of lifestyle
• avoid lingering in the junk food area of supermarkets and candy stores
• avoid buying junk food
• avoid eating in restaurants, fast food shops
• when eating out, choose non-fatty foods e.g. noodles in soup, rice with roasted chicken (with skin removed), boiled potato
• develop good hobbies e.g. stamp collecting, drawing so as to resist searching for snacks when idle

7. Increase the burning of calories
• do appropriate amount of exercise regularly
• take part in extra-curricular activities or leisure classes
• assist in the housework

Conclusion
Remember:
1. Prevention is better than cure. Weight control is a way to reduce the risk of developing chronic diseases.
2. Place emphasis on long-term weight control and maintaining good health rather than on short-term weight loss. This can be achieved by developing good eating habits and a healthy lifestyle.

<table>
<thead>
<tr>
<th>Height(cm)</th>
<th>Male Median Weight-for-Height (kg)</th>
<th>Male Median x 120% Weight-for-Height (kg)</th>
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<tr>
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<td>12.9</td>
<td>15.5</td>
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<tr>
<td>101</td>
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<td>18.4</td>
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<tr>
<td>111</td>
<td>18.3</td>
<td>21.9</td>
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<tr>
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<td>22.1</td>
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<tr>
<td>131</td>
<td>26.9</td>
<td>32.3</td>
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<td>33.1</td>
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<td>151</td>
<td>40.4</td>
<td>48.5</td>
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<td>161</td>
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<td>171</td>
<td>56.7</td>
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</table>

<table>
<thead>
<tr>
<th>Height(cm)</th>
<th>Female Median Weight-for-Height (kg)</th>
<th>Female Median x 120% Weight-for-Height (kg)</th>
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Source from: Hong Kong Growth Survey 1993
Student Health Service Web Site: www.studenthealth.gov.hk
Student Health Service
Department of Health
2016