**Obesity,**

Deﬁnition

-obesity: BMI >30kg/m2

-overweight: BMI 25-29.9 kg/m2

-waist circumference >35 inches (88 cm) in women and 40 inches (102 cm) in men associated w/ increased health risk problems (DM II, HTN, dyslipidemia, metabolic syndrome, CVS disease)

(note that these values do differ pending on ethnic origin)

-waist to hip ratio >0.83 in men, >0.9 in women predictive of MI (better than BMI and waist circumference)

-underweight: BMI <18.50 kg/m2

\*\* note also that BMI does NOT take into account muscle mass, so often very fit people will have a high BMI.

Incidence:

-23% of Canadians obese, another 59% overweight

-increase of 5 in BMI higher than 21 kg/m2 associated with corresponding 10% increase in risk of mortality for women (regardless of risk factors).

Risk Factors:

-sedentary lifestyle

-diet: intake of energy dense foods, sugar sweetened soft drinks,

-low socio-economic status

-childhood obesity

Adverse Medical Consequences

-hypertenision-CAD-DM II-gallbladder disease-sleep apnea-respiratory problems: cough, wheezing-cancers of endometrium, breast, prostate, colon, pancreas-OA-CHF-ischemic stroke-non-alcoholic steatohepatitis-low back

pain-increased total mortality-complications in pregnancy (gestational DM, primary ovulatory infertility, perinatal mortality and increased neural tube defects)-emotional distress, discrimination and social stigmatization-stress

incontinence

Physical exam:

-BMI/ WC (consider waist to hip ratio-BP) \*\*canadian guidelines only do BMI if they demonstrate a risk factor of obesity (see above). International guidelines recommend everyone on their periodic health exam\*\*

-secondary causes:

\*\*rare!

-hypothyroidism, PCOS, Cushings

-Meds: atypical antispsychotics, lithium, TCAs, glucocorticoids, Depo-Provera, sulfonyrureas, insulin

-very rare: hypothalamic disorders, insulinoma, Prader willi,

Dx

-as above guidelines

-pts over 65 yrs have wider low risk BMI range: 22-29 kg/m2

-WHO suggests 27 kg/m2 in asian race

-Metabolic Syndrome

-dyslipidemia (high triglycerides, low HDL)

-HTN

-hyperinsulinemia

Treatment:

-goal is to reduce wt by 10% from baseline

-0.5-1 kg/wk over 6 month period

1. lifestyle modification

-exercise: -90min of daily moderate intensity activity (brisk walking). -30-45 min of daily vigorous activity (fast cycling, aerobics). -use pedometer to increase steps by 1000 per month. -active obese have

lower morbidity than inactive obese. -diet: no diet superior than any other. -all work by limiting total calories. -low carb diets better in short term 6 months but not after 2yrs

\*\*exercise without caloric restriction largely ineffective in initiating wt loss, but important in the maintenance phase of wt loss\*\*

-Mediterranean Diet: high in fruit, veggies, legumes, whole grains, fish, nuts, low fat

dairy, does not restrict fats but replace w/ vegetable oils

-shown to reduce total mortality as well as mortality from heart disease and cancer

2. Intensive Counselling/Behavior Modifications

-ask pt if she/he would be comfortable discussing wt and how it impacts health

-ask about pt’s wt hx and how excess wt has affected her/his life

-express your concerns about the health risks associated w/ excess wt and how this might affect pt

-review relationships b/w pts BMI, waist circumference and health risks

-Behavior: regular eating schedule, focus on meal and eat slowly, use smaller plates, avoiding second helpings, avoid distractions while eating

3. Pharmacotherapy

-considered only when 6-month regimen of diet exercise and behavior therapy fails.

-offered to pts w/ BMI >30 or BMI >27 who have obesity related disease (CAD, HTN, hyperlipidemia, sleep apnea)

-Orlistat modestly effective in promoting wt loss

-wt gain recurs when tx stopped

-\*\* of note, as of 2010 Sibutramine (appetite suppressant) off the market. Only orlistat is approved in Canada. Others are approved in the states\*\*

-responders likely to continue to respond, non responders not likely to respond even w/ higher dose

-if pt does not lose 2kg in first 4wks, not likely to have long term response

Drug & Dose Indications STOP!!! Side Effects Other

Lipase Inhibitors

Orlistat

(Xenical)

120 mg tid

Prevents absorption of dietary fat

Wt loss probably d/t avoidance of dietary

fat to minimize GI effects

Hx of breast cancer GI

Fatty/oily stool

Fecal urgency

Oily spotting

Diarrhea

? increased breast cancer

High attrition rate

4. Surgery

-if BMI >40 or >35 w/ evidence of obesity related co-morbidities (CAD, HTN, hyperlipidemia, sleep apnea)

-long term wt loss possible

-61% of excess body wt lost on average

-recovery from chronic diseases: DMII (77%), HTN (62%), hypertrigyceridemia (46%), OSA (62%), Urinary stress incontinence (47%)

-may cause long term nutrient deficiencies

-monitor fat specific Vits (ADEK)

Side Effects:

Less than 1% mortality rate from the procedure. But complication rate as high as 20%!

CCFP Key Features:

-answers from HYPERLINK "http://www.hlth.gov.bc.ca/msp/protoguides/index.html" \t "\_new" British Columbia Council on Clinical Practice Guidelines

1 In patients who appear to be obese, make the diagnosis of obesity using a clear definition (i.e., currently body mass index) and inform them of the diagnosis.

Children/Youth

• Normal - BMI < 85th percentile

• Overweight- BMI > 85th percentile

• Obese > 95th percentile

Adults• BMI ≥25 overweight

• BMI >27 overweight and increased risk of

hypertension, diabetes and CVD

• BMI ≥ 30 obese, higher risk of complications

Adult Waist Circumference

Increased risk: female: ≥ 80 cm male ≥ 94 cm

High risk: female: ≥ 88 cm male ≥ 102 cm

2 In all obese patients, assess for treatable co-morbidities as these are more likely to be present.

Hypertension:

-BP > 140/90 on at least 3 visits over 6 months or with evidence of end organ damage or >160/90 on at least 2 visits

diabetes

- FPG at or above 7.0 mmol/L

-two-hour value in an OGTT at or above 11.1 mmol/L

-random plasma glucose concentration 11.1 mmol/L in the presence of sx

-must be confirmed on a subsequent day by measuring any one of the three criteria.

coronary artery disease

-angina, documented bruits, PMHx of MI

sleep apnea

-poor unrestful sleep, daily headaches, HTN, sleepiness, Hx of snoring

osteoarthritis

-pain in wt bearing joints worse w/ activity

3 In patients diagnosed with obesity who have confirmed normal thyroid function, avoid repeated thyroid-stimulating hormone testing.

Further diagnostic assessment should be individualized based on risk factors and family history. Extensive laboratory assessment of overweight, obese and physically inactive patients in the absence of obvious risk factors or

physical findings is rarely fruitful.

4 In obese patients, inquire about the effect of obesity on the patient’s personal and social life to better understand its impact on the patient.

Depression Asthma Being bullied Learning difficulties Type 2 diabetes poverty unemployment/employment education level workplace and home stresses current or previous abuse

5 In a patient diagnosed with obesity, establish the patient’s readiness to make changes necessary to lose weight, as advice will differ, and reassess this readiness periodically.

Educate adults about the risks of excess weight and the benefits of moderate weight loss and increased activity. Reinforce the message that even modest weight loss and increased activity can confer significant health benefits.

Increases in physical activity in a stable, overweight person likely confer greater health advantages than diet in a physically inactive person.

Assess readiness to change: Ask the following questions:

• Are you considering trying to lose weight or increase activity?

• Are you currently trying to lose weight or increase activity?

• Would you like some information to help you?

6 Advise the obese patient seeking treatment that effective management will require appropriate diet, adequate exercise, and support (independent of any medical or surgical treatment), and facilitate the patient’s

access to these as needed and as possible.

Help the patient who is ready to change to set realistic goals:

• Emphasize gradual change in lifestyle over time

• Recommend increased physical activity (e.g. walking 30 minutes/day)

• Recommend some level of caloric restriction

• Provide self-help materials

• Praise success

Using the questions below, determine and record diet quality/dietary

habits

1. Do you usually eat breakfast?

2. Do you usually\* eat 5 or more servings of fruit and vegetables/day

3. Do you usually\* choose whole grain products?

4. Do you usually\* choose low fat or reduced fat alternatives at home and when eating out?

5. How many boxes, cups or cans of fruit juice or pop do you usually drink per day?

What do you drink when you are thirsty?

More than one “no” answer and more than one serving of sweetened beverage per day indicates the need for nutritional advice from the physician or referral to a registered dietitian or Dial-A-Dietitian (1 800 667-3438)

\*indicate to the patient that “usually” means 5 or more days of the week, most weeks.

7 As part of preventing childhood obesity, advise parents of healthy activity levels for their children.

Activity level – determine and record

Children/youth Adults

Inactive <30 min/day <30 min/day

Moderately active 30-90 min/day 30-60 min/day

Very active >90 min/day >60 min/day

Inactive: no appreciable exercise

Moderately increased heart rate active: e.g.: walking.

Very active: e.g.: Running, cycling, swimming lengths

8 In managing childhood obesity, challenge parents to make appropriate family-wide changes in diet and exercise, and to avoid counterproductive interventions (e.g., berating or singling out the obese child).

The below recommendations were derived from the following GAC endorsed guideline:

National Institutes of Health: National Heart, Lung, and Blood Institute (1998, September). HYPERLINK "http://www.nhlbi.nih.gov/guidelines/obesity/ob\_gdlns.pdf" \t "\_blank" Clinical guidelines on the identification,

evaluation, and treatment of overweight and obesity in adults: The evidence report.

GOOD EVIDENCE

Weight loss is recommended to lower elevated blood pressure in overweight and obese persons with high blood pressure.

Weight loss is recommended to lower elevated levels of total cholesterol, low-density lipoprotein cholesterol, and triglycerides and to raise low levels of high-density lipoprotein cholesterol in overweight and obese persons

with dyslipidemia.

Weight loss is recommended to lower elevated blood glucose levels in overweight and obese persons with Type 2 diabetes.

The initial goal of weight loss therapy should be to reduce body weight by approximately 10 percent from baseline. With success, further weight loss can be attempted.

Low-calorie diets are recommended for weight loss.

Reducing dietary fat alone without reducing calories is not sufficient for weight loss.Physical activity is recommended as part of a comprehensive weight loss therapy and weight maintenance program.

Weight loss and weight maintenance therapy should employ the combination of low-calorie diets, increased physical activity, and behaviour therapy.

FAIR EVIDENCE

Weight loss should be about one to two lbs/week for a period of six months.

Initially, moderate levels of physical activity for 30 to 45 minutes, three to five days per week should be encouraged. All adults should set a long-term goal to accumulate at least 30 minutes or more of moderate-intensity

physical activity on most, and preferably all, days of the week.

Behaviour therapy is a useful adjunct when incorporated into treatment for weight loss and weight maintenance.

After the first six months of weight loss therapy, a weight maintenance program – consisting of dietary therapy, physical activity, and behaviour therapy – should be a priority.

Various health professionals with different areas of expertise are available and helpful to practitioners who would like assistance in helping their patients maintain weight loss.

In selected patients with clinical severe obesity (BMI of 40 or more, or BMI of 35 or more along with comorbid conditions), weight loss surgery is an option when less invasive methods of weight loss have failed and the

patient is at high risk for obesity-associated morbidity or mortality.

Practitioners should use the body mass index (BMI) to assess overweight and obesity. Body weight alone can be used to follow weight loss, and to determine efficacy of therapy.

The BMI should be used to classify overweight and obesity and to estimate relative risk for disease compared to normal weight.

For adult patients with a BMI of 25 to 34.9 kg/m2, sex-specific waist circumference cutoffs should be used in conjunction with BMI to identify increased disease risks.

The literature suggests that weight loss and weight maintenance therapies which provide a greater frequency of contacts between the patient and the practitioner, and which are offered over a longer rather than shorter term,

should be put in place. This can lead to more successful weight loss and weight maintenance.