



Complete Summary

GUIDELINE TITLE

Obesity.

BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health, Singapore Association for the Study of Obesity. Obesity. Singapore: Singapore Ministry of Health; 2004 Apr. 108 p. [253 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
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SCOPE

DISEASE/CONDITION(S)

Obesity

GUIDELINE CATEGORY

Counseling
Diagnosis
Evaluation
Management
Prevention
Treatment

CLINICAL SPECIALTY

Cardiology
Endocrinology
Family Practice
Internal Medicine
Nursing
Nutrition
Pediatrics
Physical Medicine and Rehabilitation
Preventive Medicine
Psychiatry
Psychology
Surgery

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Dietitians
Nurses
Physician Assistants
Psychologists/Non-physician Behavioral Health Clinicians
Public Health Departments
Respiratory Care Practitioners

GUIDELINE OBJECTIVE(S)

- To assist health care professionals who have a role in managing overweight or obese patient
- To provide current evidence-based clinical practice recommendations on various aspects of obesity management found across various medical disciplines
- To provide a framework to assist doctors in the management of overweight and obesity without restricting the physician's individual judgment
- To provide a review of the various medical, surgical, and ancillary intervention modalities in the management of obesity
- To aid primary care physicians in basic management of obesity and subsequent referrals to specialists for more resistant cases

TARGET POPULATION

Children, adolescents, and adults in Singapore who are obese or overweight, or who are at risk of obesity

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis and Evaluation

1. Body mass index (BMI)
2. Waist circumference
3. Weight; weight for height; weight/height/gender charts

4. Body composition analysis: skinfold measurements; bioimpedance analysis (BIA); isotope dilution techniques; densitometry; dual energy x-ray absorptiometry; 4-compartment estimation
5. Consideration of predisposing risk factors and secondary causes of obesity
6. Screening for comorbid conditions in overweight and obese adults

Management of Adults, Children, Adolescents

1. Evaluation of patient motivation
2. Setting realistic weight loss goals
3. Multidisciplinary/multifaceted strategy
 - Lifestyle modification
 - Decrease in calorie intake
 - Macronutrient composition
 - Meal size and distribution of food intake during day
 - Low-calorie (LCD) and very-low calorie (VLCD) diets
4. Physical activity
 - For cardiovascular health
 - For prevention of excess weight gain or weight regain
 - Nonstructured, moderate–intensity daily physical activities; structured aerobic exercise
5. Evaluation for depression and binge-eating disorders with referrals
6. Weight loss programs which include behavior therapy
7. Medical treatment: orlistat; sibutramine; phentermine; mazindol; metformin
8. Bariatric surgery, adults and adolescents
9. Nonprescription and off-label weight loss supplements

Weight Loss Maintenance

1. Calorie-restricted, low-to-moderate fat diet
2. Self-monitoring of body weight
3. Food and physical activity recording
4. Regular physical activity

Obesity in Childhood and Adolescence

Inclusion of parents and children for interventions

MAJOR OUTCOMES CONSIDERED

- Weight loss
- Weight maintenance
- Risk factor reduction (blood pressure, lipids, blood glucose)

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
 Hand-searches of Published Literature (Secondary Sources)
 Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level Ia: Evidence obtained from meta-analysis of randomised controlled trials

Level Ib: Evidence obtained from at least one randomised controlled trial

Level IIa: Evidence obtained from at least one well-designed controlled study without randomisation

Level IIb: Evidence obtained from at least one other type of well-designed quasi-experimental study

Level III: Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies, and case studies

Level IV: Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The obesity guidelines were developed by a workgroup appointed by the Ministry of Health. Its members comprised experts in their area of specialty. The workgroup formulated these guidelines by reviewing published international guidelines and current evidence available in the research literature, and taking into consideration the local population's characteristics. Feedback from relevant professional organizations was also sought in the process.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendations

Grade A (evidence levels Ia, Ib): Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation.

Grade B (evidence levels IIa, IIb, III): Requires availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation.

Grade C (evidence level IV): Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates absence of directly applicable clinical studies of good quality.

GPP (good practice points): Recommended best practice based on the clinical experience of the guideline development group.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The recommendations that follow are those from the guideline's executive summary; detailed recommendations can be found in the original guideline

document. Each recommendation is rated based on the level of the evidence and the grades of recommendation. Definitions of the grades of the recommendations (A, B, C, Good Practice Points [GPP]) and level of the evidence (Level I-Level IV) are presented at the end of the Major Recommendations field.

Diagnosis & Clinical Evaluation

B - Body mass index (BMI) is the recommended index to define overweight and obesity. It is minimally correlated with height and highly correlated with body fat percentage and levels of disease risk of comorbidities. Body weight alone can be used to follow weight loss and to determine efficacy of therapy. **(Grade B, Level III)**

C - Current World Health Organization (WHO) and international guidelines recommend BMI cutoffs of 25 and 30 kg/m² to define overweight and obesity respectively. Based on body fat equivalence and comorbid disease risk, BMIs of 23 and 27.5 kg/m² respectively have been recommended as cut-off points for public health action in Asians. **(Grade C, Level IV)**

Nota bene (N.B.) BMI cut-off points are currently being reviewed in the light of new data.

B - Waist circumference is the most practical anthropometric measurement for assessing a patient's abdominal fat content before and during weight loss treatment. Gender-specific waist circumference cut-offs should be used in conjunction with BMI to identify increased disease risk. **(Grade B, Level III)**

C - Current international guidelines recommend waist circumference cut-offs of 102 and 88 cm to define excess risk in males and females respectively. Based on an Asian-Pacific consensus and our National Health Survey and comorbid disease risk, cut-offs of 90 and 80 cm respectively are probably more appropriate for Asians. **(Grade C, Level IV)**

B - Historically, weight-for-height charts have been used to classify weight status in children. BMI-for-age and gender charts are recommended for use in children. **(Grade B, Level III)**

GPP - In clinical evaluation of patients, practitioners should consider and exclude predisposing factors for and secondary causes of obesity. **(GPP)**

C - Overweight and obese adults should be screened for comorbid conditions and should be stratified according to their health risks, in particular for cardiovascular disease, prior to the commencement of treatment. **(Grade C, Level IV)**

Overview of Weight Management

C - Patient motivation is an important prerequisite of weight loss management and should be relatively high before initiating therapy. Proper

evaluation of issues related to motivation should be undertaken. **(Grade C, Level IV)**

C - It is important to set realistic goals for weight loss and provide sound advice on lifestyle modification. Modest weight loss (e.g., 10% body weight over 6 months) is more realistic and attainable than aiming for weight reduction to ideal body weight and does result in a reduction in obesity morbidity. **(Grade C, Level IV)**

C - A multifaceted or multidisciplinary strategy should be utilized to achieve and maintain weight loss. Depending on patient response, this could be adequately achieved at the primary health care level or tertiary level. **(Grade C, Level IV)**

Lifestyle Modification

A - The combination of dietary caloric restriction, physical activity, and behavioural modification results in greater and more sustained weight loss than the individual modalities. **(Grade A, Level Ib)**

A - The most important dietary component of weight loss and maintenance is a decrease in caloric intake (National Heart, Lung, and Blood Institute (NHLBI) Obesity Education Initiative, 1998). Typically, a 500 to 1,000 kcal per day reduction produces the recommended 0.5 to 1 kg per week weight loss (NHLBI Obesity Education Initiative, 1998). In the absence of physical activity, a diet that contains approximately 1,400 to 1,500 kcal/day, regardless of macronutrient content, results in weight loss (NHLBI Obesity Education Initiative, 1998; Freedman, King, & Kennedy, 2001; St Jeor et al., 2001; Hadjuk, Roberts, & Saltzman, 2001; Pirozzo et al., 2002; Anderson, Konz, & Jenkins, 2000; Bravata et al., 2003; Klem et al., 1997). Sustained dietary modification is necessary to maintain weight loss. **(Grade A, Level Ib)**

C - Diets containing different proportions of the major macronutrients, such as moderate-fat balanced nutrient-reduction diets, high-fat low carbohydrate diets, and low- or very-low-fat high-carbohydrate diets have all been shown to reduce weight. Weight loss appears to be more associated with reduced caloric intake and increased diet duration, rather than the macronutrient content per se. A diet moderately restricted in total fat, moderate to high in complex carbohydrates, and moderate in protein is the most widely recommended diet. **(Grade C, Level IV)**

C - The distribution of food intake should be as even as possible throughout the day, and meals should not be skipped as a weight control method. Meals should be adequately sized so that snacks are not needed between meals (The Asia-Pacific Perspective, 2000). **(Grade C, Level IV)**

A - Low-calorie (LCD) and very low-calorie diets (VLCD) may be useful shorter term adjuncts (up to 6 months) for weight loss, but sustained modification of food intake is necessary to maintain weight loss. The use of these diets as part of a meal replacement strategy appears useful. The combination of a controlled energy diet (LCD or VLCD), increased physical

activity, and behaviour therapy appears to provide the most successful outcome for weight loss and maintenance. **(Grade A, Level Ib)**

A - Current physical activity contributes to weight loss, reduces cardiovascular risk factors (e.g., hypertension and diabetes mellitus) and the risk for coronary heart disease, increases cardiorespiratory fitness independent of weight loss, and decreases body and abdominal fat. **(Grade A, Level Ib)**

C - The current recommendation of moderate-intensity physical activity for 30 min, 3 to 5 days per week, is largely aimed at reducing cardiovascular disease and overall mortality. **(Grade C, Level IV)**

C - To prevent unhealthy weight gain, moderate-intensity physical activity for 45 to 60 min on most days or every day has been recommended. Preventing weight gain after substantial weight loss probably requires about 60 to 90 minutes per day. Starting at low-to-moderate physical activity for 30 to 45 min, 3 to 5 days per week, the intensity, duration, and frequency should be increased gradually. **(Grade C, Level IV)**

A - A program of diet plus nonstructured, moderate-intensity lifestyle activity appeared as effective as diet plus structured aerobic activity for reducing weight in obese women. Any increase in daily physical activity is likely to have some benefit in obese women. **(Grade A, Level Ib)**

B - The presence of depression and binge eating disorders in obese patients must be evaluated for, with appropriate referral for psychiatric treatment (Stunkard & Allison, 2003). **(Grade B, Level IIa)**

A - Weight loss programs incorporating cognitive behavioural interventions are helpful in achieving weight loss and weight maintenance in the range of up to 10% for between 1 to 5 years of follow-up. **(Grade A, Level Ib)**

A - It is recommended that subjects continue with up to 12 months of the weight maintenance program combining behaviour therapy, a low calorie diet, and exercise, after the initial weight loss treatment. **(Grade A, Level Ib)**

Medical Treatment

C - As obesity is a chronic condition that requires lifelong management, pharmacotherapy should be adjunct to an individual's long-term obesity management strategy (NHLBI Obesity Initiative, 1998). **(Grade C, Level IV)**

A - Drug therapy may be effective if given without lifestyle modification (Wadden et al., 2001; Tong et al., 2002) but is most effective when combined with diet, physical activity, and behaviour modification (Wadden et al., 2001). **(Grade A, Level Ib)**

C - Drug therapy should be considered when BMI ≥ 30 kg/m² or when BMI is 27-29.9 kg/m² in patients with comorbidities or complications of obesity such as hypertension, type 2 diabetes mellitus, hyperlipidemia, coronary artery

disease, and sleep apnea (NHLBI Obesity Initiative, 1998). Commensurate BMI thresholds for action among Asians may be 27.5 and 25 to 27.4 kg/m² respectively ("Appropriate body-mass index," 2004). **(Grade C, Level IV)**

N.B. BMI cut-off points are currently being reviewed in the light of new data.

A - The drugs with the widest efficacy and safety data are orlistat (up to 4 years) and sibutramine (up to 2 years). Other drugs which appear relatively safe and effective for 6 to 12 month therapy include phentermine and mazindol. There is little data on the effectiveness of combining antiobesity agents. Metformin is the drug of choice in obese diabetics and has been effectively combined with either sibutramine or orlistat for 1 year. **(Grade A, Level Ib)**

Bariatric Surgery

A - Bariatric surgery is the most effective method to reduce weight and maintain weight loss in the severely or morbidly obese. (Clegg et al., 2002) **Grade A, Level Ib)**

C - Because surgery has significant technical issues, complications, and cost, and requires extensive pre- and perioperative preparation, it is usually considered in those with more severe obesity who have failed to control weight by other means ("Gastrointestinal surgery for sever obesity," 1992; "Guidelines for laparoscopic surgery," 2001; Brolin, 2002), and who remain at high risk of medical comorbidities. Postoperative lifestyle modifications, as well as follow-up for complications of surgery, are life-long. **(Grade C, Level IV)**

B - Indications for considering bariatric surgery are (NHLBI Obesity Education Initiative, 1998; Clegg et al., 2002; "Gastrointestinal surgery for severe obesity," 1992; "Guidelines for laparoscopic surgery," 2001; Brolin, 2002):

- Extreme or morbid obesity (BMI ≥ 40 kg/m²) or severe obesity (BMI ≥ 35 kg/m²) with medical comorbidities or complications of obesity. Commensurate BMI thresholds for action among Asians may be 37.5 and 32.5 kg/m² respectively ("Appropriate body-mass index," 2004).
- Failure of significant nonsurgical attempts at weight reduction. **(Grade B, Level III)**

Weight Loss Maintenance

B - Common behavioral strategies which may enhance successful long-term weight loss maintenance include eating a calorie-restricted, low-to-moderate fat diet, frequent self-monitoring of body weight, recording food intake and physical activity, and maintaining high levels of regular physical activity. **(Grade B, Level III)**

Obesity in Childhood and Adolescence

C - A full clinical evaluation and possible treatment should be considered in children with a BMI \geq 95th percentile or a BMI \geq 85th percentile and complications of obesity. Alternatively, BMIs-for-age and gender equivalent to adult WHO BMI cut-offs for obese and overweight (at \geq 30.0 or \geq 25.0 kg/m²) respectively can be used as thresholds, although BMI cut-offs for action among Asians of 27.5 and 23.0 kg/m² respectively may eventually be used.

(Grade C, Level IV)

N.B. BMI cut-off points are currently being reviewed in the light of new data.

C - In children, less restrictive diets should be used, rather than diets consisting of drastically altered portions of various nutrients, very low calorie diets, or protein sparing modified fast regimens. **(Grade B, Level III)**

B - Appropriately increased physical activity is recommended. Younger children generally need age-appropriate creative activities with generous periods of free play. Weight bearing activities are recommended for overweight children, non-weight bearing activities for obese children, and preferably supervised activities for severely obese children. In the older obese preadolescent and adolescent, decreased time on sedentary pursuits and increased activity such as a moderate intensity, progressive exercise program with increasing levels of obesity are recommended. **(Grade B, Level III)**

B - Behaviour-treatment programs have shown consistent success in weight loss (Epstein, Roemmich, & Raynor, 2001). **(Grade B, Level IIa)**

B - Interventions for obesity in children should be directed at both the parents and the child, rather than the child alone. **(Grade B, Level III)**

C - There are no data on the long term efficacy and safety of medication in childhood and adolescent obesity. **(Grade C, Level IV)**

B - Bariatric surgery cannot be recommended for most adolescents, but only for those at the highest risk of mortality from obesity, and with both patient and parental understanding of the consequences of surgery (Sugerman et al., 2003). **(Grade B, Level III)**

Grades of Recommendations

Grade A (evidence levels Ia, Ib): Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation.

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Level IIa: Evidence obtained from at least one well-designed controlled study without randomisation

Level IIb: Evidence obtained from at least one other type of well-designed quasi-experimental study

Level III: Evidence obtained from well-designed nonexperimental descriptive studies, such as comparative studies, correlation studies and case studies

Level IV: Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities

CLINICAL ALGORITHM(S)

An algorithm for Management of Obesity is provided in the original guideline document.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is graded for each recommendation (see "Major Recommendations")

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

General Approaches and Overall Benefits

- Successful weight loss reduces risk of obesity-related morbidity and mortality, including cardiovascular diseases, hypertension, diabetes mellitus, sleep apnea, arthritis, cancer, and gall bladder disease.

Weight loss has a beneficial effect on glucose tolerance, lipid profile, and blood pressure.

- Weight loss reduces obesity-related social pressures including ridicule, discrimination, and job bias which can result in loss of self-esteem and motivation, depression, and other mental health problems
- Successful weight loss reduces obesity-related health costs, both those directly attributable to treatment of associated chronic complications, and indirect costs associated with lost productivity, absenteeism, and loss of future earnings.
- Modest weight loss, for example 10 percent of body weight over 6 months, is more realistic and attainable than aiming for weight reduction to ideal body weight, and does result in reduction in obesity morbidity.
- A combination of dietary caloric restriction, physical activity, and behavioural modification results in greater and more sustained weight loss than individual modalities.
- Successful control of childhood obesity reduces likelihood of obesity in later life and prevalence of obesity-related disorders.

Low-calorie (LCD) and Very Low-calorie Diets (VLCD)

- These may be useful for shorter term adjuncts (up to 6 months) for weight loss, but sustained modification of food intake is necessary to maintain weight loss.
- VLCD may be considered in patients who fail other weight loss methods or when rapid weight loss is a medical necessity. Dyslipidemia, hypertension, and sleep apnea improve on these diets. VLCD reduce preoperative weight in preparation for bariatric surgery.
- The use of these diets as part of a meal replacement strategy appears useful.
- The combination of a controlled energy diet (LCD or VLCD), increased physical activity, and behaviour therapy appears to provide the most successful outcome for weight loss and maintenance.

Physical activity

- Current physical activity contributes to weight loss, reduces cardiovascular risk factors (e.g., hypertension and diabetes mellitus) and the risk for coronary heart disease; physical activity increases cardiorespiratory fitness independent of weight loss, and decreases body and abdominal fat.
- Preventing weight gain after substantial weight loss probably requires about 60 to 90 minutes of moderate-intensity physical activity per day.

Behaviour Modification

- Weight loss programs incorporating cognitive behavioural interventions are helpful in achieving weight loss and weight maintenance in the range of up to 10% for between 1 to 5 years of follow-up.

Bariatric Surgery

- Surgery is the most effective method to reduce weight and maintain weight loss in the severely or morbidly obese.

Medical Treatment

- Drug therapy may be effective if given without lifestyle modifications but is most effective when combined with diet, physical activity, and behaviour modification.
- Drug therapy should be considered when BMI $>30 \text{ kg/m}^2$ or when BMI is 27 to 29.9 kg/m^2 in patients with comorbidities or complications of obesity such as hypertension, type 2 diabetes mellitus, hyperlipidemia, coronary artery disease, and sleep apnea. Commensurate BMI thresholds for action among Asians may be 27.5 and 25 to 27.4 kg/m^2 respectively.
- Drugs with the widest efficacy and safety data are orlistat (up to 4 years) and sibutramine (up to 2 years). Phentermine and mazindol appear relatively safe and effective for 6 to 12 months.

POTENTIAL HARMS

Nutritional Inadequacy of Diets

- *Balanced, moderate-fat* diet may result in micronutrient deficiencies (e.g., calcium, iron and zinc) if food choices are poor.
- *High-fat, low-carbohydrate* diets are nutritionally inadequate, high in saturated fat and cholesterol, and low in vitamins A, B₁, B₆, E, folate, calcium, magnesium, iron, potassium, and dietary fibre, and require supplementation.
- *Very low-fat* diets are deficient in B12, E, and zinc because meat intake is low.

Bariatric Surgery

- Bariatric surgery has significant technical issues, complications, and cost, and requires extensive pre- and perioperative preparation; postoperative lifestyle modifications, as well as follow-up for complications of surgery, are life-long.

Medications

- There are no data on the long-term efficacy and safety of medications in childhood and adolescent obesity.
- Specific antiobesity medications:
 - *Sibutramine* – mild increases in blood pressure and pulse rate, dry mouth, headache, insomnia, and constipation
 - *Phentermine* - dry mouth, insomnia, palpitations, and euphoria
 - *Mazindol* - insomnia, agitation, and dizziness
 - *Ephedrine** - adverse psychiatric, autonomic, gastrointestinal, cardiac effects, and death; the easy availability and potential for abuse are major drawbacks.

***Note to users from the National Guideline**

Clearinghouse (NGC): Ephedrine is not legal for use in the United States. See notice from the [U.S. Food and Drug Administration](#).

- *Topiramate* - paresthesia, diarrhea, somnolence, and dysgeusia
- *Zonisamide* - fatigue
- *Orlistat* - oily diarrhea with urgency in patients noncompliant with reduced-fat diet

CONTRAINDICATIONS

CONTRAINDICATIONS

Very low calorie diets (VLCD) are not recommended for pregnant or breastfeeding women, patients with severe systemic or organ diseases, or with significant psychiatric or eating disorders.

VLCDs should be avoided in patients with BMI ≤ 30 kg/m² (commensurate Asian cut-point may be 27.5 kg/m²), where loss of lean body mass may be excessive, children or younger adolescents, and elderly patients over 65 years old, except in specialized treatment programs.

Contraindications to Bariatric Surgery

- Excessively high risk for surgery
- Major psychiatric illness
- Presence of illnesses such as endocrine cause for obesity, inflammatory bowel disease, chronic pancreatitis, cirrhosis, portal hypertension, congenital abnormalities of the gastrointestinal tract, active malignancy
- Regular use of nonsteroidal anti-inflammatory drugs (NSAIDs) or corticosteroids
- Alcohol or substance abuse
- Pregnancy
- Children

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- These guidelines are not intended to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge advances and patterns of care evolve.
- The contents of this publication are guidelines to clinical practice, based on the best available evidence at the time of development. Adherence to these guidelines may not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care. Each

physician is ultimately responsible for the management of his/her unique patient in the light of the clinical data presented by the patient and the diagnostic and treatment options available.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Quality Indicators

Structure Indicators

- ii. To prevent and check the increasing trend of obesity in the Singapore population, the Workgroup recommends that resources and facilities promote weight loss, and maintenance should be available both in the community and health care setting
 - jj. Health care service for weight management for affected and at-risk individuals should be structured and organized around a multidisciplinary weight management team.
 - kk. The core weight management team members should comprise primary care doctors, nurse-educators, nutritionists, exercise therapist, behavioral therapist, and endocrinologist. Other specialists that provide important support to the team should include respiratory physicians, cardiologists, and surgeon.
 - ll. Health care staff directly involved in weight management should be provided specialized training in weight management.

Performance Indicators

Performance Parameter and Recommended Frequency:

- mm. Patient education and counseling: at diagnosis and quarterly
 - nn. Body weight, waist circumference, BMI: at diagnosis and at least quarterly
 - oo. Blood pressure: at diagnosis and at least quarterly
 - pp. Blood glucose :at diagnosis and at least annually
 - qq. Lipid profile: at diagnosis and at least annually

Outcome Indicators

Data on outcome of weight management programs should be obtained from the overweight/obese individuals and at the population level.

- rr. Weight loss
 - Successful: Loss of 5 to 10% body weight

IMPLEMENTATION TOOLS

Clinical Algorithm

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health, Singapore Association for the Study of Obesity. Obesity. Singapore: Singapore Ministry of Health; 2004 Apr. 108 p. [253 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Apr

GUIDELINE DEVELOPER(S)

Singapore Associate for the Study of Obesity - Medical Specialty Society
Singapore Ministry of Health - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Singapore Ministry of Health (MOH)

GUIDELINE COMMITTEE

Workgroup on Obesity

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Workgroup Members: Dr Leonard Koh, Senior Consultant, Department of Endocrinology, Singapore General Hospital (Chairman); Dr Tan Chee Eng, Head, Department of Endocrinology, Singapore General Hospital; Dr Mabel Yap, Director, Research and Information Management, Health Promotion Board; Dr Tai E Shyong, Consultant, Department of Endocrinology, Singapore General Hospital; Dr Tey Beng Hea, Senior Consultant, Department of Medicine, Alexandra Hospital; Dr Michelle Jong, Associate Consultant, Department of General Medicine, Tan Tock Seng Hospital; Ms Gladys Wong, Chief, Nutrition & Dietetics Department, Alexandra Hospital; Ms Mandy Ng, Obesity Program Coordinator, Department of Endocrinology, Singapore General Hospital; Dr Benedict Tan, Consultant Sports Physician, Department of Orthopedic Surgery, Changi General Hospital; Mr Abdul Rashid Jailani, Ag Head & Principal Physiotherapist, Department of Physiotherapy, Singapore General Hospital; Dr Lee Ee Lian, Consultant, Department of Behavioural Medicine, Singapore General Hospital; Dr Haridas Baladas, Consultant, Department of Surgery, Alexandra Hospital; A/Prof Thai Ah Chuan, Senior Consultant, Department of Medicine, National University Hospital; Dr Sum Chee Fang, Senior Consultant, Department of Medicine, Head, Diabetes Centre, Alexandra Hospital; A/Prof Loke Kah Yin, Senior Consultant, Department of Pediatrics, National University Hospital; Dr Tan Kok Leong, Director, SingHealth Polyclinic (Outram)

Input was also sought from the following: Ms Evelyn Boon, Senior Clinical Psychologist, Department of Behavioural Medicine, Singapore General Hospital

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Singapore Ministry of Health Web site](#).

Print copies: Available from the Singapore Ministry of Health, College of Medicine Building, Mezzanine Floor 16 College Rd, Singapore 169854.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Obesity guide card. Singapore: Singapore Ministry of Health; 2005 Jan. 4 p. Available in Portable Document Format (PDF) from the [Singapore Ministry of Health Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on July 28, 2004.

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