Managing obesity
in childhood and adolescence

Obesity in childhood and adolescence is increasingly prevalent and is associated with significant psychological and medical morbidity. Effective management includes having a family focused approach, setting small, achievable goals for behaviour change, targeting sedentary behaviour, helping families and young people to make healthier food choices, and providing ongoing support.

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Obesity is now recognised by the World Health Organization as a major, although silent, epidemic, whose worldwide prevalence has increased dramatically in both adults and children (see http://www.who.int/nut/malnutrition_worldwide.htm). It can be considered as both a disease, with its own significant morbidity and mortality, and as a risk factor for other noncommunicable diseases – for example, type 2 diabetes mellitus and cardiovascular disease.

In Australian society, the prevalence of overweight and obesity in childhood and adolescence is following the global trend – both conditions are becoming increasingly common. A recent study in Victoria of a large number of primary school aged children showed a substantial increase in the number of overweight children between 1985 and 1997.[1] In fact obesity now appears to be the second most prevalent chronic disease in adolescence in Australia, after asthma. The dramatic increase in obesity in the community is related to the significant environmental change that has occurred over the past couple of decades – many people in Australia now lead inactive lifestyles and have easy access to high fat food choices.

Children and young people with obesity often have significant disease-related psychological and medical morbidity, as well as an increased risk of premature death from cardiovascular disease. Once obese, the likelihood of remaining obese into adulthood is very high, especially for the obese adolescent.

A significant proportion of children seen in

IN SUMMARY

- **In managing obesity in childhood and adolescence, focus on behaviour change and not a 'diet'.**
- **Small, achievable goals should be set for behaviour change.**
- **Parent-only sessions should be used when dealing with an obese preadolescent child.**
- **Adolescent patients and their parents should have the opportunity to be counselled separately at some stage.**
- **Sedentary behaviour, such as time spent watching the television or videos or at the computer, should be targeted.**
- **Low fat healthier food choices will be important for long term weight management.**
- **Families and young people will need ongoing support to make sustainable lifestyle changes.**

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general practice, for whatever reason, will be overweight or obese. For example, approximately a quarter (23%) of children attending general practices in western Sydney in 1996 were found to be at risk of becoming overweight or were overweight.[2] Family doctors are thus well placed to intervene early and provide management of this difficult problem.

The management of established obesity in childhood requires a multimodal approach, with family involvement, physical activity and dietary modification all being important for sustained weight control. Early recognition of obesity in the affected child and subsequent intervention are vital. If weight management is handled sensibly, there should be no risk of precipitating an eating disorder. This paper aims to address the practical issues in weight management. For a discussion of the clinical assessment of overweight and obese children and adolescents see 'Investigation of the obese child' by Dr Kate Steinbeck.[3]

Approaching obesity

Attitudes

There are numerous misconceptions about childhood obesity. Unfortunately, some doctors and other health workers appear to subscribe to the 'gluttony–sloth' view of the disease and may reinforce such attitudes when dealing with affected patients, thus increasing the associated stigma. For these reasons, those involved in obesity management first need to be aware of their own culturally acquired attitudes to issues such as food, body shape and size, physical activity and dieting. It may be helpful to think of obesity in the same way as heart disease or

Figure 1. Increasing physical activity a(above). Skipping. b(left). Inventing new uses for 'ab crunchers'. Whatever their preferences, obese children and adolescents and their families need to be encouraged to incorporate some opportunities for activity into their everyday lifestyle.

Some information sources for patients and their families

Books

- Stanton R. Fat and Fibre Counter. Melbourne: Wilkinson Books, 1999.
- Saxelby C. The Busy Body Cookbook. Sydney: Hodder Headline Australia, 1995.
- Women's Weekly. Best Ever Slimmers Recipes. Singapore: ACP, 1998.
- Family Circle. Tasty Low Fat Recipes. Sydney: Murdoch Books, 1998.

Internet

- Healthy eating for a healthy weight. (http://www.nch.edu.au/parents/health/factsheets/healthyj.htm).
- Snack attack ideas (http://www.nch.edu.au/parents/health/factsheets/snackj.htm).

Pamphlet

- Australian Meat and Livestock Corporation (developed in association with the National Heart Foundation). Eating for health. An easy guide to shopping and cooking low-fat meals. Sydney: Nutrition Communications, 1996. (This pamphlet is available for free and in bulk from the Corporation [Phone: 1800 550 0187]).

type 2 diabetes mellitus – a chronic disorder that affects genetically vulnerable individuals living in an adverse environment (such as Australia at the start of the second millennium).

Raising the issue

Obese children or adolescents are usually very concerned about their problem but may not specifically ask for help. This can be confounded by the fact that obese children often have obese parents. Family doctors are in a good position to sensitively raise this issue with the parent or the young person, as appropriate. Some people will welcome the opportunity for immediate intervention, whereas for others you may simply be laying the foundation for later acceptance of therapy.

Clinical assessment

All obese children and adolescents should have a full history and physical examination performed. For further details, see the article by Steinbeck referred to earlier.[3]

Treating obesity

Aims

What are the aims of therapy when dealing with a child or adolescent with obesity? The following points need to be taken into account:

- A decrease in the rate of weight gain, rather than substantial weight loss, may be appropriate. In younger children, weight maintenance during a growth spurt may be the most achievable approach – in effect, prepubertal children may be able to 'grow into' an appropriate weight for height.
- Education about the nature of obesity, including the realisation that it is a chronic disorder of energy balance, is also important, as the need for long term changes in behaviour and the avoidance of 'quick fixes' will then be more readily apparent.
- Small, achievable goals should be set – Rome was not built in a day. Goals could include, for example, going for a walk once a week, cutting down on the amount of television viewed from four to three hours per day, or eating breakfast at least once a week.
- It is not appropriate to set goals related to losing a specific amount of weight because this essentially sets up many patients for failure.

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Figure 2. Increasing physical activity: a family affair. Informal ball games, such as this one involving a dad and two teenagers, and other activities such as walking and cycling can help make 'family-based' therapy fun.

Focus

Therapy should be family-based and developmentally appropriate for the patient.

Family-based therapy

Families influence food and activity habits and thus, to be effective, therapy should

be family-focused. Involving parents in treatment programmes is necessary for successful weight loss both in young children and adolescents. Several studies have now shown that long term maintenance of weight loss can be achieved when the intervention is family-based.[4]

Altered lifestyle patterns within the whole family and parental reinforcement and support of the child are important factors in outcome success. Parents can support their children by noticing and encouraging positive behaviours, by giving compliments, by actively discouraging teasing by siblings or other children (or adults) and by making interventions fun.

Often several family members or other carers need to be engaged in the therapy, either directly or indirectly. For example, if a child lives in two households, is minded by grandparents or attends after-school care, then several adults are involved in influencing food intake and the level of physical activity. All caregivers will need to be made aware of any management plans – this can certainly present a management challenge.

Preadolescence v. adolescence

A developmentally appropriate approach to management is important. For example, when dealing with the obese preadolescent child, sessions involving the parent or parents alone – without the child being present – are the most effective. There is increasing evidence that treatment of preadolescent obesity with the parents as the exclusive agents of change is superior to a child-centred approach. In fact, a child-centred approach to weight management is likely to result in the child having high levels of stress and anxiety and the family withdrawing from the therapy programme.

However, a different approach is clearly needed for the adolescent patient. The few controlled studies of the management of adolescent obesity suggest that it may be most effectively managed when the adolescent patient and his or her parent have the opportunity to attend at least some support sessions separately. It is beyond the scope of this article to detail the approach to counselling adolescent patients. Steinbeck covers a range of ideas in her book 'Growing up not out: a weight management guide for families'.[5]

Clearly the approach that can be taken by the family doctor depends upon the available resources. However, if possible:

- parent-only sessions should be used when dealing with an obese preadolescent child
- adolescent patients and their parents should have the opportunity to be counselled separately at some stage.

Strategies

Obesity is a disorder of energy balance, and so, in addition to modifying energy intake, energy expenditure should also be increased. Strategies for both are outlined below. Some sources of further information for patients and their families are listed in the box on page 64.

Increasing physical activity

Physical activity is the only component of total energy expenditure that has the potential for change (the other components being resting energy expenditure and the thermic effect of food).

An increase in the level of physical activity during treatment is a long term predictor of maintained non-obesity. The type of activity employed – that is, 'lifestyle' exercise versus 'programmed' exercise – also appears to be important for sustained weight loss. For example, while both forms of exercise help promote weight loss in the initial phase, the child or adolescent is more likely to continue long term with 'lifestyle' forms of activity. These include the sort of activities that can be incorporated read-

Tips to help you be more active

Incidental activity

- Walk to and from school – either part or all of the way.
- Walk to the local shop.
- Think – does the car need to be used for this trip?
- Throw out the remote control.
- Use public transport.

Television

- Keep a record of the amount of time spent watching TV.
- Be a discerning TV viewer.
- Turn the TV off once a programme is finished.
- Try to limit TV viewing (including videos and video games) to no more than two hours per day.
- Have a TV-free day.

Enjoy being active

- Go for a walk with the family. Let the children ride their bikes at the same time.
- Dance to music.
- Swimming and bike riding are fun forms of being active.
- Check out the local park. Take a picnic to the park, where children can play, rather than buying takeaway.
- Do some fun household tasks – wash the car or dig in the garden.

A guide to low fat shopping

- Buy lean meat, skinless chicken breast, New Fashioned pork and Master Trim round medallion instead of sausages, leg of lamb or pork or lamb midloin chops.
- Buy lean ham, lean roast meats, silverside, turkey and pastrami instead of salami, devon or chicken roll.
- Use tomato-based salsas and sauces, and pickled vegetables instead of dips based on cream or salads with mayonnaise or cheese.
- Use pasta, rice, plain noodles, and tomato-based sauces instead of creamy white sauces, satay sauce, pesto, coconut cream-based sauces or two-minute noodles.
- Use vinegar and low fat dressings instead of regular oil-based dressings.
- Use all breads including focaccia, pita and lavash breads, English muffins, crumpets and pizza bases instead of croissants or garlic bread.
- Use fish fresh or canned in brine instead of oil.
- Use low fat yoghurt, milk and cheese instead of the full fat varieties.
- Use spices, soy sauce, oyster sauce, chilli sauce, mustard and curry paste for flavourings.

ily into the child or adolescent's lifestyle – for example, walking, cycling, swimming, dancing to music, informal ball games and playing outside (see Figures). Further, it is important to think of activity as fun rather than as 'doctor-prescribed exercise'.

Obese children may not enjoy group physical activities, such as school sports, because their performance may not be as good as that of their leaner peers. Adolescents may appreciate having a companion (not necessarily a parent) for activities. Preferences aside, obese children and adolescents and their families need to be encouraged to incorporate some opportunities for activity into their everyday lifestyle. In particular, parents should not fetch and carry for their children – small chores may take more time when done by children but do provide an opportunity for incidental activity.

The suggestions in the box 'Tips to help you be more active' on page 65 may be helpful. Star charts can be used for simple self-monitoring of activity.

Decreasing sedentary behaviour

Interestingly, targeting a decrease in sedentary behaviour may be more effective than targeting an increase in physical activity. If young people are encouraged to be aware of situations when they are being sedentary, then they may more readily choose to be active.

Families or young people should be encouraged to consider how the television is used in the household. Is it always turned on or does the family use it more discerningly? How many hours are spent watching television, videos, video games or the computer screen each day? Families can consider storing the remote control in a cupboard and using person-power to change channels instead. They could also consider having a 'TV-free day' every now and then.

Again, for more suggestions see the box on page 65.

Modifying food intake

Involvement of the entire family in making a change to a sustainable and healthy food intake is usually vital to the success of any programme. This is because changes in shopping and cooking practices and altered attitudes to snacking and mealtimes may all be required. Essentially, the focus should be on behaviour change and moderate fat restriction rather than kilojoule restriction or a diet prescription.

Families can be helped to become aware of some at-risk features in their usual dietary intake, such as the following:

- skipping breakfast or lunch (this usually results in increased snacking, or even bingeing, later in the day – usually on high fat foods)
- being aware of when eating less healthy food is out of control
- having regular high fat snacks such as chocolates, chips, nuts and pastries
- snacking frequently in the after-school period, particularly constant grazing from the fridge
- having takeaway meals, or eating out, on a frequent basis
- stocking tempting high fat foods in the cupboards – for example, biscuits
- drinking copious quantities of soft drinks and fruit juices.

A more healthy food intake may include some of the following elements:

- using low fat dairy products
- stocking a range of low fat snacks that the child enjoys eating
- making time to eat breakfast
- eating together as a family most days of the week
- drinking water with meals
- planning rewards that are not orientated towards food – for example, toys, CDs, outings to movies, the park or the zoo
- letting the child decide whether to finish every meal

A guide to low fat cooking

- Use lean meat (trim off all visible fat) and grill or cook lightly in a nonstick pan brushed or sprayed with oil.
- Reduce meat serving sizes.
- Substitute lean ham or a bacon stock cube for bacon.
- Cook onions and garlic in a small amount of water, wine or stock instead of browning in oil.
- Use low fat plain yoghurt instead of cream and sour cream – add at the end of cooking as yoghurt will curdle if it boils.
- Use low fat milk and reduce the amount of margarine or butter in white sauces.
- Use low fat custard, yoghurt, or ice cream instead of cream for desserts.
- Whip together equal quantities of ricotta cheese and low fat plain yoghurt and add a small amount of sugar or honey and use instead of cream for desserts.

- taking lunch from home to school
- using eating as a time for social interaction
- discouraging snacking in front of the TV.

For a guide to low fat shopping and low fat cooking see the boxes on pages 66 and 69, respectively.

Other considerations

When to refer?

The vast majority of children and adolescents who are overweight or obese can be managed in the community by their family doctors or dietitians. However, those with significant metabolic complications of obesity, or with growth failure or other signs suggestive of endocrine or genetic disease, will need referral to a paediatrician or specialist clinic for more specific management.

In a very small proportion of obese children and their families significant psychosocial disturbance may be present – this warrants referral to a specialist child and adolescent psychiatric service.

How much follow up?

There are no hard and fast rules on the frequency of follow up. However, it is clear that several frequent visits in the initial period – for example, once every week or fortnight – may be required in order to discuss progress in making small lifestyle changes and also to set new, achievable goals. Subsequent regular, although less frequent, follow up visits over the long term appear to be useful in supporting the parent or young person in making sustainable lifestyle changes.

Is there a magic elixir?

There is no ideal weight-reducing drug. To date, all weight-reducing drugs have had significant side effects and have only been useful in long term weight management in adults when used in conjunction with a well-managed behavioural management programme. Weight reducing drug therapy has not been trialled in children or adolescents. Such therapy, if used at all, should only be given in a specialist setting.

Conclusion

Obesity is an increasingly prevalent problem in childhood and adolescence. It can be considered to be:

- a disease with significant morbidity and mortality
- a risk factor for other diseases, such as type 2 diabetes.

Family doctors are well placed to manage obesity. Effective management in this age group will include:

- having a family-focused approach, especially with preadolescent patients
- setting small, achievable goals for behaviour change, targeting sedentary behaviour in particular
- helping families and young people to make healthier food choices
- providing ongoing support as families and young people make sustainable lifestyle changes. MT

References

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2. Hardcastle DM, Shrimpton S, Renigeris A, Baptist ED, Baur LA. Increasing prevalence of childhood obesity. Med J Aust 1997; 167: 342.
3. Steinbeck K. Investigation of the obese child. Mod Med Aust 1999; 42(4): 94-96.
4. Epstein LH. Family-based behavioural intervention for obese children. Int J Obesity 1996; 20 (1 suppl 1): 14S-21S.
5. Steinbeck K. Growing up not out: a weight management guide for families. Sydney: Simon & Schuster, 1998.

Further reading

1. Egger G, Swinburn S. The fat loss handbook. Sydney: Allen & Unwin, 1996.