



## Southern & SA Gastrointestinal Services



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In our society, obesity is a common problem. It has been estimated by the National heart Foundation that 9% of men and 11% of women are obese. There are various ways of defining the different levels of obesity. The most commonly used is the Body Mass index (BMI). The BMI is a measure which takes into consideration the height and weight of an individual according to the formula.

**BMI Chart (KG/M)**  
BMI = Kg/m<sup>2</sup>

WEIGHT (KG)	HEIGHT (M)									
	1.45	1.5	1.55	1.6	1.65	1.7	1.75	1.8	1.85	1.9
70	33	31	29	27	26	24	23	22	20	19
75	36	33	31	29	28	26	24	23	22	21
80	38	36	33	31	29	28	26	25	23	22
85	40	38	35	33	31	29	28	26	25	24
90	43	40	37	35	33	31	29	28	26	25
95	45	42	40	37	35	33	31	29	28	26
100	48	44	42	39	37	35	33	31	29	28
105	50	47	44	41	39	36	34	32	31	29
110	52	49	46	43	40	38	36	34	32	30
115	55	51	48	45	42	40	38	35	34	32
120	57	53	50	47	44	42	39	37	35	33
125	59	56	52	49	46	43	41	39	37	35
130	62	58	54	51	48	45	42	40	38	36
135	64	60	56	53	50	47	44	42	39	37
140	67	62	58	55	51	48	46	43	41	39
145	69	64	60	57	53	50	47	45	42	40
150	71	67	62	59	55	52	49	46	44	42
155	74	69	65	61	57	54	51	48	45	43
160	76	71	67	63	59	55	52	49	47	44
165	78	73	69	64	61	57	54	51	48	46
170	81	76	71	66	62	59	56	52	50	47
175	83	78	73	68	64	61	57	54	51	48
180	86	80	75	70	66	62	59	56	53	50
185	88	82	77	72	68	64	60	57	54	51
190	90	84	79	74	70	66	62	59	56	53
195	93	87	81	76	72	67	64	60	57	54
200	95	89	83	78	73	69	65	62	58	55
205	98	91	85	80	75	71	67	63	60	57
210	100	93	87	82	77	73	69	65	61	58

**Body Mass Index Classification**

Underweight <19	Ideal BMI 19-25	Overweight 25-30	Obesity >30	Severe Obesity >35	Morbid Obesity >40	Super Obesity >50
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Morbid obesity is associated with major medical, physical and social problems and is a result of an imbalance between energy intake and expenditure.

There is a long list of illnesses that are either caused by or are made worse by obesity. These include diabetes, hypertension, cardiac and orthopaedic joint problems. As a result, obese people have a short life expectancy.

Physical activity of any sort can become a problem due to tiredness from carrying excess weight, feeling unwell or reduction in flexibility such that routine activities become a challenge. Social isolation is a common problem because not surprisingly, those that are morbidly obese feel embarrassed in public, preferring to withdraw within their family circle. The deprivation of social activities and the lack of choice of work can result in a feeling of low esteem and even depression.

For some patients, weight reduction becomes a major problem and they are unable to lose significant amounts of weight following extensive dietary manipulation. For these patients, surgery is an option, which assists in the achievement of sustainable weight reduction.

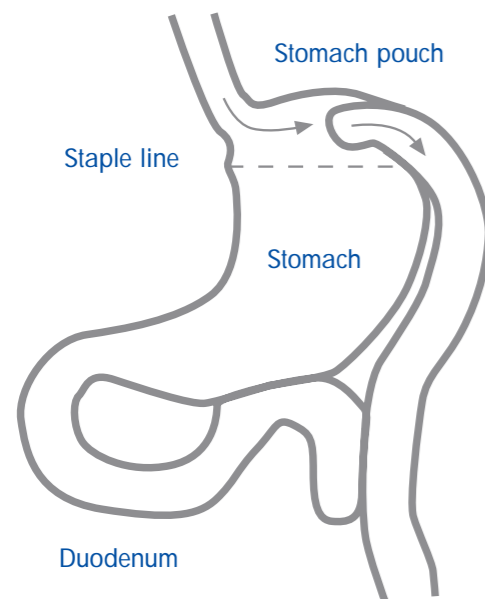
It is important however to point out that surgery is not the solitary solution to the problem of morbid obesity but rather an invasive procedure which is done in order to prevent the development of the complications of morbid obesity. Therefore, you should not believe that all the problems will go once the surgery has been performed, but need to understand that the surgery is the event which will assist you in controlling their dietary input, and thus produce the required results.

In the past, major surgical interventions have comprised of a variety of stapled techniques and in particular, the gastric bypass has been shown to be a very effective method for weight reduction. However, in recent times there has been the introduction of an adjustable gastric band, which aims to produce similar results to the gastric bypass operation, but with a much simpler technique.

It is important for all patients undergoing surgery for obesity that they enter a prospective programme which aims to control their dietary habits and enhances their physical activity because it is all of these factors combined which ultimately lead to the desired outcome.

**Gastric Bypass**

This is a restrictive/malabsorptive procedure that usually requires an open operation. The stomach is stapled to form a small pouch connected to the small bowel. This creates a permanent change in your anatomy. The greater magnitude of the open surgery translates into a slightly higher operative and postoperative complication rate. Nutritional deficiencies are more common after this type of surgery, which does however deliver good weight loss, especially for super-obese individuals.

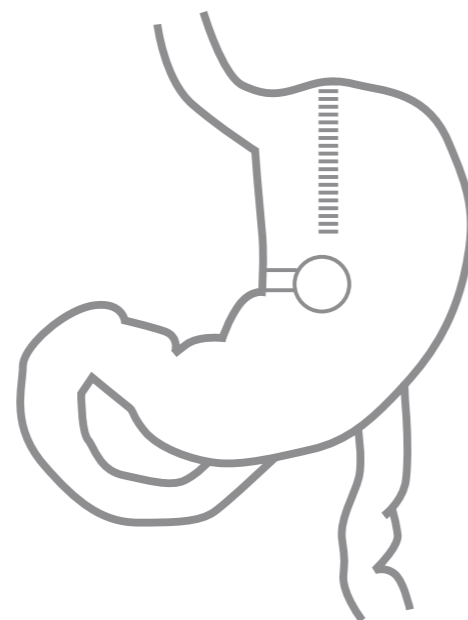


**Laparoscopic Gastric Bypass**

The keyhole version of the above operation has been successfully performed in America with promising results, but is not yet available in South Australia.

**Vertical Banded Gastroplasty**

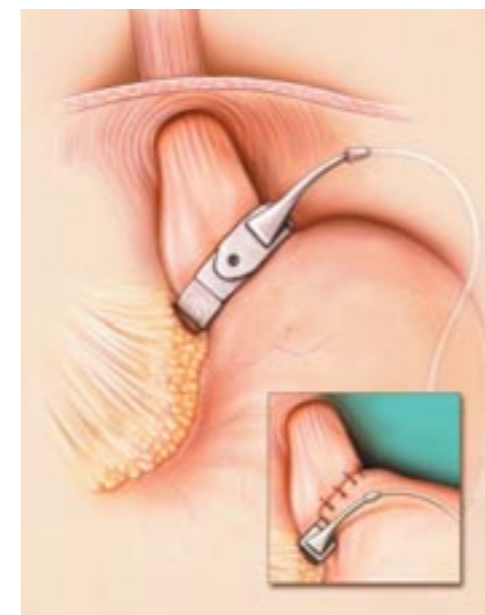
This is the traditional "stomach stapling" procedure which usually requires open operation. A vertical stapling of stomach is performed to create a small pouch which has a non-adjustable outlet. Again, this is a permanent change, and achieves moderate weight loss. It is subject to the same slightly higher operative risks and complications as the open gastric bypass. Unfortunately the operation suffers from reported breakdown of the staple line (stomach stretching) and many patients regain their lost weight.



**The LAP-BAND®**

The BioEnterics LAP-BAND Adjustable Gastric Banding System (INAMED Health, Santa Barbara, California, USA) has been used for the surgical treatment of morbid obesity since 1993. It is the most common weight loss surgery in Australia and Europe, and is the fastest growing type in the United States. It induces weight loss by providing early and extended satiety (satisfaction after eating) and not just by reducing the capacity of the stomach. The band is fastened around the upper stomach to create a new, smaller stomach pouch. As a result, most patients experience an earlier sensation of fullness and are more satisfied with less food. Since there is no cutting, stapling, or stomach re-routing involved in the LAP-BAND operation, it is considered the least traumatic of all weight loss surgeries. The procedure is performed laparoscopically (keyhole surgery), so patients generally experience significantly less pain and scarring. In addition, the hospital stay is often only two nights. Patients can typically resume normal activities within 2 weeks, quicker than with other surgical alternatives.

First the LAP-BAND is placed and closed around the upper part of the stomach.



Next, the LAP-BAND is sutured in place and connected to the Adjustment Port on the abdominal wall, just under the skin.

The LAP-BAND System is an adjustable silicone band with an inflatable inner surface. It is connected to an access port by a kink-resistant silicone tube. The port allows adjustments of the band to meet your individual weight loss needs by adding or removing fluid. This impacts the amount and rate of food consumption. Adjustments are performed with a small needle during your visit to Dr Bessell's rooms, and are determined by your weight loss, the amount of food that can be comfortably eaten, the exercise regimen and other issues surrounding your health, as well as the amount of fluid already in the band.

Because no permanent changes are made to the body's anatomy or physiology, the procedure can essentially be reversed. If necessary, all of the system components can be removed (this requires a second keyhole operation).

To date, more than 100,000 LAP-BAND Systems have been placed and the results have been reported in hundreds of scientific publications (the most relevant articles have been posted on Dr. Bessell's website for you to read at [www.gisurgery.net](http://www.gisurgery.net)). The LAP-BAND System has been shown to produce significant and sustained weight loss, with an average of 50-60% of excess weight being lost in the first 2 years following surgery. Good weight loss maintenance has been reported out to seven years so far. This weight loss has been shown to effectively resolve or improve all of the health problems of obesity listed in the Introduction, and to improve quality of life. After approving the LAP-BAND System as "safe and effective" in June 2001, the U.S. FDA's Office of Device Evaluation named the LAP-BAND System as one of the "Significant Device Breakthroughs" of the year.

In order to establish whether the LAP-BAND system is appropriate for you the following criteria will be used.

- You are between 18 and 60 years of age.
- You have severe obesity defined as BMI > 35
- You have some of the associated health problems of obesity
- You have already made some serious efforts to lose weight
- You understand your risks & responsibilities
- You are medically fit for surgery and anaesthesia

If you don't qualify for the LAP-BAND, we may still be able to offer another form of surgery, or our team may be able to assist you in non-surgical weight loss.

## REALISTIC EXPECTATIONS FOR WEIGHT LOSS

The weight will be lost gradually and will commence immediately after surgery.

The amount of weight loss will depend partly on the size of the small gastric pouch and the calibrated opening to the rest of the stomach. More importantly the amount of weight loss in the long term will depend on you i.e. on how carefully you follow the recommendations regarding eating habits, diet and exercise. The recommended rate of weight loss we would like to see is 0.5-1.0kg per week.

In general, gastric banding will lead to loss of weight to the amount that is desirable. As a rule of thumb, we will aim to lose two thirds of your excess weight over the first 1-2 years. However, this will require careful calibrations by the surgeon and a life long commitment to change on your part. The band is easy to defeat with high energy liquids and you will need frequent, long term follow-up.

Whilst the laparoscopic approach has helped decrease the length of hospital stay by decreasing the postoperative recovery period, the insertion of the gastric band is not without complications.

As with any surgical procedure, there are associated risks to the patient. Whilst Dr Bessell will endeavour to minimise risks, complications may occur which may have permanent effects. Unfortunately deaths have also been reported following this type of surgery.

### Open Surgery (Laparotomy)

Whilst Dr Bessell may have recommended laparoscopy to insert the LAP-BAND, he may find that after starting the procedure, this approach is not safe due to unexpected findings or events. If this is the case, then he will insert the LAP-BAND through a large incision in the abdomen. This is known as open surgery or "laparotomy".

Converting from a laparoscopic to an open approach is not a complication of the procedure but rather to protect your safety and well being.

### General Risks of Surgery

These are risks that are common to all operations. However, because of your weight, you may be at greater risk of suffering complications from the operation. The risk increases with age and weight, and whether the patient has a heart condition, diabetes or hypertension:

- Cardiovascular problems such as heart attack or thrombosis refers to formations of blood clots in the leg. The blood clot may move to the lung or heart and hence may be fatal.
- Infection of the wounds or failure of wounds to heal properly. This is more likely to occur in patients with diabetes.

Special measures will be taken to reduce these problems to a minimum, but in spite of these measures, a significant complication will probably occur in about 5% of all patients.

### Specific Risks Associated with Laparoscopic Surgery

- Excessive bleeding
- Infection
- Injury to organs near stomach
- Injury to the stomach wall
- Injury to major blood vessels
- Gas embolism from the gas used to insufflate your abdominal cavity.

It is important you understand fully the risks involved before proceeding to surgery. Your signature on the consent form attests to your understanding of these matters and desire to proceed. Dr Bessell will go through these and other risks carefully. Please make sure you clarify any questions that may arise.

The LAP-BAND operation is not without complications and it is important that you fully understand the risks and discuss this matter with your surgeon before you decide to have this operation.

- Vomiting - Some patients have trouble adjusting to their new eating habits; they repeatedly eat too quickly or too much and then vomit.
- Infection of the port - an infection may develop in the port area or in the abdomen, and in some instances the infection may involve the band. In such a case, reoperation may be necessary. It is very important that you do not let anyone apart from Dr Bessell's team inject or remove fluid from your port as infection can occur if the proper sterile technique is not used.
- Leakage - leakage from the gastric band or from the connecting tube between the balloon and the port may occur. The gastric balloon is made of fragile material and if too much fluid is injected, leakage will occur if the injecting needle is inserted incorrectly. Leakage from the port can occur if the incorrect needle is used for injecting or removing fluid from the port. Hence it is important that only an experienced person be allowed to manipulate the amount of fluid in your band. In the event of leakage the gastric band can normally be replaced with a new one, but this will require reoperation.
- Slippage of the band and pouch dilation - This is a major longterm concern that the band may slip and the pouch (the part of the stomach above the band) may become too large. this problem can arise months or years after the procedure. This is a rare complication as at operation, the band is placed in a special tunnel and special measures to fix the band securely are performed.

However, it can still occur if the strict rules of eating and ignoring the signs of fullness are not adhered to. A reoperation may be necessary in up to 10% of patients overall.

- Other complication - there may be other rare, unspecified complications. You should ask Dr Bessell for more detailed information.

There is no guarantee that the LAP-BAND will work without fault for the rest of your life. However, extensive use of the band since 1985 demonstrates that it works well and can be complication free with long term weight loss. This complication free and successful weight loss is more likely to occur if you have a clear understanding of the potential benefits and risks of having a gastric band and have a realistic responsibility towards your eating habits and exercise.

Some of these late complications can occur so it is important that you are aware of them.

### Flabby Skin

This can occur especially if you have lost a lot of weight or lose it very quickly. It usually occurs on the arms, breasts, abdomen and thighs. Exercising during weight loss can reduce the amount of flabby skin and help tone up your body. About 20% of patients have surgery for this condition. Excessive skin folds can become a large problem especially in summer. Rashes and other skin conditions can be of great concern especially under the breasts and abdomen. Rubbing of loose skin on the thighs can also become very uncomfortable. Ask Dr Bessell if this occurs, as surgery may be advisable once your weight has stabilised.

### Gallstones

Gallstones often occur in the obese. If you have not already had a cholecystectomy (had your gallbladder removed) you may be asked to have an ultrasound before your operation to determine whether you have any stones. If there are any present you may still develop stones as a result of the weight loss after surgery. You can live a perfectly normal life without a gallbladder. Approximately 18% of patients who have not already had a cholecystectomy do so at the time of surgery.

### Iron, folic acid and B12 Deficiencies

These deficiencies occur in many patients after surgery for weight reduction. They are due to the small amount of food being consumed and are a little more common after gastric bypass. We therefore recommend that all patients take a vitamin supplement and have their levels of vitamin B12, folate and iron checked.

### Pouch Dilation and Weight Gain

Eating amounts larger than recommended and stretching of the small pouch are the most common reasons for weight gain. Following the guidelines carefully can usually prevent this. Eating more than your pouch can handle can cause stretching. Once this occurs the damage has been done. Your pouch will not shrink back to its normal size. Some patients have ended up being their original weight due to excessive consumption of food. Certainly the pouch will stretch slightly after a while and this is normal. If however you find that you can eat a normal sized meal in one sitting, then excessive stretching may have occurred. The only way to correct this is to have further surgery to reduce the size of the pouch.

### Hair Loss

About 60% of patients experience some hair loss especially during the first year following surgery. This is not permanent and you do not go bald. Your hair will grow back.

### Hernia Incision

Sometimes a hernia can form along the incision line. A hernia is basically a weakness in the abdominal wall allowing the abdominal organs to herniate. This can be corrected by surgery.

### Acid Erosion of Teeth

The tooth surface is composed of mineral (calcium) which is susceptible to acid attack. If the resting environment around the tooth changes such as constant sugar ingestion of acidic foods, poor cleaning techniques or stomach acids from the tooth. The end result is tooth decay. This can be prevented quite easily by good dental hygiene practice (e.g. simply brushing your teeth well after reflux or regurgitation occurs, and at least three times a day after meals).

### Infection of the Wound and/or Band

This is uncommon and may need treatment via drainage of the infection, antibiotics, or removal of the band, catheter and port. Please discuss any of these problems with Dr Bessell.

If you come to the initial consultation with Dr. Bessell you must bring your doctor's referral letter, and all previous X-Rays. We will discuss the procedure and make an assessment of whether you would benefit from an operation. We will examine the indications for surgery, explain the risks involved, and ask for your past medical history to diagnose any predisposing causes for obesity, any complications, and any medical problems which might effect the operation.

Dr. Bessell will then arrange 3 further consultations:

- Respiratory and Internal Medicine Physician
- Dietician
- Physiotherapist - Exercise therapist

These are critical members of our weight loss team. Each of these health care professionals carries the power of veto over your operation if they identify reasons or conditions that would compromise the safety or success of the operation. It may also be recommended that a consultation be arranged with a psychologist specialising in obesity management.

Before you leave our rooms, the staff will give you an explanation and quote for the surgeon's fees. Please note we have no responsibility for the charges from the hospital, the assistant, the anaesthetist, pharmacy, pathology or X-Ray. However, the majority of these will usually be reimbursed from your health fund. For a full explanation of medical fees and charges, refer to Dr. Bessell's website at [www.gisurgery.net](http://www.gisurgery.net).

### SOME INVESTIGATIONS

As part of your preoperative assessment, before you leave your initial consultation, some investigations will be arranged in addition to the further consultations explained above.

- You will always be required to have some Blood Tests. These should be taken after a 12 hour fast, so it is normally most convenient to have them taken first thing another morning, after skipping breakfast.

- It is common to need an Endoscopy. This is a day surgery procedure performed under sedation where a thin flexible telescope is passed into your mouth and advanced downwards to examine your gullet, stomach and duodenum. This excludes medical conditions which might complicate the placement of a LAP-BAND. This will be scheduled some weeks before your operation. It carries its own risks and costs which will be fully discussed with you.

- Barium meal. This is an X-Ray procedure in which you will be asked to swallow some chalky dye whilst some X-Ray photographs are being taken. It is quick and painless, and not always required.

- An Abdominal Ultrasound to exclude gallstones is sometimes recommended if you have previously experienced abdominal pain. If gallstones are detected, laparoscopic removal of your gallbladder may be recommended by Dr. Bessell. Again, the indications, nature and risks of surgery, and alternatives will be fully explained to you before we decide to proceed.

- If you have suffered problematic gastro-oesophageal reflux in the past, doctor may advise Oesophageal manometry & 24 hr pH tests. These are performed at the Repatriation General Hospital or the Royal Adelaide Hospital and require a fine-bore tube to passed down the nose into the gullet. A data recorder is worn on your belt for a day to log the severity of your reflux while the tube is taped to your cheek. If you have severe reflux, some technical modifications to your operation may be advised.

Once the initial consultation has been completed, the additional consultations booked, and the necessary investigations arranged, a further appointment with Dr. Bessell will be scheduled for about 1 month's time.

### BEFORE THE OPERATION

You will be admitted to Wakefield Hospital or Flinders Private Hospital on the morning of your operation. Unfortunately we have no control over whether you are allocated a private room, but it pays to make the hospital aware of your preference as early as possible.

On the ward, the nurses will record your temperature, blood pressure, heart rate, and weight. You will change into a gown and anti-embolic stockings. This is part of our thrombosis-prevention programme, which also includes a blood-thinner injection post-operatively each day.

Your nursing care has been mapped out by a printed Clinical Pathway which the hospital staff will refer to throughout your admission.

You will also be examined by the Anaesthetist who has been personally selected by Dr. Bessell as an expert in this area.

The surgery will commence in the afternoon and usually takes 1-2 hours. When you wake up from the operation you will usually spend time in the Recovery ward for approximately 30-60 minutes.

### AFTER THE OPERATION

Once you are fully awake, you will return to the General ward from the Recovery ward. You will notice an IV drip, and dressings on you abdomen. You will have painkiller injections prescribed, supplemented by suppositories (they work very well!).

For the rest of the day you will be allowed ice chips only to eat. On the first post-operative day, you will go to the X-Ray department for a Barium Swallow to confirm correct positioning of the LAP-BAND. After that you will be free to commence fluids (water, tea, coffee, apple juice, etc). If you can tolerate this, the drip will be stopped and you can take painkiller tablets orally.

We will encourage you to have a shower, go for a walk, and conduct deep breathing exercises, all on the first day. The dietitian may call to see you again.

On the second post-operative day you will progress to unrestricted fluid intake. If the nursing staff are satisfied with your progress, restrictions and wound care will be discussed and you will be discharged home. You will be given follow-up appointment with Dr. Bessell, usually in about 5-6 weeks time.



By the time you visit Dr. Bessell's rooms 5 or 6 weeks after the operation, you will have just recommenced a solid diet. It is at this time your first band inflation will occur. Thereafter we will review progress every 5 weeks, adding or removing fluid as required. In the first year 4 to 6 adjustments are often necessary, and this is one of the great advantages of the LAP-BAND, we can tailor it to your weight loss needs. Once good progress has been established, some of your visits may be conducted by a General Practitioner assisting Dr. Bessell, who is specifically trained to attend not only your weight loss, but also your improving general health. In this way we can also advise on any blood pressure, diabetes, and psychological issues that may arise.

After the first year, the minimum frequency of visits to Dr. Bessell is twice a year. If we don't see you, we can't help you lose weight!

The effectiveness of the LAP-BAND System depends not only on the success of the surgical procedure, but also your ability to change your diet and exercise behaviour. You are encouraged to eat a balanced diet of well-chewed solid food and must avoid high calorie liquids or soft foods. The band produces feelings of early satiety and longer-lasting fullness. This reinforces your ability to be content with smaller meals. With the assistance of an exercise therapist, you are encouraged to increase physical activity and exercise, which are very important to weight loss, good health, and improved quality of life.

## YOUR RESPONSIBILITIES FOR THE SUCCESS OF THE OPERATION

1. **Diet:** Eat only 3 small meals a day. Do not eat between mealtimes. Eat slowly over a period of 20 minutes. Eat only good, solid food. Eliminate high calorie fluids from your diet (soft drinks, fruit juice, alcohol). Stop eating as soon as you feel satisfied.
2. **Exercise:** At least 30 minutes 3 to 4 times a week
3. **Follow-up:** Long-term contact with Dr. Bessell's team is the only way we can influence your weight loss. A minimum of two visits a year is necessary.

The band is designed to restrict the entrance of food into the stomach. It is designed to make you feel full quickly and keep you full for a long period of time. Because the opening will be quite small, there can be potential problems with food getting stuck in the band. You can avoid these problems and side effects by following the guidelines in this booklet.

Good eating habits need to be established and maintained right from the start to minimise complications, ensure good health and enable successful weight loss.

To assist in achieving good nutrition throughout the banding procedure an appointment with a dietitian before hospital admission, 3-4 weeks after the band has been inserted and later at regular intervals is required.

### The 3 Stages of Gastric Banding

1. Post surgery: Liquid Diet
2. Awaiting band inflation: Vitamised Diet
3. After band inflation: Soft Diet

Each stage has distinct dietary requirements which are discussed below. A multivitamin supplement will be required indefinitely. There are many types available – usually a soluble multivitamin supplement is best tolerated.

Some foods may not be well tolerated at any stage of the banding, eg fresh bread, steak, hard foods, rice and popcorn are among those foods that may be difficult to eat. However, this is very individual and new foods may be tried in small amounts in the long term under the supervision of the Dietitian.

### Stage 1: Post surgery – Liquid Diet

The correct introduction of foods and fluids after the band has been placed is vital to ensure the band can settle in the correct position and stabilise it for the future. It takes about a month or so for this to occur, so during this time you must only take fluids. A liquid diet is required for approximately 2-4 weeks.

Whilst in hospital following gastric band placement surgery you will be graded from ice chips onto small amounts (50 mls/hour) of

clear fluids including clear broth, apple juice, tea and coffee. Do not drink all the fluids sent to you on your tray at one time. Save them and spread them out across the day. Consume all fluids slowly. Take a small amount of fluid at a time and check to see that you are comfortable before continuing. It is important that you do not distend the stomach or overfill it which will stimulate vomiting. Vomiting should be avoided as the contracting stomach can cause the band to move. Fizzy drinks must be avoided as they can cause gas to build up and can lead to stretching of the stomach or slippage of the band.

Once these are tolerated, you will progress onto full fluids. This means only fluids which can pass through a straw, including:

- Soups - Soups should be nourishing and made with vegetables, together with either chicken, meat or pulses e.g. chick peas, kidney beans, split peas, soup mix. They must be vitamised (pureed) and strained to remove any lumps. They must be able to be poured.
- Unsweetened juices
- Canned or stewed fruit vitamised to a runny consistency
- Low fat milk drinks, runny custard, ice cream and drinking yoghurt. Milk and milk products are particularly important, not only to provide calcium but also protein. As you cannot include some protein foods (e.g. meat, nuts, cheese) you must ensure you include sufficient dairy foods. Soy milk may be substituted if you do not like or cannot tolerate milk.

Ensure, Sustagen Hospital, Resource, Nutridrink and Build Up are nutritional supplements which also contain protein, vitamins and minerals and may be useful in place of meals. These can also be purchased at pharmacies. Please discuss this with the Dietitian if you need to use these products

You will need to work hard to drink all of the fluid your body needs to keep hydrated. You need a minimum of 1500 mls (1.5L) of fluid per day. As you can only tolerate small amounts at a time this means that you must remember to keep drinking, but drink slowly. Take your time!

**Suggested Meal Plan****Breakfast**

200ml unsweetened fruit juice  
200g smooth low fat drinking yoghurt

**Morning Tea**

200ml low fat flavoured milk

**Lunch**

250ml Sustagen Hospital/Ensure made with low fat milk

**Afternoon Tea**

1 cup thin vitamised fruit

**Dinner**

1 bowl of nourishing vitamised soup

**Supper**

250ml Sustagen Hospital/Ensure made with low fat milk

Some people will manage greater quantities than this. As long as you drink slowly and feel no discomfort, this is fine.

**Stage 2 Vitamised Diet - 2 Weeks**

After 2-4 weeks you will begin the transition from liquid foods through to vitamised then solid food. This must be done slowly to avoid any vomiting which could occur if you progress too quickly. This progression should take approximately 2 weeks.

Food may be mashed or vitamised to a thicker (but still smooth) consistency. The soups, vitamised fruit and vegetables become thicker.

Fluids should now only be taken between meals to minimise discomfort from overfilling the stomach and vomiting. After the band has been inflated drink no closer than 10 minutes before meals and 30 minutes after meals to prevent overfilling the stomach and causing vomiting.

**Suggested Meal Plan****Breakfast**

Cup vitamised or instant porridge or semolina  
or 1 Weetbix with warm milk to soften  
or cup thick fruit smoothie

**Morning Tea**

1 glass fruit juice  
or pureed fruit (tinned or soft fresh fruit)

**Lunch**

Cup vitamised chicken, fish, meat with gravy or white sauce  
1 cup mashed potato  
1 cup well mashed vegetables  
1 cup vitamised fruit

**Afternoon Tea**

1 small tub low fat yoghurt or Fruche

**Dinner**

As for lunch

**Supper**

1 cup low fat milk

If you need food on-the-go you can buy canned foods suitable for babies 5-8 months of age. Whilst these are not a substitute for home cooked food, they are the correct consistency therefore preferable to trying to consume food of normal consistency.

Additional low kilojoule fluids such as tea, coffee, water, low joule cordial and soft drinks, mineral water and clear soup need to be sipped slowly between meals to ensure an adequate fluid intake of at least 1500 mls per day.

Continue to include multivitamin and mineral supplements daily.

**Stage 3 After Band inflation - Soft Diet**

After inflation of the band you can gradually change your diet towards more of a normal diet. However foods chosen should be soft, easy to chew and nutritious choices. The aim is to chew food well enough so that they form a puree in the mouth before swallowing. A good guide for the size of meals is to serve main meals on a bread and butter plate rather than a dinner plate.

As you can only eat small amounts of food you must choose your foods wisely. For example, choose meat and meat alternatives which are high in protein and breads and cereals high in fibre. You also need to ensure you include foods from all of the food groups to obtain a range of vitamins and minerals. It is also best to choose solid foods rather than liquid forms as these will make you feel full for longer, for example, include fruit and vegetables rather than just drinking juices.

Solid food will help to keep you satisfied but high calorie drinks like cordial, softdrink and juice will pass quickly through the stomach and may jeopardise your weight loss. Do not drink for 10 minutes before a meal or for 1 hour after a meal.

Continue to drink low energy fluids such as water, diet cordial, tea and coffee between meals aiming for 1500mls per day.

**Sample Menu (Example only)**

It would be expected that you have visited the Dietitian at least once BEFORE you commence this stage. The Dietitian will be able to provide more specific dietary advice that is tailored to your lifestyle.

Note: Start with smaller serve size and increase serve size as able. Do not eat more than is comfortable or overfill your pouch.

**Breakfast**

1 to 2 weetbix with low fat milk or  
1 slice of toast or  
1 English muffin with a thin scrape of jam or honey or  
1 crumpet spread with ricotta cheese and jam

**Morning Tea**

1 small well ripened banana or  
small pack of canned fruit in natural juice or  
1 small tub low fat yoghurt or  
1-2 crispbreads or rice cakes with thin margarine

**Lunch**

1 softly poached egg and 1 slice toast with thin margarine or  
1 sandwich (toast if necessary) or  
2-4 crispbreads or  
1 pocket bread plus filling or  
a small jacket potato with cottage cheese

**Afternoon Tea**

As per morning tea

**Dinner**

1 small serve meat e.g grilled fish or chicken fillet or  
1 serving spoon of lean mince with  
1 small potato, broccoli tips, pumpkin (well cooked) or  
cup pasta with tomato-based sauce or  
1 small low fat frozen meal e.g Lean Cuisine, McCains Healthy Choice

**Supper**

1 cup low fat milk with 1 teaspoon milo

**Ideas for sandwich fillers and crackers -**

- Lean shaved meat: ham, corned beef, chicken
- Egg
- Tuna, salmon, sardines canned in spring water
- Thin scrape or peanut butter or avocado
- Chutney, pickles, vegemite, salsa
- Salad (only if tolerated)

Sip low energy fluids such as water, diet drinks, tea and coffee between meals. Continue to take a multivitamin and iron supplement regularly until advised by Dr. Bessell or Dietitian. Gradually with time you should no longer need snacks as you should be able to eat enough at 3 meals, to keep you full and satisfied. Drink fluid between meals.

**According to Vasilis Parhas -  
Physiotherapist & Exercise  
Co-ordinator**

Having the LapBand procedure done is a great first step to a healthier life, but your commitment to change must not stop here. Adopting appropriate lifestyle and exercise habits will help you continue to lose weight and give you the chance to stay in shape for the rest of your life.

Exercise does not necessarily mean going to a gym, it can be as simple as taking the dog for a walk or washing the car. We all have different time frames within which to exercise and so everyone has different needs.

In simple terms however, we can all lose weight if we stick by the following simple equation: You must burn more energy than you consume. Once you can achieve this consistently, you will be on your way to a healthier body, mind and life.

My role is to identify your unique needs and help you fit the correct amount of appropriate exercise into your life, always aiming to make the exercise as enjoyable as possible.

You will be challenged physically and mentally along the way, but rest assured, you will not be short of motivation, support and plenty of good advice along the way by every member of the team. After all, to live better is to exercise better.

After your operation, it is essential that you try not to eat large meals or to nibble between meals. Those who have relied on eating to help them cope with tension, boredom or depression, may find this a particular problem and will have to learn new coping methods.

Married people sometimes find that their spouse may behave unexpectedly towards them when they begin to lose weight after gastric operations. This is usually caused by the insecurity and uncertainty that occurs when one partner within a marriage changes his or her behaviour rapidly and consistently. It is important to discuss any worries or problems you have with your partner.

Where massive obesity has for years been the main or exclusive focus of dissatisfaction in a person's life, other problems may be neglected and allowed to pile up. Sometimes weight loss exposes these other problems and help may be required to tackle them effectively.

For these and other reasons, it is important for some people seeking gastric reduction operations to be assessed with regard to psychosocial factors. It is then possible to try and predict what psychosocial problems may emerge after surgery and to plan ahead for appropriate counselling and support, either by the assessing psychiatrist or through other agencies. Your surgeon will advise you regarding the need for this.



Once your weight loss has ceased, which is generally 2 years after surgery, your weight should remain fairly stable. It sometimes happens however, that your weight will start to increase again. This may be due to inappropriate eating patterns such as eating between meals and eating junk foods or stretching of the pouch or stoma (usually caused from eating more than you should). Very occasionally is weight gain due to a technical problem. In either case, you should consult Dr Bessell and /or dietician if weight increase occurs. A look at your eating habits or an endoscopy can help reveal the problem.

Occasionally the opposite happens and you are unable to eat solid food without vomiting after most meals. It is very important that you report this problem early as possible.

Whatever happens, see your surgeon if you are concerned about any changes. There is often a simple solution to your problem, and you may be unnecessarily anxious. Remember, you only get advice; nobody will force you to do anything you do not wish to do.

**Q. Will I be sick a lot after the operation?**

**A.** The LAP-BAND System limits food intake. If you feel nauseated or sick on a regular basis, it may mean you are not chewing your food well. It could also mean you are not following the diet rules properly. Another reason you would feel sick may be that there is a problem with the placement of the band. So you should contact Dr Bessell. The goal is to avoid vomiting as much as possible. It can cause the small stomach pouch to stretch or lead to slippage of part of the stomach through the band. This would reduce the success of the operation. In some cases, it would also require another operation.

**Q. Will I suffer from constipation?**

**A.** There may be some reduction in the volume of your stools. That's normal after a decrease in food intake, because you eat less fiber. This should not cause severe problems. If difficulties do arise, check with Dr Bessell, he may be able to suggest for you to take a mild laxative and drink plenty of water for a while. Drinking plenty of water (6-8 glasses a day) is a good idea anyway.

**Q. Will I need to take vitamin supplements?**

**A.** You may. It's possible you may not get enough vitamins from three small meals a day. At your regular check-ups, your specialist will evaluate whether you are getting enough vitamin B12, folic acid, and iron. Your surgeon may advise you to take supplements.

**Q. What about other medication?**

**A.** You should be able to be prescribed medication. You may need to use capsules or break big tablets in half or dissolve them in water so they do not get stuck in the stoma and make you sick. You should always ask the doctor who prescribes the drugs about this. Your surgeon may tell you to avoid taking aspirin or other non-steroidal anti-inflammatory pain relievers. That's because they may irritate the stomach, causing the band to be removed.

**Q. What about pregnancy?**

**A.** Becoming pregnant can be easier as you lose weight. Your menstrual cycle may become more regular. If you need to eat more while you are pregnant, the band can be loosened. After the pregnancy, the band may be made tighter again, allowing you to continue on your weight-loss journey.

**Q. Can the band be removed?**

**A.** Although the LAP-BAND System is not meant to be removed, it can be. In some cases this can be done laparoscopically. Surgeons report that the stomach generally returns to its original shape once the band is removed. After the removal, though, you may soon go back up to your original weight or even gain more.

**Q. What if I go out to eat?**

**A.** Order only a small amount of food, such as an appetiser, and eat slowly. Finish at the same time as your table companions. You might want to let your host or hostess know in advance that you cannot eat very much.

**Q. What about alcohol?**

**A.** Alcohol has a high number of calories. It also breaks down vitamins. An occasional glass of wine or other alcoholic beverage, though, is not considered harmful to weight loss.

**Q. Will I need plastic surgery for the surplus skin when I have lost a lot of weight?**

**A.** That is not always the case. As a rule, plastic surgery will not be considered for at least a year or two after the operation. Sometimes the skin will mold itself around the new body tissue. You should give the skin the time it needs to adjust before you decide to have more surgery.

**Q. Will I happen if I become ill?**

**A.** One of the major advantages of LAP-BAND System is that it can be adjusted. If your illness requires you to eat more, the band can be loosened by removing saline from it. When you have recovered from your illness and want to continue losing weight, the band can be tightened. This can be done by increasing the amount of saline. If the band cannot be loosened enough, it may have to be removed.

**Q. How is the band adjusted?**

**A.** Your LAP-BAND System consists of a band with an inflatable (balloon-like) inner surface. The band is connected by a thin tube to an access port under your skin. The clinician adjusts the band by injecting the fluid from it. To adjust the band, the surgeon uses a special fine needle.

**Q. Where are band adjustments performed?**

**A.** Band adjustments are done in a hospital or a doctor's office. They may need to be done someplace that has radiology equipment.

**Q. Who is allowed to adjust my band?**

**A.** Only a surgeon trained and authorised by INAMED health can adjust your band. This person usually will be your surgeon or bariatric physician. Never let an untrained clinician or non-medical person adjust your band and never adjust it yourself. Doing so could cause you serious problems. It could also damage your band.

**Q. What do terms "inflation" or "fill" mean?**

**A.** Both words are used to describe how your surgeon injects fluid into the band to adjust the stoma size. This is done with a needle through the self sealing access port, which is located under your skin.

**Q. What fluid is used to fill or adjust the LAP-BAND System?**

**A.** Sterile, normal saline is used. Saline is just like your body's natural fluid, similar to tears.

**Q. When should I expect my first band adjustment?**

**A.** It is likely for your first band adjustment to occur 4 to 6 weeks after surgery. The exact time, though, can differ for each person. You and your surgeon will decide when the right time is for yours.

**Q. What should I expect at my first adjustment appointment?**

**A.** Expect to discuss your eating, exercise, and rate of weight loss. This will help determine whether or not it is the right time for you to have a band adjustment. If it is, you can expect the following.

1. An evaluation of your pouch size and stoma size before adjusting the band. (This isn't always done). Your surgeon may or may not evaluate your pouch size and stoma size before the adjustment.

2. Adjustment of your band

3. Evaluation of your pouch size and stoma size after the procedure to confirm that the proper band adjustment was made.

**Q. How much fluid will be put in my band during my adjustments?**

**A.** The first adjustment could range from 0.5 ml to 2ml of fluid. There is no preset amount. Later adjustments will likely be small increments. The most the band can hold is 4ml. How much fluid is used for the adjustments differs from person to person. Some bands are left empty after surgery. Others will have a very small amount for fluid in them. The surgeon determines this when your LAP-BAND System is implanted. How much fluid is used for your first adjustment will depend partly on how much fluid was placed in your band at the time of surgery. It will also depend on the following:

- Your eating habits
- Your eating patterns
- Your weight loss

Your doctor will evaluate the size of your band outlet (stoma), how you are eating, and how you tolerate your fill.

**Q. Do I need at least 2 or 3ml of fluid in the band for it to work?**

**A.** Some people need less, and some need more. The fill amount is determined by:

- the exact positioning of the band
- how you chew
- how much time you take with a meal
- how you "listen" to your band

There is no set formula to know how much fluid you need. Your doctor needs to evaluate you. Your doctor will consider:

- the size of your small upper pouch
- the size of the opening (stoma) to the lower pouch
- your weight loss progress
- how and what you eat

There is no rule about how much fluid is enough for you. Do not compare someone else's band fill to yours.

**Q. How will I know when I need a band adjustment?**

**A.** The most common reasons for adjustments:

- you are not able to eat much of anything without feeling uncomfortable or vomiting. Your band may be too tight.
- you are able to eat without restriction. Your band may be too loose, it could also be too tight causing you to choose a liquid diet.

Fluid may be added to the band to "tighten" it. This will decrease your stoma size. Sometimes, a patient may notice symptoms such as reflux or vomiting. A patient may have a hard time with many foods. If this happens, fluid may be removed to "loosen" the band. This will increase your stoma size.

**Q. How many band adjustments will I need?**

**A.** Most patients have between 3 and 5 adjustments in the first year. Sometimes, very small adjustments are made in later years. This varies from person to person.

**Q. How does the surgeon see that my adjustment is correct?**

**A.** The surgeon may use fluoroscopy when he or she adjusts your band. This is a special form of x-ray. Regular x-ray is stagnant. But fluoroscopy shows a constant picture of a moving object. As you take a drink of a special liquid, such as gastrin or barium, you and your surgeon will be able to watch it travel down your oesophagus. You'll be able to see it go into the small upper stomach pouch. From there you can see it go through your stoma into your big lower stomach.

**Q. Am I allowed to have my stomach opened for a special occasion?**

**A.** No! your band should never be opened to eat a big meal at a special occasion. The band can be opened for medical reasons, though, such as a pregnancy.

**Q. When I get an adjustment, will it always feel the same?**

**A.** People have different reactions. Yours will depend on factors unique to you. They include:

- the exact location of your band
- normal variations in your anatomy
- how you eat (especially how you chew)
- what food you eat
- how you respond to changes in band tightness

**Q. Does it hurt to get an adjustment?**

**A.** You may get a prickling sensation and a small amount of pressure, similar to when you give blood. Your surgeon may give you a small injection of medicine to numb you before entering the access port.

**Q. What is the most important thing I need to know about adjustments?**

**A.** Do not be in a hurry to have one too soon. The LAP-BAND System offers you steady and safe weight loss. You should be able to eat small amounts of foods with comfort. If you are too restricted, it is hard to get adequate nutrition. Also, you could have symptoms such as reflux or vomiting.

**Q. How would I know if my band is "too tight" or "overfilled"?**

**A.** If the adjustment results is too tight of a stomach opening, you could have a hard time eating most food. You may drink liquid meals. This may result in weight gain if the liquid used is high in calories. A band that is too tight can cause reflux symptoms (acid heart-burn), particularly at night. It can also cause frequent vomiting. The opening into the larger stomach could become completely blocked, resulting in not being able to keep food or fluids down. Should you develop these symptoms, please notify your surgeon at once.

**Q. Will my insurance pay for adjustments?**

**A.** This will vary. Please contact your health fund. Dr. Bessell's staff may be able to provide advice in some instances.

**Q. How much does an adjustment cost?**

**A.** This will vary. Please contact your health fund. Dr. Bessell's staff may be able to provide advice in some instances.

**Q. How much weight will I lose?**

**A.** The amount of weight you lose depends on several things: The band placement, your new lifestyle, and new eating habits. Most Australians lose between 50% to 60% of their excess weight. In the U.S. clinical trial, 2% of patients gained some weight; 5% neither gained, nor lost weight (+5%); 61% of the patients lost at least 25% of their excess weight; 52% of the patients lost at least 33% of their excess weight; 22% lost at least 50% of their excess weight; and 10% lost at least 75% of their excess weight.

The goal is to lose weight gradually. Weight loss of 1 kg a week in the first year is possible, but half a kg a week is more likely. Twelve to eighteen months after the operation, weekly loss is usually less. Your main goal is to have weight loss that prevents, improves, or resolves health problems connected with severe obesity.

Here are ten rules for eating, drinking, and exercise that will help you get the best results you can with LAP-BAND System. How willing you are to follow a new way of eating is key to making the operation a success.

1. Eat only three small meals a day
2. Eat slowly and chew thoroughly (approximately 15 to 20 times a bite)
3. Stop eating as soon as you feel full
4. Do not drink while you are eating
5. Do not eat between meals
6. Eat only good quality foods
7. Avoid fibrous food
8. Drink enough fluids during the day
9. Drink only low calorie liquids
10. Exercise at least 30 minutes a day

### Rule 1 - Eat only three small meals a day

The LAP-BAND System creates a small stomach pouch that can hold only about half a cup of food. If you try to eat more than this at one time you may become nauseated or vomit. If you routinely eat too much, the small stomach pouch may stretch. That will cancel effect of the operation. Frequent vomiting can also cause certain complications, such as stomach slippage. You need to learn how much your stomach pouch can hold comfortably and then not exceed this amount.

### Rule 2 - Eat slowly and chew thoroughly

Food can pas through the new stoma only if it has been chewed into very small pieces. Always remember to take more time for your meals and chew food very well.

### Rule 3 - Stop eating as soon as you feel full

Once your stomach is full, your body receives a signal that you have eaten enough. It takes time, though, for you to become aware of this signal. If you rush through your meal, you may eat more than you need. This can lead to nausea and vomiting. Take time to eat your meal. Try to recognise the feeling of fullness - then stop eating at once.

### Rule 4 - Do not drink while you are eating

This operation can work if you eat solid food. If you drink at mealltimes, the food you have eaten becomes liquid, and the effectiveness of the LAP-BAND System is greatly reduced. You should not drink anything for one to two hours after a meal. This allows you to keep the feeling of fullness as long as possible.

### Rule 5 - Do not eat between meals

After a meal, do not eat anything else until the next meal. Eating snacks between meals is one of the major reasons for weight loss failure. It is very important to break this habit. Patients with proper "fill" levels do not feel hungry in between meals. If you are, this may be a sign that your band is too loose and you should tell your clinician.

### Rule 6 - Eat only good quality food

With the LAP-BAND System in place, you should be able to eat only a small amount so the food you eat should be as healthy as possible. Do not fill your stomach pouch with "junk" food that lacks vitamins and other important nutrients.

Your meals should be high in protein and vitamins. Fresh vegetables, fruit, meat and cereals are good foods to choose. Foods high in fat and sugar are not. You may eat apples and oranges, but try to avoid orange juice and apple juice. Ask your doctor or dietician before you take any vitamin supplements.

Note: Solid food is more important than liquid food. The LAP-BAND System will have little or no effect if you eat only liquid food. Liquid food passes through the stomach outlet very quickly and does not make you feel full.

### Rule 7 - Avoid fibrous food

Food such as asparagus that contains many fibres can block the stoma. That's because you can't chew this food well enough to break it up into small pieces and your saliva can't break it down. Fibrous foods should be avoided. If you would like to eat asparagus or other fibrous foods once in a while. Then you must be sure to cook them well, cut them into very small pieces first and then chew thoroughly.

### Rule 8 - Drink enough fluids during the day

If you lose weight, your fat content of your body will drop. This results in waste products. You will need to drink large amounts of liquid every day in order to urinate more and excrete these waste products from your body. Individual needs will vary, but you should drink at least 6-8 glasses of water a day. Remember you should only drink water, tea or coffee (without milk or cream or sugar). Also, keep your food and drinks completely separate during the day.

### Rule 9 - Drink only low calorie liquids

Drinks, including those containing calories, simply run through the narrow outlet created by the band. If you drink liquids high in calories, you will lose little weight, even if you otherwise follow your diet.

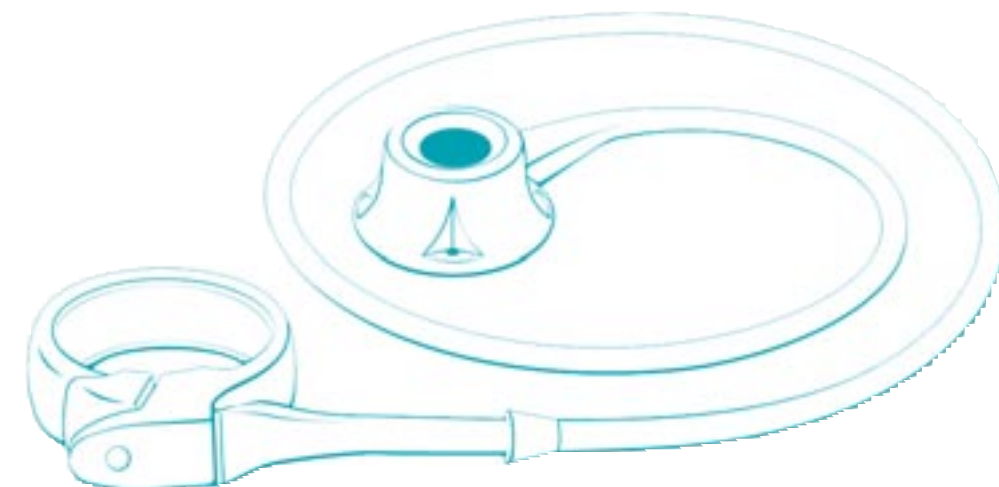
### Rule 10 - Exercise at least 30 minutes a day

This rule is just as important as the other nine rules. Since physical exercise consumes energy and burns calories, it is very important to successful weight loss.

Exercise can help improve your general health. Your size may make it hard for you to exercise as much as you should. But get started, even if it is a little at first. the more weight you lose, the easier it should get. Start with simple exercises such as walking and swimming. Gradually expand your program to include more vigorous forms of exercise such as cycling, jogging, and aerobics.

Increase your activity level in the course of daily living. For example, stand rather than sit, walk rather than inside, walk rather than drive, climb the stairs rather than use the elevator, etc.

Remember that you should always check with your doctor about the amount and type of exercise that is best for you.



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