The Complete Gastric Band Guide ©

Success or Failure:

Weight loss surgery relies on the right patient, the right surgeon with the correct state of the art surgical technique and patient follow up. This applies to all weight loss surgery. However you are also an important link in the chain. If your operation is technically correct, you are the reason for your success or failure. Ultimately, it depends upon you.

The Definition of Success:

We all tend to think about success in "weight loss" in terms of the amount of weight lost. Certainly your carers tend to be focussed on weight. This is partly because weight is an easily measurable and reproducible entity. But weight can be a poor indicator of your progress overall. It is far better to think about weight loss in terms of how your size changes, how your shape changes, your well being and quality of life and biochemical markers derived from blood tests. Weight is just one part of all these indicators and they may all be independent of weight. The best weight loss goals therefore are about quality of life, biochemical milestones (i.e. the resolution of fatty liver, remission of diabetes) and simply moving from a larger clothing size to a smaller one. To focus on weight alone neglects all the other important improvements in your being. If your weight does not drop appreciably but your clothes are looser and you are more mobile, something good has happened to your body and should not be discounted given a minimal weight loss.

How did I get here?

People eat for two reasons: **hunger based eating** and **non-hunger based eating**. Hunger based eating relates to appetite and in those with excess weight, often the feedback message to the brain that **small meals are satisfying** has become broken. In this group of people, the signal that enough has been consumed has been changed to a physical sensation of fullness. Basically it is filling a bag until really not much more will fit. The purpose of weight loss surgery is to repair the feedback pathway and make small meals satisfy.

In practical terms, the gastric band repairs the pathway so that **small meals satisfy** once again. It is important that once the band is working, the endpoint for eating is not eating for the old fullness, but rather achieving a sense of satisfaction. This may come a short time after eating and may be hard to define or appreciate. In short it is easily described as the loss of hunger and food preoccupation.

A person whose band is too tight may sense the old fullness but more in the chest than in the abdomen. It may be that even three teaspoons of food are filling as the food may well be sitting above the band. This is the pathway to band failure.

We do not understand why the feedback pathway became broken or damaged in the first instance. We do know however that we cannot cure it, but merely treat it. If fluid is removed from the band, your weight will return, despite your best efforts. It is sub-conscious and you have no control over it. This is why it is unfair for people to judge and blame those with excess weight: the answer is not just eating less and exercising more. The subconscious desire to eat is overwhelming and very few can

escape its clutches. Remember also, very few choose to be overweight. Is it really likely that people want to be the object of discrimination and jokes? Is it likely that people would choose to be consumed by the constant temptation to eat and be consumed by thoughts about food? Not many would make a conscious decision to be overweight. It is not an easy lifestyle.

Is there Evidence for "the Broken Feedback Mechanism"?

There is anecdotal evidence that the "satisfaction feedback mechanism" exists i.e.: when a person has weight loss surgery or even diets, when the surgery is reversed or the diet discontinued, the weight quickly returns. It is not a conscious decision to put the weight back on, it just happens. In the case of the band, this phenomena was well typified by a patient who said after her band was emptied:" …when the fluid was taken out of my band, all my eating skeletons returned…they were all lined up waiting for me".

Almost invariably, no amount of success with weight loss or education can repair the broken mechanism. It is really a situation that people have very little control over. This fact is not appreciated by most people including doctors and the message that people should get from this is that obesity is not a lifestyle of choice for most and that the discrimination is unfounded, unwarranted and unfair.

Hunger based eating and non-hunger eating:

With gastric banding therefore, it is quite easy to achieve the goal of making small meals satisfy. It is rare that this is not achievable. However if success was merely about this, our results would be magnificent. One of the major reasons that our weight loss becomes derailed therefore is **non-hunger eating**. We eat not out of a physiological need, but out of emotion, desire, boredom, conditioning (whereby we are reminded of food through sight, situation, smell and think that we are hungry), culture, social situation, ignorance (we feel we must eat a certain amount with a certain frequency) and time of day cues. We also eat because we love the taste. Weight loss surgery is not designed to address non-hunger eating and the results will be sub-optimal. We all have aspects of dysfunctional eating behaviour but if the major reason for excess weight is non-hunger eating, perhaps weight loss surgery should not be performed until these issues are acknowledged and addressed.

Your Band Commitment:

Your first year with the band really requires a considerable commitment in terms of attendance. The best results both short and long term occur when you are seen on a regular basis in the first year. It is therefore desirable to attend on a monthly basis. Please consider also that the first year is really concerned with getting your education regarding the band optimised. Of course this also relates to having the band adjusted correctly such that is not too tight and not too loose. The operation to insert the band only takes an hour but the education takes many, many hours.

Long term results and maintenance rely on your ongoing follow up and you should attend at least two times per year after the first year, even if you think everything is fine and you have no concerns. This is because you will tend to develop bad habits, new knowledge emerges and you need annual blood tests. Your band may need a little fluid added to make up for fluid loss, just as a car tyre goes

down over time. Furthermore, you **MUST RETURN** if you are not achieving the results. You will not be condemned and this is probably when you need the most help. You should not delay your attendance until you have lost weight. This is counterproductive.

There are two adjustments to be made, with respect to your band. Firstly with your thinking and then perhaps, but not always, to your band. Many of the assumptions you have made about how much you need to eat to survive, the number of meals you need per day and you need to learn how to analyse food groups recognizing protein, carbohydrate and fat and eating behaviours.

Weight loss surgery is just one part of the three ingredients required for weight loss and long term weight maintenance. The three components are **exercise**, **food choice** and **food quantity**. Weight loss surgery relates to food quantity. It will not make you exercise. It will not compel you to make the correct food choices. It is therefore only a component of the overall picture. **You are responsible** for **exercise** and **food choice**. Don't rely on your band to do all the work.

Weight loss surgery requires long term commitment; conventional diets fail because they are only used for short periods of time. Weight loss surgery will also fail if efforts are only applied for a short time. Therefore weight loss surgery is really the hardest diet you have ever done. The upside is that you will realise a bigger and more enduring weight loss than you have ever achieved before using conventional techniques. In short, weight loss surgery is a treatment for excess weight, not a cure. At present, there is no cure. If the operation is reversed, weight will return. This is well demonstrated if the fluid is removed from the band. The best efforts and intentions will not be able to overcome this.

Using the Band Correctly.

Many people believe that the gastric band is designed to stop eating. This is incorrect. The band is designed to **make small meals satisfy**. Indirectly the degree of hunger is suppressed.

Before weight loss surgery, people with weight problems tend to eat for fullness. This is a physical symptom and relates to stretching of the stomach. When a patient has a gastric band, it is important that the end point for eating is not a physical symptom but rather satisfaction. Satisfaction may not be obvious until twenty minutes after the meal. It involves eating slowly and spending a lot of time chewing thoroughly. Each teaspoon of food should take over 1 minute.

The endpoint of eating therefore is not a feeling of fullness, but rather the ability to be satisfied and to go about one's business without thinking about food constantly. Remember, fullness is a physical symptom which relates to stretching. It is not the band that will stretch but your oesophagus and stomach above the band. (the pouch) Don't look for fullness and don't keep eating expecting the band to stop you. This is not the goal of the band.

"But I can eat too much."....."I'm eating"……."I can still eat"

If you can eat large meals, then congratulations, your band is probably not too tight. It may be that you expect the band will stop you at some point in the meal. "Save me from all this food". However if the band is to stop you from eating, it will have to be considerably tight. This is giving too much responsibility away. This is relying on the band to dictate your lifestyle. It is not designed to do this. The band can't make you exercise, does not choose your food and likewise it is not its job to dictate meal sizes. Therefore instead of expecting the band to stop you from eating too much, the correct use is to place the twenty teaspoons on the dinner plate and eat them over twenty minutes or more. This food should be consumed easily (provided that it is band friendly and chewed adequately). If the band prevents this from happening, it is likely that the band is too tight and the food is sitting above the band.

So how should you use the band? Using weight loss surgery correctly is really an exercise in seeing how little you can eat, how little you can survive on. The philosophy must always be that you will put as little on a small plate as possible, eat this over twenty minutes or more and then accept that eating has concluded. The mix of protein to carbohydrate, fibre etc is important also and this is where the dietician is invaluable. Putting too much on your plate will normally tempt you to finish it. So don't overload your plate. After twenty teaspoons of food are consumed over twenty minutes or more, (not including the four minutes after the first swallow to clear the mucous and initiate correct eating behaviour) leave the table and test your hunger. If you find you are satisfied for a significant number of hours after the meal, then your adjustment is probably correct. However if you find you are hungry a short time later or that your portions need to be bigger to get the satisfaction, and on a consistent basis over weeks, then it is likely you need an adjustment.

Try for two to three solid meals per day. At least two should be based around protein. If you are trying to survive on one meal, you will tend to over eat at that meal, or you will blow your calorie intake by rewarding yourself between meals with inappropriate foods. It is too much to ask your body to run for twenty four hours on a considerably reduced food intake.

The development of food intolerances as the band is tightened is not by design but just a side effect. It is not mandatory. In fact, patients may have no food intolerances at all. Conversely, the absence of food intolerances is not a reason to have the band tightened; nor is the amount of time since an adjustment, the absence of regurgitation or even restriction. All adjustments should be made with a view to getting small meals to satisfy for a reasonable amount of time. If over-adjustment occurs food intolerance, regurgitation and **less weight loss** are the results. It is also socially unacceptable and places significant strain on your band, increasing the risk of pouch and oesophageal enlargement and band slippage.

A Simple Formula: "The 20-20 Rule"

The idea of the band is to eat less, probably about one quarter of your previous intake. Eating like a toddler in terms of amount and attitude is ideal. The 20-20 rule relates to twenty teaspoons of food in twenty minutes or more. Twenty teaspoons is a finite amount of food and much more precise than saying a small plate. In the past we have advocated eating only for twenty minutes but some patients have taken this to mean "eat as much as you can in twenty minutes". Satisfaction may be better if more than twenty minutes elapse during the meal. Taking more than a minute between teaspoons is fine. It is especially helpful at the start of a meal (see mucous section below).

A small amount of protein based food eaten with a teaspoon or epicure fork, **chewed adequately and swallowed each minute or more over twenty minutes** is the ideal way to use the tool. Choose quality food that you enjoy. Adjustments of the band will be made if the satisfaction time between meals is not adequate. If you are truly hungry within several hours of eating, then the band may need tightening.

Two to three solid meals is the regime to follow (solid means not sloppy or liquid but based around hard food). This may be two solid and one mushy meal or it may be two or three solid meals per day. Anything else is outside the formula for weight loss. A mushy meal may be necessary in the morning if the band is tight. This is a good opportunity to load up on fibre. There is also the opportunity for a snack between meals if hungry such as a piece of fruit or yoghurt as examples.

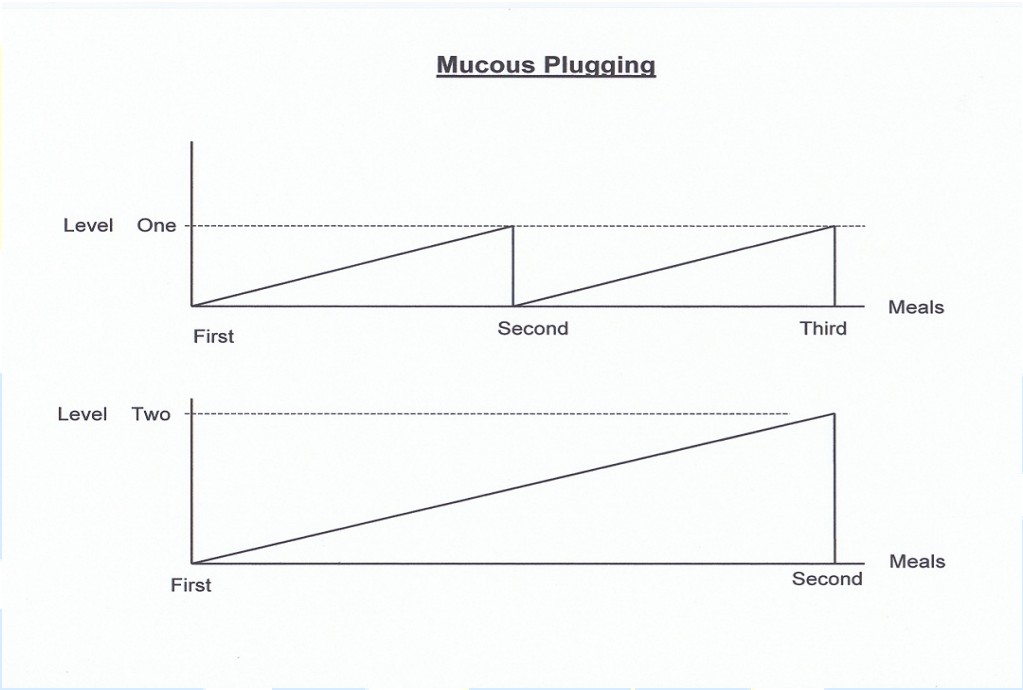
It may be necessary to clear the food pipe in between meals. This means that the oesophagus may not accept food readily if some time between solid meals has elapsed. In this case the following paragraph will explain what happens and what to do to initiate eating.

A New Way of Eating/Drinking or the Four Minute Rule Or First Bite-Vomit Syndrome:

When starting a meal after not eating for some time, patients may find they experience discomfort or even vomiting, not after the first mouthful, but rather after several. This may occur because of the presence of sticky secretions gumming up the oesophagus, tightness of the band due to the excitement produced by the food or the body's digestive processes needing time to fire up. To avoid this happening, the first mouthful of a meal or even drink should be small and well chewed in the case of a solid. After swallowing, waiting about four minutes before resuming your meal/drink should allow free passage of food. Avoid becoming too hungry/excited before meals; this often leads to disaster and is inconvenient, frustrating and annoying. If you are becoming too hungry before meals it may require eating earlier or restructuring your meal habits. Frequent vomiting and food intolerances often occur after an adjustment, but doesn't always mean the adjustment is too tight. In the adjustment process, a point will be reached where you must necessarily eat m-u-c-h s-l-o-w-e-r with smaller mouthfuls and quantities. It may suddenly happen after a seemingly minor adjustment. If this occurs, you must slow down, time yourself against family members and ensure you are chewing fully. Eating with a teaspoon/chopsticks may be helpful. Use a small utensil; the food will taste the same whether you use a small or large eating utensil. Putting the utensil down will help food enjoyment and help break the habit of trying to quickly empty the plate. Putting the utensils into the opposite hand may be another strategy to slow down. If waiting four minutes doesn't work, wait five or even six minutes. If this doesn't work, have a warm drink ten minutes

before the meal. If there are still problems, gulp a drink after the warm drink. If there are still problems, fluid removal or a barium swallow is indicated.

Below is a pictorial demonstrating how mucous and the relative difficulty of eating may increase over time. The graphs suggest that with three meals in a given period, the degree of difficulty of eating is not as great as when only two meals (or even one) are consumed in the given period. The correct band management therefore is to have regular meals and if there is a long time between meals, recognise that a warm drink may be helpful before the meal or that a longer waiting time after the first swallow must pass, say six minutes instead of four. Conversely, having a piece of fruit between the meals may help.



Routine:

Weight loss is optimised through routine. Think of success in weight loss by developing a routine because this is really a formula that we know works for most people. If you don't adopt a routine, your weight loss and maintenance is not necessarily going to happen. Routine relates to food choices, the amounts of food, the regularity of eating and exercise. It should involve having appropriate food choices at home, work, in your vehicle and handbag/briefcase. Some examples of this might be cans of tuna, chicken, salmon, baked beans, lentils or meal replacement sachets or bars. It is important to realize that you may need a series of routines: i.e. one for weekdays and one for the weekend. You may do well losing weight during the week, but undo the good work by being disorganized over the weekend. Once routine/s is developed, life is easier as less thought has to be given to food choices and times.

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Weight loss and Maintenance:

Weight loss relies upon small food quantities (the band's job), making the correct food choices (your job) and exercise (your job also). If any of these components are missing, then too much reliance is placed on one or two of the other components. Don't be the person that relies on the band alone. This leads to too tight an adjustment and a decreased range of food options. Although this may be in some ways empowering, it may be the road to ruin. The concern is that an overly tight band does not lead to the band stretching but rather stretching of your stomach pouch and oesophagus. You can't stretch the band. Your anatomy is the weak point. If stretching occurs, it is not necessarily reversible. Therefore start your exercise program early and spend an adequate amount of time learning from the dietician.

Am I Hungry?

You need to sort out what hunger really is. Hunger is not necessarily indicated by a rumbling stomach. Mum was wrong. If you are troubled by a rumbling stomach, have two glasses of water and wait. If after twenty minutes you are still thinking of food, you probably are hungry. If you are not, then it wasn't hunger.

Hunger is probably more of a need than a desire and involves thinking/perseverating about food for most of the time. It may involve weakness or trembling, especially early on, in the weight loss journey. Think about it. Try and get a handle on it.

Be aware that you may confuse thirst with hunger. Drink several glasses of water before meal times. If you crave salty morsels, consider that this may be thirst. Drink. Perhaps replace some of your coffees with tea or water. Drink.
Be aware also of the cues that make you think you are hungry. These are the visual, olefactory (smell), place association (i.e. the kitchen or the lounge in front of the television where eating commonly takes place), time of day (i.e. lunchtime therefore I must eat). Whilst it is important to have regular meals, it is important to ensure you are eating out of hunger and not out of habit or on cue.

What If My Band is Adjusted Too Tightly:

This is to be avoided. Weight loss is REDUCED when the band is too tightly adjusted. Eventually you will become hungrier and depressed from nutritional deprivation and bad food choices. Furthermore, your oesophagus or stomach pouch may become PERMANENTLY stretched. A stretched oesophagus may not recover and a stretched pouch may require re-operation. An over-tight band may cause frequent vomiting and is suggested by a patient who chooses soft or saucy foods or gravies. Weight loss may be non-existent and reflux/heartburn may occur.

Goal setting and your Band:

It is reasonable to set goals with respect to your weight/size loss, just as it is with any other aspect of your life. A goal will help you remain focused and more able to resist food temptation. Goals should be concrete in terms of the amounts of size, activities of daily living, blood test results and weight to be lost and when. If weight loss alone is the primary measure of progress (it is not)l a loss of about one kg per week whilst over 100 kgs, perhaps falling back to 0.75kgs below this as the weight drops below 90 kgs. It may taper off to 0.5 kgs after this but as long as your goals are reasonable, you should not be limited by these figures. Of course, a decrease in clothes size without weight loss is not uncommon and a positive outcome, no matter what one thinks.

It would be unreasonable to think that weight loss will continue unabated also. As you lose weight, your basal metabolic requirements drop. Eventually your food consumption will equal your energy consumption and your weight will remain stable. Further weight loss will resume should your food intake decrease and/or your energy expenditure increase.

It's probably helpful to have short term goals, say monthly, and long term goals such as where you'd like to be after a year and perhaps your goal weight. There will be times when your goal will not be reached and other times when your goal will be surpassed. You may need to re-evaluate your goals in either circumstance.

Exercise: Should I?

It is not a question of should I, but when will I start. Despite any perceived limitations, there is always some sort of exercise that you can do. Exercise is really doing something more strenuous than you normally do. You start slowly, as baby steps, then build on this. Your transition to greater endurance and health will often be seamless. You should have goals for exercise (this should sound familiar) as to the frequency per week and the duration. A set routine or exercise route is important so that you can appreciate your improvement in stamina and build on the results you achieve. Incidental exercise, such as that obtained in a busy job, whilst helpful doesn't really "cut it" as a regime. It is not measurable or necessarily reproducible. It also tends to be overestimated and this leads to excessive self reward often.

Believe it or not, what you invest in exercise will be paid back many fold. Strangely, you will have more energy by expending energy. Therefore committing to twenty minutes a day of exercise will yield more time back in terms of increased energy and a sense of well being. Exercise is a time for yourself to exercise and think. It is a time when the demons of anxiety, frustration and stress can be exorcised. The benefits of exercise are not measured on the scales alone; there are a myriad of biochemical improvements as well as physical benefits which may not be immediately obvious.

If this isn't enough, look at some of the other benefits from exercise: Increased bone strength; Increased physical work capacity (one's ability to perform physical work); Increased joint range of motion or flexibility; Improved sense of well being; Increased muscular strength; Improved glucose regulation (very favourable for diabetics); Decreased blood pressure; Improved sleep patterns and levels of anxiety; Redistribution of dangerous organ based fat stores to less dangerous regions of the body; Decrease of bad cholesterol levels and elevation of good cholesterol.

This is but a small proportion of the benefits. We were made to exercise, not sit around relying on labour saving devices.

What to Expect at Your Visits:

Your progress will be reviewed and any problems or questions addressed. An adjustment will be necessary from time to time if small meals are not satisfying. It is important to be honest and not misrepresent your eating habits and hunger. An inappropriate adjustment may sabotage your weight loss and your operation. It is likely to set weight loss goals back somewhat. If the picture is unclear as to whether an adjustment is required, a decision to wait and see is prudent. Certainly constant regurgitation not responding to mucous clearing strategies should lead to fluid removal.

A monthly visit is required until the adjustment and band education are optimized.

The role of the Barium study x-ray:

It may be necessary to perform a barium study from time to time. This is because it may be difficult to assess the degree of adjustment or if a complication is suspected. The only barium study worth doing is a video barium. Still films as supplied by many services are inadequate as the radiologist may not understand the workings of the band. For this reason we will attempt to provide a service that fulfils our criteria.

The Role of the Dietician:

The dietician is specifically a bariatric trained dietician. This is an important requirement as principles are a little different. Inappropriate advice may cause weight gain. Dietician advice will relate to food choices, portion sizes and vitamin, fibre and mineral intake. Additional dietician consultations may be subsidised by your health fund or the Enhanced Care Plan via your GP.

The Role of the Psychologist:

The psychologist may help with emotional/behavioural eating disorders. Psychologist consultations may be subsidised by your health fund or the Enhanced Care Plan via your GP.

What If I'm Not Losing Weight?

We get immense pleasure from the success of our patients. A failure to achieve weight loss is a problem that must be shared. Please do not stop attending your appointments if you are not achieving your goals. Our goal is not to be judgemental. There is also a big tendency for patients with excess weight to blame themselves when problems occur or weight loss fails to materialize. You must let us try to help you achieve your goals.

About Self Image:

As weight is lost, you need to work on your self image. This starts with visualization and appreciation of your new body size. Research shows that it takes two months of daily input to change your self image. It won't happen unless you put the positive image in on a daily basis. This is likely to help you achieve your goals more quickly also.

Unacceptable Symptoms:

Regurgitation (May be referred to as vomiting but is more like posseting as seen commonly in babies where the food percolates out of the mouth effortlessly without seeming to go into the stomach):

This is the return of food after swallowing. It generates high pressures which may stretch or strain the oesophagus and pouch. It occurs when eating too fast, not chewing adequately or choosing inappropriate food. If it continues despite none of the above and the four minute rule is instituted, it may be that the band needs loosening.

Heartburn: This is a discomfort related to stomach acid or bile passing into the oesophagus. True heartburn is not a fleeting discomfort but more so a persistent symptom. It may be aggravated by eating or not eating and it is more common with anxiety. Significant heartburn is worse at night when reclining: this facilitates the passage of acid fluid higher into the oesophagus. This represents too tight an adjustment or a mechanical problem with the band or pouch such as a slip or enlargement. Rarely it can be caused by slow release formulations or large tablets. It should be mentioned to your doctor AS SOON AS POSSIBLE.

Discomfort when eating: should not occur. There should be no pain or discomfort or chest tightening when eating. Certainly if you don't chew enough or shovel too much food into your mouth, you will suffer from time to time, but it must not be constantly present or related to eating. If this is occurring, see your doctor.

Poor Eating Behaviour: This may be a psychological; problem but may happen if the band is too tight or there is some sort of problem with the band. It is not normal to be only able to eat two mouthfuls of food at a mealtime. This is all wrong. Please consult with us. Life with the band should not be a trial, a chore or a punishment. We want you to it may be tighter for a while. If after a week you are having trouble with solids, and you have ensured you are eating slower and chewing adequately as well as making appropriate food choices, then you need to talk to us. The adjustment is probably too tight. Depending on the stage of your post band care, you may be advised to have clear fluids or Optifast for several days following. This will be at the doctors' discretion.

Other Symptoms:

Flatulence: (burping, passing wind, **dyspepsia**).

Many people mention increased burping (dyspepsia) and the passing of wind following gastric banding. The cause of this increase may e related to a change in diet or an increase in the amount of air swallowed. It may increase or decrease after band adjustments. If it is troubling, charcoal capsules may be of help. Trying a lactose or wheat free diet may decrease the symptoms.

Constipation: This Is not uncommon and it must be appreciated that your bowel habit will change with a decrease in food intake. However if you are having difficulties, do not strain. The management of this condition is built on three cornerstones; adequate fluids and for most people this is about 2 litres per day, some form of exercise and some fibre in the diet. This may be provided

by morning cereal or as an additive to your meals. If all this is adhered to and there is still a problem, you need to discuss this with the dietician and the doctor.

Poor Weight Loss: Poor progress is not to be the cause of anxiety or failure to attend. Please come back. Even if you feel you are doing the wrong thing, please come back. It is not uncommon to see patients blame themselves when it may not be their problem.

Fatigue: If you are tired check that you are eating enough protein, drinking adequate amounts of fluid and taking a multivitamin. Make a distinction between mental and physical tiredness. If you are not physically tired, engaging in exercise will give you more energy and more refreshing sleep. This may seem strange but works. At the end of the day, every person needs to exercise.

Shoulder Pain: Left shoulder pain commonly occurs post operatively and is related to the operation and the nerves from around the diaphragm which strangely are appreciated as pain in the shoulder region. Some of you will be told that it is the gas from the operation but this is unlikely as both shoulders would have pain and most of the gas escapes almost at the end of the operation.

The pain may be worse in the case of significant hiatus hernia repair. It may be intermittent and may be worse when tired, hungry, anxious or after eating too much or having fizzy drinks. If it is disabling, removing fluid from the band may help and simple analgesia such as Indomethacin (with a tablet like Somac or Nexium to protect the stomach lining) may give good relief. Of course heat packs and changing position may help also. It will dissipate eventually in most cases.

Other Things to Consider:

Overseas Travel:

When travelling by air, it is possible that the band may become tighter whilst in the air and afterwards for several days. At lower atmospheric pressures, air in the band can expand causing the band to become tighter. This can occur at high altitudes in the mountains. It may last for several days as it can set up a little swelling. If you sense things are tighter, avoid solids for several days.

If going overseas by air, it may be recommended to remove a little fluid to prevent this happening. It is also recommended in areas where gastroenteritis is endemic as vomiting may be difficult and painful with a band. There is a protocol whereby a letter and needle are given to the patient to put in their main luggage when travelling overseas.

A useful medication to take overseas is Phenergan. It is an antihistamine, it induces sleep and it is a powerful anti-vomiting tablet. It is available over the counter and a typical dose would be 25 mgs three times daily as required. Of course you must not take it without first checking with your doctor.

Fertility:

Many woman chose weight loss surgery to enhance their fertility. With even a small amount of weight loss, fertility may increase significantly. For this reason, it is recommended that adequate birth control precaution is used following surgery. The chance of pregnancy reinforces the requirement to always take a multivitamin to ensure adequate folate levels. In the case of males, there is evidence to suggest that fertility increases with weight loss also.

Pregnancy:

An accepted protocol for the band and pregnancy is as follows:

First Trimester: remove fluid to avoid discomfort secondary to “morning sickness”

Second Trimester: add fluid to increase small meal satisfaction

Third Trimester: remove fluid towards term when generalized swelling occurs: the band will tend to get tighter.

Eating for two? There is always an expectation that the amount of food must increase significantly in pregnancy. It is true that hunger may increase, but it is not mandatory that weight needs to go up 12-16kg especially for obese women (BMI >30). Nutritional needs during pregnancy will vary according to your pre-pregnancy Body Mass Index. Obese pregnant women can safely engage in physical activities and modify their diet to successfully limit their weight gain to around 5kg with no harmful effect on the growing baby. Eating a healthy diet while you are pregnant is important because what you eat will have an impact on the growth of your baby. Pregnancy should not be a licence to eat twice as much but rather a time to eat twice as well. Consultation with the dietician is recommended early in pregnancy for a personalised eating program.

Breastfeeding:

Breastfeeding is an activity that can facilitate weight loss. The calorie requirement is necessarily higher in lactation and so the band should not be adjusted such that intake is too suppressed.

Once again, consultation with the dietician is recommended.

Complacency:

The lack of hunger and quick weight loss patients have in the first six months sometimes leads them to think they don't need to exercise as much and can eat treats and extra calories as they still lose weight anyway. We call this the "honeymoon syndrome" and they need to be counselled that this is the only time they will lose this much weight this fast and this easy and not to waste it by losing less than they actually could. If the patient's weight loss slows in the first six months, remind them of the rules of water intake and encourage them to increase their exercise and drink more water. You can compare their weight loss to a graph showing the average drop of weight if it will help them to get back on track.

Reasons for Failure:

Your idea of failure is likely to be different to the ideas of others. Having read the above, you will be mindful that you will have certain goals that you set out to meet. Hopefully it is not about weight alone. There is also a tendency for those with excess weight to be hard on themselves and to succumb to the constant denigration dealt out to obese patients by society.

If you have not lost weight with your band, but have not put on, then this is perhaps an achievement in itself. Having said all this, it is your assessment relative to your goals which should be your measure of success or not.

In general the reasons your goals may not be achieved are complacency (you are happy in yourself but your goals have not been modified), too tight or too loose an adjustment, laziness and lack of determination, lack of education with respect to the use of the band and your diet, poor exercise and mechanical problems with the band.

Optifast and other Meal Replacements:

Many patients ask if it is appropriate to use the meal replacements such as Optifast. We actually recommend the use of these options as they are portable inexpensive meal replacements which have a long life and can be stored easily in your car, home and place of work. They work well because they are protein based. The liquid meal replacements whilst not be as satisfying as solids perhaps allow a trouble free meal option when time is short or you are on the move.

The dieticians will tell you that Optifast is the best, however it is "horses for courses" and you will find some brands and flavours more appealing than others.

Some patients start the day with Optifast and add ice and fibre supplements which are then processed (Bamix etc) into a thick shake.

Band Blockage Protocol:

If food or tablets become stuck, try removing yourself from the company of others and if possible calm yourself.

Try standing up and holding your arms straight above your head, arch your back and try several swallows. Trying fluids at this time with this maneuver may be helpful also and the item may dislodge

If this does not work, take a large swallow of non-diet soft drink. The more bubbles the better.
Warning. This may hurt. Swallow a large mouthful: this may dislodge the blockage down into your stomach or upwards and out. If this does not relieve the blockage see your doctor. Do not make a habit of blockages. Learn from them
After this, follow the tight band protocol for several days with clear fluids and Nexium

Protocol for Sudden onset of Band Tightness:

Clear fluids only: no solids. Fluids can be diluted (one in four to one in six) normal sugar soft drink or Gatorade or similar. There should be no bubbles
Nexium 40 mgs dispersed in water (not crushed) and sipped over several hours. Another suggestion is black sweetened tea and this may go down better warm

Remember the band will be looser at night so fluids will probably go down better at thus time.
This protocol can be, and probably should be, followed for several days following an obstruction

See your consultant ASAP

Two Contrary Positions on Using the Band

Case Study:

Pt A has a gastric band. Pt A has listened to the dietician and knows to have a plate that has the right mix of protein to carbohydrate. Pt A knows that getting protein in adequate amounts is important to keep the metabolic rate up and prevent hunger. However the size of the portion is larger than expected. Pt A is going to rely on the development of s symptom to end the meal. This symptom may be a sense of impending regurgitation or discomfort. Whatever it is, it is not likely to be pleasant.

Pt A will be amazed how very large quantities of food can be consumed at times, especially if the plate is overloaded. Pt A will present from time to time saying "I can still eat". This statement indicates that the person is testing the physical bounds of the operation. Instead of seeing how little food can be consumed with satisfaction being achieved, Pt A is looking to the operation to signal the end of the meal. Surely physical symptoms developing after eating relate to some sort of stretching process which will ultimately lead to inappropriate band adjustments and probable operation failure.

Pt B, like pt A puts the same proportion of protein to carbohydrate on the plate, however the quantities of food are tiny; Pt B has learnt to trim the food amount to about twenty teaspoons which are then consumed slowly over twenty minutes or more. The food proportions are about the same as a toddler would consume.

After about twenty minutes, Pt B gets up and leaves making a note of the time taken to become hungry again. If Pt B can go for five to eight hours without being hungry, there is assurance that the band does not need to be tighter. However if Pt B is circling the pantry after several hours, and not out of boredom, emotional issues or whatever, then an adjustment is probably necessary. It is important to repeat that pt B is consuming the right amount of protein.

What these case studies illustrate is two different expectations. Pt B has been educated correctly. The expectation to be able to eat until a physical impediment to eating develops is probably a symptom of past eating habits. What bariatric surgery (the Band etc) is offering is the ability to eat small portions and walk away from the table without having to return frequently or without thinking about food for much of the time. With a correctly adjusted band, IT WILL BE POSSIBLE to eat larger quantities of food than one's comfort level allows. But one must not make a habit of this.

When a patient gets inappropriate band fills, there is a real danger that the pouch above the stomach will now become the food reservoir and enlarge. This signals the onset of pouch stretching and the loss of band function. Weight loss will be limited and heartburn will tend to become your constant companion. If you master this concept, you will ensure better weight loss and long term operation life.

The SIOS Lap Band Program:

The gastric band takes a fair amount of understanding to obtain the benefits it offers. The operation takes an hour but the training will probably take many, many hours. In other words, the operation was successful but the patient did not lose weight because the tool wasn't used correctly.
Therefore the recommended follow up for the band is at two weeks post operatively and then on a monthly basis for a minimum of six to twelve months. This ensures the best results. Really the first year is about learning how to use the band correctly.
Subsequently, visits on a six to twelve month basis. It is important to come back. It is important to have a symptom review and ensure that your adjustment is correct. Sometimes it will be necessary to have a barium study, just as a check. Bad habits often emerge and with our wealth of experience, we are able to fault find most issues and help you.
You must return if you are not losing weight. It is very important to involve us in the weight loss formula.

Notes:

Quick reminders and things you should be aware of: Please show these sheets to your medical carers:

- The purpose of the band is to make small meals satisfy, not to stop eating or frustrate.
- Vomiting is not expected or a normal part of the band. If it occurs constantly, you should see your consultant.
- An overly tight band can provoke symptoms of chest and shoulder pain, heartburn, night cough, frequent regurgitation and shortness of breath.
- Non-hunger eating should not be addressed by making the band tighter.
- Don't expect the band to stop emotional, habitual, and incidental eating behaviours where food is consumed not out of hunger but out of boredom, anxiety and so forth.
- Certain medications by their actions or size and preparation may cause blockages (see below)
- Drinking with meals may wash the food through masking an overly tight band or enable too much food to be consumed. A small sip of fluid is probably tolerable
- Include protein in at least two meals per day as it reduces hunger.
- Avoid starchy foods such as white bread due to its doughy texture as it may get stuck.
- Drink low calorie fluids between meals. Avoid fruit juices: have the entire fruit. Liquid calories including alcohol will prevent weight loss.
- Remember to take a multi-vitamin daily along with any other supplements you have been directed to take.
- Eat out of hunger, not out of habit.
- Your band may be tighter in the morning. This is the case for most people. A minority experience a tighter band in the evening. The reason for the tightness is unclear.
- Have a band/weight review with us at least twice yearly for the life of the band.
- Don't expect the band to prevent poor food choices: tightening the band will worsen the tendency.
- Don't expect the band to stop grazing.

Blood Tests:

About every twelve months, a 14 hour fasting blood test should be ordered including **Vitamin D**, B12, Folate, Iron studies, homocysteine, insulin levels, glucose, electrolytes, liver function tests, TSH, HbA1C, C Peptide and FBC. If Homocysteine is found to be high, even in the presence of normal B12 and Folate levels, extra supplements of these two vitamins should be taken, in addition to your normal multivitamin. If any of the following are low, supplementation can be made as per the protocol:-

Reasons for your band getting tighter:-

1. Medications such as NSAIDS (Non steroidal anti-inflammatory): Nurofen, Voltaren, Naprosyn, Orudis, Indocid, Advil etc.
   These medications can cause localized swelling in the stomach causing **obstruction**. If they must be taken, it is recommended that a stomach protecting agent such as Somac, Pariet or Nexium be taken.
   Sudafed tablets or sprays and certain other medications likewise through their actions cause obstruction.
   Fosamax and other medications that cause oesophagitis including Slow K are a theoretical problem with the band.

2. Mechanical obstruction with any tablet/food: make a habit of not taking medications in the morning when the band is at its tightest. Examples are iron tablets which must be soluble to

avoid obstruction (Fefol, iron melts or soluble iron are suitable). Enteric coated medications may also be a problem and may cause indigestion or food intolerance. Be suspicious of any slow release medication: e.g. Diaformin XR, and slow release Epilim. Cutting them with a knife to assess if they are likely to dissolve easily is one way of assessing the medication.

3. Colds, flu and **allergies** or allergic reactions.
4. Menstrual cycle, hormones.
5. Anxiety /Rushing meals/ time pressure-stress.
6. Time of Day: tighter in morning, looser in evening in most people but may be inverted cycle.
7. Band slippage may make the band tighter; this is normally a radical tightening accompanied by vomiting and very erratic band behaviour.
8. Third trimester pregnancy or hormone treatments may make the band tighter.
9. Infrequent eating: see mucous graph.
10. High altitude or airline travel: air expands making band tighter.

Reasons for your band getting looser:-

1. Alcohol: it is important not to rely on alcohol to enable eating. It is better to have a little fluid removed.
2. Anti-anxiety medications such as sleeping tablets, Valium, antidepressants: it is important that doses are not missed with antidepressants, otherwise the band tightness will vary day to day.
3. Accommodation: after an adjustment, the stomach, and to a lesser degree the band, will reform making the band looser. Furthermore any fat under the band may be metabolized during weight loss making the band looser.
4. Over time fluid will leak out of the band to a varying degree, just as a car tyre goes down over time.
5. Mechanical failure such as a leak, break or rupture may lead to the band being looser.
6. Holidays/weekends: when one is more relaxed and less stressed, the band tends to be looser.

POST BAND ADJUSTMENT INSTRUCTIONS:

- Always have a glass of water after a band adjustment to ensure fluids go down. Too much adjustment can completely block off your stomach. Have the entire cup. If you are not sure after this, have another cup. Don't leave if you feel it is too tight or you are unsure. Don't cheat.
- Warmer water is better than cold water as cold water can cause oesophageal spasm and vomiting and therefore may not give a proper indication of the suitability of the adjustment.
- The adjustment may not be at its tightest for several days. Why? We don't know. Therefore take a liquid or soft diet for a day or so after an adjustment, and ease back into solids as there may now be difficulties with certain foods.
- If you find you are frequently vomiting/regurgitating after an adjustment, it may be that it is too tight. Avoid this situation and contact us for review. Yes, it may relax over time with accommodation, but often it doesn't and your weight loss will suffer. You will also.
- Take your tablets/vitamins as after food or drink so that mucous plugging is less of a problem. Lunchtime is a good time especially for vitamins. This is also to avoid blockages in the morning when the band is at its tightest.