



KATARZYNA MACKENZIE

PLASTIC SURGEON

## Liposuction

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Liposuction is a very popular procedure with men and women keen to improve the shape and contours of the body by removing excess fat deposits that cannot be addressed through diet or exercise alone. Liposuction can be done as a separate operation or combined with cosmetic breast and body procedures. Liposuction is not a weight loss strategy, it is designed to help smooth and tone areas of the body where stubborn fat is visible and unable to be targeted via other means.

Length of surgery	1-2 hours
Anaesthesia	General anaesthetic
Hospital stay	1 night
Risks/complications of surgery	Frequent: Bruising, swelling, temporary numbness, discomfort on movement/coughing Infrequent: Infection, bleeding (haematoma), fat necrosis, asymmetry, under- or overcorrection, seroma, fat embolism, skin necrosis
Recovery	5-10 days until socialising with close friends and family 1-2 weeks until return to work and normal social engagements depending on area treated 3-4 weeks until swelling and bruising disappears 6 weeks wearing specialized pressure garment 4-6weeks until return to gym and other strenuous activities 3-12 weeks until bruising and swelling disappeared
Driving	Small areas treated 3-4 days, large areas 2 weeks
Follow up	1 week, 6 weeks, 3 months, 6 months
Duration of results	Permanent unless followed by weight gain

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## Liposuction information sheet

Any plastic surgery procedure is a very personal choice and understandably there are a number of questions that arise. This information sheet is a general guide for patients considering liposuction under the care of Dr Mackenzie. It should provide the answers to some questions that you may have. There are many factors that can affect your individual operation, your recovery and the long-term result. Some of these factors include your overall health, previous surgery, any bleeding tendencies that you have and your healing capabilities, some of which will be affected by smoking, alcohol and various medications. Such issues that are specific to you need to be discussed with Dr Mackenzie and are not covered here. Please feel free to ask her any further questions before you sign the consent form.

## Introduction

Liposuction is a well established technique which removes fat from selected areas in a controlled fashion, by passing a suction cannula underneath the skin and into the fatty layers beneath. It is possible to perform liposuction on most areas of the body and even the face, but some areas respond best, particularly the tummy, thighs, flanks and hips.

It is essential that you have realistic expectations about what the procedure can do for you. It is important to understand that, while liposuction can enhance your appearance and self-confidence, it won't necessarily change your looks to match your ideal one. Liposuction won't get rid of cellulite and is not intended as a treatment of obesity, and patients who have excessive weight are advised to avoid surgery.

Good results also depend on elastic skin that will adapt to a new contour when the underlying fat is removed. Liposuction is most likely to be successful for healthy weight people with firm, elastic skin who have pockets of excess fat in certain areas. Although age is not a significant concern, older people may have less skin elasticity and may not achieve the same results as a younger person with tighter skin.

There is no strict limit to the amount of fat which may be removed, but the greater the volume the higher the complication rate and it is necessary to replace fluids in proportion to the amount of fat and fluid removed. High volume removal (more than 2.5 to 3 litres) may necessitate blood transfusion and therefore the amount removed in any one session is usually kept below this level.

## Who is a good candidate for liposuction?

Liposuction is a highly individualized procedure. The best candidates for liposuction are normal-weight people with firm, elastic skin who have pockets of excess fat in certain areas. The following are common reasons why you may want to consider liposuction:

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- You have localized deposits of fat in your abdomen, arms, thighs and/or neck, which may be the result of heredity and do not disappear with exercise and diet
- You have a minimal amount of excess skin and good skin elasticity
- You are physically fit, close to your ideal body weight and your weight is stable. If you are planning to lose a significant amount of weight or even gain weight (for example, due to pregnancy), this is not the time to undergo liposuction
- Liposuction does not remove cellulite and cannot tighten loose skin. Other procedures may be recommended to improve those conditions

## Are there any reasons for a patient to not have liposuction?

Patients who are actively smoking or on blood thinning medication such as aspirin and warfarin are at a high risk of complications such as bleeding or wound infections and delayed wound healing. It is advisable to not consume nicotine in any form for six weeks before liposuction and a similar time after. Medication such as aspirin or warfarin may need to be stopped (if this is not for an essential or life-threatening condition) at the appropriate time before surgery. This should be discussed with Dr Mackenzie or GP.

## What to expect from liposuction consultation?

You would normally meet Dr Mackenzie for at least two pre-operative consultations. The first of which is mainly about assessment and the formulation of an operative plan specific to liposuction. Dr Mackenzie usually summarises this consultation in a letter to you and if you decide to move forward towards surgery, a second consultation is scheduled to go over things once more and discuss the possible complications in more detail. It is usual for Dr Mackenzie to write to your GP but often patients do not want this, in which case no communication is made.

During your liposuction consultation Dr Mackenzie will discuss:

- Your surgical goals
- What outcome do you expect from the surgery? What is your chief motivation in undergoing liposuction?
- Your complete medical history, social history, drug allergies
- Your previous surgery
- Your current prescription medications, including vitamins, herbal supplements, alcohol, tobacco and drug use. Make sure to tell your doctor about any herbal supplements you take, as some of them may cause bleeding problems

Dr Mackenzie will also:

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- Evaluate your general health status and any risk factors
- Discuss your options
- Ask you to look in a mirror and point out exactly what you would like to see improved
- Examine your body
- Evaluate elasticity of the skin
- Take the photographs
- Discuss your ideal weight, realistic weight and current weight and possibly suggest a weight loss program before surgery.
- Discuss your plans related to future pregnancies
- Discuss your expectations with you. An honest discussion will help determine a satisfactory outcome
- Recommend a course of treatment
- Discuss likely outcomes of liposuction and any potential complications
- Blood tests, a heart trace (ECG) and a chest X-ray may need to be organised

More than one liposuction session may be required to achieve your goals without unacceptable risk. Dr Mackenzie can also recommend an alternative procedure such as a tummy tuck, if the abdominal skin has become too loose.

## Preparation for surgery

It is important to avoid taking any aspirin or products containing aspirin for 2 weeks either side of the operation since aspirin has an adverse effect on bruising as it thins the blood. The same is true for non-steroidal anti-inflammatory drugs (such as Brufen, Nurofen and Voltaren) and vitamin E tablets. You may also be asked to stop taking naturopathic substances such as garlic, ginko, ginseng and St John's Wort as they may affect clotting and anaesthesia. Always tell your surgeon EVERYTHING you are taking.

For procedures lasting longer than 1 hour it is normal practice to stop the contraceptive pill one cycle before the date of surgery. For smaller procedures may not be necessary and you should discuss this with Dr Mackenzie before surgery.

Some patients find homeopathic remedies such as arnica helpful to reduce bruising although it is very difficult to "prove" their efficacy scientifically. If you wish to use arnica you should begin 2-3 days before the operation and continue for a week afterward.

If you are a smoker it is absolutely imperative that you to stop for 6 weeks before surgery and for 6 weeks afterwards so as not to restrict the circulation to the skin. This restriction applies to all forms of nicotine including patches, inhalers and nicotine chewing gum!

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Surgery requiring general anaesthesia is most safely conducted when patients are fit and healthy. General anaesthetic is unwise in patients who are unwell with viral illness or colds.

On the night before surgery we would ask that you eat well, and remain well hydrated. In most cases you will be asked to come to the hospital at 7:00am on the morning of surgery, having had nothing to eat from midnight. Clear water can be drunk up to 2 hours before surgery and tea without milk or coffee without milk can also be taken. Milk is considered to be solid food and cannot be taken within 6 hours of the start of surgery.

On the morning of surgery, you will be admitted to the ward. You will meet the anaesthetist who will discuss the anaesthetic with you in detail and you will also see Dr Mackenzie who will mark the surgical site as required and complete the consent form for surgery with you.

While making preparations, be sure to arrange for someone to drive you home after your surgery and to help you out for a few days at home.

## What are the different types of liposuction?

There are several liposuction techniques that can be used to improve the ease of the procedure and to enhance outcome.

Tumescent liposuction is a technique in which a medicated solution is injected into fatty areas at the time of surgery. The name of this technique refers to the swollen and firm or 'tumescent' state of the fatty tissues when they are filled with solution. The fluid is a mixture of intravenous salt solution, local anaesthetic and adrenaline (a drug that constricts blood vessels). This allows the fat to be removed more easily and reduces pain following the operation. Tumescent fluid injection during surgery also helps to reduce the amount of bruising and minimizes blood loss after liposuction. This is routinely used by Dr Mackenzie to enhance outcome and reduce pain and bruising.

**Super-wet technique** - this technique is similar to the tumescent technique, except that lesser amounts of fluid are used. Usually the amount of fluid injected is equal to the amount of fat to be removed.

**Suction-assisted liposuction (SAL)**- the most traditional form of liposuction, draws fat out with a vacuum.

**Power-assisted liposuction (PAL)**- traditional SAL with the addition of a tool to increase the motion of the cannula, which speeds up fat removal.

**Ultrasound-assisted liposuction (UAL)**-transmits energy through a special hand piece that helps to loosen and melt fat, enabling a greater volume of fat to be removed. This is best for larger areas,

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dense fat and male patients. In general, UAL takes longer to perform than traditional liposuction and carries a higher risk of complications.

Dr Mackenzie typically performs tumescent or super wet liposuction, whereby an anaesthetic fluid is injected underneath the skin before the fat cells are removed. This approach tends to produce less bruising and is more comfortable for the patient.

At your initial consultation, Dr Mackenzie will recommend the exact nature of your proposed treatment, including procedure details, recovery times and any possible side-effects. You should then have a cooling-off period before booking surgery and meeting Dr Mackenzie again for a second consultation. At that second consultation, she will go over the risks and complications in more detail with you. There will also be some more specific points to discuss about the practicalities of the procedure, which are summarised below.

## What is involved in the operation?

Liposuction is usually performed under a general anaesthetic, so you will sleep through the entire surgery. For small areas of fat deposits, local anaesthetic may be used. This is usually combined with some intravenous sedation that is always administered by an anaesthetist.

Liposuction is performed via small 5 mm incisions through which the fine cannulae remove unwanted fat. Before performing the liposuction, fluid is injected into the fat as this allows the fat to be removed more easily and reduces pain following the operation (tumescent technique). Through these tiny incision, a narrow tube or cannula is inserted and used to vacuum the fat layer that lies deep beneath the skin. The cannula is moved through the fat layer, breaking up the fat cells and suctioning them out by a vacuum pump or a large syringe. The fat is sucked out through the tube and discarded. As fluid is lost along with the fat, it is crucial that this fluid be replaced during the procedure to prevent shock. For this reason, patients are carefully monitored and receive intravenous fluids during and immediately after surgery. Heart and lung monitoring is always carried out throughout the procedure and in the early recovery period.

The small incisions usually result in scars that are barely visible once healed and which are carefully positioned to be as inconspicuous as possible.

At the end of the procedure an elasticated garment is applied over the area treated. This should be worn for 4-6 weeks in order to maximise compression and remodelling of the skin. In most cases liposuction requires one night stay in hospital depending on the volume and areas treated.

The time required to perform liposuction varies considerably, depending on the size of the area, the amount of fat being removed, the type of anaesthetic and technique used.

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## Where will the incisions be?

Generally, the incisions are very small and placed in hidden areas. Sometimes, depending on the area, the incisions cannot be hidden. However, because liposuction incisions are small, the scars are also small.

Most liposuction scars fade and are barely perceptible over time. Visible scars are more likely when large liposuction cannulas are used and in patients who have darkly pigmented skin.

There are two types of marks that can remain on the skin after liposuction. One is a true scar and the other is known as dyschromia, which is a dark (hyperpigmented) or light (hypopigmented) spot on the skin.

## What can you expect after liposuction?

It is vitally important that you follow all postoperative instructions provided by Dr Mackenzie. Dr Mackenzie will also provide detailed instructions about the normal symptoms you will experience and any potential signs of complications. It is important to realize that the amount of time it takes for recovery varies greatly among individuals.

### **Immediately after your liposuction surgery:**

- After surgery, you will likely experience some fluid drainage from the incisions. Occasionally, a small drainage tube may be inserted beneath the skin for a couple of days to prevent fluid build-up
- Tenderness, bruising and swelling are normal after your procedure but should subside in the following weeks. These symptoms may be lessened by taking Arnica for one week prior to surgery and two weeks afterwards. To control swelling and to help your skin better fit its new contours, you will be fitted with a snug elastic garment to wear over the treated area for 4-6 weeks day and night. Dr Mackenzie may also prescribe antibiotics to prevent infection
- Don't expect to look or feel great immediately after surgery. When the anaesthesia wears off, you may have some pain. Pain can be controlled with medication, though you may still feel stiff and sore for a few days
- You will also have some redness and swelling after the surgery. In some cases, the swelling will remain for weeks or even months. Contact your surgeon to find out if your pain, redness and swelling is normal or a sign of a problem
- Numbness and itching of the area treated may be expected after surgery but should disappear gradually. Permanent areas of numbness are rare
- It is important to mobilise as soon as possible after the operation as resting in bed is not good for the circulation in the legs
- You should keep the scars clean and dry

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## **The first two weeks:**

- The first few days after surgery, you should rest quietly. Elevate the affected body part if possible. Remember, you must not take aspirin or anti-inflammatory medications
- The first 48 hours after surgery, you will experience swelling and bruising. The swelling is maximal at 48 hours after surgery and mostly disappears within 2-3 weeks, but there may be slight residual swelling for up to 6 months
- Bruising is normal and typically disappears within 7-17 days
- Do not smoke after your liposuction surgery to prevent coughing and bleeding
- Do not drink alcohol for five days after surgery or while you are taking pain medication
- Avoid straining, bending over and lifting during the early postoperative period

## **Weeks two to six:**

- It is important to mobilize as soon as possible after liposuction to discourage swelling and prevent blood clots in the legs. However, avoid strenuous exercise for 4-6 weeks because it can trigger unnecessary fluid retention in the treated areas
- You should wait a minimum of 6 weeks before exposure to sun and heat, including sunbathing, because of the possibility of swelling
- Returning to work will depend on the extent of the liposuction but is usually between 10 and 14 days after surgery

## **Long-term recovery:**

- After 4-6 weeks you will have a good idea of the result, but this continues to improve for 3-6 months as the skin and fat becomes softer and smoother
- Since the healing process is gradual, you should expect to wait at least several months to get an accurate picture of the results of your surgery
- For 6-9 months, you may experience a fluctuating return of ten to 15% swelling with exercise or excessive activity
- It is also important to understand that you will lose very little weight. The first few weeks after surgery you may notice a slight increase in weight due to water retention. The reason that you don't lose much weight is because taking out up to 3 or even 4 litres of fat (which is the safe maximum limit) is not enough for you to see a significant drop in your weight. This is because fat cells don't actually weigh that much. On the other hand, depending on the treated area of course, you will notice a significant decrease in girth measurements

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## Will the fat come back?

The results of liposuction surgery are technically permanent because fat cells have been removed. However, your body shape and contours might be affected by weight gain, aging, pregnancy, family genes and lifestyle factors.

Fat cells achieve their set number in any given part of the body by puberty, and thereafter only increase in their volume rather than their number. If the fat cells are removed from an area by liposuction, an increased calorie intake should not lead to significantly different volume gains in the treated site compared to non-treated areas. You must understand that if you do take in excess calories after surgery, you will then notice all areas of your body increasing in size including the treated areas. However, if you are careful with your weight and diet, the change in contour will be permanent.

## What are the complications of liposuction?

In general, liposuction is safe and the results are entirely predictable, with an associated high- degree of patient satisfaction. Nevertheless, no surgery is without risk. All general anaesthetics carry risks such as deep vein thrombosis and chest infection but with modern anaesthetic techniques, these are minimised. Some of the possible complications and risks associated with liposuction may include:

- Some irregularity and asymmetry is occasionally seen. However, in the period after surgery it is not uncommon to see some waviness in the contour of the skin which is related to swelling and this resolves over 2-3 months
- Infection is a theoretical risk of any operation but extremely unusual after liposuction
- Bruising and some swelling is to be expected after liposuction. Some people bruise more easily and so will see more discoloration in the skin than others. This almost invariably resolves soon after surgery
- Deep venous thrombosis (blood clot in the deep leg veins) is a potential risk of any operation and so is a potential risk with liposuction. Its risk can be lowered by mobilising after surgery and this will be encouraged following your operation
- Excessive fluid loss, which can lead to shock or fluid accumulation that must be drained
- Friction burns or other damage to the skin or nerves or perforation injury to the vital organs
- Loose skin. The skin may fail to snap back especially if a large amount of fat is removed. If this fails to settle, it is only corrected by skin excision procedures
- In the tumescent and super-wet techniques, the anaesthetic fluid that is injected may cause lignocaine toxicity (if the solution's lignocaine content is too high), or the collection of fluid in the lungs (if too much fluid is administered)
- The scars from liposuction are small and strategically placed to be hidden from view. However, imperfections in the final appearance are not uncommon after liposuction
- Change in skin sensation that may persist

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- Fat embolism. This is a very rare complication of liposuction where fat can enter the blood stream and travel to other sites in the body. If this is to the lungs, it can have very serious implications
- Numbness or hypersensitivity of the overlying skin due to bruising or damage to the small nerves of the skin. This is usually temporary but may persist
- Damage to deeper structures such as nerves, blood vessels, muscles, lungs and abdominal organs
- Irregular pigmentation
- Need for revision surgery
- Rippling or loose skin, worsening of cellulite
- Disappointment with the result

Sometimes after undergoing a liposuction procedure, patients are disappointed with the result. This may be due to one of the problems described above occurring or due to unrealistic expectations of the surgery e.g. mild asymmetries, some residual fatty tissue or less than expected definition of the liposuctioned area. It is important that you discuss your expectations in advance of the surgery so that you can understand what to expect from the surgery and so this situation is avoided as much as possible. Additional costs may be incurred for further procedures.