INFORMATION SHEET
FAT TRANSFER

INTRODUCTION

In the past surgeons have tried to enlarge women's breasts and to fill out contour hollows by cutting out a lump of fat from the abdomen or buttocks and embedding it where it appeared to be needed. Unfortunately, this was nearly always a failure because the fat did not take as a graft and did not gain a healthy circulation of blood to keep it alive and so, although the transferred fat could remain as a rather solid lump for several months, it usually shrank and became like an uncomfortable, hard and often tender swelling which could be felt easily through the skin. If left like this it would become harder and would calcify, ie flakes of calcium would form in it and on it. Occasionally it would liquefy in its centre, the liquid becoming like a turbid oil.

In summary, it wasn't possible to take a chunk of fat from one part of the body and simply bury it elsewhere and expect it to survive.

It was known in the 1940's and 1950's that thin slivers of fat attached to skin, whose outer layer had been stripped off, could be used as a filler graft provided it was not too large and the fat too bulky. This was the so-called 'dermofat graft' and is still used quite frequently for bulking out lips and filling out small hollows in the face. It works best where there is a very healthy circulation in the skin of the receiving area. The face has a better circulation of blood than almost anywhere else on the body and so these dermofat grafts which need to take usually work best in the face. The least successful part of the body is the lower leg where the circulation is relatively poor. Areas which have had radiotherapy also have a very poor blood circulation and are usually, therefore, not good places to put dermofat grafts into.

In the 1980s there were several major advances in plastic surgery, including microsurgery repair of blood vessels and liposuction. Microsurgical linkage of tiny arteries and veins made it possible to cut out areas of skin and fat sometime in combination with muscle and bone and to then transfer these to where they were needed. This enabled the surgeons to reconstruct breasts after mastectomy with abdominal skin and fat or sometimes to cover up an open fracture in a leg enabling it to heal and to save a leg from amputation.

This rather complex surgery tended to dominate the way plastic surgeons attempted to augment areas of the body. However, very slowly, the idea that fat removed by liposuction could be returned to the body came about partly because of the attempts to correct the mistakes that were being made by over-enthusiastic or unskilled surgeons doing liposuction for the first time. It was often the case that too much fat had been sucked out from some areas and not enough in others and it was found that a potential hollow, detected by the surgeon at the time of his liposuction, might be correctable by injecting some fat back into the area straightaway. To do so later, after several months had gone by, was shown to be more difficult and less likely to succeed because the indent had become fixed by internal scarring. If one wanted to untether an area it was necessary to divide all the little bands of scar inside and one couldn't do this simply by injecting fat. It is possible, however, to divide the tight bands by using a sharp ended stilette inserted through the skin which is used in a scratching motion to cut the little fibres, then making space for the fat to be injected.

This method of fat injection became an accepted technique but surgeons are still experimenting with the best ways of doing it because there are many different ways in which the fat can be harvested and many different sites in the body to take it from. We don’t know much about the quality of fat cells in different areas of the body and whether they are resistant to damage and whether they adapt better or worse in certain areas where they may inject it. We don’t yet know the best way to optimise their preservation, handling and injection and distribution methods. Some surgeons recommend concentrating the fat like a plug but others think that keeping it diluted may be better. Some surgeons like to use large, wide cannulae for sucking out the fat before injecting it, and some prefer very small ones.

Currently one can describe fat transfer as an art rather than a science. Certainly we know that if one injects too much fat in any one area, much of this fat will fail to take as a graft and it will simply die or form a hard, fat necrotic cyst.

In summary, one can say that the transfer of fat obtained by liposuction can:

1. Not be guaranteed.

2. May need to be repeated 2-3 times at 3-6 monthly intervals.

3. May result in an uneven contour.

4. May be more successful with the first injection than subsequent ones.

5. May need to be topped up every few years, even though good results lasting 2-3 years have been achieved.

AREAS WHICH CAN BENEFIT FROM LIPO-INJECTION

I have experience of injecting fat in many different parts of the body. These include:

1. Underneath the scalp to correct indentations in the contour of the head.

2. Above or below the eyes if they are sunken.

3. The cheeks to enhance the cheek bones.

4. The cheeks to fill out very hollowed cheeks.

5. The lips, both upper and lower.

6. Minor irregularities in the neck or the chin.

7. Correction of irregularities in the breasts, both male and female.

8. Correction of hollows due to irregularities following breast reconstruction.

9. The abdomen and thigh after previous surgical complications or road traffic accidents in which the fat has been damaged by blunt injury.

10. In the legs in patients with legs which are very thin or which have suffered injury.

I cannot recall injecting fat into the backs of anybody's hand as a way of trying to improve their appearance, but I know that some surgeons have done this. The main difficulty about this technique is that it is quite difficult to distribute the fat perfectly smoothly, in contrast to injectable fillers which can be injected in a more controlled manner.

I have been careful to avoid doing any so-called penile enhancement or enlargement by fat injections because this is usually a very unsatisfactory way of trying to make the penis look bigger. There are too many complications and I have seen too many very distorted penises and very disappointed patients from attempts at injecting fat into the penis. It certainly doesn't achieve any improvement in sexual function and in my opinion usually results in a distorted shape to the penis.

There is no doubt at all that breast enlargement by as much as a cup size is possible and in some women this may be all that they want and enables them to avoid the use of silicone implants. However, breast enlargement by fat injection has to be done in lots of stages in which tiny amounts are injected in lots of different parts of the breasts and so it is tedious and uncomfortable and is probably as expensive or more expensive than standard silicone implants. Obviously it is not going to work well in a woman who is naturally very thin because one needs quite a lot of suckable fat elsewhere in the body.

The quantities that one is talking about in breast augmentation will be in the region of 100-200mls of fat, which is comparable to a small silicone implant. The quantities for swelling out a small indentation in the face would be perhaps 5-10mls.

COMMON PRECAUTIONS

I always recommend the use of antibiotics to try and prevent the development of infection. I usually recommend that they are continued for 5 days after the operation, although if a person has an adverse reaction to the antibiotic it is permissible to stop the drug as soon as this adverse reaction becomes evident. Adverse reactions are fairly common with some antibiotics and people can either get an allergic rash or feel ill or get an upset tummy. The most important dose of the antibiotic is given intravenously at the time of the operation and provided this has been given, the risk of infection is probably less than about 1% of cases.

Most people experience some pain in the donor site where the fat is removed and they may have a lesser degree of pain where it is injected. The pain and tenderness in the donor site will last for between 2-3 days and in a few cases up to 7-10 days depending upon how easy it is to get the fat. Most people cope very well with the pain using at first Co-codamol for the first 24 - 48 hours, and thereafter using Nurofen or a similar drug.

NB: It is very important that patients should not have Aspirin or Aspirin-like drugs, such as Nurofen, in the two weeks before the operation because if they do they may bleed excessively and get a lot of bruising.

Swelling in the recipient site always occurs to some extent and sometimes takes weeks and very occasionally months to subside, and so it may be a long time before one knows how successful the fat transfer has been.

In a few cases it is worthwhile the person wearing a pressure garment, if the anatomy allows it. The pressure garment can be applied to the donor site and it may be appropriate to use it in the recipient site as well.

COMPLICATIONS

The surgeon nearly always aims to get as much fat into the recipient area as he thinks will actually take as a graft. It is a matter of fine judgement as to how much can be injected in any one area and so it is quite easy to inject too much or too little. The problem about injecting too little is that the person will be disappointed with the result. However, the greater problem is if too much is injected then quite a lot of fat will die and in a few cases the person will develop a hard lump where the dead fat coalesces. I have known of cases in which the lump appears some weeks or months after the operation and if it is in the breast the lump gets investigated as though it could be a cancer. This is because the general practitioner and the breast unit do not understand what has happened and feel obliged to investigate the lump, even though one can be almost 100% sure that it is simply because the fat has died where one hoped it was going to live as a graft.

If one achieves under-correction of an irregularity it is usually fairly simple to do the operation again some months later to add extra fat. The only problem about this of course is that it involves more time for the patient and possibly a lot more expense if they are paying for it privately.

Donor site problems

The donor site for the fat may be left with some degree of irregularity in contour and it may be slightly tender for a few weeks but the vast majority of patients have no problem with the donor site, once the tenderness has disappeared after the first 2-3 weeks.

Choice of general anaesthetic or local anaesthetic

Harvesting fat by liposuction can be painless if an adequate amount of local anaesthetic is injected and enough time is given for the local anaesthetic to work. A lot of liposuction is done in the private sector with the patient heavily sedated in combination with wide infiltration of local anaesthetic. The patient is officially awake but in fact feels very drugged and sleepy but sufficiently awake to be able to co-operate and move. If the area to be treated is quite small then local anaesthesia is a very good way of doing the operation. If a large area needs treating and a large amount of fat is required then it is probably better to do it under general anaesthetic.

Most fat transfer operations could be done as day cases whether under local or under general anaesthetic.

COSTS

The surgeon should be able to estimate the cost of doing the operation for you privately. Charges will include a consultation fee, which will need to be paid regardless of whether the operation is carried out, and the surgical fee may range from £200 - £1,000, depending upon the complexity of the procedure. The anaesthetic fee may range for just local anaesthetic at £50, up to £350 for an anaesthetist. The hospital fee can vary from £400 - £500 up to £1,500, again depending upon the complexity of the operation and the length of time spent in the operating theatre and the use of special equipment.

DISAPPOINTMENTS

The commonest complication of this operation is disappointment. Patients often secretly hope that only one operation will be needed and yet it turns out that more than one is in fact required. Patients hope for a nice, smooth, soft, uniform, permanent correction but may only get a partial improvement which needs further corrective surgery.

Patients are often easily worried by the immediate postoperative appearance which is distorted by swelling and bruising and they may have to suffer the embarrassment of looking very bruised for several days after their treatment and they have difficulty explaining this to friends and family.

THINGS TO DISCUSS WITH THE SURGEON

You should discuss precautions which are taken against thrombosis, particularly if you are having the operation under general anaesthetic. You should avoid Aspirin and similar medications, which can result in extra bruising if they are taken within a fortnight of the operation. You should discuss the length of time you are going to need off work and you should discuss the need of wearing a compression corset or elasticated bandage to remodel the treated area.

I hope you have found this information sheet helpful. I am sure there are things which I have forgotten to mention, but I shall be only too pleased if you can point these out so that I can include them when I next update this information sheet.

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