Tumescent liposuction: Standard guidelines of care

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ABSTRACT

Definition: Tumescent liposuction is a technique for the removal of subcutaneous fat under a special form of local anesthesia called tumescent anesthesia. **Physician's qualifications**: The physician performing liposuction should have completed postgraduate training in dermatology or a surgical specialty and should have had adequate training in dermatosurgery at a center that provides training in cutaneous surgery. In addition, the physician should obtain specific liposuction training or experience at the surgical table ("hands on") under the supervision of an appropriately trained and experienced liposuction surgeon. In addition to the surgical technique, training should include instruction in fluid and electrolyte balance, potential complications of liposuction, tumescent and other forms of anesthesia as well as emergency resuscitation and care. **Facility**: Liposuction can be performed safely in an outpatient day care surgical facility, or a hospital operating room. The day care theater should be equipped with facilities for monitoring and handling emergencies. A plan for handling emergencies should be in place with which all nursing staff should be familiar. A physician trained in emergency medical care and acute cardiac emergencies should be available in the premises. It is recommended but not mandatory, that an anesthetist be asked to stand by. **Indications:** Liposuction is recommended for all localized deposits of fat. Novices should restrict themselves to the abdomen, thighs, buttocks and male breasts. Arms, the medial side of the thigh and the female breast need more experience and are recommended for experienced surgeons. Liposuction may be performed for non-cosmetic indications such as hyperhidrosis of axillae after adequate experience has been acquired, but is not recommended for the treatment of obesity. **Preoperative evaluation**: Detailed history is to be taken with respect to any previous disease, drug intake and prior surgical procedures. Liposuction is contraindicated in patients with severe cardiovascular disease, severe coagulation disorders including thrombophilia, and during pregnancy. **Physical evaluation** should be detailed and should include assessment of general physical health to determine the fitness of the patient for surgery, as well as the examination of specific sites that need liposuction to check for potential problems. **Preoperative Informed consent**: The patient should sign a detailed consent form listing details about the procedure and possible complications. The consent form should specifically state the limitations of the procedure and should mention whether more procedures are needed for proper results. The patient should be provided with adequate opportunity to seek information through brochures, computer presentations, and personal discussions. **Preoperative laboratory studies** to be performed include Hb%, blood counts including platelet counts, bleeding and clotting time (or prothrombin and activated partial thromboplastin time) and blood chemistry profile; ECG is advisable. Liver function tests, and pregnancy test for women of childbearing age are performed as mandated by

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Evidence - Level A- Strong research-based evidence- Multiple relevant, high-quality scientific studies with homogeneous results, Level B- Moderate research-based evidence- At least one relevant, high-quality study or multiple adequate studies, Level C- Limited research-based evidence- At least one adequate scientific study, Level D- No research-based evidence- Based on expert panel evaluation of other information

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the individual patient's requirements. Ultrasound examination is recommended in cases of gynecomastia. **Preoperative medication**: Preoperative antibiotics and non-sedative analgesics such as paracetamol are recommended. The choice of antibiotic and analgesic agents depends on the individual physician's preference and the prevailing local conditions. **Type of anesthetic employed**: Lidocaine is the preferred local anesthetic; its recommended dose is 35-45 mg/kg and doses should not exceed 55 mg/kg wt. The recommended concentration of epinephrine in tumescent solutions is 0.25-1.5 mg/L. The total dosage of epinephrine should be minimized and should not exceed 50 µg/kg. **Surgical technique/procedure** It is always advisable not to combine liposuction with other procedures to avoid exceeding the recommended dosage of lignocaine. However, such combinations may be attempted if the total required dose of lignocaine does not exceed the maximum dose indicated above. The recommended cannula size for liposuction is not to be larger than 3.5 mm in diameter. The recommended volume of fat removed is in proportion to the fat content and/or size and/or weight of the patient being treated. It is recommended that the volume of fat removed not exceed 5000 mL in a single operative session.Large volume liposuctions or mega-liposuctions are not recommended. **Intraoperative and postoperative monitoring**: Baseline vital signs including blood pressure and heart rate, are recorded pre- and postoperatively. Pulse oximeter monitoring is essential in all cases. **Postoperative care:** Postoperative antibiotics should be selected by the physician and taken for five days. Postoperative antiinflammatory drugs such as Cox 2 Inhibiters may be given for 5-7 days; specialized compression garments, binders, and tape help to reduce bruising, hematomas, seromas, and pain. Generally, compression is recommended for two weeks although this is variable according to the needs of the individual patient.

Key Words: Fat extraction, Body shape, Sculpturing, Liposuction, Tumescent anesthesia

EXPLANATION AND EVIDENCE FOR THE RECOMMENDED GUIDELINES FOR LIPOSUCTION

INTRODUCTION

Liposuction is the surgical removal of subcutaneous fat by means of suction-assisted aspiration cannulae introduced through small skin incisions. Synonyms include liposuction surgery, suction-assisted lipectomy, suction lipoplasty, fat suction, blunt suction lipectomy, and liposculpture.

Tumescent liposuction is now accepted as the standard of care in liposuction surgery. Tumescent Liposuction may be performed safely in the outpatient setting in a day care surgical facility and therefore, has the advantages of convenience, lower expenses and minimized risk of nosocomial infections when compared to the hospital setting. To date, hundreds of thousands of liposuction cases have been performed in this manner with no reported fatalities when tumescent anesthesia alone is utilized.

EVIDENCE LEVEL B

1. Coleman WP, Glogau RG, Klein JA, Moy RL. Guidelines of care for liposuction. J Am Acad Dermatol 2001;45:438-47.
2. Lawrence N, Coleman WP 3rd. Liposuction. J Am Acad Dermatol 2002;47:105-8.

DEFINITION

The word "tumescent" means swollen and firm. This technique involves subcutaneous infiltration of large volumes of crystalloid fluid containing low concentrations of lidocaine and epinephrine (called Klein solution). *The term tumescent liposuction specifically excludes the use of any additional anesthesia, either intravenous or gaseous*. The surgical removal of fat is then performed after the infiltration of tumescent anesthesia and involves the use of small cannulas called microcannulae (hence the term "Microcannular tumescent anesthesia") inserted into small incisions or adits, which are later left open to drain.

EVIDENCE LEVEL B

1. Klein J. The two standards of care for tumescent liposuction. Dermatol Surg 1997;23:1194-5.
2. Guiding principles for liposuction. The American society for dermatologic surgery. Dermatol Surg 1997;23:1127-9.
3. Klein JA. The tumescent technique for liposuction surgery. Am J Cosmet Surg 1987;4:1124-32.
4. Klein JA. Tumescent technique for local anesthesia improves safety in large-volume liposuction. Plast Reconstr Surg 1993;92:1085-98.

RECOMMENDATIONS FOR PHYSICIAN'S QUALIFICATIONS

1. The physician performing liposuction should have completed postgraduate training in dermatology/ another surgical specialty.
2. The physician should have adequate training in dermatosurgery at a center that provides training in cutaneous surgery.
3. In addition, the physician should obtain specific liposuction training or experience at the surgical table (hands on) under the supervision of an

appropriately trained and experienced liposuction surgeon.

4. In addition to surgical technique, the physician's training should include instruction in fluid and electrolyte balance, potential complications of liposuction, tumescent and other forms of anesthesia as well as emergency resuscitation and care.

FACILITY

Tumescent Liposuction can be performed safely in an outpatient day care surgical facility or a hospital operating room.

The day care theater should be equipped with facilities for monitoring and handling emergencies.

A plan for handling emergencies should be in place and all nursing staff should be familiar with the emergency plan.

EVIDENCE: LEVEL A

1. Klein JA. Tumescent technique for regional anesthesia permits lidocaine doses of 35mg/kg for liposuction. J Dermatol Surg Oncol 1990;16:248-63.
2. Ostad A, Kageyama N, Moy RL. Tumescent anesthesia with a lidocaine dose of 55 mg/kg is safe for liposuction. Dermatol Surg 1996;22:921-7.
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6. Lawrence N, Coleman WP 3rd. Liposuction. J Am Acad Dermatol 2002;47:105-8.
7. Bernstein G, Hanke CW. Safety of liposuction: A review of 9,478 cases performed by dermatologists. J Dermatol Surg Oncol 1988;14:1112-4.
8. Hanke CW, Bernstein G, Bullock S. Safety of tumescent liposuction in 15,336 patients: national survey results. Dermatol Surg 1995;21:459-62.

Indications for liposuction

Liposuction is recommended for all localized deposits of fat. Novices should restrict themselves to surgery in areas such as the abdomen, thighs, buttocks and male breasts. The arms, the medial side of the thigh, and the female breast need more experience and are recommended for experienced practitioners. Liposuction for non-cosmetic indications such as hyperhidrosis of axillae may be performed after adequate experience has been gained but is not recommended for the treatment of obesity.

Contraindications

Liposuction is contraindicated in patients with severe systemic disease, cardiovascular disease, severe coagulation disorders including thrombophilia, and during pregnancy. Bleeding diathesis, emboli, thrombophlebitis, infectious diseases, poor wound healing, and diabetes mellitus should be ruled out prior to surgery. Previous abdominal surgery, laparoscopy, hernia and caesarean section in women need special consideration.

EVIDENCE: LEVEL B

1. Coleman WP, Glogau RG, Klein JA, Moy RL. Guidelines of care for liposuction. J Am Acad Dermatol 2001;45:438-47.
2. Lawrence N, Coleman WP 3rd. Liposuction. J Am Acad Dermatol 2002;47:105-8.
3. Lillis PJ, Coleman WP. Liposuction for treatment of axillary hyperhidrosis. Dermatol Clin 1990;8:479-82.
4. Pinski KS, Roenigk HH. Liposuction of lipomas. Dermatol Clin 1990;8:483-92.
5. Flynn TC, Narins RS. Preoperative evaluation of the liposuction patient. Dermatol Clin 1999;17:729-34

Patient selection

Proper patient selection is highly important-the best candidates are patients with localized deposits of fat, who are not grossly obese, without significant medical problems, and have realistic expectations of what liposuction can accomplish. Patients who are excessively obese, inappropriately motivated, have a dysmorphic body image, or have unrealistic expectations of the results, are not good candidates. While there is no specified age limit for tumescent liposuction, very young patients and teenagers should be approached with caution. Advanced age itself is not a risk factor for liposuction, but associated systemic conditions deserve special consideration. As in all cosmetic procedures, proper case selection is vital in ensuring satisfactory results after liposuction.

EVIDENCE: LEVEL B

1. Lawrence N, Coleman WP 3rd. Liposuction. Adv Dermatol 1996;11:19-49.
2. Klein J. Two standards of care for tumescent liposuction. Dermatol Surg 1997;23:1194-5.
3. Flynn TC, Narins RS. Preoperative evaluation of the liposuction patient. Dermatol Clin 1999;17:729-34.

PREOPERATIVE INFORMED CONSENT

The patient should sign a detailed consent form listing details about the procedure, when the results can be expected (in 12 weeks) and any possible complications.

The consent form should specifically state the limitations of the procedure and should clearly state whether more procedures are needed for proper results. The patient should be provided with adequate opportunity to seek information through brochures, computer presentations, and personal discussions. Patients need to be told specifically that stretch marks and cellulite will not be improved by liposuction. The use of all medications, vitamins, and herbs should be documented with particular attention to medications that affect blood clotting (*e.g.*, aspirin, nonsteroidal antiinflammatory agents, vitamin E, and anticoagulants). Drugs that may interact with lidocaine, epinephrine, or sedative and anesthetic agents are specifically noted.

EVIDENCE: LEVEL B

1. Flynn TC, Narins RS. Preoperative evaluation of the liposuction patient. Dermatol Clin 1999;17:729-34.
2. Bank DE, Perez MI. Skin retraction after liposuction in patients over the age of 40. Dermatol Surg 1999;25:673-6.
3. Matarasso A, Matarasso SL. When does your liposuction patient require an abdominoplasty? Dermatol Surg 1997;23:1151-60.

Physical examination

Physical evaluation should be detailed and should include assessment of the general physical health to determine the fitness of the patient for surgery, and examination of specific sites that need liposuction to check for potential problems. Cutaneous examination should include detection of general cutaneous abnormalities such as scars, stretch marks, evidence of poor wound healing from previous procedures or trauma, keloids, hernias (abdominal, umbilical, inguinal, genital) and venous varicosities.

Psychosocial evaluation includes examination of diet and exercise habits as well as the assessment of history of weight gain and loss. Family history of obesity and body shape should also be taken. Patients should be evaluated with respect to their emotional stability and their ability to endure the long procedure. Detailed inquiries must be made as to the patients' understanding of the 'procedure, its limitations and expectations from surgery. History of previous cosmetic procedures to identify possible dysmorphophobia should also be taken.

EVIDENCE: LEVEL A

1. Lawrence N, Clark RE, Flynn TC, Coleman WP 3rd. American society for dermatologic surgery guidelines of care for liposuction. Dermatol Surg 2000;26:265-9.
2. Coleman WP 3rd, Glogau RG, Klein JA, Moy RL, Narins RS, Chuang TY, *et al*. Guidelines of care for liposuction. J Am Acad Dermatol 2001;45:438-47.

Preoperative Laboratory Studies and instructions

Preoperative laboratory studies to be performed include Hb%, blood counts including platelet count, bleeding and clotting time (or prothrombin and activated partial thromboplastin time), blood chemistry profile, liver function tests, and pregnancy test for women of childbearing age; ECG is advisable. Screening should be done for antibodies for hepatitis B surface antigen and HIV after due consideration and consent by the physician and patient, respectively. An ultrasound scan of the chest is helpful in determining the relative proportion of breast tissue and fat in gynecomastia.

Preoperative medication

Preoperative antibiotics and non-sedative analgesics (paracetamol) are recommended. Patients should avoid smoking before surgery.

EVIDENCE: LEVEL B

Flynn TC, Narins RS. Preoperative evaluation of the liposuction patient. Dermatol Clin 1999;17:729-34.

TUMESCENT ANESTHESIA

In summary, tumescence is carried out as follows:

a) Adits or entry sites for infiltration cannulae are done with 1.5-2 mm dermal punches in different locations of the area under infiltration anesthesia with 1 mL of 2% lignocaine.
b) The delivery system for tumescent solution consists of infusion bags, infiltration pressure cuffs, an infiltration pump to hasten delivery of the fluid and infiltration cannulae of size 0.5-1 mm. Approximately 2-3 liters of fluid are infiltrated gradually.
c) Detumescence: It is important to wait for about 30 min after tumescence for the infiltration fluid to percolate properly and for its full pharmacological effects to take effect.

RECOMMENDATION

Lidocaine is the preferred local anesthetic and its recommended maximum dose is 55 mg/kg. Recommended lidocaine doses depend on the appropriate epinephrine concentrations in the tumescent solution. Medications that inhibit the metabolism of lidocaine should be discontinued before liposuction, or the total dosage of lidocaine should be

reduced. The recommended concentration of epinephrine in tumescent solutions is 0.25-1.5 mg/L and its total dosage should not exceed 50μg/kg. If the dermatosurgeon believes that the dose to be used would exceed the maximal recommended dose of epinephrine, liposuction should be performed in two separate sessions.

Use of other drugs for analgesia and tranquilizing effect

Oral anxiolytics, sedatives, or narcotic analgesics may be used with tumescent liposuction at dosages that are not associated with respiratory depression.Lorazepam or diazepam and paracetamol are recommended. Intramuscular anxiolytics, sedatives, or narcotic analgesics should be used with great caution with tumescent liposuction and only after full consultation with the anesthetist as the dose-response relationships can vary widely and may be associated with respiratory depression.Intravascular anxiolytics, sedatives, or narcotic analgesics should be avoided as they may be associated with increased risk of mortality and morbidity if not used properly. They may however, be used only if the procedure is performed by an experienced dermatosurgeon in a hospital setting with full ICU facilities and only if an anesthetist is present during the procedure and for postoperative care. The use of inhalational (general) anesthesia for tumescent liposuction is not recommended.

EVIDENCE LEVEL B

1. Hanke W. Cox SE, Kuznets N, Coleman WP 3rd. Tumescent liposuction report performance measurement initiative: National survey results. Dermatol Surg 2004;30:967-78.
2. Klein JA. Anesthetic formulation of tumescent solutions. Dermatol Clin 1999;17:751-9.
3. Klein J. Two standards of care for tumescent liposuction. Dermatol Surg 1997;23:1194-5
4. Klein JA. Clinical pharmacology. In: Klein JA, editor. Tumescent technique. St Louis: Mosby; 2000. p. 121-209.
5. Lillis PJ. Liposuction surgery under local anesthesia: Limited blood loss and minimal lidocaine absorption. J Dermatol Surg Oncol 1988;14:1145-8.
6. Ostad A, Kageyama N, Moy RL. Tumescent anesthesia with a lidocaine dose of 55 mg/kg is safe for liposuction. Dermatol Surg 1996;22:921-7.
7. Klein JA. Tumescent technique for liposuction surgery. Am J Cosmet Surg 1987;4:263-7.

Tumescent Liposuction: Surgical Technique and Volume Removal

In summary, the procedure of tumescent anesthesia is as follows:

1. Introduction of large amount (1-4 L) of Klein's solution into the fat for ballooning of the fat tissue to decrease bleeding and most importantly, for anesthesia.
3. Making several small incisions called adits (1-3 mm) to introduce microcannulae.
4. Sucking the fat out through microcannulae that are 1.5-3.5 mm in diameter.
5. Leaving the incision wounds of the cannulae open to drain out fluid. A small amount of fluid is left in the tissue and is allowed to drain slowly over two days. This residual fluid provides analgesia in the immediate postoperative period.
6. Applying compression bandages and sending the patient home without any admission.

RECOMMENDATIONS

It is always advisable not to combine liposuction with other procedures as the dosage of lignocaine used may exceed the recommended maximal limit. Liposuction may be combined with other procedures if the total required dose of lignocaine does not exceed the recommended maximal dose.The recommended cannula diameter for liposuction is $\leq$ 3.5 mm. The recommended volume of fat removed is in proportion to the fat content and/or size and/or weight of the patient being treated. It is recommended that the volume of fat removed should generally not exceed 5000 mL in a single operative session. Large volume liposuctions or mega-liposuctions are not recommended.

EVIDENCE LEVEL B

1. Hanke W. Cox SE, Kuznets N, Coleman WP 3rd. Tumescent liposuction report performance measurement initiative: National survey results. Dermatol Surg 2004;30:967-78.
2. Current issues in dermatologic office-based surgery. Joint American Academy of Dermatology-American Society of Dermatologic Surgery Liaison Committee. J Am Acad Dermatol 1999;41:624-34.
3. Guiding principles for liposuction, the American Society for Dermatologic Surgery. Dermatol Surg 1997;23:1127-9.
4. Coleman WP 3rd, Glogau RG, Klein JA, Moy RL, Narins RS, Chuang TY, *et al*. Guidelines of care for liposuction. J Am Acad Dermatol 2001;45:438-47.
5. Housman TS, Lawrence N, Mellen BG, George MN, Filippo JS, Cerveny KA, *et al*. The safety of liposuction: Results of a national survey. Dermatol Surg 2002;28:971-8.
6. Klein JA. Microcannulas. In: Klein JA, editor. Tumescent technique. St Louis: Mosby; 2000. p. 235-48.
7. Bernstein G. Instrumentation for liposuction. Dermatol Clin 1999;17:735-49.

Intraoperative and postoperative monitoring

Baseline vital signs including blood pressure and heart rate are recorded pre- and postoperatively. Pulse oximeter monitoring is essential in all cases and may be continued

after surgery until the patient has fully recovered and is ready for discharge.Although serious complications are rare and any physician should be able to handle such complications should they arise, it is recommended that a physician trained in resuscitation and emergency care such as a trained anesthetist be available on the premises.

EVIDENCE LEVEL B

1. Klein JA. Anesthetic formulation of tumescent solutions. Dermatol Clin 1999;17:751-9.
2. Klein JA, Kassarjdian N. Lidocaine toxicity with tumescent liposuction: A case report of probable drug interactions. Dermatol Surg 1997;23:1169-74.

Postoperative Course and care

Postoperative antibiotics should be taken for five days and should be selected by the physician. Postoperative antiinflammatory drugs such as COX2 inhibitors may be given for 5-7 days. Specialized compression garments, binders, and tape help to reduce bruising, hematomas, seromas, and pain; the recommended duration of compression is 2-4 weeks.

EVIDENCE LEVEL B

1. Hanke W. Cox SE, Kuznets N, Coleman WP 3rd. Tumescent liposuction report performance measurement initiative: National survey results. Dermatol Surg 2004;30:967-78.
2. Lawrence N, Butterwick KJ. Immediate and long-term postoperative care and touch-ups. In: Narins RS, editor. Safe liposuction and fat transfer. New York: Marcel Dekker; 2003. p. 329-39.
3. Klein JA. Post-liposuction care: Open drainage and bimodal compression. In: Klein JA, editor. Tumescent technique. St Louis: Mosby; 2000. p. 281-93.
4. Klein JA. Post-tumescent liposuction care: open drainage and bimodal compression. Dermatol Clin 1999;17:881-90.

COMPLICATIONS

Tumescent anesthesia is a remarkably safe procedure if all the essential steps are followed. Complications inherent to any surgery, such as infections, hematoma, nerve damage, and skin necrosis may also occur after liposuction. However, these complications are rare. Minor complications that may occur include postoperative pain, syncope (vasovagal in origin), edema, ecchymoses, diffuse tenderness, and induration. Other infrequent complications include panniculitis, fat necrosis, seroma (cystic swellings), irregularity and asymmetry. Indian skin shows a tendency for pigmentation at the adit sites and this may need the use of depigmenting agents such as hydroquinone.

Several serious complications such as pulmonary embolism, excessive blood loss, hemorrhagic necrosis of fat and even death have been previously reported with conventional liposuction. But these are extremely rare in tumescent liposuction and the safety of tumescent liposuction has been well documented. It is important to note that while mortality has been reported with conventional liposuction, not a single death has been recorded after tumescent liposuction.

EVIDENCE: LEVEL B

Lawrence N, Butterwick KJ. Immediate and long-term postoperative care and touch-ups. In: Narins RS, editor. Safe liposuction and fat transfer. New York: Marcel Dekker; 2003. p. 329-39.

Bernstein G, Hanke CW. Safety of liposuction: A review of 9,478 cases performed by dermatologists. J Dermatol Surg Oncol 1988;14:1112-4.

Hanke CW, Bernstein G, Bullock S. Safety of tumescent liposuction in 15,336 patients: National survey results. Dermatol Surg 1995;21:459-62.

Rao RB, Ely SF, Hoffman RS. Deaths related to liposuction. N Engl J Med 1999;340:1471-5.

SUMMARY

As a surgical procedure, tumescent liposuction requires a combination of:
(1) Practical application of pharmacological knowledge, 2) appreciation of beauty, (3) perfect workmanship, and (4) skill attained through proper training and clinical experience. In tumescent liposuction, the criteria for excellence are not the speed and volume of aspirate but the safety, patient's comfort, finesse, and quality of results. It is important to keep in mind that, as in any cosmetic procedure including liposuction, final safe and satisfactory results are far more important than quick results.

ACKNOWLEDGEMENT

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Consent form for liposuction

I _____ hereby authorize Dr. _____ on date_____ and _____ time _____ AM/PM to perform liposuction on my _____. I fully understand the applications and the possible results of this procedure. I have read and understood

the details of the drugs used-their effects and side effects, the postoperative events and results.

I understand that local anesthesia is much safer then general anesthesia. I consent to the administration of oral sedation and the local infiltration of anesthesia by Dr._____ and the designated health professional _____. I understand that there are risks associated with anesthetic drugs given locally or intravenously, such as allergic or toxic reactions.

Dr. _____ has discussed in detail with me the entire surgical procedure currently known as liposuction or suction lipolysis or suction lipectomy, including possible risks, untoward side effects and results. I have also read other literature concerning this procedure and Dr. _____ has answered all my questions to my satisfaction. I believe that I have adequate knowledge on which to base my informed consent to the liposuction.

I also understand that it takes 3-6 months for the full results of the surgery to be seen. I also have been told that approximately _____ liters of fat will be removed. I also understand that liposuction is not a procedure to reduce weight, but to improve the shape and contours of the body.

I understand that this procedure does not correct “cellulite” and other forms of skin surface dimpling and wrinkling. Stretch marks also can not be corrected by surgery.

I understand that liposuction is a cosmetic procedure and that a full guarantee as to the final results that may be obtained and for the ultimate appearance that is produced, can not be assured.

I understand that 100% results cannot be obtained and I may need a second procedure.

There may be initial temporary lumpiness and swelling of the area and of dependent parts which resolve in due course.

Like any surgery, liposuction may be associated with untoward side effects. They include bruising, lumpiness, dimpling, sagging of the skin, scarring, numbness, tingling or persistent soreness, minor depression, swelling of the legs and infection of the skin.

A second operation requiring skin excision and removal may be necessary. I also understand that during the course of the above operation, unforeseen conditions may necessitate additional or different procedures than those originally planned. I therefore authorize Dr. _____ to perform or arrange to perform such procedures deemed necessary according to his/her professional judgment.

I impose no specific limitations or prohibitions on Dr. _____ regarding this surgery and authorize him/her to perform liposuction on my _____.

_____	_____	_____
Name and signature of patient.	Name and signature of doctor.	Name and signature Witness

You have been scheduled for liposuction of the_____ to be done on _____ at _____ to_____ AM/PM.

Liposuction is “body contouring technique”. It is a means of reducing localized fat deposits that are difficult or impossible to remove by diet or exercise. It is NOT a technique for treating obesity or “cellulite”.

Liposuction is a surgical operation that can be performed under local or general anesthesia. We perform liposuction under local anesthesia which necessitates the injection of a solution under the skin and into the fatty tissue before it is removed. Oral and occasionally intravenous sedation and fluid replacement may be necessary during the operation. After anesthesia is completed, a long narrow hollow metal tube is placed through the skin into the fatty area to be treated. This hollow metal tube is connected to a suction machine which will then be used to suck out the unwanted fat. At the completion of the operation, a padding and compression garment is worn for support and compression. Patients need to come for dressing for 2-3 days and usually return to work after 3-4 days.

Please be sure that you have read and thoroughly understood the pre- and postoperative instructions.

Have you had any surgery before?	Yes / no
Have you had local anesthesia before?	Yes / no
Did you have tooth extraction before?	Yes / no
Did you have any injury/wound, that was sutured?	Yes / no
Did you have any problem with bleeding?	Yes / no
Did you have stomach acidity problem?	Yes / no
Do you smoke? If so, how much?	Yes / no
Do you drink alcohol? If so, how much?	Yes / no
Do you drink excessive amounts of tea / coffee?	Yes / no
Do you have diabetes / asthma / any other disease?	Yes / no
Have you taken injection tetanus toxoid in the last six months?	Yes / no
Do you faint when seeing blood? Are you a nervous person?	Yes / No
Have you received pre-, postop instruction sheets?	Yes / No

Patient’s signature _____ Doctor’s signature _____

Patient’s name _____ Doctor’s name _____

Date: _____

Patient’s Address_____

Permanent Address (If different) _____

Landline Number_____ Mobile _____