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Body Contouring; a letter to my patients:

Body Contouring is the term given to a group of techniques utilized by Plastic Surgeons to enhance the body's contours and proportions. Depending upon the part of the body in question and the type of tissue contributing to the problem, various methods of fat removal (Liposuction) and skin removal (Tummy tucks and body lifts) are performed to obtain the best results with the greatest of safety.

By far the most common procedure in Body Contouring is Liposuction. Modern Liposuction was pioneered in Europe by a Parisian Plastic Surgeon, Yves G. Illouz, M.D. His technique took advantage of the fact that fatty tissue is relatively fragile when compared to the nerves and blood vessels that travel through it. Therefore, if you take a blunt-tipped surgical steel tube (we affectionately call it a cannula, which sounds more impressive), place it under the skin and apply suction to the tube, a portion of the fatty tissue is mechanically removed and a portion stays behind. You should not remove all of the fat, because that results in an abnormal appearance. The main safety issue with just putting someone to sleep and doing this is that for every 100 cc of fat you remove, you also cause about 50 cc of bleeding (blood loss 50%). In fact, in the 1980's blood transfusions were commonly needed when liposuction was performed and the risks, as you would imagine, were much higher.

Obviously this is not acceptable and much of the research done in the 1980's was to solve this challenge. Out of this research grew the concept of tumescent anesthesia. Although some practitioners still call this "tumescent liposuction," the fact is that "tumescent" has nothing to do with liposuction. Rather it is a form of anesthesia. The word tumescent means to inflate. This technique involves the injection of very dilute local anesthetic (one twentieth of its normal concentration) underneath the skin into the fatty tissue. This causes the blood vessels to contract, which prevents them from bleeding excessively. Therefore, instead of losing 50% blood, patients lose less than 5%. The tumescent anesthesia also replaces much of the fluid required to safely undergo the procedure. In fact, it is now exceptionally rare that any type of blood transfusion is required after liposuction. In the history of our practice (over 12 years with over 1800 cases) not a single patient has required any type of transfusion or required hospitalization for any reason.

The thing to remember, is that tumescent is a technique of anesthesia not of liposuction. In some advertisements they stress their expertise in "Tumescent Liposuction." This was originally a term coined by a Southern California Dermatologist in an attempt to promote his technique to those doing liposuction that were not trained in Plastic Surgery. He offered a one-week course to any doctor who would pay his fee to become certified in "Tumescent Liposuction." The problems of this approach to surgical education are obvious. Because of the added safety, it is also obvious that no one doing body contouring today does liposuction without some form of "tumescent" or "Superwet" anesthetic technique.

More recent advances in body contouring have involved the use of ultrasonic energy to aid in the removal of the fat. As it turns out, certain tissues of the body will absorb certain frequencies of ultrasonic energy in a specific way. Therefore, in theory it is possible to affect a specific type of tissue and leave the tissue surrounding it unchanged. This is the technology that is being employed in ultrasonic assisted liposuction (a new form is called Vaser). Utilizing this technique, a titanium cannula vibrates at a very high frequency, which corresponds to the frequency that fat cells absorb. When a fat cell absorbs this relatively high energy, it disrupts the cell membrane and essentially liquefies the fatty tissue. This liquefied tissue is then removed using standard liposuction cannulas at a second stage.

When it was first introduced in the middle 1990s, Ultrasonic Liposuction was touted as a revolutionary miraculous technique that would remove more fat with less bruising, less discomfort, less recovery time and better results. Unfortunately as with many "new advances" that are aggressively marketed, many of these claims were simply not true. However, ultrasonic assisted liposuction is a significant advance in patients that have fatty tissue that is overly fibrous. Early in my practice there were certain patients who had tough fibrous tissue (such as men seeking improvement) that would undergo standard liposuction and obtain mediocre results. The majority of the fat was trapped in very dense fibrous tissue which made removing it very challenging. Ultrasonic liposuction bridges the gap in these individuals and allows us to remove more fat with improved results. However, ultrasonic liposuction machines are not miracles or even the standard of practice. The fact remains that using ultrasonic energy does result in additional physiologic trauma to the tissue. This results in a longer duration of swelling (8-12 weeks rather than the standard 6 weeks.) It also is a little more uncomfortable for a slightly longer period. It also requires the use of titanium cannulas, which wear out with time and cost approximately \$1000. Given these facts, ultrasonic liposuction is not preferred in most patients. I bought the machine in 1996 and have been very happy with the results in selected patients. However, I reserve its use for people that can realize its benefits. In general I would caution those considering Cosmetic Surgery against choosing a surgeon based upon a new surgical instrument he may or may not possess. One should choose their surgeon based upon their credentials, experience and

artistic sensitivity. Remember that just because a technology or instrument is new does not make it better. It depends upon the surgeon using the technique. The newest technique to be advertised is "Laser Fat Removal." Nothing in the peer reviewed Plastic Surgery literature has, to date, suggested this high-tech method has any advantages except marketing.

Liposuction whether done by standard techniques or ultrasonic assisted techniques is done through small 3-4 mm (less than a 1/4 inch) incisions placed strategically along the area to be treated. These small incisions do result in small very inconspicuous scars. They most notably resemble moles having been removed and few people give them much notice.

Liposuction in my practice is performed with the patient asleep. Although there are some practitioners who do liposuction with sedation and rely on the tumescent anesthesia for pain relief, I have found this to be totally inadequate. With sedation alone it is common for patients to express the feeling of discomfort and move around, although they rarely remember it (Sedation commonly causes amnesia). Having patients asleep gives me the control to more precisely remove fat to obtain the best result. Modern general anesthesia is well tolerated with little nausea or side effects, has minimal risk (less than 1:200000 in healthy patients) and actually makes the experience much less stressful.

Patients are brought to our private operating room and, after surgery, are dressed in a compressive garment reinforced with foam rubber. This helps prevent bruising and swelling. After surgery, the patient is released to go home and usually will be sore for 1-2 days. Following that, patients generally feel like they have worked out too hard. After the initial recovery, the compressive garment is worn for two weeks day and night and two weeks just during the day for four weeks total. These garments help resolve the swelling and help mold the tissue into a more aesthetic shape. The final result of liposuction is usually not completely apparent for 8-12 weeks. Normal activity can usually be resumed in 4-5 days. However, any increased activity may result in increased swelling, but this too will resolve with time.

Other forms of body contouring techniques include tummy tucks and body lifts. You must remember that one limitation of liposuction is that the skin must have the ability to contract and conform over the new contour that is produced. If the skin or tissue is too lax, it will shrivel up or hang loose. This can be very unsightly. Tummy tucks and body lifts are designed to address the issues of lax body tissues.

When patients come in complaining of contour abnormalities of the abdomen they are grouped into three types of deformity. Some patients present with fat being their primary problem and liposuction alone will affect an adequate change. In many patients, because of previous childbearing, weight gain and loss, or age, the abdominal musculature becomes lax and separates from the midline. This results in a protuberance of the lower abdomen that cannot be corrected with liposuction alone. In those patients some form of tummy tuck procedure is performed to tighten these lower abdominal muscles. In a mini tummy tuck (mini-abdominoplasty) a small incision similar to a cesarean section is made. The abdominal musculature is then identified and tightened with sutures. This results in tightening of the lower abdomen and definition of the waist and hip area. In a mini-abdominoplasty no skin is excised. Liposuction of the abdomen is commonly done at the same time.

If the individual has a large excess of abdominal skin or stretch marks, full abdominoplasty may be indicated. In a full abdominoplasty the majority of the skin below the belly button is removed through a low transverse incision that stretches from hip to hip. Although liposuction of the hips can be done safely with a full tummy tuck, liposuction of the abdomen is usually not done because of concerns of blood supply and healing. Residual deposits of fat can be addressed at a later stage. In those individuals requiring full abdominoplasty, it must be understood that the patient is trading their large, saggy abdominal skin or stretch marks for a scar. The vast majority of patients interested in body contouring that need full abdominoplasty are more than happy to make that compromise. Even though the low transverse scar is visible it can generally be hidden beneath a one-piece bathing suit. In full abdominoplasty the belly button is not moved substantially but it is necessary to place a scar around it.

In mini and full abdominoplasties postoperative drains are required to prevent the collection of fluid underneath the skin. They generally stay in place for 7-10 days. Therefore, patients undergoing mini and full abdominoplasties usually require 10-14 days to recover.

In certain patients redundancy of skin and subcutaneous tissue extends completely around the body. These are usually patients who have lost a considerable amount of weight and have laxity of tissue throughout their body. In these patients a full body lift may be appropriate. This is similar to a full abdominoplasty but differs in that the excision of tissue extends completely around the body and results in a circumferential scar. Removal of these lax tissues re-suspends the waist, buttock, lateral thigh and abdominal regions. In those patients who are appropriate candidates the results can be miraculous. However, again the patient has to come to terms with the issue that they are trading their saggy lax tissue for a visible scar. Again, my experience is that the vast majority of patients that need a full body lift are more than happy to make that compromise. Full body lifts require a full two to

three weeks recovery but are uniformly well tolerated. We even have one patient who plans to tattoo the circumferential scar after it heals so it will be less noticeable.

ACCEPTED RISKS AND COMPLICATIONS:

Although all routine cosmetic surgical procedures have low complication rates, it is always important that you understand the standard potential risks and complications so you can make an informed decision as to whether or not to proceed with surgery. I joke with my patients and tell them that I have to scare them before I operate on them. The reality is, however, that even if the risk is one in a 100,000, if it happens to you it is 100 percent for you. Below is a list of the commonly accepted risks and known complications of Liposuction, Abdominoplasties and Body Lifts. Although this is a long list and may make you pause, it is by no means complete because some reported complications are exceedingly rare and the list would be pages and pages if all of them were included. The following are the accepted risks and complications that Plastic Surgeons expect may occur after Body Contouring surgery.

ACCEPTED RISKS AND COMPLICATIONS OF BODY CONTOURING SURGERY

Bleeding: It is possible, though unusual, to have a severe bleeding episode during or after any surgery. Should post-operative bleeding occur, it may require emergency treatment to drain accumulated blood or require a blood transfusion. Do not take any aspirin or anti-inflammatory medications for 14 days before surgery, as this may increase the risk of bleeding

Infection: An infection is quite unusual after this type of surgery. Should an infection occur, treatment including antibiotics, hospitalization and additional surgery may be necessary.

General Wound Healing and Scarring: Every effort will be made to minimize any scars that are a result of surgery. Although good wound healing after a surgical procedure is expected, abnormal healing and scars may occur within the skin and deeper tissues. Additional treatments including surgery may be needed to treat abnormal healing and scarring.

Specific Wound Healing Complications:

There are many factors that are crucial to normal post-operative wound healing. These include but are not limited to nutrition, hygiene, age, medical diseases, tobacco use and the unique genetic make up of each person. Some of these factors we can control and others we cannot. Our responsibility (the patient's and the doctor's) is to be committed to optimizing these factors as much as possible before surgery so as to minimize the chances of post-operative metabolic and wound complications. If these negative factors are too great, Dr. Hause will probably determine that you are a poor surgical risk and not a candidate for surgery. Although it may be stating the obvious, wound healing is a very complex and miraculous process that depends on the normal functioning of many steps. When these mechanisms are not normal, it can result in delayed healing, wound breakdown with tissue necrosis (tissue death and very prolonged healing), localized or invasive infection, severe scarring and deformity, prolonged hospitalization and rarely permanent disability or death. Dr. Hause's task is to reasonably identify and gauge each of these factors and make a medical determination of the relative risks to you as a patient. As the patient, your responsibility is to be as honest as possible when reporting medical conditions, use of medications, drugs and tobacco, and habits of nutrition and hygiene. Failure to adhere to reasonable standards can put patients at much greater risk of wound and metabolic complications. However, even healthy patients whose controllable factors are optimal can suffer wound and healing complications.

Nutrition: Good nutrition is a prerequisite to good health and especially to healing. Extremes of poor nutrition, whether a person is too thin or obese can have a major impact on healing. Patients who have lost a large amount of weight or those who are on an aggressive weight loss diet are particularly prone to malnutrition and resultant poor healing. Obese patients are also a risk for wound complications due to the decreased relative blood supply in fatty areas. Obese patients also are at higher risk for Respiratory, Cardiac, bleeding, blood clotting and anesthesia complications.

Hygiene: Although it may be stating the obvious, the cleaner you are, the faster and better you heal. Poor hygiene results in more inflammation, possible infection and delayed healing.

Age: The older a patient is, the less robust is the response to surgery and healing. Interestingly, this same decrease in healing may result in less conspicuous scars.

Medical Diseases: (steroids) and Diabetes: Any chronic medical disease may adversely impact wound healing. Diabetes is well known to prolong the healing process and have higher risks of wound healing and infection. Those diabetics who are not in tight control with relatively abnormal blood glucose level are at markedly increased risks and will usually not be candidates for elective cosmetic surgery. Patients with lupus or other illnesses that require steroids for treatment may be at greatly increased risks for surgery and healing.

Tobacco Use: A recent study reported that the three most important controllable factors that can increase a person's lifespan is to exercise 30 minutes a day, wear their seat belt in a car, and not smoke. By far the most important of those is not smoking. Besides the known chronic health risks of smoking, tobacco smoke does several things that specifically impair healing. First, nicotine causes blood vessels to constrict which results in less blood going to healing tissues. Second, cigarette smoke has high concentrations of Carbon Monoxide, a serious blood poison. Carbon Monoxide binds to the hemoglobin in red blood cells and prevents it from carrying oxygen. So in essence, smoking causes less blood to be delivered to the very metabolically demanding healing tissue and once that smaller amount of blood arrives, it has greatly decreased oxygen to power the healing process. Some patients ask me if decreasing the number of cigarettes makes a big difference. Since the effect of one cigarette lasts over 6 hours, the obvious answer is no. Patients must stop all smoking for at least 3 days prior to surgery and for at least 3 weeks afterwards. Smokers are still at risk for the chronic effects of smoking, but actively smoking immediately before and after surgery is doubly bad.

Genetics: Much of the healing potential for a specific patient is genetically determined. Genetic predisposition controls whether or not a person develops keloid or hypertrophic scars, may have prolonged bruising or other healing abnormalities. There are some rare genetic diseases such as Ehlers- Danlos syndrome, Marfan's syndrome and others that may impair post-operative healing. If you are known to have any genetic illnesses, it is critical that you inform Dr. Hause during your consultation.

Change in Skin Sensation: A temporary decrease in skin sensation and numbness after body contouring is expected. This usually resolves over period of time (3 to 6 months) but may be permanent.

Skin Discoloration/ Swelling: Skin discoloration and swelling normally occurs following body contouring. In rare situations, swelling and skin discoloration may persist for long periods of time. Permanent skin discoloration is rare.

Skin Contour Irregularities: Contour irregularities and depressions in the skin may occur after body contouring. Visible and palpable wrinkling of skin can occur as well. Additional treatments including surgery may be necessary to improve skin contour irregularities. Occasionally they may be the result of the healing potential of the tissue and unavoidable.

Asymmetry: It is nearly impossible to achieve perfect symmetry in body appearance with body contouring surgery. This is because almost nobody is symmetrical to start. Factors such as skin tone, bony and growth differences, muscle tone and different amounts of soft tissue mass may contribute to normal asymmetry in body features. Every effort will be made to optimize proportions but perfect symmetry is rarely obtainable.

Seroma: Fluid accumulations infrequently occur under the skin in areas where of body contouring despite the use of drains and sometimes occur after they are removed. Additional treatments or surgery to drain accumulations of fluid may be necessary.

Long Term Effects: Subsequent abnormalities in body contour may occur as the result of aging, weight loss or gain, pregnancy or other circumstances not related to the surgery. Body contouring procedures are not a substitute for good nutrition and exercise. If you over eat, you will gain weight and fat.

Tumescent Anesthesia: It is rare but possible that the volumes of tumescent anesthesia (dilute local anesthetic and epinephrine) injected into fatty deposits during surgery may contribute to fluid and electrolyte imbalances or cause systemic reactions. Additional treatment including hospitalization may rarely be necessary.

Other: There may be areas that you are not completely satisfied with after body contouring surgery. In 10 to 15 percent of patients, revisional surgery may be an option to improve your results.

Surgical Anesthesia: Both local and general anesthesia involves a small amount of risk. There is the possibility of complications, injury and even death (approximately 1:200,000) from all forms of surgical anesthesia or sedation.

Allergic Reactions: In rare cases, local allergies to tape, suture material, or topical preparations have been reported. Systemic reactions, which are more serious, may occur to drugs used during surgery and prescription medications. Allergic reactions may require additional treatment.

Surgical Shock: In very rare circumstances, complications of body contouring can cause surgical shock. Although serious complications are infrequent, infections or excessive fluid loss can lead to severe illness and even death. Should surgical shock occur after surgery, hospitalization and additional treatment would be necessary.

Pulmonary Complications: Fat embolism syndrome occurs when fat droplets are trapped in the lungs. Pulmonary embolism is the condition when a blood clot goes to the lungs and causes severe injury. These are extremely rare but potentially fatal complications of body contouring. Should fat embolism or other pulmonary complications occur, additional treatment including hospitalization may be necessary.

Life-threatening and fatal complications: With any operation or anesthetic there rarely can be severe complications such as collapsed lungs, heart attacks, blood clots with pulmonary embolism, shock and even death. These complications are exceptionally rare. “Knock on Wood”, none of my patients have ever required hospitalization or died from any of these types of catastrophic complications.

Skin Loss: Skin loss is very rare after body contouring. Additional treatments including surgery may be necessary if this occurs.

Chronic Pain/ sensation changes: Chronic pain, discomfort or changes in sensation following surgery is very rare.

Limitation of Breast Reconstruction: It is an unfortunate fact that one in seven women in this country may suffer Breast Cancer during their life. One common method of breast reconstruction uses the body’s own abdominal tissue to rebuild the breasts. After liposuction, but especially abdominoplasty, this breast reconstruction option may not be possible and other techniques may be necessary.

Ultrasound-Assisted Lipectomy: Risks associated with the use of this technique include the above mentioned risks and the following specific risks:

Burns: Ultrasonic energy may produce burns and tissue damage either at the location where the cannula is inserted into the skin or in other areas if the cannula touches the undersurface of the skin for a prolonged period of time. If a burn occurs, additional treatment and surgery may be necessary.

Cannula Fragmentation: Ultrasonic energy produced within the cannula may cause disintegration (fragmentation) of the surgical instrument. The occurrence and effect of this is unpredictable but very rare. Should this occur, additional treatment including surgery may be necessary.

Unknown Risks: The long-term effect on tissue and organs to exposure to short-duration, high intensity ultrasonic energy is unknown. There is the possibility that additional risk factors may be discovered.

ALTERNATIVES TO BODY CONTURING PROCEDURES

One alternative to any elective cosmetic surgery is to choose to not do it. Body contouring procedures are not a substitute for appropriate nutrition and exercise. Some deformities may respond to aggressive exercise and nutritional intervention. To date, no “magic” nutritional or herbal pill or topical cream is available to achieve substantial improvements in body contour problems. I would strongly recommend to anyone planning to use any herbal or nutraceutical product to carefully scrutinize its use. I strongly recommend that any of these products be stopped for at least 2 weeks prior to surgery because of unknown and possibly dangerous side effects.

I certify that I have read and that I understand all 5 pages of this consultation letter. I agree to discuss any of my questions regarding Body Contouring with Dr. Hause during my consultation.

Patient Name

Patient Signature

Witness Signature

Date

Date