Abdominoplasty, Suction Lipectomy, and Ventral Hernia Repair

Number: 0211

POLICY

*Please see amendment for Pennsylvania Medicaid at the end of this CPB.

I. Aetna considers panniculectomy/apronectomy medically necessary according to the following criteria:

   A. Panniculus hangs below level of pubis, documented by photographs; and

   B. The medical records document that the panniculus causes chronic intertrigo (dermatitis occurring on opposed surfaces of the skin, skin irritation, infection or chafing) that consistently recurs over 3 months while receiving appropriate medical therapy (e.g., oral or topical prescription medication), or remains refractory to appropriate medical therapy over a period of 3 months; and

   C. Photographs with pannus lifted to document presence of intertrigo.

Aetna considers panniculectomy/apronectomy cosmetic when these criteria are not met.

POLICY HISTORY

Last Review: 10/22/2021
Effective: 03/16/1998
Next Review: 02/10/2022

Review History

Definitions

Additional Information

Clinical Policy Bulletin
Notes
Aetna considers panniculectomy/apronectomy experimental and investigational for minimizing the risk of hernia formation or recurrence. There is inadequate evidence that pannus contributes to hernia formation. The primary cause of hernia formation is an abdominal wall defect or weakness, not a pulling effect from a large or redundant pannus. Aetna considers panniculectomy for the treatment of back pain experimental and investigational because of insufficient evidence of its effectiveness.

II. Aetna considers repair of a true incisional or ventral hernia medically necessary.

III. Aetna considers repair of a diastasis recti, defined as a thinning out of the anterior abdominal wall fascia, not medically necessary because, according to the clinical literature, it does not represent a "true" hernia and is of no clinical significance.

IV. Aetna considers liposuction medically necessary in persons with pain and disability from lipedema who have failed to respond to three or more months of conservative management (compression or manual therapy) and who meet the following diagnostic criteria for lipedema:

A. Medical History

1. Pain and hypersensitivity to touch in lipedema affected areas
2. History of easy bruising or bruising without apparent cause in lipedema affected areas
3. Relative lack of effect of weight loss on lipedema affected areas
4. Lack of effect of limb elevation on reducing swelling

B. Physical examination findings (photographs should accompany requests):

1. Disproportional fat distribution (e.g., lower body disproportionately large compared to upper body). **Note:** As a significant proportion of persons with lipedema will not
have disproportional fat distribution, especially earlier on in
disease progression, the requirement for disproportionate
fat distribution can be waived for persons who meet the
other listed diagnostic criteria.
2. Thickened subcutaneous fat in the affected extremities
bilaterally and symmetrically (legs, thighs, hips or buttocks,
or occasionally arms are affected)
3. Tenderness and nodularity of fat deposits in lipedema
affected areas (dimpled or orange peel texture)
4. Stemmer sign negative (Stemmer's sign is negative when a
fold of skin can be pinched and lifted up at the base of the
second toe or at the base of the middle finger) (unless the
member has comorbid lymphedema)
5. Absence of pitting edema (no “pitting” when finger or thumb
pressure is applied to the area of fat) (unless the member
has comorbid lymphedema)
6. Evidence of “cuffing” (tissue enlargement ends abruptly at
ankles or wrists, with sparing of hands and feet) (also called
"braceleting" or "inverse shouldering"). Note: A minority of
persons with lipedema may not exhibit cuffing or
shouldering. This criterion may be waived for persons who
meet the other listed diagnostic criteria.

V. Aetna considers suction lipectomy of the trunk not medically
necessary for lipedema unless there is specific documentation
of pain and tenderness in the trunk that has been refractory to
conservative treatment. Aetna considers suction lipectomy
cosmetic for indications other than lipedema and lymphedema.
For liposuction for lymphedema, see
CPB 0069 - Lymphedema (../1_99/0069.html).

VI. Aetna considers abdominoplasty or lipoabdominoplasty cosmetic.

VII. Aetna considers abdominal lipectomy for the treatment of
metabolic syndrome, or as an adjunctive procedure to assist with
long-term weight loss following bariatric surgery, experimental
and investigational because of insufficient evidence of its
effectiveness.
VIII. Aetna considers adipose derived stem cell-assisted lipotransfer experimental and investigational because of insufficient evidence of its effectiveness.

BACKGROUND

In order to distinguish a ventral hernia repair from a purely cosmetic abdominoplasty, Aetna requires documentation of the size of the hernia, whether the ventral hernia is reducible, whether the hernia is accompanied by pain or other symptoms, the extent of diastasis (separation) of rectus abdominus muscles, whether there is a defect (as opposed to mere thinning) of the abdominal fascia, and office notes indicating the presence and size of the fascial defect.

Abdominoplasty, known more commonly as a "tummy tuck," is a surgical procedure to remove excess skin and fat from the middle and lower abdomen and to tighten the muscles of the abdominal wall. The procedure can improve cosmesis by reducing the protrusion of the abdomen. However, abdominoplasty is considered by Aetna to be cosmetic because it is not associated with functional improvements.

Danilla et al (2013) examined if suction-assisted lipectomy (SAL) decreases the incidence of early cardiovascular disease risk factors or its biochemical and clinical risk indicators. A systematic review of the literature was performed by conducting a pre-defined, sensitive search in MEDLINE without limiting the year of publication or language. The extracted data included the basal characteristics of the patients, the surgical technique, the amount of fat extracted, the cardiovascular risk factors and the biochemical and clinical markers monitored over time. The data were analyzed using pooled curves, risk ratios and standardized means with meta-analytical techniques. A total of 15 studies were identified involving 357 patients. In all of the studies, measurements of pre-defined variables were recorded before and after the SAL procedure. The median follow-up was 3 months (interquartile range (IQR) 1 to 6, range of 0.5 to 10.5). The mean amount of extracted fat ranged from 2,063 to 16,300 ml, with a mean ± standard deviation (SD) of 6,138 ± 4,735 ml. After adjusting for time and body mass index (BMI), leptin and fasting insulin were the only markers that were significantly associated with the amount of aspirated fat. No associations were observed for high sensitive C-reactive protein (hCRP), interleukin-6 (IL-6), adiponectin, resistin, tumor necrosis.
factor-alpha (TNF-α), Homeostasis Model of Assessment (HOMA),
total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), triglycerides, free fatty acids or systolic blood pressure. The authors concluded that based on the results of this analysis, the authors concluded that there is no evidence to support the hypothesis that subcutaneous fat removal reduces early cardiovascular or metabolic disease, its markers or its risk factors.

Aboelatta and colleagues (2014) stated that lipoabdominoplasty is nearly a daily aesthetic procedure. Despite the emergence of laser-assisted liposuction, to-date, it has not been clearly evaluated combined with abdominoplasty. This prospective study aimed to evaluate the safety and effectiveness of laser-assisted liposuction relative to traditional liposuction combined with high-lateral-tension abdominoplasty. This study investigated 36 consecutive female patients who underwent high-lateral-tension abdominoplasty combined with liposuction of the upper central abdomen and both flanks. The patients were divided into 3 equal groups based on the technique used for liposuction: (i) Group 1 underwent conventional liposuction with abdominoplasty, (ii) Group 2 underwent a mixture of conventional and laser-assisted liposuction with abdominoplasty, and (iii) Group 3 underwent laser-assisted liposuction with abdominoplasty. Patients in groups 2 and 3 had a better aesthetic outcome than those in group 1 with regard to abdominal contour and skin tightness. No major complications were observed in groups 1 and 2. The patients in group 3 had a higher incidence of complications (3 seromas, 3 central necroses and dehiscence), and 1 patient underwent secondary sutures. The authors concluded that laser-assisted liposuction combined with abdominoplasty in the lateral abdomen seems to be a safe technique with good aesthetic outcomes. Although the combined use of laser-assisted liposuction in the lateral and central abdomen can achieve relatively better aesthetic results, it is associated with significant complications, and its use cannot be supported. Moreover, they stated that proper laser parameters in the central abdominal area still need further study.

van Schalkwyk and associates (2018) noted that umbilical hernia is a common finding in patients undergoing abdominoplasty, especially those who are post-partum with rectus divarication. Concurrent surgical treatment of the umbilical hernia at abdominoplasty presents a "vascular challenge" due to the disruption of dermal blood supply to the umbilicus, leaving the stalk as the sole axis of perfusion. To-date, there have been
no surgical techniques described to adequately address large umbilical herniae during abdominoplasty. These investigators presented a safe and effective technique that can address large umbilical herniae during abdominoplasty. A prospective series of 10 consecutive patients, undergoing concurrent abdominoplasty and laparoscopic umbilical hernia repair between 2014 and 2017 were included in the study. All procedures were performed by the same general surgeon and plastic surgeon at the Macquarie University Hospital in North Ryde, NSW, Australia. At 12-month follow-up, there were no instances of umbilical necrosis, wound complications, seroma, or recurrent hernia. The mean BMI was 23.8 kg/m² (range of 16.1 to 30.1 kg/m²). Rectus divarication ranged from 35 to 80 mm (mean of 53.5 mm). Umbilical hernia repair took a mean of 25.9 mins to complete (range of 18 to 35 mins). The authors presented a technique that avoids incision of the rectus fascia, minimizes dissection of the umbilical stalk and is able to provide a gold standard hernia repair with mesh. This procedure is particularly suited to post-partum patients with large herniae (greater than 3 to 4 cm diameter) and wide rectus divarication, where mesh repair with adequate overlap is the recommended treatment. Level of evidence = 4.

Lari and colleagues (2019) performed a retrospective evaluation of patients who underwent concomitant abdominoplasty with laparoscopic umbilical hernia repair from 2007 to 2017. All patients were followed-up and evaluated for complications, including the incidence of umbilical skin necrosis. A total of 47 patients were included in this study. The average operative duration was 3.3 hours with an average hospital stay of 2.5 days. No cases of post-operative umbilical necrosis were encountered. A mean follow-up period of 2.4 years showed no cases of hernia or rectus abdominis diastasis recurrence. Minor complications included 4 cases of dehiscence, 1 hematoma; there was no major complications. The authors concluded that the combined use of laparoscopic umbilical hernia repair and abdominoplasty is a feasible approach to reduce the risks of umbilical de-vascularization, especially in larger hernias and in patients with higher risk of recurrence.

Abdominal Lipoectomy for the Treatment of Metabolic Syndrome

In a systematic and meta-analysis, Seretis et al (2015) examined the effect of abdominal lipectomy on metabolic syndrome components and insulin sensitivity in women. A pre-determined protocol, established according to the Cochrane Handbook’s recommendations, was used. An
electronic search in MEDLINE, Scopus, the Cochrane Library and CENTRAL electronic databases was conducted from inception to May 14, 2015. This search was supplemented by a review of reference lists of potentially eligible studies and a manual search of key journals in the field of plastic surgery. Eligible studies were prospective studies with greater than or equal to 1 month of follow-up that included females only who underwent abdominal lipectomy and reported on parameters of metabolic syndrome and insulin sensitivity. The systematic review included 11 studies with a total of 271 individuals. Conflicting results were revealed, though most studies showed no significant metabolic effects after lipectomy. The meta-analysis included 4 studies with 140 subjects. No significant changes were revealed between lipectomy and control groups. The authors concluded that this meta-analysis provided evidence that abdominal lipectomy in females did not affect significantly the components of metabolic syndrome and insulin sensitivity. They stated that further high quality studies are needed to elucidate the potential metabolic effects of abdominal lipectomy.

Panniculectomy for the Treatment of Back Pain

An UpToDate review on “Subacute and chronic low back pain: Surgical treatment” (Chou, 2016) does not mention panniculectomy as a therapeutic option.

Adipose Derived Stem Cell-Assisted Lipotransfer

Grabin and colleagues (2015) stated that because of their easy accessibility and versatile biological properties, mesenchymal stem cells taken from fatty tissue (adipose-derived stem cells, ADSC) are attractive for various potential clinical uses. For example, ADSC can be added to fatty tissue before transplantation in the hope of improving the outcome of autologous lipotransfer: The modified procedure is called cell-assisted lipotransfer (CAL). The clinical use and commercial promotion of this novel stem-cell treatment (and others) are spreading rapidly, even though there is not yet any clear clinical evidence for its safety and effectiveness. In cooperation with the German Cochrane Center, these researchers systematically searched the literature according to the PRISMA criteria; 8 major medical databases were searched. The retrieved publications were examined by 2 independent reviewers and assessed using objective criteria. After screening of the 3,161 retrieved publications by title, abstract, and (where appropriate) full
text, 78 were still considered relevant; 13 of these were reports of clinical studies; only 3 of the 13 met criteria for grade II or III evidence. The studies that were analyzed involved a total of 286 CAL procedures with the longest follow-up time of 42 months. Oncological safety was not demonstrated. The authors concluded that the studies published to-date have not shown that CAL is generally superior to conventional autologous lipotransfer. They dealt with safety aspects inappropriately or not at all. These investigators stated that the case of CAL illustrated the indispensability of high-quality clinical evidence before the introduction of novel stem-cell-based treatments.

Huang and associates (2016) stated that CAL has been widely used in various clinical applications, including breast augmentation following mammectomy, soft-tissue reconstruction and wound healing. However, the clinical application of CAL has been restricted due to the transplanted fat tissues being readily liquefied and absorbed. These investigators examined 57 previously published studies involving CAL, including fat grafting or fat transfer with human adipose-stem cells in all known databases. Of these 57 articles, 7 reported the clinical application of CAL. In the 57 studies, the majority of the fat tissues were obtained from the abdomen via liposuction of the 7 clinical studies, 4 were performed in patients requiring breast augmentation, 1 in a patient requiring facial augmentation, 1 in a patient requiring soft tissue augmentation/reconstruction and 1 in a patient requiring fat in their upper arms. The authors stated that the therapeutic effect of CAL in cosmetics and aesthetics remains controversial, most likely because of the lack of a standard method for isolating pure ADSCs. Currently, the explanation for why adding ADSC to adipose tissues for transplantation allows improved grafting, compared with using adipose tissue only, remains to be elucidated. Quantitative and qualitative investigations, comparing the therapeutic effects of using pure ADSC and a mixture of ADSC with certain types of fat components or other components are needed to confirm the previous conclusion. Certain studies have hypothesized that the robust ectopic adipogenesis of ADSC in-vivo relies on their pre-differentiation induced in-vitro prior to their transplantation. The induced differentiation of ADSC in-vitro may be replaced by supplying adipogenic stimuli to transplanted ADSC, in a process referred to as in-situ adipogenesis. These investigators also noted that the limited proliferation capacity of ADSC also prevented their widespread clinical use; ADSC lack telomerase and their telomeres are short; thus they can only proliferate in-vitro for a limited period of time. Studies have
shown that the ADSC isolated from aged patients have reduced proliferation capacity and stability. Therefore, it is reasonable to perform allografts using the ADSC from younger individuals. The authors concluded that other questions require addressing before CAL being used widely in clinical settings include: (i) how the proliferation and differentiation process of ADSC can be regulated in-vitro and in-vivo; (ii) which factors control the proliferation and differentiation of ADSC; (iii) the predominant factors controlling the proliferation and differentiation process of ADSC; (iv) which factors stimulate ADSC to secrete paracrine factors; (v) whether transplanted ADSC are tumorigenic; and (vi) what causes ADSC to become liquefied in-vivo. Furthermore, the authors stated that criteria and guidelines are needed for the clinical application of CAL technology.

Toyserkani and colleagues (2016) noted that autologous lipotransfer is seen as an ideal filler for soft tissue reconstruction. The main limitation of this procedure is the unpredictable resorption and volume loss of the fat graft. In the recent decade, an increasing amount of research has focused on the use of ADSC to enrich the fat graft, a procedure known as CAL. These investigators reviewed the current pre-clinical and clinical evidence for the effectiveness of CAL compared with conventional lipotransfer. They performed a systematic search on PubMed and other databases to identify all pre-clinical and clinical studies where CAL with ADSC was compared with conventional lipotransfer. A total of 20 pre-clinical studies and 7 clinical studies were included in the review. The pre-clinical studies consisted of 15 studies using immuno-deficient animal models and 5 studies using immuno-competent studies; 17 studies examined weight/volume retention of which 15 studies favored CAL over conventional lipotransfer; 1 clinical study did not find any effectiveness of CAL and the remaining 6 studies favored CAL. The authors concluded that the present evidence suggested that there is a big potential for CAL in reconstructive surgery; however, the present studies are so far still of low quality with inherent weaknesses. Several aspects regarding CAL still remain unknown such as the optimal degree of cell enrichment and also its safety. They stated that further high-quality studies are needed to establish if CAL can live up to its potential. (Level of Evidence = 5).

Moreover, the authors stated that “More studies are needed to examine if CAL and lipotransfer are correlated with increased cancer recurrence risk in relevant patient populations … The published human studies so far show promising results, and further properly designed clinical trials are
needed in relevant patient groups to establish in which cases this technique could be relevant and superior to two separate regular lipotransfers”.

Moustaki and associates (2017) stated that autologous fat is considered the ideal material for soft-tissue augmentation in plastic and reconstructive surgery. The primary drawback of autologous fat grafting is the high resorption rate. The isolation of mesenchymal stem cells from adipose tissue inevitably led to research focusing on the study of combined transplantation of autologous fat and ADSCs and introduced the theory of “cell-assisted lipotransfer”. Transplantation of ADSCs is a promising strategy, due to the high proliferative capacity of stem cells, their potential to induce paracrine signaling and ability to differentiate into adipocytes and vascular cells. The current study examined the literature for clinical and experimental studies on CAL to assess the efficacy of this novel technique when compared with traditional fat grafting. A total of 30 studies were included in the present review. The authors concluded that the current study demonstrated that CAL has improved efficacy compared with conventional fat grafting. Moreover, they stated that a number of questions, including the long-term safety of CAL regarding previous cancer diagnosis and treatment, remain unanswered; and long-term and larger studies are needed to confirm previously documented favorable results in CAL.

Laloze and co-workers (2018) performed a meta-analysis of the efficacy of CAL with data analysis concerning fat survival rate. The incidence of complications and the need for multiple procedures were evaluated to determine the safety of CAL. These investigators identified 25 studies (a total of 696 patients) that were included in the systematic review; 16 studies were included in the meta-analysis to evaluate the efficacy of CAL. The fat survival rate was significantly higher with CAL than non-CAL (64 % versus 44 %, p < 0.0001) independent of injection site (breast and face). This benefit of CAL was significant for only injection volumes of less than 100 ml (p = 0.03). The 2 groups did not differ in frequency of multiple procedures after fat grafting, but the incidence of complications was greater with CAL than non-CAL (8.4 % versus 1.5 %, p = 0.0019). The CAL method is associated with better fat survival rate than with conventional fat grafting but only for small volumes of fat grafting (less than 100 ml). Nonetheless, the new technique is associated with more complications and did not reduce the number of surgical procedures needed after the first fat grafting. The authors concluded that more
prospective studies are needed to draw clinical conclusions and to
demonstrate the real benefit of CAL as compared with common
autologous fat grafting.

Chen and colleagues (2018) analyzed factors related to lipotransfer for
localized scleroderma, and examined the feasibility of CAL for localized
scleroderma treatment. Abdominal fat samples were taken from 6
scleroderma patients without corticosteroid therapy, 5 scleroderma
patients with corticosteroid therapy, and 10 normal liposuction patients.
Their quantity, morphology, and proliferation ability were measured.
Blood flow was measured by laser speckle contrast imaging in localized
scleroderma lesions and normal contralateral regions for 8 localized
scleroderma patients. Bleomycin-induced skin fibrosis nude mice were
also used to examine differences between lipotransfer and CAL. Fat
weight was measured, and expression of transforming growth factor
(TGF)-β1 and type III collagen in the injected skin was determined by
immunohistochemistry. The number of stem cells from scleroderma
patients with corticosteroid treatment was significantly reduced. Mean
blood perfusion in localized scleroderma lesions was not significantly
different than in the contralateral normal regions. In normal nude mice,
there were no significant changes in TGF-β1 and type III collagen
between the control, lipotransfer, and CAL groups, whereas in bleomycin-
induced skin fibrosis nude mice, lipotransfer and CAL reduced TGF-β1
and type III collagen expression. The authors concluded that for
scleroderma patients, fewer adipose-derived stem cells, because of a
history of corticosteroid therapy and a local inflammatory
microenvironment, were more important factors, whereas blood supply
showed no significant change. Thus, CAL not only improved the survival
rate of transplanted fat, but also improved skin texture in bleomycin-
induced skin fibrosis nude mice. These preliminary findings need to be
validated by well-designed studies.

Abdominal Lipectomy as an Adjunctive Procedure to Assist with
Long-Term Weight Loss Following Bariatric Surgery

Abbed and colleagues (2017) stated that abdominal lipectomy after
bariatric surgery is recommended because of residual excess skin
resulting in difficulty with maintaining hygiene, recurrent infections, and
functional impairment, interfering with daily activities. There is a dearth of
literature examining weight loss outcomes in patients undergoing
abdominal lipectomy post-sleeve gastrectomy (SG). In a retrospective
study, these researchers examined whether post-SG patients who received abdominal lipectomy achieved greater percent excess weight loss (% EWL) than post-SG patients who did not receive abdominal lipectomy. Patients who underwent minimally invasive SG at the University of Illinois Hospital and Health Sciences System from March 2008 to June 2015 were included in this study. The cohort was divided into 2 groups: (i) patients who underwent abdominal lipectomy after SG (PS-SG), and (ii) patients who underwent SG alone (SG); demographics, co-morbidities, and % EWL were examined. A total of 29 patients were included in the PS-SG group versus 287 patients in the SG group. Significant differences were found in % EWL at 24 (p < 0.0001), 36 (p < 0.005), and more than 36 months (p < 0.005) follow-up between groups, with a greater % EWL in patients in the PS-SG group versus the SG group. The authors concluded that the findings of this preliminary study showed that patients in the PS-SG group achieved greater % EWL than patients with SG alone. Moreover, they stated that although larger studies are needed, this study supports using abdominal lipectomy as an adjunctive procedure to assist with long-term weight loss as part of the overall treatment of bariatric surgery patients.

Liposuction for the Treatment of Lipedema

Lipedema is a painful disorder in women characterized by abnormal deposition of adipose tissue in the lower extremities leading to circumferential bilateral lower extremity enlargement typically seen extending from the hips to the ankles resulting in edema, pain and bruising; with secondary lymphedema and fibrosis during later stages. The pathogenesis is unknown and no curative treatment is available. Conservative therapy consisting of lymphatic drainage and compression stockings is often recommended, which is effective against the edema. Some patients showed a short-term improvement when treated in this way. Combined decongestive therapy (CDT, namely manual lymphatic drainage, compression garments) is the standard of care in most countries. Since the introduction of tumescent technique, liposuction has been used as a surgical therapeutic option.

Rey and colleagues (2018) stated that lipedema is a progressive disease; the signs are limited to the lower limbs. Early signs are non-specific. Later, pain and heaviness of lower limbs become predominant. Finally, at an advanced stage, tissue fibrosis is associated with significant edema. At the early stage, the treatment is conservative. The authors state that
liposuction is indicated at the onset of pain. The authors stated that late stages require surgeries combining dermo-lpectomy as well as liposuction.

In a review of lipedema, Buck and Herbst (2016) noted that "From a surgical perspective, the least invasive means of removing the painful fat of lipedema is through the use of suction lipectomy. It is important to note, however, that the techniques employed for lipectomy of lipedema fat are different from the techniques used for cosmetic liposuction. Specifically, the techniques employed for lipedema liposuction utilize devices that remove fat in a gentler manner, such as the vibrating cannula associated with power-assisted liposuction or water-assisted liposuction."

Rapprich and colleagues (2011) stated that the removal of the increased fat tissue of lipedema has become possible by employing advanced liposuction techniques, which utilize vibrating micro-cannulas under tumescent local anesthesia. These investigators examined the effectiveness of this approach to lipedema. A total of 25 patients were examined before liposuction and 6 months thereafter. The survey included the measurement of the volume of the legs and several parameters of typical pain and discomfort. The parameters were measured using visual analogue scales (VAS, scale 0 to 10). The volume of the leg was reduced by 6.99%. Pain, as the predominant symptom in lipedema, was significantly reduced from 7.2 ± 2.2 to 2.1 ± 2.1 (p < 0.001). Quality of life (QOL) as a measure of the psychological strain caused by lipedema improved from 8.7 ± 1.7 to 3.6 ± 2.5 (p < 0.001). Other parameters also showed a significant improvement and the over-all severity score improved in all patients. The authors concluded that liposuction reduced the symptoms of lipedema significantly.

Schmeller and associates (2012) examined the efficacy of liposuction concerning appearance and associated complaints after a long-term period. A total of 164 patients who had undergone conservative therapy over a period of years, were treated by liposuction under tumescent local anesthesia with vibrating micro-cannulas. In a monocentric study, 112 could be re-evaluated with a standardized questionnaire after a mean of 3 years and 8 months (range of 1 year and 1 month to 7 years and 4 months) following the initial surgery and a mean of 2 years and 11 months (8 months to 6 years and 10 months) following the last surgery. All patients showed a distinct reduction of subcutaneous fatty tissue.
(average of 9,846 ml per person) with improvement of shape and normalization of body proportions. Additionally, they reported either a marked improvement or a complete disappearance of spontaneous pain, sensitivity to pressure, edema, bruising, restriction of movement and cosmetic impairment, resulting in a tremendous increase in QOL; all these complaints were reduced significantly ($p < 0.001$). Patients with lipedema stage II and III showed better improvement compared with patients with stage I. Physical decongestive therapy could be either omitted (22.4% of cases) or continued to a much lower degree. No serious complications (wound infection rate 1.4%, bleeding rate 0.3%) were observed following surgery. The authors concluded that tumescent liposuction was a highly effective treatment for lipedema with good morphological and functional long-term results.

Peled and co-workers (2012) stated that diagnosis of lipedema is often challenging, and patients frequently undergo a variety of unsuccessful therapies before receiving the proper diagnosis and appropriate management. Patients may experience pain and aching in the lower extremity in addition to distress from the cosmetic appearance of their legs and the resistance of the fatty changes to diet and exercise. These researchers reported a case of a patient with lipedema who was treated with suction-assisted lipectomy and use of compression garments, with successful treatment of the lipodystrophy and maintenance of improved aesthetic results at 4-year post-operative follow-up.

Wollina and associates (2014) noted that in advanced stages of lipedema, reduction of adipose tissue is the only available effective treatment. In elderly patients with advanced lipedema, correction of increased skin laxity has to be considered for an optimal outcome. These investigators reported on a tailored combined approach to improve advanced lipedema in elderly women with multiple co-morbidities. Microcannular laser-assisted liposuction of the upper legs and knees was performed under tumescent anesthesia. Medial thigh lift and partial lower abdominoplasty with minimal undermining were used to correct skin laxity and prevent intertrigo (intertriginous dermatitis). Post-surgical care with non-elastic flat knitted compression garments and manual lymph drainage were used. These researchers reported on 3 women aged 55 to 77 years with advanced lipedema of the legs and multiple co-morbidities. Using this step-by-step approach, a short operation time and early mobilization were possible. Minor adverse effects were temporary methemoglobinemia after tumescent anesthesia and post-surgical pain.
No severe adverse effects were observed; and patient satisfaction was high. The authors concluded that a tailored approach may be useful in advanced lipedema and was applicable even in elderly patients with multiple co-morbidities.

Atiyeh and colleagues (2015) stated that liposuction is the most common cosmetic surgical procedure worldwide. It has evolved from being designed primarily for body contouring to becoming essential adjunct to various other aesthetic procedures, greatly enhancing their outcome. Despite its hard clear differentiation between an aesthetic and therapeutic indication for some pathologic conditions, liposuction has been increasingly used in various disorders as a therapeutic tool or to improve function. In fact, liposuction has ceased to define a specific procedure and has become synonymous to a surgical technique or tool similar to the surgical knife, laser, electrocautery, suture material, or even wound-dressing products. At present, there appeared to be an enormous potential for the application of liposuction in ablative and reconstructive surgery outside the realm of purely aesthetic procedures. These investigators considered the various non-aesthetic applications of liposuction; implications of this new definition of liposuction should induce 3rd-party public payers and insurance carriers to reconsider their remuneration and reimbursement policies.

Dadras and associates (2017) examined the outcome of liposuction used as treatment for lipedema. A total of 25 patients who received 72 liposuction procedures for the treatment of lipedema completed a standardized questionnaire. Lipedema-associated complaints and the need for CDT were assessed for the pre-operative period and during 2 separate post-operative follow-ups using a VAS and a composite CDT score. The mean follow-up times for the 1st post-operative follow-up and the 2nd post-operative follow-up were 16 months and 37 months, respectively. Patients showed significant reductions in spontaneous pain, sensitivity to pressure, feeling of tension, bruising, cosmetic impairment, and general impairment to QOL from the pre-operative period to the 1st post-operative follow-up, and these results remained consistent until the 2nd postoperative follow-up. A comparison of the pre-operative period to the last post-operative follow-up, after 4 patients without full pre-operative CDT were excluded from the analysis, indicated that the need for CDT was reduced significantly. An analysis of the different stages of the disease also indicated that better and more sustainable results could be achieved if patients were treated in earlier stages. The authors concluded
that liposuction was effective in the treatment of lipedema and led to an improvement in QOL and a decrease in the need for conservative therapy.

Reich-Schupke and co-workers (2017) noted that the revised guidelines on lipedema were developed under the auspices of and funded by the German Society of Phlebology (DGP). The recommendations were based on a systematic literature search and the consensus of 8 medical societies and working groups. The guidelines contain recommendations with respect to diagnosis and management of lipedema. The diagnosis is established on the basis of medical history and clinical findings.

Characteristically, there is a localized, symmetrical increase in subcutaneous adipose tissue in arms and legs that is in marked disproportion to the trunk. Other findings include edema, easy bruising, and increased tenderness. Further diagnostic tests are usually reserved for special cases that require additional work-up. Lipedema is a chronic, progressive disorder marked by the individual variability and unpredictability of its clinical course. Treatment consists of 4 therapeutic mainstays that should be combined as necessary and address current clinical symptoms: complex physical therapy (manual lymphatic drainage, compression therapy, exercise therapy, and skin care), liposuction and plastic surgery, diet, and physical activity, as well as psychotherapy if necessary. Surgical procedures are indicated if, despite thorough conservative treatment, symptoms persist, or if there is progression of clinical findings and/or symptoms. If present, morbid obesity should be therapeutically addressed prior to liposuction.

Halk and Damstra (2017) noted that in 2011, the Dutch Society of Dermatology and Venereology organized a task force to create guidelines on lipedema, using the International Classification of Functioning, Disability and Health of the World Health Organization (WHO). Clinical questions on significant issues in lipedema care were proposed, involving: making the diagnosis of lipedema; clinimetric measurements for early detection and adequate follow-up; and treatment. A systematic review of literature published up to June 2013 was conducted. Based on available evidence and experience of the task force, answers were formed and recommendations were stated. The guidelines defined criteria to make a medical diagnosis of lipedema, a minimum data set of (repeated) clinical measurements that should be used to ensure early detection and an individually outlined follow-up plan, pillars on which conservative treatment should be based and recommendations on
surgical therapeutic options. The authors concluded that little consistent information concerning either diagnostics or therapy could be found in the literature. It is likely that lipedema is frequently mis-diagnosed or wrongly diagnosed as only an aesthetic problem and therefore under- or mis-treated. Treatment is divided into conservative and chirurgic treatment. The only available technique to correct the abnormal adipose tissue is surgery. To ensure early detection and an individually outlined follow-up, the committee advised the use of a minimum data set of (repeated) measurements of waist circumference, circumference of involved limbs, body mass index (BMI) and scoring of the level of daily practice and psychosocial distress. Promotion of a healthy lifestyle with individually adjusted weight control measures, graded activity training programs, edema reduction, and other supportive measures are pillars of conservative therapy. Tumescent liposuction is the treatment of choice for patients with a suitable health profile and/or inadequate response to conservative and supportive measures.

An assessment of surgery for lipedema by the Canadian Agency for Drugs and Technologies in Health (CADTH, 2019) (Peprah and MacDougall, 2019) reached the following conclusions: "Evidence of limited quality from five uncontrolled before-and-after studies suggests that liposuction may be effective in reducing the size of the extremities and complaints associated with lipedema such as spontaneous pain, easy bruising, sensitivity to pressure, impairment in quality of life, restrictions to mobility, edema, feeling of tension and general impairment. The findings have to be interpreted with caution, given that they are from single arm, non-randomized studies based on patients' self-assessment data collected using tools that have not been validated for the assessment lipedema-related complaints. One clinical practice guideline [citing Dutch guidelines described above] recommends tumescent liposuction, performed by a skilled healthcare professional at a specialized facility, as the treatment of choice for patients with a suitable health profile and/or inadequate response to conservative and supportive measures. The strength of the recommendations in the clinical guidelines and links to supporting evidence were not provided."

Lipoabdominoplasty (Liposuction-Assisted Abdominoplasty) with Rectus Plication for Donor-Site Closure in Abdominal-Based Free Flap Breast Reconstruction
Kotsougian-Fischer and colleagues (2021) noted that the aesthetic and functional outcomes of the donor site following abdominal-based free flap breast reconstruction have been suboptimal. These researchers examined a modified liposuction-assisted abdominoplasty (lipoabdominoplasty) technique combined with rectus plication (LPARSP) adopted from cosmetic abdominoplasty practice. All abdominal-based free flap breast reconstructions from January 2017 to March 2019 were reviewed. Patients with central fullness and sufficient tissue surplus on the abdomen, thighs and flanks who received LPARSP and rectus plication were identified (LPARSP group) and matched for age and BMI with patients who underwent conventional abdominoplasty (CA group). Abdominal skin sensation, objective functional and aesthetic measures of the abdomen, as well as patient-reported outcomes (Breast-Q), were analyzed. A total of 28 patients were included; groups were similar in demographics. The mean amount of lipoaspirate in the LPARSP group was $1,054 \pm 613.5$ ml. The post-operative course was similar in both groups. The LPARSP technique resulted in a lower positioned horizontal scar ($p = 0.03$). The aesthetic outcome was superior in the LPARSP group ($p < 0.0001$). Furthermore, the LPARSP group presented with a decreased bulging rate ($p = 0.05$), and secondary refinement procedures were less frequently demanded ($p = 0.02$). Furthermore, the abdominal wall sensation of the flanks was improved in the LPARSP group ($p = 0.05$), whereby patient-reported outcome measures did not differ between groups. The authors concluded that lipoabdominoplasty with rectus plication represented a safe approach for donor-site closure in selected patients undergoing abdominal-based free flap breast reconstruction. Superior functional and aesthetic results paired with improved abdominal wall sensation were achieved compared to CA. Level of Evidence = IV.

**APPENDIX**

**Diagnostic Criteria for Lipedema**

The diagnosis is established when the member has the following findings from history (I) and physical examination (II). In equivocal cases, the extra findings (III) can establish the diagnosis.

I. *Medical history* - all of the following (A, B, C, D and E):
A. Disproportionate fat distribution; and
B. Lack of influence of weight loss on disproportionate fat distribution; and
C. Sensitivity to pain and easy bruising in fat distribution; and
D. Sensitivity to touch and fatigue in extremities; and
E. No reduction of pain when raising extremities.

II. Physical examination - one or more of the following (A, B, C, or D):

A. Upper leg:
   1. Disproportionate fat distribution; and
   2. Circularly thickened subcutaneous fat layer

B. Lower leg:
   1. Proximal thickening of subcutaneous fat layer; and
   2. Distal thickened of subcutaneous fat, accompanied by slender instep (cuff-sign)

C. Upper arm:
   1. Significantly thickened subcutaneous fat layer in comparison with vicinity; and
   2. Sudden stop at elbow

D. Lower arm:
   1. Thickened subcutaneous fat; and
   2. Slender back of hand (cuff-sign).

III. Extra criteria - either of the following (A or B):

A. Pain when applying bi-manual palpation; or
B. Distal fat tissue tendrils of the knee (popliteus).

Source: Adapted from Halk & Demstra (2016).

**CPT Codes/ HCPCS Codes/ICD-10 Codes**
Information in the [brackets] below has been added for clarification purposes. Codes requiring a 7th character are represented by “+”
<table>
<thead>
<tr>
<th>Code</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0437T</td>
<td>Implantation of non-biologic or synthetic implant (e.g., polypropylene) for fascial reinforcement of the abdominal wall (List separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>15830</td>
<td>Excision, excessive skin and subcutaneous tissue (including lipectomy); abdomen, infraumbilical panniculectomy [documentation required]</td>
</tr>
<tr>
<td>49560</td>
<td>Repair initial incisional or ventral hernia; reducible</td>
</tr>
<tr>
<td>49561</td>
<td>incarcered or strangulated</td>
</tr>
<tr>
<td>49565</td>
<td>Repair recurrent incisional or ventral hernia; reducible</td>
</tr>
<tr>
<td>49566</td>
<td>incarcered or strangulated</td>
</tr>
<tr>
<td>49568</td>
<td>Implantation of mesh or other prosthesis for open incisional or ventral hernia repair or mesh for closure of debridement for necrotizing soft tissue infection (List separately in addition to code for the incisional or ventral hernia repair)</td>
</tr>
<tr>
<td>49652</td>
<td>Laparoscopy, surgical, repair, ventral, umbilical, spigelian or epigastric hernia (includes mesh insertion, when performed); reducible</td>
</tr>
<tr>
<td>49653</td>
<td>incarcered or strangulated</td>
</tr>
<tr>
<td>49654</td>
<td>Laparoscopy, surgical, repair, incisional hernia (includes mesh insertion, when performed); reducible</td>
</tr>
<tr>
<td>49655</td>
<td>incarcered or strangulated</td>
</tr>
<tr>
<td>49656</td>
<td>Laparoscopy, surgical, repair, recurrent incisional hernia (includes mesh insertion, when performed); reducible</td>
</tr>
<tr>
<td>49657</td>
<td>incarcered or strangulated</td>
</tr>
</tbody>
</table>

CPT codes not covered for indications listed in the CPB:

| + 15847 | Excision, excessive skin and subcutaneous tissue (includes lipectomy), abdomen (e.g. abdominoplasty) (includes umbilical transposition and fascial plication) (List separately in addition to code for primary procedure) [documentation required] |
| 15877  | Suction assisted lipectomy; trunk                                                                                                                                                                                  |

ICD-10 codes covered if selection criteria are met:

| E65    | Localized adiposity [abdomen] [documentation required]                                                                                                    |
| K43.0 - K43.9 | Ventral hernia                                                                                                                                               |
Abdominoplasty, Suction Lipectomy, and Ventral Hernia Repair

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L30.4</td>
<td>Erythema intertrigo [chronic, documentation required]</td>
</tr>
<tr>
<td>L98.7</td>
<td>Excessive and redundant skin and subcutaneous tissue</td>
</tr>
<tr>
<td>M79.3</td>
<td>Panniculitis [abdomen]</td>
</tr>
<tr>
<td>R60.9</td>
<td>Edema, unspecified [lipedema]</td>
</tr>
</tbody>
</table>

ICD-10 codes not covered for indications listed in the CPB:

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E88.81</td>
<td>Metabolic syndrome</td>
</tr>
<tr>
<td>M54.2</td>
<td>Cervicalgia</td>
</tr>
<tr>
<td>M54.30</td>
<td>Sciatica</td>
</tr>
<tr>
<td>M54.32</td>
<td>Sciatica</td>
</tr>
<tr>
<td>M54.40</td>
<td>Lumbago with sciatica</td>
</tr>
<tr>
<td>M54.42</td>
<td>Lumbago with sciatica</td>
</tr>
<tr>
<td>M54.5</td>
<td>Low back pain</td>
</tr>
<tr>
<td>M54.6</td>
<td>Pain in thoracic spine</td>
</tr>
<tr>
<td>M54.81</td>
<td>Other and unspecified dorsalgia</td>
</tr>
<tr>
<td>M54.9</td>
<td>Other and unspecified dorsalgia</td>
</tr>
<tr>
<td>M62.08</td>
<td>Separation of muscle, (non-traumatic)</td>
</tr>
<tr>
<td>Q79.59</td>
<td>Other congenital malformations of abdominal wall</td>
</tr>
</tbody>
</table>

The above policy is based on the following references:


73. Wollina U, Heinig B, Nowak A. Treatment of elderly patients with advanced lipedema: A combination of laser-assisted liposuction,

AETNA BETTER HEALTH® OF PENNSYLVANIA

Amendment to
Aetna Clinical Policy Bulletin Number: 0211
Abdominoplasty, Suction Lipectomy, and Ventral Hernia Repair

There are no amendments for Medicaid.