

## **VASER 2.0 Streamlines Body Sculpting**

Due to consumer demand for a more aesthetically pleasing silhouette, liposuction has become one of the most popular cosmetic procedures offered since its inception. Several advancements have spurred its growth considerably, including the wet technique, the advent of tumescent anesthesia and laser-assisted lipolysis – which helped usher in the era of energy-assisted techniques. Ultrasound-assisted liposuction (UAL) is reportedly safer, gentler and easier to use than other energy-assisted methods, and features the unique ability to remove large amounts of fat, as well as provide more precise body contouring. Additionally, considering the resurgence of autologous fat transfer (AFT), UAL helps to effectively harvest viable fat for transplant to other areas of the body.



# Clinical Studies Confirm Greater Skin Retraction and Viability of Fat Using VASER Technology

By Kevin A. Wilson, Contributing Editor

According to Michael Nagy, M.D., a plastic surgeon and partner at the Personal Enhancement Center in Toms River, N.J., the VASER ultrasonic lipo system from Sound Surgical Technologies, LLC (Louisville, Colo.) is not used in place of liposuction; it is an adjunct that emulsifies fat to facilitate easier aspiration safely and effectively. "Compared to traditional techniques, adding VASER also greatly reduces trauma, thus decreasing both patient downtime and the incidence of complications," he explained. "Since fatty tissue is emulsified there are fewer contour irregularities with VASER treatments, promoting better first-time results and reducing the need for touch-ups. Furthermore, ultrasound energy does a lot of the work so there's significantly less operator fatigue compared to mechanical techniques."



**Michael Nagy, M.D.**  
Plastic Surgeon  
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VASER's ultrasonic energy minimizes collateral damage to non-target tissue while breaking adipose tissue down into smaller groups of fat cells for easier extraction. Recent research revealed that VASER Lipo patients also observe greater skin retraction compared to traditional liposuction. This technique is also gentle enough to harvest viable fat for grafting, and the newest iteration, VASER 2.0, has been designed to further that objective.

The effectiveness and surprising versatility of this novel body contouring

modality may challenge the supremacy of laser-assisted lipolysis devices, some of which still bring patients into the office looking for them by name. However, Marlene Mash, M.D., dermatologist and director of the Skin and Body Wellness Center in Plymouth Meeting, Penn., noted that patients often choose VASER when given all the options. "I may use laser lipolysis for localized fat but I think it's more suited to smaller scale procedures given the character of the energy involved," she explained. "Compared to laser-assisted lipolysis, VASER can do the same things and more. If you want a workhorse, you can't beat the VASER system."



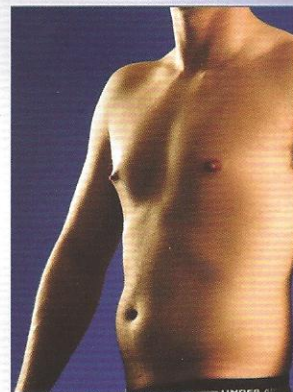
**Marlene Mash, M.D.**  
Dermatologist  
Director  
Skin and Body Wellness Center  
Plymouth Meeting, PA

The VASER device also helps physicians harvest viable adipose tissue for AFT, a procedure that has experienced a recent resurgence. For plastic surgeon Constantino Mendieta, M.D. (Miami, Fla.), "Everything about VASER technology, from the non-cutting cannula to the energy delivery, promotes a gentler procedure, which in turn boosts fat viability."

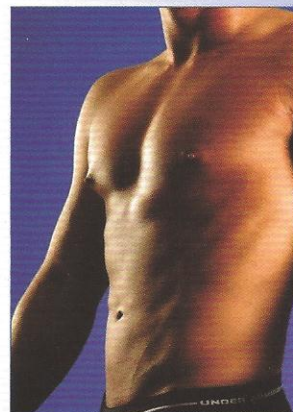


**Constantino Mendieta, M.D.**  
Plastic Surgeon  
Miami, FL

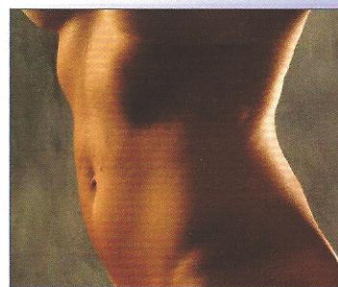
Advancements in technology such as VASER have renewed interest in



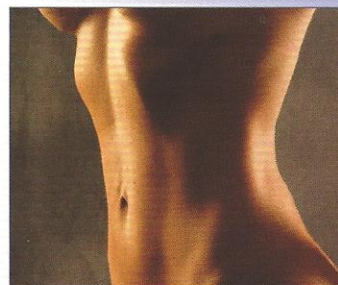
Before Tx



Abdomen and flanks after VASER Hi Def Tx  
Photos courtesy of David R. Broadway, M.D., F.A.C.S.



Before Tx



Abdomen and flanks after VASER Hi Def Tx  
Photos courtesy of David R. Broadway, M.D., F.A.C.S.



autologous fat transfer – a technique that previously languished in obscurity since existing methods for harvesting adequate amounts of viable fat were deemed impractical by most. The original VASER System was designed to provide patients with a safer, gentler, more effective liposuction experience and better results. “As it turns out these same factors promote increased fat viability,” said Mark Schafer, Ph.D., chief technology officer and vice president of research and development for Sound Surgical. “For example, VASER energy breaks fatty tissue down into fairly small groups of cells instead of the clumps you see with traditional liposuction. Also, research will soon be released that demonstrates stem cell viability in VASER harvested fat is at least equivalent to that found in fat harvested with other methods, which is very important.”

In Dr. Mendieta’s opinion, the advantages of autologous fat transfer over injectable dermal fillers are numerous. “Although dermal fillers do not require a donor site and are readily available, they are expensive, perhaps prohibitively so, depending on how much you need to use in a given area. What’s more, results with dermal fillers are also relatively short in duration. Fat, on the other hand, is available in whatever quantities you need and results are pretty much permanent. There’s little chance of allergic reaction and the fat is sterile when collected properly.”

To better address this emerging trend, Sound Surgical has re-engineered the original VASER system in a number of ways to improve the overall experience. “Recent research has shown that gentler suction is one

of the major factors that influence the viability of harvested fat cells,” Dr. Schafer reported. For this reason, “we designed the VASER 2.0 system to allow finer adjustment of the vacuum on the VentX cannula so physicians can dial down the aspiration rate when harvesting fat.”

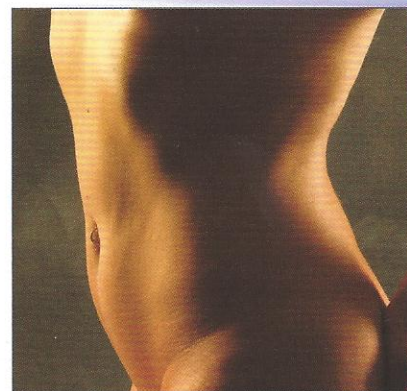
“Also, vacuum levels can now be monitored via digital display, which will promote consistent, reproducible treatment,” Dr. Schafer continued. “You can use the previous generation VASER system to harvest fat, but with VASER 2.0 we’ve streamlined and refined the process to make it better in every way, without sacrificing body sculpting efficiency.”

Another undeniable benefit is the consistency of VASER harvested fat, according to David R. Broadway, M.D., F.A.C.S., a plastic surgeon in private practice in the Denver, Colorado area. “Fat harvested mechanically has a clumpier, lumpier consistency, but fat harvested with VASER has the consistency of a milkshake, which facilitates an even flow during re-injection,” he said. “This allows me to be more precise with my technique so I can sculpt more effectively.”

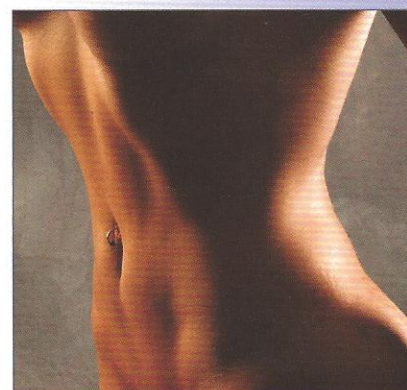


David R. Broadway, M.D., F.A.C.S.  
Plastic Surgeon  
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To maximize safe, rapid, effective aspiration, Sound Surgical poured years of research into maximizing the fluid dynamics of the original VASER’s gentle VentX cannula. That same painstaking attention to detail is a hallmark of the new VASER 2.0,



Before Tx



Abdomen and flanks after VASER Hi Def Tx  
Photos courtesy of David R. Broadway, M.D., F.A.C.S.



Before Tx



After VASER Tx

Photos courtesy of Stephen Goldstein, M.D.



according to Dr. Schafer. Engineers also honed the ergonomics of VASER 2.0. "We improved the user interface by grouping certain controls and displays together, depending on what physicians need, based on the experience of our customers," he added.

"When we originally designed the VASER system these procedures were often performed in hospitals, which has changed significantly," Dr. Schafer continued; "therefore, we refined the machine itself – from its footprint and look, to the way it sounds during operation – to make it more office friendly. By giving the surgeon a better, more intuitive and responsive tool to use, we have improved the overall patient experience as well."

VASER (Vibration Amplification of Sound Energy at Resonance) has been successfully used by physicians all over the world to more gently remove localized fat deposits that don't respond to diet and exercise. VASER Lipo, also referred to as LipoSelection, begins with tumescent infiltration like any other liposuction treatment, but instead of the rip-and-tear of traditional techniques, ultrasonic energy is emitted from a titanium probe inserted into the treatment area.

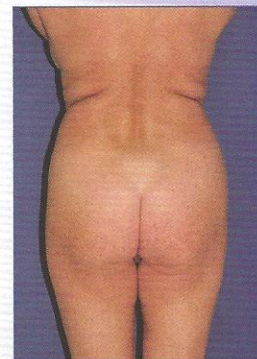
"Using the VASER probe is not like the traditional technique," Dr. Nagy said. "It's more like running a hot knife through butter, so you have to take your time and be more deliberate, thereby allowing the VASER energy to work for you." Adipose tissue is broken apart and fat cells are suspended in the infiltration solution via acoustic streaming. Underlying connective tissue, vascularity and nerve networks are more readily preserved and the

overall tissue matrix is spared during this phase of the treatment. There are four different probe sizes, progressing in diameter for finesse or delicate work, to higher volume debulking.

It may even influence new thinking on volume limits. "The American Society of Plastic Surgeons (ASPS) recommends that aspiration volumes above five liters should be performed in a hospital setting," stated Dr. Nagy, "and with good reason. Traditional liposuction can produce issues such as tissue trauma, blood loss and physiological impact. Conversely, since the VASER procedure is significantly less traumatic, it should be able to help physicians safely remove larger volumes of aspirate. It's still prudent to be conservative but there's a lot of potential there."

VASER's technology effectively yields "a higher percentage of fat in the aspirate," Dr. Nagy conveyed, which means greater volumes of fat are being removed. Moreover, "because the technique is so much cleaner and gentler, there's less blood and damaged tissue and more fat."

As Dr. Nagy further explained, VASER treatment is particularly suited to those undergoing a secondary liposuction procedure, or for treatment areas that are typically challenging when using other liposuction methods. "VASER Lipo is great for places on the body where there's a lot of underlying fibrous tissue along with the fat, such as the back, flanks, midriff, or the male or female breast, and I've had great results for gynecomastia," he said. "It's also very helpful for those who've already had liposuction, or a tummy tuck in the past, because the fatty tissue tends to become more fibrous."



Before Tx



After VASER Tx

Photos courtesy of Constantino Mendieta, M.D.



Before Tx



Two months after VASER LipoSelection of neck and jowls  
Photos courtesy of Marlene Mash, M.D.



"Unlike other ultrasound devices which emit energy in a continuous wave," Dr. Nagy began, "VASER energy is efficiently delivered in pulses to provide a powerful effect while using maybe half the total energy." This minimizes the incidence of complications from energy delivery that may be problematic for other devices. "Total energy output may be adjusted by the user. That, plus the selectiveness of the procedure, gives physicians the control they need to more effectively achieve consistent results and meet or even exceed patient expectations. It also allows users to safely treat all over the body."

Two additional benefits associated with VASER Lipo are reduced blood loss and enhanced skin retraction. In a recent multi-center, single-blind study, Dr. Nagy and co-author Paul F. Vanek, M.D., compared VASER technology with traditional suction-assisted lipoplasty (SAL). "The concern with blood loss isn't so much the loss of blood itself, but what it signifies: tissue trauma leading to post-operative pain, swelling, bruising and so on," Dr. Nagy advised. "Bruising can occasionally turn into long-term discoloration, for example and excessive swelling can promote the kinds of contour irregularities we're trying to avoid."

Twenty female patients were treated contralaterally at one or more anatomical regions, for a total of 33 paired treatment sites. Blood loss was measured from aspirate samples taken immediately after treatment on each side and originally calculated as a percentage of fat removed. Skin retraction was evaluated by measuring a black light tattoo placed on each

area, before treatment and at various points during the monthly follow-up. Relative to SAL, VASER Lipo results showed a 39% reduction in blood loss and an average improvement in skin retraction of approximately 53%.

The exact mechanism of action behind improved skin retraction is not yet fully understood. "While we do understand that there will usually be some natural skin retraction after most liposuction procedures, VASER patients see more of it," reported Dr. Broadway. "This is likely due to a variety of factors resulting from the general characteristics of VASER treatment, including the preservation of underlying connective tissue and the stimulation of neocollagenesis by energy delivered beneath the skin."

With its many refinements, VASER 2.0 will also help physicians meet the growing demand for smaller scale, localized body contouring. VASER Hi Def is a technique that allows physicians to accentuate the shape of the underlying anatomy by working more superficially. This selective sculpting is used to enhance the look of abdominal or pectoral muscles, for example.

"In a sense, VASER Hi Def begins where regular liposuction ends," said Dr. Broadway. "Most physicians and patients are primarily interested in debulking, so we work in the deeper layers. As a community we're taught to leave a centimeter of fat to prevent contour irregularities in these cases. However, with VASER Hi Def you work in the superficial layers. It requires intensive training not only to gain practical experience in this technique, but to understand the full capabilities of the device and how to best harness

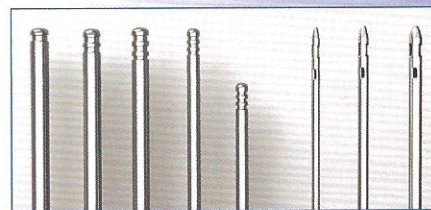
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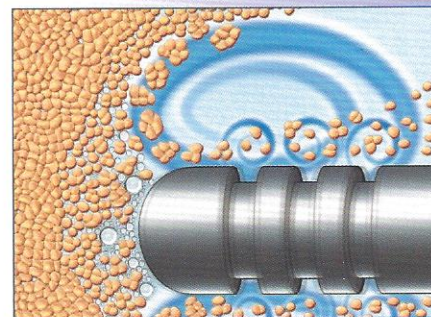
Before Tx

After VASER Tx

Photos courtesy of Michael Nagy, M.D.



VASER Probe and VentX Cannula Tips



Acoustic Streaming



them. VASER technology allows you to do this safely, effectively and reproducibly. The additional benefit of skin retraction enhances results as well."

The VASER device is deceptively versatile and has many potential uses in the hands of skilled and creative physicians. VASER 2.0 promises to be equally useful, if not more so. In Dr. Nagy's opinion, physicians new to the technology will find VASER to be an extremely useful adjunct to other aesthetic procedures as well, enhancing the device's value. "Since this system improves skin retraction and promotes easier and safer dissection, I use it during excision procedures and face-lifts, as well as breast reduction surgeries, especially in the area just under the axilla which is hard to treat," he said. "I even use it for smaller scale, minimally-invasive breast reductions because for some patients, the selective removal of fat in certain areas is exactly what they need. This is especially true in younger patients. They might benefit from reduction, but because they're still young, undergoing a selective VASER treatment will impact their lives significantly."

Patients love the results they get with VASER-assisted liposuction. According to Dr. Mash who's been in business for more than a decade, "my patients who had previously undergone traditional techniques report that VASER treatment is a lot better. It's hard to argue with reduced discomfort, bruising and overall downtime. Most patients don't require pain medication and can return to work within a few days."

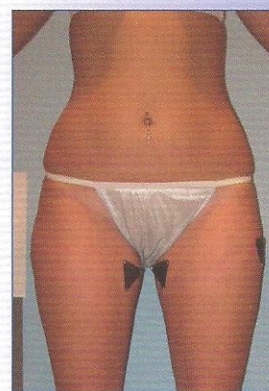
Additionally, experts agree that VASER is easy to integrate into the practice and can help physicians

increase their patient base and generate revenue. "Liposuction, despite being thought of as traumatic and invasive, is the number one cosmetic procedure in the country," said Dr. Nagy. "So as people learn about VASER and what it can do, more will become interested. That's what happened in my practice; as soon as I started offering these treatments my liposuction practice began to grow at a fast pace. Patients report that VASER Lipo exceeded their expectations, and in this business, that's what we want to hear."

Also, Sound Surgical offers several different business models to allow physicians to gain access to the device without the huge price tag associated with lasers and other energy-based systems. Dr. Mash feels "this is a big help and a smart move, especially during the recent economic downturn. Furthermore, technical support is also excellent and timely."

"Physicians need to understand just how versatile this device is becoming," said Dr. Nagy. "You can do anything from small, local or superficial sculpting to high volume aspiration. The VASER system comes with tools to accomplish those jobs and the ones in-between. This device has a growing number of unique uses with more to certainly emerge." ■

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Before Tx

Photos courtesy of Michael Nagy, M.D.



After VASER Tx



Before Tx



After VASER Tx

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