

## VASER Family Encompasses Comprehensive Body Shaping Treatments

By Kevin A. Wilson, Contributing Editor

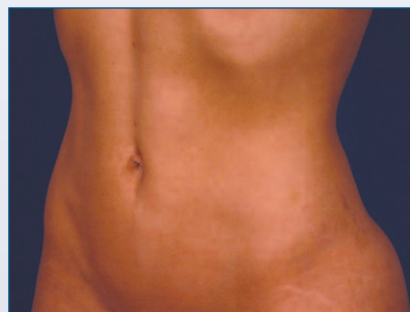
**A**ccording to many experts, the VASER Ultrasonic Lipo System from Sound Surgical Technologies LLC (Louisville, Colo.), is arguably the gold standard for ultrasound-assisted liposuction. Based upon this success, Sound Surgical introduced two new products in early 2010: the next-generation VASER 2.0, offering improvements in user functionality and fat harvesting options; as well as the VASER Shape MC1, an innovative ultrasound device achieving non-invasive body shaping via cellulite reduction.

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*“VASER Hi-Def can be used to sculpt six-pack abs, for example, or bring out the contours of the calf muscles. It’s a great procedure that brings out the artist in the aesthetic physician.”*



Before Tx



After VASER Tx

Photos courtesy of David Broadway, M.D.



Before Tx



Three months after VASER Tx

Photos courtesy of Payman Simoni, M.D.

Designed specifically to improve upon the fat harvesting aspect of the original device, the VASER 2.0 Lipo System also enhances the overall user experience. Research shows the level of suction pressure may significantly influence fat viability; therefore, vacuum controls are more sensitive to fine adjustment and pressure levels may be monitored during treatment to help fine tune the aspiration rate for more reproducible results. Additionally, the ultrasonic energy has also been specifically tuned to preserve connective tissue and maintain fat cell viability.

As an adjunct to the VASER system, the Shippert Tissu-Trans Fat Harvesting and Re-Injection System facilitates easy capturing of viable, aspirated fat, without the lengthy filtering process. Furthermore, VASER with Shippert Tissu-Trans is one of only two FDA cleared technologies for body contouring and fat transfer.

“There are two canister options with this system,” noted David Broadway, M.D., a plastic surgeon in private practice in the Denver, Colorado area. “One helps you capture fat inside an intravenous (I.V.) bag, where you can let it separate before decanting the fat, and the other is a canister with a mesh filter to strain the fat. I use this commonly if I have a lot of areas to treat in one session. Ultimately, it allows the gentle harvesting of fat with minimal exposure to air and minimal handling.”



**David Broadway, M.D.**  
Plastic Surgeon  
Denver, CO

VASER 2.0 was also refined ergonomically – from its more intuitive organization of user controls, down to a nearly indestructible handpiece and new look. The fine vacuum pressure adjustment also improves advanced body contouring procedures such as



**John A. Millard, M.D.**  
Plastic Surgeon  
Lone Tree, CO

VASER Hi-Def; allowing users to selectively remove fat to enhance existing contours from bone and musculature with relatively superficial sculpting for superior outcomes. “VASER Hi-Def can be used to sculpt six-pack abs, for example, or bring out the contours of the calf muscles,” said John A. Millard, M.D., a plastic surgeon in private practice in Lone Tree, Colo. Dr. Millard was co-author of the landmark VASER Hi-Def study, and he introduced the technique to the U.S. in late 2005. “It’s a great procedure that brings out the artist in the aesthetic physician.”

VASER stands for Vibration Amplification of Sound Energy at Resonance, alluding to the original device’s harnessed ultrasound energy for fatty tissue emulsification. According to Michael Nagy, M.D., a plastic surgeon and partner of the Personal Enhancement Center in Toms River, N.J., the device is more of an adjunct to liposuction than a stand-alone modality; nevertheless, it has been a game changer since its initial launch.



**Michael Nagy, M.D.**  
Plastic Surgeon  
Partner  
Personal Enhancement Center  
Toms River, NJ

“The device transforms a typically traumatic modality into a gentler procedure that is as effective for smaller-scale, in-office liposuction with minimal anesthesia, as it is for large volume reduction performed in an operating room under general anesthesia,” said Dr. Nagy. “The procedure is much less traumatic so downtime and the incidence of complications are definitely reduced. There is also significantly less blood loss during the procedure, and a higher concentration of adipose tissue in the aspirate, so you can remove higher volumes



*“VASER Shape is ideal for those looking to reshape, not so much to lose fat. It’s also an alternative for people with localized areas of adiposity who are afraid of more invasive procedures.”*

of fat. Since the fat is emulsified there are fewer contour irregularities and a smoother overall result. It takes a little more time but it’s well worth it.”

After infiltration with tumescent solution, the practitioner introduces the VASER probe into the treatment zone, using liposelection to apply ultrasound energy to break apart the fatty tissue while sparing other connective tissue structures. The suspended fat is then suctioned out with the device’s VentX cannulas, designed specifically for VASER systems to be efficient and atraumatic. The character of this process is gentle enough that users have been employing the VASER system to harvest fat for autologous fat transfer, thus revitalizing the procedure. Dr. Broadway feels the consistency of the fat “is much more conducive to harvesting and injection, and promotes precision for more effective sculpting. In fact, it seems that what makes VASER gentler for liposuction are the same factors that have been shown to positively influence fat viability.”

VASER Shape MC1 is the newest piece of the body shaping puzzle from Sound Surgical. Recently approved for therapeutic massage, providing a temporary reduction in the appearance of cellulite, temporary relief of minor muscle aches and pains, relief of muscle spasms, temporary improvement in local blood circulation, as well as ultrasonic diathermy for the relief of pain, muscle spasms and joint contractures, the device can be used all over the body, but is not ideal for the head or neck.

“VASER Shape delivers transcutaneous ultrasonic energy from two points on a V-shaped treatment tip. The two ‘beams’ converge beneath the skin, where the energy is concentrated. This warms the area, as well as opens pores in the fat cells causing leakage of liquid fat, for removal through the lymphatic system by the body’s natural waste handling processes,” explained Dr. Nagy. “Results are quite impressive. VASER Shape is ideal for those looking to reshape, not so much to lose fat. It’s also an alternative for people with localized areas of adiposity who are afraid of more invasive procedures.” There is no downtime to speak of and treatment takes 20 to 30 minutes. A course of approximately four weekly treatments is recommended for best results.

**Editor’s Note:** In the following clinical roundtable, seven plastic surgeons share their knowledge and clinical expertise with VASER Lipo, autologous fat grafting using the Shippert Tissu-Trans system, VASER Hi-Def and VASER Shape MC1. Together, these physicians have dozens of years’ experience with body shaping modalities.

#### [Why do you prefer VASER Lipo over traditional techniques or other energy-assisted modalities?](#)

**David Broadway, M.D.** – VASER Lipo allows you to go anywhere between small scale sculpting and large volume debulking. It’s so versatile that way. It’s an easier and more precise procedure with better looking results. We also see nice skin contraction, although the scientific evidence for that is still being assembled. Laser-assisted lipolysis is trying to get closer to what I’ve been achieving with VASER, but you wouldn’t use those modalities for harvesting and transferring fat.

**John A. Millard, M.D.** – The device is very powerful, but because the energy is delivered in pulses and tuned specifically to treat the fat, the surrounding tissue matrix is relatively undamaged and blood loss is minimal. Among other things this translates into the ability to remove two to three times the fat per unit area. It’s also very gentle and easily adjusted, so you can perform Hi-Def or easily combine VASER with a tummy tuck or body lift.



Before Tx



Four months after VASER Tx  
Photos courtesy of Payman Simoni, M.D.

*“Due to the efficient pulsed delivery of ultrasound energy with VASER, the effect can be powerful while using maybe half the energy other systems might need, so energy-related complications will be less.”*

**Michael Nagy, M.D.** – Due to the efficient pulsed delivery of ultrasound energy with VASER, the effect can be powerful while using maybe half the energy other systems might need, so energy-related complications will be less. The adjustability of treatment parameters makes VASER safe all over the body, and you can perform Hi-Def because you’re not going to get the burns you might see with superficial use of lasers, for example. It’s particularly good for fibrous fatty areas; especially those seen in tummy tuck patients or people needing secondary liposuction. As well, since it is less traumatic and not dependent on mechanical shear force to dislodge fat, VASER is much easier on the physician as well.



Before Tx



Four months after VASER Tx  
Photos courtesy of Payman Simoni, M.D.

**Payman Simoni, M.D.** – I used to get a lot of arm, back and neck pain when doing tumescent liposuction. So in addition to giving my patients great results, VASER takes a load off my body. It’s much more comfortable now and I have more stamina for it. The gentleness of the procedure also means less potential for scarring of the patient.



**Payman Simoni, M.D.**  
Plastic Surgeon  
Beverly Hills, CA



**Paul Vanek, M.D.**  
Plastic Surgeon  
Mentor, OH

**Paul Vanek, M.D.** – Dr. Nagy and I recently published a contralateral study on blood loss and skin retraction with VASER versus suction-assisted liposuction (SAL). At 33 paired treatment sites, VASER Lipo had averages of 26% reduction in blood loss and 53% improvement in skin retraction over

SAL. That probably has to do with the skin itself, stimulation of neocollagenesis resulting from subsurface delivery of energy and the selectivity of the energy for fat, which spares the connective tissue and other structures. This procedure is relatively gentle and the results are striking. Plus it’s nearly bloodless, which is important to me because I do several body areas in one session. It also reduces bruising and changes the character of the downtime significantly for the better.

How do your patients feel about VASER Lipo?

**Robert Schwartz, M.D.** – At first I wasn’t sure VASER was better than traditional liposuction, but I really began to notice the difference when patients were coming to me unhappy with the results they’d gotten elsewhere with conventional techniques. It’s like night and day in every way. The best part is that these patients could compare within themselves. That drove it home for me.



**Robert Schwartz, M.D.**  
Plastic Surgeon  
Dallas, TX



**Paul M. Zieg, M.D.**  
Plastic Surgeon  
Henderson, KY

**Paul M. Zieg, M.D.** – Patients are very happy, particularly when they can get the results they want with minimally invasive surgery. Downtime is relatively minimal and they love that, too. I personally underwent this procedure and was back performing surgeries in three or four days.

*“VASER Lipo allows me to achieve my final contours without being limited by blood loss.”*

In your practice, what are the typical body areas treated and volumes removed with VASER Lipo?

**Dr. Simoni** – I utilize VASER Lipo for most body areas like the abdomen, hips, thighs and back. We are able to remove ample amounts of fat from these areas using VASER Lipo. On average we remove about one liter of fat, but we have removed up to three liters on a few occasions – all in-office under local anesthesia.

**Dr. Zieg** – I typically remove anywhere from four to six liters, which is my cutoff point. I prefer the endpoint to be the final contour. VASER Lipo allows me to achieve my final contours without being limited by blood loss.

**Dr. Schwartz** – I do almost all of my patients in the operating room, although you could easily do this in-office and it's a great tool for that. I do mostly advanced techniques and multiple areas in one session, or large volume cases. I find it's virtually impossible to get good Hi-Def results on a patient that is awake.

**Dr. Vanek** – I treat all different areas, but in my mind the real benchmark is that you can do arms and calves with VASER Lipo. I can safely combine VASER with other procedures for mommy make-overs, for example. These are very popular because you can do it all in one day in the hospital – tummy tuck, breast lift, VASER Lipo and more. Within six weeks, post-partum women have lost three sizes with relatively minimal bruising and discomfort, and very little scarring.

**Dr. Broadway** – I typically do smaller volume and smaller-scale procedures than most. My typical patient is more athletic or more normal in weight, and they're looking for refinement rather than debulking. This is where VASER Hi-Def comes into play. I rarely do fat extractions greater than 3,000 cc. I usually use epidural anesthesia or light I.V. sedation at most, so I can do much of my smaller cases in the office.

What body areas are you treating with VASER Hi-Def?

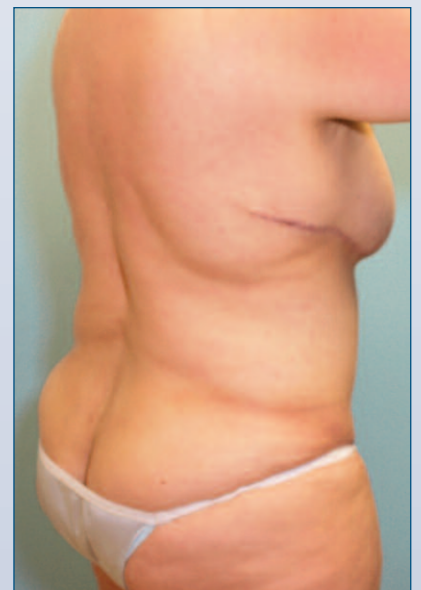
**Dr. Broadway** – I most often do the abdomen and flanks but we're also doing arms and legs to improve definition. The results are dramatically different compared to standard liposuction, which is really about reducing volume as much as recontouring. VASER Hi-Def picks up where standard liposuction ends. Patients know that this procedure exists, they come in requesting it, and it has opened up a whole new demographic for us – people who are younger, thinner and more athletic, looking to go beyond what they've achieved with diet and exercise.

**Dr. Millard** – We've extended the technique to sculpting the latissimus dorsi for greater definition, plus improving oblique ligament definition for that V-shaped torso look. We're also doing more arms and legs. I thought arms would be most popular with men, but to my surprise, women are really going for it as well. We're also using Hi-Def in the ankles and knees. The results are dramatic and people love it. VASER Hi-Def allows the surgeon to be the artist and the patient to be the canvas. Liposuction is no longer simply an answer to failure of fitness and diet.

**Dr. Schwartz** – What I've found is that VASER Hi-Def broadens the liposuction patient base to include those who wouldn't normally come in for it, those wanting a much higher level of definition than they've been getting otherwise – it's phenomenal for that. However it also works on those who are a bit softer looking, who might not be traditional Hi-Def candidates. In other words, you can take a broader range of patients to an even higher level of sculpting.



Before Tx



Six months after VASER Tx

Photos courtesy of Paul Vanek, M.D.



*“VASER excels for fat grafting because it doesn’t overly disrupt the fat cells, it separates them. This makes for a more injectable fat matter.”*

What’s the difference in technique between VASER Lipo and VASER Hi-Def?

**Dr. Millard** – You have to dial down the energy to 60% but use continuous mode for one thing, because you want to use the least energy to get results. This minimizes discomfort and inflammation, as well as promotes precision. Also, we are doing what we call differential fat removal, a combination of deep, intermediate and superficial work to sculpt a three-dimensional form. This takes much more precision and practice than simple liposuction.

**Dr. Schwartz** – In my mind the challenge is obtaining the experience and aesthetic eye to know how much fat to remove selectively in each area and accentuate the underlying musculature and bone contours – in other words, the vision. As you get past that stage, the challenge becomes removing all the fat you want to remove. This is especially true on those who are not as lean as the traditional Hi-Def patient.

As far as autologous fat grafting, what does VASER bring to the table in your experience? What body areas are you treating?

**Dr. Millard** – Older techniques are slow and messy. The advantage of using the Shippert Tissu-Trans system is its efficiency. It’s a closed system that collects every bit of fat; this is especially important because we see more and more people who want fat transplanting but don’t have much extra fat to begin with. By preventing the exposure of fat to air, you eliminate many of the potential obstacles to viable transfer without the need for excessive handling or processing of the fat. The most common area is the gluteal area in women, but we’re seeing dramatic growth in this area for men as well. I’m also doing chest augmentation and sculpting, plus shoulder augmentation.

**Dr. Broadway** – I’m usually doing fat transfer to the face or buttocks. The biggest advantage of using VASER for fat grafting, in my experience, is the high quality of harvested fat. We talk about micro-grafting – I think this is ultra micro-grafting. The fat globules are much smaller. One of the theories is that transferred fat should be very close to the recipient fat so that there’s easy transfer of nutrients and oxygen from the native fatty tissue. If you have really small grafts using a micro-droplet technique, the take will actually be higher. In some animal studies being done it’s 80%. I would not be surprised by that number. This is especially important for larger volume transfers to areas such as the buttocks.

**Dr. Schwartz** – VASER excels for fat grafting because it doesn’t overly disrupt the fat cells, it separates them. This makes for a more injectable fat matter. Also, it makes handling the fat before transfer much easier and more likely to preserve viability. It is also a big plus that the liposuction results are great as well. You really want to deliver on the liposuction because no matter what, we just can’t guarantee results with fat grafting.

What are the clinical outcomes of fat grafting in your experience? What do patients think?

**Dr. Millard** – Patients love it. With VASER 2.0 and the Tissu-Trans system, it’s easy to integrate this procedure into your practice. Everyone’s becoming more at ease with it, practitioners and patients alike. The results look great.

**Dr. Schwartz** – At first I wasn’t convinced that you could harvest as much quality, viable fat with VASER. I used conventional liposuction for harvesting and I was rapidly



Before Tx



Nine months after VASER Tx

Photos courtesy of Paul Vanek, M.D.

*“Patients see results right away and their clothes fit better. By week five they have significant, photographable and measurable improvement. Patients love that there’s no downtime and that they can get it done during a lunch break.”*

disappointed with the liposuction results every time. So I tried using VASER and never looked back. VASER Lipo has that WOW factor with patients, which is very rewarding, and they’re still likely to be pleased with the fat grafting results even if they don’t quite measure up, as long as you properly manage patient expectations.

[How do you determine when a patient should be treated with VASER Shape as opposed to VASER Lipo? In your experience does VASER Shape attract a different type of patient?](#)

**Dr. Nagy** – VASER Shape is best for people with much less volume to deal with, those with smaller contour irregularities or those who don’t want or can’t afford a larger scale procedure. Patient selection is key because if they have a lot of volume to deal with, they’ll need VASER Lipo. Either way VASER Lipo is still best for the neck because the VASER Shape handpiece doesn’t work for it at this time.

**Dr. Vanek** – Primarily patients who cannot take time to recover from a surgical procedure or those not wanting surgery. I don’t have body mass index guidelines for VASER Shape, but right now we’re studying the device on all sizes of people to see what happens. VASER Shape isn’t going to treat fat like liposuction, but that doesn’t mean larger people won’t see results. We can experiment like this because it’s non-invasive, safe and there’s no downtime.

[How long before the patient experiences a visible clinical outcome with VASER Shape? What do they say about the results and downtime?](#)

**Dr. Vanek** – We take measurements before and after treatment, as well as during follow-up. Patients see results right away and their clothes fit better. By week five they have significant, photographable and measurable improvement. Patients love that there’s no downtime and that they can get it done during a lunch break.

**Dr. Simoni** – We see results right away, every time. By taking measurements before and after, everyone can appreciate the difference. It varies from patient to patient but we definitely see several centimeters of change immediately each time.

[How does VASER Shape measure up against the competition?](#)

**Dr. Simoni** – In my experience radiofrequency technologies give an immediate result but last only about eight weeks, whereas results with VASER Shape are more or less permanent.

**Dr. Nagy** – The problem with radiofrequency is that it generates too much heat at the surface, so you’re restricted in how much energy you can safely deliver to the fat itself, which limits the results you can realistically expect. VASER Shape puts the energy right where you need it to be, safely.

[How do you see ultrasound body contouring evolving and what do you see as the future of the body sculpting market?](#)

**Dr. Nagy** – I see potential for much growth as more men pursue treatment. Currently this is a barely-tapped market; however, that will change as the male population realizes VASER can eliminate the gut or produce the ‘ripped’ look. VASER Lipo and VASER Shape give great results and I don’t think there’s anything better out there. I also



31 year old male body builder flanks before Tx



31 year old male body builder flanks three months after VASER Tx  
Photos courtesy of Paul M. Zieg, M.D.

*“I see VASER Shape as a new forefront in aesthetic medicine, which will expand horizons in this field as we work with it more and gain more experience.”*

see a future for treatment with VASER Shape before and after VASER Lipo. This might maximize outcomes by pre-treating fat, sort of paving the way, as well as providing superior lymphatic drainage after the fact.

**Dr. Broadway** – One of the unique aspects of VASER is that it allows us to evolve according to the U.S. patient population’s needs, paralleling increases in obesity, but also in healthier lifestyles, because we can offer debulking as well as more finesse sculpting.

**Dr. Simoni** – I see VASER Shape as a new forefront in aesthetic medicine, which will expand horizons in this field as we work with it more and gain more experience. Patients are always looking for safer, non-invasive treatments that offer results with little or no downtime.

[Any treatment advice or final thoughts that you would like to share with readers?](#)

**Dr. Simoni** – For VASER Shape users, try to maximize your treatment parameters to tolerance. Be sure to respond to patient feedback during the procedure. Start low, then modify the parameters upward. You’ll get more heating and energy delivered that way. Also, you can increase treatment time as well, from 20 to about 40 minutes if you like, especially if the fat is very fibrous.

**Dr. Broadway** – The key to successful VASER Hi-Def is cultivating a deeper and stronger understanding of anatomy. This isn’t debulking, so it requires a totally different perspective. Without that keen understanding, you can’t get good, natural-looking results.

**Dr. Vanek** – When treating with VASER Lipo, experiment with different formulae for various body parts and fat volumes by altering the amount of VASER time with the infiltration volume. The usual formula is 100 cc of tumescent fluid for each minute of VASER, but with arms, for example, I might go more aggressive using 300 cc of fluid with six to eight minutes of VASER.

**Dr. Nagy** – As other modalities come and go, I truly believe VASER will remain for a relatively long time. It is the gold standard for fat as far as I’m concerned, and Sound Surgical is constantly improving and expanding the technology, so I see VASER simply becoming even more versatile.

**Dr. Zieg** – Maintaining hydration for VASER Lipo patients in the two weeks after treatment is fabulous. I recommend a fitness water or electrolyte solution of that nature, even right after treatment. Patients feel better and I get fewer after hours calls. I borrowed this idea this from working with burn trauma patients.

**Dr. Schwartz** – Patience and attention to detail are the most important things when performing Hi-Def or fat grafting. You’ve got to move slowly and constantly evaluate so that you don’t overshoot your endpoint. Careful management of patient expectations and frequent follow-up are keys to success for any liposuction procedure. Also, I selectively design my compression garments to be customized with foam to help mold the final result. ■



28 year old female abdomen, waist and hips before Tx



28 year old female abdomen, waist and hips two years after VASER Tx  
Photos courtesy of Paul M. Zieg, M.D.