



LONDON MEDICAL & AESTHETIC CLINIC

1 HARLEY STREET

# Laser Body Sculpting

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MD MS DLORCS (LONDON)

ENT, FACIAL PLASTIC AND LASER SURGEON

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**Information about Dr Ayham Al-Ayoubi** MD MS DLORCS (London)



Dr Ayham Al-Ayoubi is an international leading surgeon, lecturer and tutor for Smartlipo and Sculptra.

Known as the 'King of Smartlipo', for his legendary laser body sculpting. He is the leading Smartlipo MPX trainer surgeon in the UK.

Dr Al-Ayoubi uses his own advanced techniques in various aspects of laser surgery many of which have now been adopted by plastic surgeons and cosmetic doctors worldwide.

Dr Ayham Al-Ayoubi received his MD in 1990, and was awarded his MS in ENT, Head and Neck Surgery in 1994.

He completed a program of surgical training in Otolaryngology, Head and Neck Surgery in 1998 at The Royal College of Surgeons of England.

He obtained a Diploma in Laryngology & Otology from the Royal College of Surgeons of England in 1998.

Dr A Al-Ayoubi was duly elected as a member of The European Academy of Facial Plastic Surgery, which is dedicated to the advancement and practice of Plastic and Reconstructive Surgery of the face and neck in 1998.

He was privileged to become a Fellow of The European Society of Aesthetic Surgery and an Associate Member of The British Association of Cosmetic Doctors. He is also a member of The American Academy of Otolaryngology - Head and Neck Surgery.

Dr Ayham Al-Ayoubi is honoured to become a facility member with the International Academy of Body Contouring & Laser Lipolysis.

Dr Al-Ayoubi is the 3rd generation of ENT Surgeons in his family. This strong heritage has resulted in a unique and specialist knowledge being handed down through the generations.

He is working as an ENT Surgeon with a special interest in Facial Plastic Surgery at Barnet and Chase Farm Hospitals NHS Trust and North Middlesex University Hospital, London.

His private practice is based in Central London at 1 Harley Street, London W1G 9QD and he has a practice privilege at the Cadogan Clinic, London.

He developed a special interest in Facial Plastic Surgery and has performed a large number of facial plastic surgery procedures e.g. Rhinoplasty (nose reshaping), Otoplasty (ear reshaping) and facial reconstruction and neck surgery.

In addition to his Facial Plastic Surgery expertise, he has developed a particular interest in the new era of Non-Surgical Cosmetic procedures. He is recognized as an innovator of non-surgical techniques in Face- Lifting.

A pioneer in Sculptra treatment, he has developed his own advanced techniques, including Sculptra for facial asymmetry, deep acne and traumatic scarring, Double V and Tear Duct technique.

Dr Ayham Al-Ayoubi is the first Surgeon to introduce the revolutionary Smartlipo laser (Smartlipo DEKA Laser System), from Italy into the UK, after he was awarded the Certificate of Competence in Laser Lipolysis by Professor Nicola Zerbinati in Florence, Italy in June 2006.

Dr Al-Ayoubi has developed his own advanced Laser techniques in various aspects of laser surgery including (Smartlipo with suction, A -Z Smartlipo for fat reduction and body sculpting) which has now been adopted by numerous plastic surgeons and cosmetic doctors and he invented the Smartlipo - Scar Free Breast Lift technique.

He introduced the first evolutionary Smartlipo MPX system (The novel Smartlipo MPX Synosure Laser System), from the USA into the UK and Europe in 2008. He was appointed the leading Smartlipo MPX trainer surgeon in the UK.

He is recognized as an international leading surgeon in Smartlipo and Sculptra treatments and has presented at numerous UK and international meetings and conferences. He has a great deal of laser experience and is one of the leading world experts and pioneers in laser Lipolysis and laser body sculpting.

Dr Ayham Al-Ayoubi Principal of the London Medical and Aesthetic Clinic, has dedicated himself to the science and practice of Smartlipo /Laser lipolysis with suction and Sculptra treatments. He has been at the forefront of surgical advances within this specialist field.

Indeed it was Dr Ayham Al-Ayoubi who was instrumental in the UK in developing the revolutionary technique of Smartlipo with suction, which is now the mainstay of Laser Lipolysis and body sculpting surgery worldwide.

Through his commitment to innovation, medical excellence and the highest standards of patient care, the London Medical and Aesthetic Clinic has won an unrivalled reputation in the UK and beyond.

The leading UK authority in his field, Dr Ayham Al-Ayoubi is a founder and a facility member of the International Academy of Body contouring and Laser Lipolysis. As expected of one of Europe's foremost practitioners, he is a member of the European Academy of Facial Plastic Surgery and the European Society of Aesthetic Surgery.

Patients travel from all over the UK and around the world to have Dr Al-Ayoubi perform Smartlipo laser body sculpting treatment at the renowned Cadogan Clinic, London, which is one of the leading training centres for Smartlipo treatment in the UK and Europe.

He has made another addition to his already highly developed profile of treatments specifically designed for body sculpting, fat reduction and skin tightening. He introduced the revolutionary BodyTite (Radiofrequency Assisted Liposuction - RFAL) from Canada into the UK in June 2009.

He was also awarded a Certificate in APTOS Methods in Face-Lifting Surgery.

His fundamental philosophy in Facial Plastic Surgery and Cosmetic Treatments is to enhance the natural facial beauty without changing or losing the natural facial features and expressions and he always follows his Motto,

“The better we look....the better we feel”.

Dr Ayham Al-Ayoubi is a member of the following associations:

- The Royal Society of Medicine
- The European Society of Aesthetic Surgery
- The European Academy of Facial Plastic Surgery
- The British Medical Association
- The British Association of Cosmetic Doctors
- The British Association of Otolaryngologists, Head & Neck Surgeons
- The American Academy of Otolaryngology, Head & Neck Surgery
- The International Academy of Body contouring and Laser Lipolysis

## **INTRODUCTION**

The most approved laser body sculpting technology in the world.

This document will be your guide on a short trip through the fascinating world of laserlipolysis, an advanced technique in body sculpting and modelling in which, via the use of just a local anaesthetic and a powerful laser light, it is possible to eliminate unwanted fat from any part of the body.

Our goal is to provide you with general information about Smartlipo treatment but it is not that of replacing a visit to see a specialised surgeon.

It will also serve to explain several concepts which were perhaps not clear after the visit, in this way allowing you to obtain precise and complete information which will help you decide whether this technique is suitable for your particular case, so that you may undertake this treatment without any doubts or fear.

## **What is laser?**

We live in a society accustomed to acronyms, those words formed by the initials of the words forming the name. MS, AIDS and ENT are all familiar to us, however with LASER it is another story. Very few people know that LASER is an abbreviation. This word, so used today and heard in so many contexts, consists of the first letters of the words Light Amplification by the Stimulated Emission of Radiation.

The majority of people associate laser with the dancing light at rock concerts, computer use, CDs, the luminous pointers used at conferences, or the swords in Star Wars.

It is not necessary to understand the inner complexity of laser equipment to understand the applications it offers, just as you don't need to know how a car functions in order to drive it. You only need to have a basic knowledge to understand how the instruments work that allow for solving a wide range of cosmetic problems, like wrinkles, marks, hairs, and from now on, also fat deposits. Just think of a light (focus) globe. The rays that this element emits are so greatly dispersed and out of focus that to feel the heat emitted you have to move your hand close to the glass. Laser on the other hand, is such a focussed, highly concentrated and intense light that it is capable of producing a hole and cutting almost any type of material, from human tissues to steel.

The concentration of light produced by the laser is the most brilliant light source known today. The colour of the light emitted by the laser is determined by the substance or medium that fills the inner chamber of the laser lamp.

Each type of laser gets its name from the type of liquid, solid or gas that it contains. For example, if the medium is a solid ruby crystal, we talk about ruby laser and its light will be red.

If it contains a yellow liquid, this is called Dye laser and it emits a yellow light. If it contains a gas like argon, it will emit a blue-green light and will be called argon laser. Each laser emits one single light colour and the colour of the beam determines the type of aesthetic problem that can be solved.

The power of the laser beam is capable of concentrating on a very precise area of the skin tissues or inside organs.

The colour of the laser beam only has one wavelength. Just as we say that two people are on the same wavelength or in tune, the same thing happens with two lasers. Two lasers that emit the same wavelength emit light with exactly the same colour.



## **A brief history**

The first concept of modern laser was outlined by Einstein. This scientific genius studied everything regarding atoms and energy, and the energy sources necessary for causing changes in atoms.

In 1917, he developed the principles necessary for creating a laser system as part of the quantum theory. However, forty years passed before other prominent scientists developed the first functional laser system.

As we are all aware, this Nobel Prize winner, always concerned about acquiring scientific knowledge and remembered for his complete lack of vanity, certainly did not think about cosmetic applications for his ideas. Nevertheless, his work paved the way for these applications.

The first laser equipment was launched on the market in 1965, less than five years after the first laser that actually worked was invented in a laboratory. Argon laser and Carbon Dioxide (CO<sub>2</sub>) lasers were the first used in treating the skin.

The first CO<sub>2</sub> laser was capable of cutting, vaporising and coagulating warts, hypertrophic scar tissue or keloids, and other skin diseases, while sealing blood and lymphatic vessels and nerve endings at the same time.

Compared to surgery with the scalpel, laser promised reduced blood loss, inflammation and pain. Physicians and patients alike are aware that laser surgery is much less invasive than scalpel surgery, apart from which it only takes minutes instead of hours, and causes far less damage to adjacent tissues.

Nevertheless, the first treatments with laser left considerable scarring in some cases. On removing warts and angiomas unacceptable scar tissue remained in some instances. Even though surgeons had a far less invasive instrument in their hands, they still couldn't manage to do away with the scalpel.

With an instrument with such enormous power in their hands, capable of cutting steel and diamonds, they had to find ways of creating a safe laser for using it on fragile human tissues. The method for controlling the thermal damage to the tissues surrounding the area treated was soon to be discovered.

This was just the beginning of the laser boom in cosmetic surgery. Soon after scientific articles began to appear in journals demonstrating the marvels that could be attained by passing the laser over sun-damaged and aged skin. From day to night laser suddenly became one of the most widely exploited technologies in the world of cosmetics.

The explosion of cosmetic plastic surgery during the nineties made treatments possible that couldn't even have been imagined five years earlier. We now have lasers that remodel the cornea, allowing people with sight defects to avoid having to wear glasses. There are also lasers for treating stretch marks and lasers that whiten teeth and make skin grafts without any bleeding.

Today it is difficult for both doctors and consumers to keep up to date with the latest advances. This medical field is developing rapidly, especially seeing that much of what is discovered is immediately incorporated into clinical practice before the studies have been published in scientific journals. In some cases the broad-spectrum follow-ups are not yet available.

## **LIPOSUCTION: A TO Z**

The surgical option, from late 19th century

The surgical technique to remove fat has been performed for many years - the most common example being the tummy tuck - and it works in a very simple way.

You cut the skin, remove the fat and then re-drape the skin.

There are some advantages: you can remove a lot of fat, it is good for the surgeon because they can see what they are doing and you can achieve skin tightening at the same time by removing any loose skin.

The downsides though often outweigh the advantages: it is performed under general anaesthetic, entails a lengthy period of downtime and you are left with a very obvious scar.

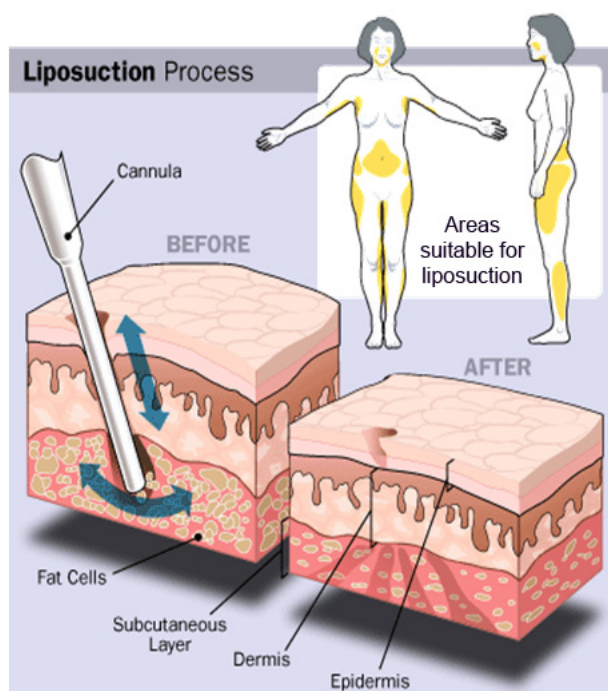
### **Traditional liposuction 1970**

Before the seventies, fat could only be extracted in lumps through large skin incisions which caused extensive permanent large scarring.

In the mid seventies Italian and French plastic surgeons experimented simultaneously with a new and successful method for removing excess fat.

This technique was known by the name of liposuction, lipoaspiration and liposculpture. The greatest innovation of these surgeons consisted of the use of cannula. A type of tube open at both ends which removed large quantities of fat through the incisions, leaving less scarring.

The cannula which was joined to a high vacuum bottle was capable of removing the fat cells by working underneath the skin. It was therefore possible to treat large areas with only one or two small scars.



Thanks to this suction method, remarkable changes were achieved in the body contours of the patients.

Even though these cannulas produced remarkable changes, the instruments were cumbersome and rudimentary. The method therefore called for a general anaesthetic, the bleeding and bruising could be excessive, and the recovery slow and difficult.

Traditional liposuction was introduced in the early 1980s and became the standard technique for the next twenty years,

It works by making a small incision in the skin and sucking out the fat with the liposuction device, but the problem lies in the fact that we have two different types of fat: deep, loose fat and superficial fat.

Liposuction tackles the deep fat but cant remove the superficial fat because it is very vascular, If you attempt to remove it with liposuction you risk too much bleeding and damage to the skin.

It was obvious; we needed to find a solution to the superficial fat.

### **1987 - Tumescence**

One of the most innovative steps forward in liposuction was introduced by an American physician in 1987.

This new form of liposuction under local anaesthetic was known as Tumescant Lipoplasty. Large amounts of liquid consisting of a solution with adrenalin and a much diluted local anaesthetic was infused into the fatty tissue in the areas to be aspirated.

This tumescent solution provided the necessary local anaesthetic during the procedure, allowing the patient to remain calm and comfortable during the operation.

The large quantities of diluted adrenalin in the tumescent solution make the blood vessels in the area contract, therefore reducing blood loss and haematomas to a minimum. Consequently the surgeon can take all the time he needs to remodel the area, aiming for, and achieving far better results. Tumescant anaesthesia also allows for rapid and comfortable recovery, reducing the convalescing time from several weeks to just a few days.

Cases it required blood transfusions, with prolonged recovery times accompanied by profuse bruising. In fact, some surgeons still continue to use this old type of liposuction today and recommend the transfusion of a one unit of blood for every litre of fat aspirated.

Tumescant Lipoplasty instead does not require any transfusions and bruising is kept to a minimum. While the results of the old type of liposuction consisted of being able to remove the fat without extensive scarring, with Tumescant Lipoplasty it is possible to sculpt treated part of the body and improved figure.

Small, more delicate cannulas produce smoother contours, achieving a greater slimming of the skin allowing it to fit snugly over the new structure that is carved in the fat. Seeing that there is no blood loss, extensive areas can be treated in one single session with the achieving of really spectacular changes.

### **Proven safety**

Tumescent anaesthesia has become a refined technique with predicable results and is now applied all over the world.

Thanks to tumescent anaesthesia it is possible to drastically reduce the bleeding and bruising, achieving great comfort and safety for the patient and providing really superior results.

An American study published by Dr. Hanke, Dr. Bernstein and Dr. Bullock in the Dermatological Surgery Journal in 1995 demonstrated how more than 15,000 operations which included 44,000 areas carried out with tumescent anaesthesia by 66 different surgeons did not give rise to one single case of death, nor were any blood transfusions or emergency interventions necessary.

### **Other alternatives, the 1990s**

All research at the time was dedicated to finding ways to tackle the superficial fat. The first approach was applying heat to the surface of the skin in an attempt to emulsify the superficial fat underneath - not through an incision - and lots of different forms of energy were experimented with, including laser, radiofrequency and ultrasound.

These techniques were often combined with traditional liposuction. but they didn't have the desired result because the more energy you apply through the dermis, the more you risk damaging or burning the skin before you even have an impact on the fat underneath.

## Different Types of Liposuction



Smartlipo  
First Generation



Smartlipo MPX  
2nd Generation  
Laser Assisted Liposuction



Smartlipo Triplex  
3rd Generation  
3 laser wavelengths  
Laser Assisted Liposuction



BodyTite  
Radiofrequency  
Assisted Liposuction



Mesotherapy  
Chemicals



Liposuction Variations  
UAL, WAL



Ultrasound  
Radio Frequency  
Cooling / Non Invasive



Body Jet  
Liposuction



LipoSonic  
Radiofrequency  
Assisted Liposuction

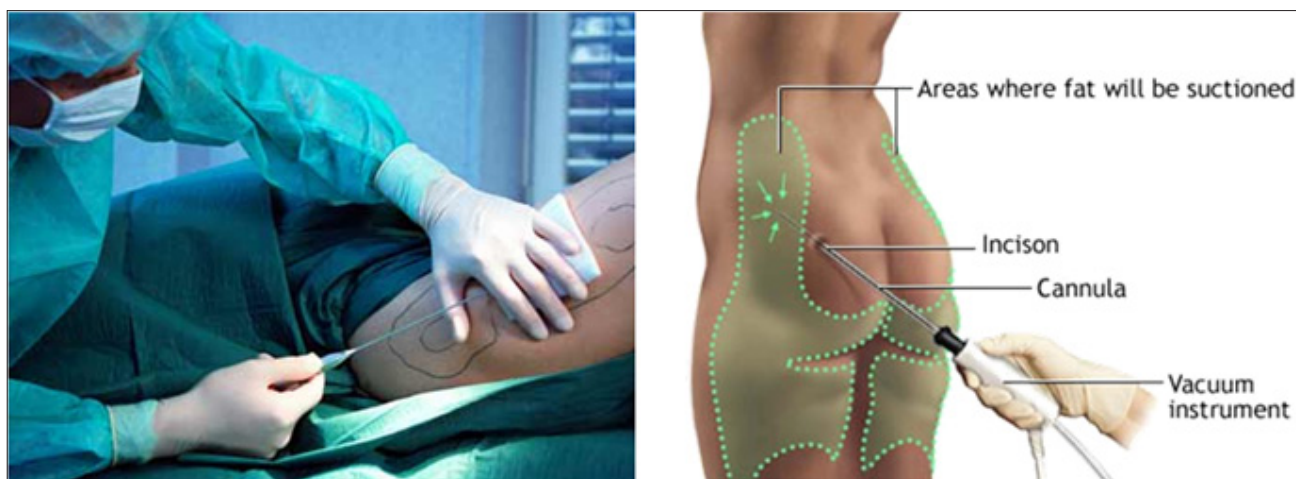


Vaser  
UltrasonicEnergy  
Assisted Liposuction

## Energy-assisted liposuction

The body contouring market has grown to meet demand and radiofrequency-assisted liposuction is the latest addition. Reviews of the technologies available for energy-assisted liposuction and an explanation of why the BodyTite device could have the edge on its competitors

According to the World Health Organization, the prevalence of obesity has increased by 10-40% in most European countries in the past 10 years (WHO, 2003). Similar trends can be seen in the United States; in 1990, not a single US state had a BMI over 15% but by 2007, only one state had a BMI of less than 20% (CDC, 2009). Body contouring solutions have therefore grown to meet market demands. Pioneered in Europe in the early 1980's, liposuction has quickly spread to be today's most popular procedure.



Almost all types of energy have been combined with liposuction in an attempt to improve patient experience and results. This article is intended to review the energy-assisted liposuction market and outline the specific features, advantages and disadvantages of each method.

## Ultrasound-assisted liposuction

(UAL) is based on selective mechanical destruction of adipose tissue through a cavitation process, created by high frequency acoustic waves generated at the cannula tip. This mechanical action selectively destroys adipose tissue with minimal effort for the physician. In addition, the emulsification of tissue allows for more effective aspiration. This method is popular for the treatment of fibrotic tissue, which is common in male patients, or those who have had previous surgery in the treated area.



- Surgeon ease, especially in fibrous tissue
- Less blood loss
- High energy, low efficiency
  - Probe size requires greater energy
- Smooth (no grooves) probes
  - Energy focused at tip
  - Tissue matrix may be ablated
  - Hollow design suctions protective fluid during emulsification
- Potential risks
  - Thermal damage
  - Potentially uneven results
- Improper training/steep learning curve

An inherent part of the UAL procedure is the use of a plastic port protector, which isolates the skin from the oscillating cannula and minimises the risk of port burn. The drawback of the protector is an increase in incision size to 5-8mm, which is not favourable for dark and Asian skin, which has a higher risk of hyperpigmentation scars.

Energy Source	Ultrasound
Power / Speed	High Frequency / Fast Treatment
Safety Devices	N/A
Primary Mechanism	Emulsification and Aspiration with cannula probe
Treatment Limitations	Limited tightening, loose skin remains.



Skin contraction is not an obvious feature of UAL. The increase of temperature in the treated area—from the partial conversion of mechanical energy into heat—is not significant, and skin tightening observed after the UAL has not been proven to be superior to traditional liposuction.

### WAL - Body Jet Liposuction

Energy Source	Saline Spray
Power / Speed	High Frequency / Fast Treatment
Safety Devices	N/A
Primary Mechanism	Saline spray releases fat cells from connective tissue loosening the structure and releasing adipocytes.
Limitations	Too aggressive for small, delicate areas. Limited tightening, loose skin remains.



### Non-Invasive / Non-Surgical Liposuction

- No anesthesia, surgical risks, or downtime.
- Results vary and are subjective.
- Companies have developed a number of body shaping devices using:
  - Radio Frequency
  - Cooling (Cryolipolysis)
  - Massage / Suction of the Skin
  - Ultrasound
  - Heat Energy (Low Level Laser Therapy)
  - Dermo-electroporation (Drug Delivery "aka" No Needle Mesotherapy)





## **Laser-assisted liposuction**

(LAL) is a two-stage procedure. In the first stage, laser energy is delivered to the tumescent adipose tissue through an optical fibre, resulting in the coagulation of adipose tissue which heats the subcutaneous tissue. Liquefied fat is then aspirated gently, with less bleeding.

The popularity of LAL was driven by the ability of the laser to provide improved skin tightening. Around 20 types of laser—from an equal number of manufacturers—are available with variations in parameters and features, with all performing the same adipocyte liquefaction.

The added value of the LAL over these liposuction modalities is the heating of the reticular dermis and thermal-induced skin contraction. A comparative study of traditional suction-assisted lipectomy versus LAL shows an average of 17% contraction in surface area following LAL, while natural contraction after traditional liposuction was 11% (ASAPS, 2008).

The inherent weakness of LAL is the delivery of power through the tiny fibre having a diameter of less than one square millimetre. The strong concentration of laser energy near the fibre tip creates a risk of hot spots and under-treated areas. Although the small diameter of the LAL cannula allows a smaller incision port size, this can cause the thin cannula to be more flexible, resulting in less control on its position, particularly during treatment of fibrotic tissue.

While LAL provides effective and quick results for small areas such as the neck or arm, it is not a convenient method for treating large areas such as the abdomen, thighs or hips because of the relatively slow speed of treatment. The average treatment time for one thermal zone of 5x5cm is around 4-5 minutes. For a typical abdominal zone, the treatment time is usually longer than one hour.

## **Radiofrequency-assisted liposuction**

(RFAL) is the newest addition to the liposuction family and can be found only in the BodyTite device, manufactured by Israel-based Invasix Ltd. RFAL uses RF energy to deliver a thermal effect to the adipose tissue, skin and sub-dermal matrix.

RFAL technology uses two electrodes—one external and one internal, connected by a handpiece—which contribute to creating a thermal profile.

The internal cannula delivers directional RF current through the adipose tissue up to the external electrode. This electrode contains a thermal sensor allowing the operator to monitor the skin temperature continually to ensure desired thermal effects are reached.

The internal electrode acts as an aspirating cannula and simultaneously delivers the RF current while aspirating pre-coagulated tissue. This saves the physician time and makes it the only one-stage energy-based procedure on the market.

The BodyTite system provides real-time monitoring of the skin temperature and a power cut-off mechanism. When the desired temperature is reached during

treatment, the system automatically turns the RF energy off to avoid overheating.

If the temperature in the zone starts to drop, or when the handpiece moves to a new zone with a lower temperature, the RF energy becomes active again. The cut-off temperature can be adjusted to tailor to more aggressive or conservative approaches.

The handpiece controls treatment depth from 5-50mm, allowing uniform treatment over not only the treatment area but also through the depth of the subcutaneous tissue. This uniform heating is a basis for safe and effective tissue tightening.

Initial contraction studies show immediate linear contraction of 15% and long-term linear contraction of 30-40% over 12 weeks, enhancing the contour results in patients with marginal or compromised laxity. These features and benefits allow RFAL technology to expand the patient base to obese individuals and patients with loose skin who were not candidates for traditional liposuction.

Energy Source	Radio Frequency
Power / Speed	50W, 75W
Safety Devices	N/A
Primary Mechanism	Laser energy delivered with Pre-sterilized tips: 100 mm, 175 mm, 275 mm
Limitations	Diode lasers do not deliver a haemostatic effect, thus more bleeding can be observed during treatment



**Myriad choices**

There are now a myriad of suctioning technologies and devices available to physicians to serve the growing body-contouring market. The most successful and appealing of the liposuction technologies are energy-assisted systems, because the delivered heat results in coagulation of adipose tissue and blood vessels, gentler aspiration and thermally induced soft-tissue contraction.

The RFAL procedure provides an effective tightening effect for increased patient satisfaction by reducing pain, bruising and swelling while providing an effective body contouring figure.

## **1999 - LASERLIPOLYSIS**

### **What is Smartlipo – Laser Body Sculpting?**

Laserlipolysis is an advanced technique for removing excess fatty tissue from areas of the body that are resistant to dieting and exercise.

The surgeon artistically sculpts the body into a new shape, using the technology that delivers a specifically calibrated laser beam to act on the cells that contain fat.

This technique produces less bruising and less blood loss, ensuring an easier, faster, and more comfortable recovery, apart from which it also offers better results than the more traditional liposuction.

This advanced technique allows for reducing the localised adipose tissue without the need to aspirate the fat as it is destroyed inside the tissue itself due to the specific effect of the laser. The Nd-YAG laser has a selective wavelength for fatty tissue producing a thermal and mechanical effect that provokes the rupturing of the membrane adipose cells, transforming them into an oily emulsion which is then absorbed and eliminated by the body.

### **Brief Information about Laser Body Sculpting**

The success we experienced with the original Smartlipo device was greater than I thought it would be.

Plastic Surgeons recognize the demand for less invasive cosmetic procedures. Everyone has realized that no longer having a clinic based only on plastic surgery is enough, as patients are going to clinics offering Smartlipo treatments because Smartlipo provides good results and is less invasive.

I must stress here that Smartlipo is not a lunch break fat removal treatment. Proper techniques are required.

Smartlipo - Laser-guided liposuction is not just placing a cannula under the skin for a short time and then saying: “we did the procedure!” Physicians can spend a whole day just learning how to enhance the results of liposuction. It is an exacting and time-consuming process that requires attention to detail and consistency throughout the operating area.

Most importantly, it is the delivery of a significant amount of energy to the deep layer and a complete heating of the dermal layer to a temperature at or close to 40° C. A typical lower abdomen would require between 50 and 80 thousand joules of energy to achieve the desired results of fat reduction.

The Smartlipo treatment was a revolution in the philosophy, principles and technique of fat reduction and body sculpting and the Smartlipo MPX is the evolution of this revolutionary technique.

As medicine progresses day by day, added to all these advantages there is now the most modern laser technology with the incorporation of laserlipolysis.

This advanced technique allows for reducing the localised adipose tissue without the need to aspirate the fat seeing that it is destroyed inside the tissue itself due to the specific effect of the laser.

The Neodimium-YAG laser has a selective wavelength for fatty tissue producing a thermal and mechanical effect that provokes the rupturing of the membrane adipose cells, transforming them into an oily emulsion which is then absorbed and eliminated naturally by the body.

In some cases it can also be associated with tumescent lipoplasty, especially in large fat accumulations. In these cases each techniques adds its own advantages for achieving the best results.

- 1- The tumescent solution is injected into the fatty tissue through a very fine needle.
- 2- The liquid not only anaesthetises the area but also sensitises the adipose cells, making them become more fragile.
- 3- The optical fibre which conducts the light begins to emit the laser, transforming the fat into an oily emulsion and reducing the thickness of the localised fatty tissue.
- 4- The adipocytes dissolve and release the fat they contain which is absorbed and eliminated in a natural manner.

### **What does laserlipolysis with peristaltic tumescent anaesthesia actually mean?**

Laserlipolysis under peristaltic tumescent anaesthesia is the combination of the most modern and safest techniques that exist today for achieving the permanent modelling of fatty tissue.

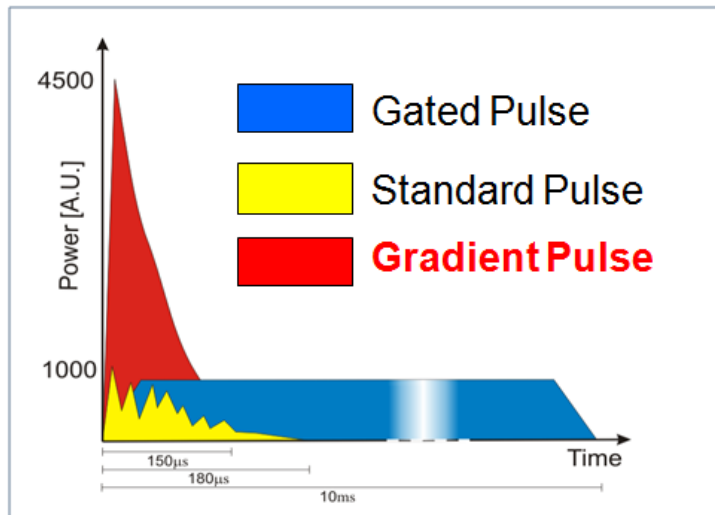
Tumescent anaesthesia is a technique invented in 1987 in the USA by Dr. Jeffrey Klein and is used by thousands of surgeons thanks to its safety of execution and its successful results.

It basically consists of the use of vast quantities of much diluted lukewarm anaesthetic liquid which relaxes the fatty tissues and softens them, thus facilitating the extraction manoeuvres.

Laserlipolysis is a system that destroys the fat by means of the laser which was invented in Italy by Dr. Massimo Maida in collaboration with DEKA. Leading Italian company in the design and development of medical lasers. It was introduced into the UK by Dr Ayham Al-Ayoubi in June 2006 after which he developed his own advanced techniques in Smartlipo laser treatment and body sculpting and in August 2008 he introduced the evolutionary Smartlipo MPX system by Cynosure from the USA into the UK and Europe.

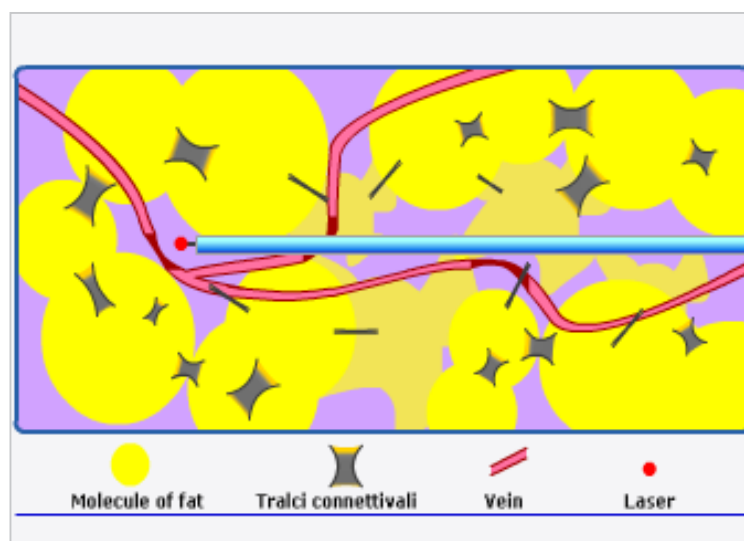
## How Laserlipolysis/Smartlipo works

Smartlipo's pulsating laser beam has a photo-mechanical effect rupturing the fat cells' membrane.



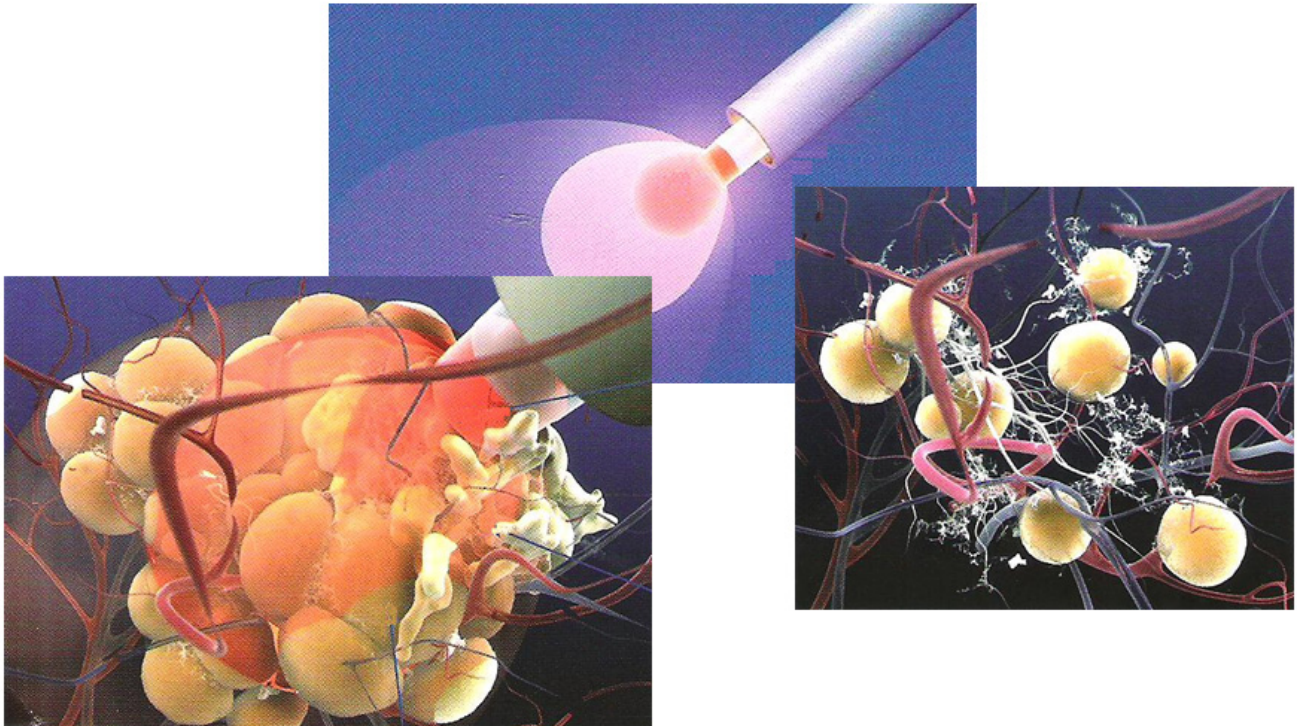
- Utilizes high peak power laser pulses to rupture adiposities without charring tissue
- The laser's photo-thermal and photomechanical effects resulting in:
  - Heating and disrupting fat cells
  - Coagulation of tissue resulting in tissue tightening
  - Hemostasis of blood vessels causing less bleeding and bruising

Also it has thermal effect which melts the fractured fat cells and coagulates small blood vessels which reduce the bleeding to minimum. Both effects together (Photo-dynamic and Thermal) will give the skin tightening results.



The areas to be treated are marked with a special pencil and each is divided into segments of 5x5cm. A small incision 1-2mm is made with a micro-scalpel in which the local anaesthetic is injected. The local anaesthesia is carried out via longitudinal infiltration of the subcutaneous fatty tissue in anything from ten to twenty directions in order to form a network.

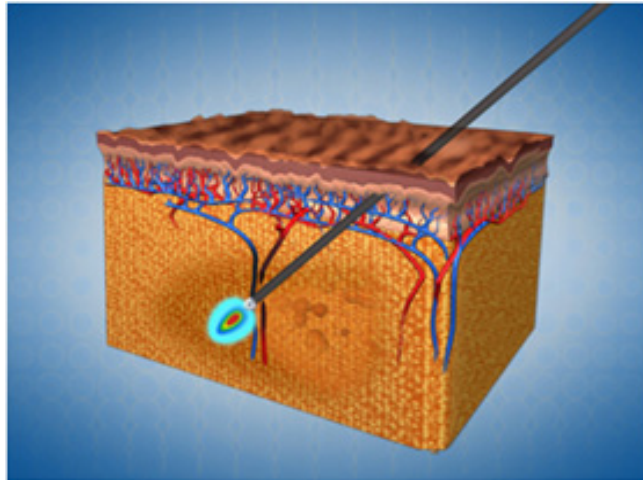
### Smartlipo laser energy ruptures the fat cells membrane only



The optical fibre of the laser is inserted into the same incision created for the infiltration of the anaesthetic solution. Its transit through the skin is monitored by means of the guiding light on the laser device itself. The actual treatment begins by slowly moving forwards lengthwise following the lines traced on the skin and trying to constantly maintain the same speed of movement.

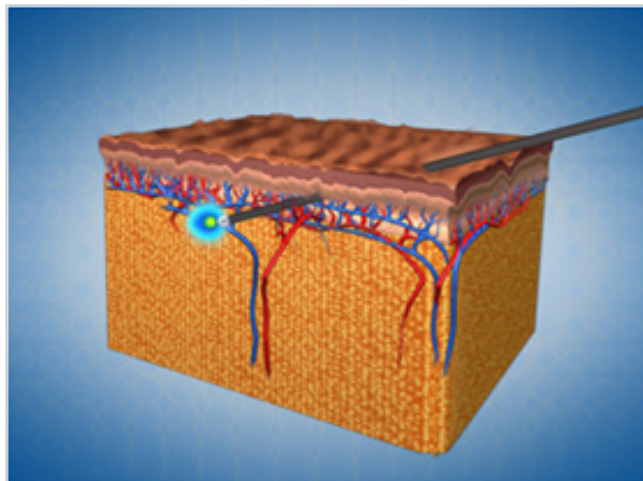
## 1- Melting the loose fat

Smartlipo laser treatment melting the deep loose fat.



## 2-Lasering the superficial fat and tightening the skin at the same time

Smartlipo laser treatment, lasers the superficial fat



Over the last few years Dr Al-Ayoubi has taken the Smartlipo treatment further and developed his own technique for patients with much larger areas of fat. This combines Smartlipo and gentle suction at the same time.

The deep fat is lasered first followed by the superficial fat and finally the fat is suctioned out. This produces great results and is relatively painless. Dr Al-Ayoubi always reminds his patients that it is not possible to have any procedure without some discomfort, but this is a very good and safe procedure.

The skin tightening in some areas like hips is immediate patients often like to see results straightaway, they don't like to be told that it can take many months. It is also done under local anaesthetic so there is no need for a general anaesthetic or to stay overnight which also means that it can be done on patients who aren't suitable for a general. There are no stitches, just a very small incision that heals very well and quickly. By three or so months the patients can see the final result.

## **Laserlipolysis in different parts of the body**

Nearly all the areas of the body can be improved aesthetically thanks to laserlipolysis. During the first examination, the patient has the option of treating one or more areas at the same time. In order to reach optimal results, the doctor will indicate the areas, and in which order they must be treated for ensuring the best body shape.

Small areas of stubborn fat response very well in very short period of time and patients can see about 40-50% of fat reduction immediately after treatment with some noticeable skin tightening effect and within 2-3 months they can see a significant result with fat reduction and tightened skin.

Hips even large one in size usually response very well to the Smartlipo treatment and patient can see faster results than the abdomen (especially large abdomen) which usually take up to 3-4 months to see the final result.

The LASERLIPOLYSIS treatment does not call for hospitalisation or a general anaesthetic as it is carried out as a day case surgery procedure in a proper surgical laser operating theatre and it is defined by the Healthcare Commission in the UK as a minimally invasive laser surgical procedure.

It allows for a rapid recovery and return to a normal lifestyle after one day of the treatment.

The results are permanent and produce a harmonious body profile within a very short time without excessive traumas or aggressive treatment.

The deposits of fat in the jaw, waistline, hips, abdomen and inner and outer thighs, knees and legs are the areas where laserlipolysis produces the most spectacular results.

“Normally any area with an excess of adipose tissue can be improved with laserlipolysis.

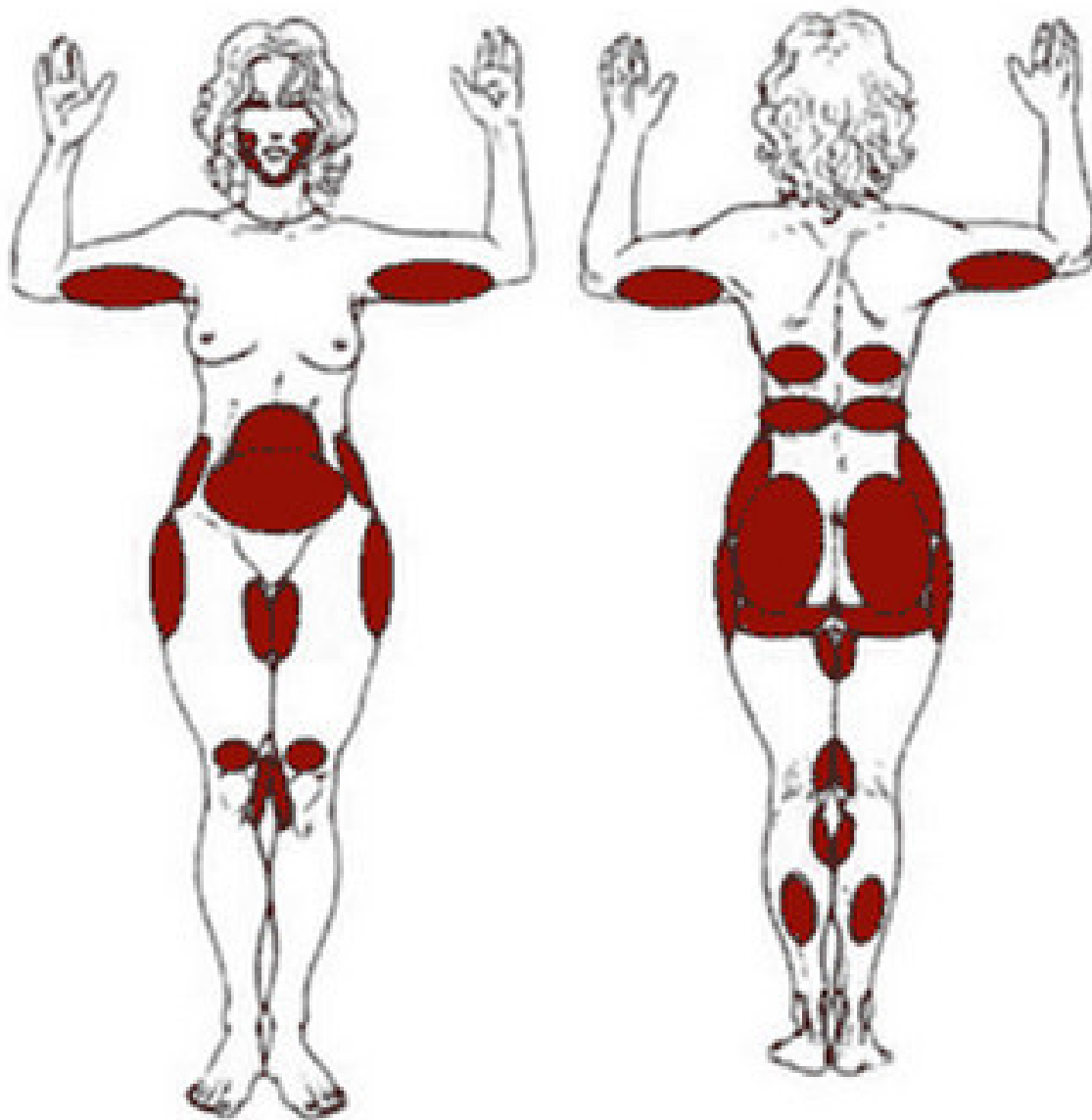
In women, the most frequently treated areas are the abdomen, hips, thighs, knees and arms.

In men, the “love-ring”, abdomen, and enlarged male breasts (gynecomasty) are the most frequently treated areas.

An excess of transpiration in the armpits can also be attenuated with this technique. The sweat glands under the arms can be removed without any adverse effects.



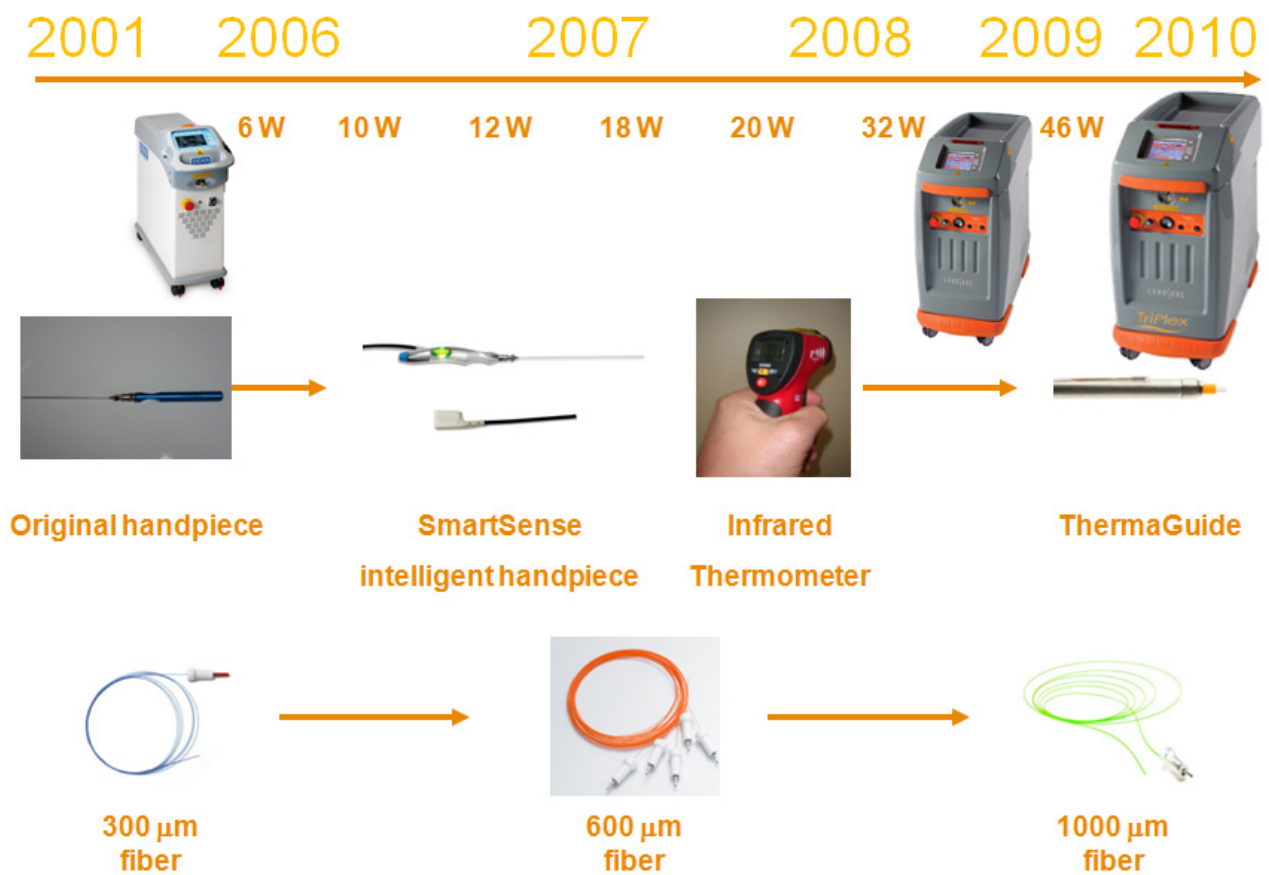
- Face
- Back
- Bra strap
- Mons pubis
- Breasts (gynecomastia)
- Thighs (saddle bags)
- Hips
- Buttocks
- Knees
- Upper arms
- Chin
- Cheeks
- Neck
- Areas of loose and flabby skin



# All types of Smartlipo

Innovation of Technology

The Original Pioneers





### Smartlipo First Generation Laser Lipolysis

The Smart Lipo Nd:YAG (Smartlipo DEKA Laser System) was introduced into the UK from Italy by Dr Ayham Al-Ayoubi in June 2006.

It was the result of a concept that combines all the new generation laser technology with the advantages of compactness and reliability.

Smartlipo possesses the outstanding features necessary for exalting its operating performance.

The Smartlipo is a laser system that can reach extremely high frequencies for very brief periods, even several millionths of a second, plus it has electronic control of the emitted power and the laser pulses.

These features of Smartlipo also mean that the laser emission can be considered as minimally thermal due to the energy being concentrated in very brief pulses.



Energy Source	1064 nm
Power / Speed	6W – 18W / up to 80 Hz
Safety Devices	N/A
Primary Mechanism	Heat and Photo acoustical energy delivered via 300 / 600 µm optical fibers with cannula
Treatment Limitations	Not intended for large volume reduction. Cannot be used in conjunction with fat grafting procedures.

## Evolutionary Smartlipo MPX Laser Assisted Liposuction

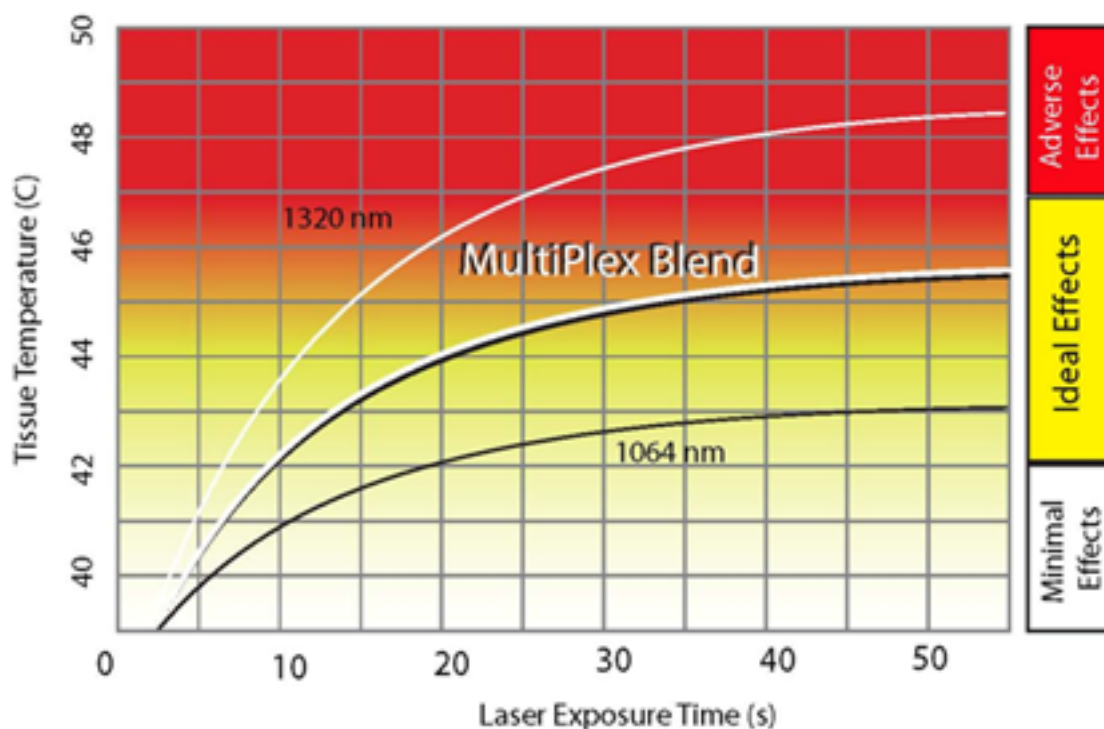
Smartlipo MPX is the first dual-wavelengths laser system (this Smartlipo machine has two different lasers working at the same time) for body sculpting.

As with the original Smartlipo workstation, Smart Lipo MPX is a minimally invasive laser lipolysis system. The system's proprietary pulsing format delivers laser energy through a cannula to liquefy the fat, which is then removed from the body.



The Smart Lipo laser energy also coagulates the tissue, thereby sculpting body contours and tightening the skin.

The Smart Lipo laser liposuction procedure generally causes less bleeding, swelling and bruising than traditional liposuction, resulting in fewer complications and a more rapid recovery time.



**Smartlipo MPX = Best of both wavelengths**

- Enhanced safety
- Faster treatment time
- Superior lipolysis and skin tightening outcomes

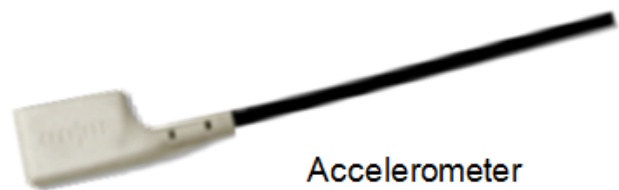
Smartlipo MPX is equipped with a feature known as ThermaGuide which constantly measures the temperature under the skin and controls the output of energy, ensuring that the treatment area stays within a safe range so that it is hot enough to work efficiently, but not so hot as to cause the patient harm.

Smartlipo MPX is also equipped with a feature known as SmartSense.

An intelligent delivery system that allows a precise distribution of energy that allows for safe, consistent patient outcomes.

- Detects movement within the handpiece.
- Calculates laser energy to provide even distribution of energy according to the speed of movement.

- Accelerometer Chip is contained in the handpiece
- Accelerometer measures speed and transmits voltage to the Smartlipo
- Intelligence within the machine determines the appropriate energy based on Sensitivity Rating

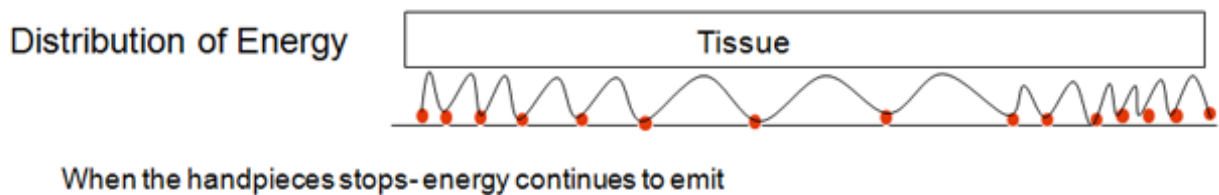


Accelerometer

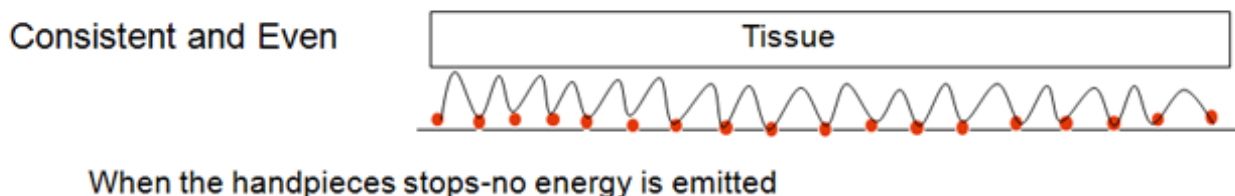


Handpiece  
(Aluminum w/Nickel Plating)

### Without SmartSense



### With SmartSense



The SmartSense delivery system contains an advanced microchip called the Accelerometer, which is inserted into the intelligent handpiece. Based on the setting you choose (high, medium, or low) and the motion of the intelligent handpiece, the precise laser power is metered and delivered.

Smartlipo MPX - the first Laser Body Sculpting platform to:

- Give safe and consistent distribution of thermal energy supported with extensive clinical studies and research
- Reduce treatment time by blending the clinical benefits of the two wavelengths
- Combine the properties of two wavelengths for effective lipolysis and tissue coagulation resulting in tissue tightening
- Feature a unique intelligent delivery system (SmartSense device) for safe and uniform energy delivery

Energy Source or Wavelengths	1064 nm 1320 nm
Power / Speed	Up to 46W / Up to 40 Hz
Safety Devices	Motion Sensing and Temperature Sensing Cannula
Primary Mechanism	Heat and Photo acoustical energy delivered via 300 / 600 optical fibers with cannula
Treatment Limitations	Cannot be used in conjunction with fat grafting procedures



## Smartlipo Triplex - Third Generation Laser Assisted Liposuction

Dr Ayham Al-Ayoubi of London Medical and Aesthetic Clinic has led the way yet again by introducing the very first evolutionary SmartLipo Triplex from the USA into the UK and Europe in 2010.

A new member to the laser lipolysis field, the SmartLipo Triplex, offers greater fat reduction and skin tightening.

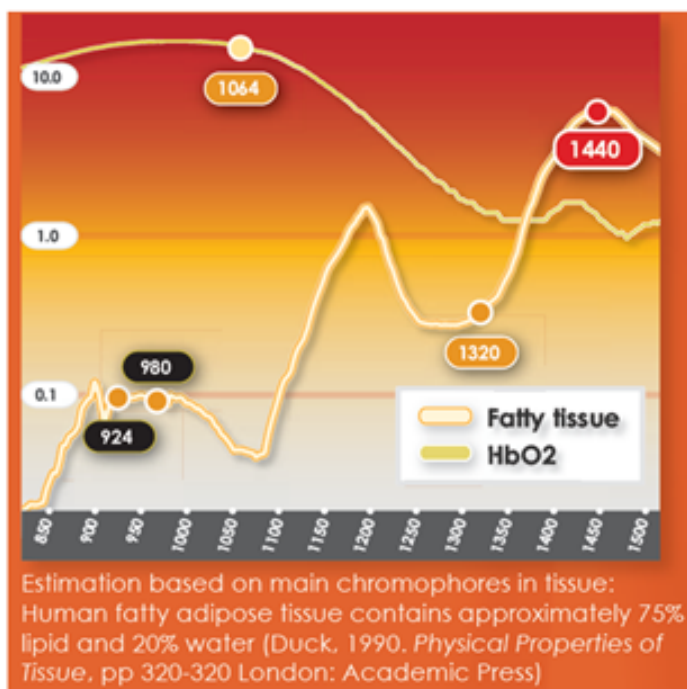
The SmartLipo Triplex Laser was recently released and is an improvement upon the SmartLipo MPX series.

The Triplex adds another benefit to the original Smartlipo system with an additional wavelength. It is the first laser lipolysis technology that uses three wavelengths which are well absorbed by fat.

SmartLipo Triplex adds a 1440 nm wavelength to the MPX generation of the laser. The three wavelengths are combined in one laser output. Two wavelengths fire sequentially, liquefying the fat and tightening the skin with collagen stimulation.

The 1064 and 1440 wavelengths combine for fat liquefaction and the 1064 and 1320 wavelengths combine for collagen stimulation and blood vessel coagulation.

- 1440 nm has highest absorption in fatty tissue
- 1064 nm broadly absorbed by Hb resulting in enhanced hemostasis for less surgical trauma and faster recovery
- 1320 nm highly absorbed by water. Energy delivered is localized at the tip of the laser.



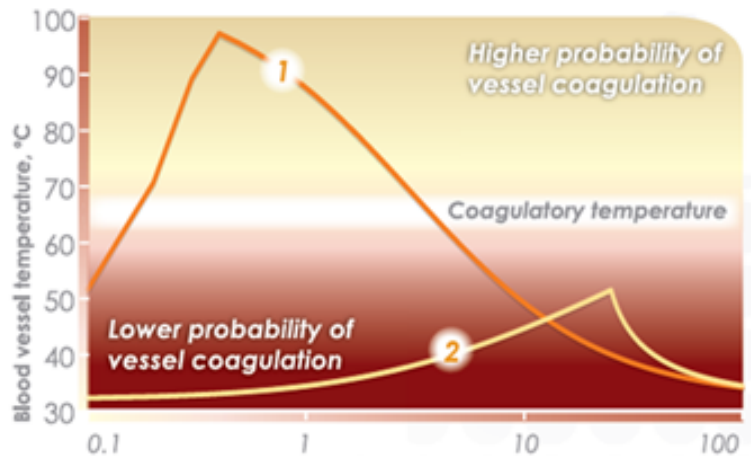
This combination provides both fat reduction and skin tightening so that patients can often avoid additional procedures to remove the loose skin people often experience after liposuction.

Smartlipo Triplex is also equipped with a feature known as ThermaGuide which constantly measures the temperature under the skin and controls the output of energy, ensuring that the treatment area stays within a safe range so that it is hot enough to work efficiently, but not so hot as to cause the patient harm.

Finally, we had a breakthrough; Smartlipo works by making a tiny incision, under local anaesthetic, and then emulsifying the fat by rupturing the membrane of the fat cell using the light, not the heat, of the laser. The contents of the fat cell leak out and the cell itself no longer has a function so is removed by the body.

A pulsed structure provides a shorter pulse duration than the thermal relation period

Continuous wave does not provide the peak temperature level to achieve consistent coagulate effect



The first machine had six watt energy and was fantastic in small areas such as under the chin, and for small amounts of tummy or thigh fat but I had many patients wanting much larger areas dealt with. The machine wasn't producing the results wanted and the length of the procedures meant discomfort for the patients.

Energy Source or Wavelengths	1064 nm 1320 nm 1440 nm
Power / Speed	Up to 46W / Up to 40 Hz
Safety Devices	Motion Sensing and Temperature Sensing Cannula
Primary Mechanism	Heat and Photo acoustical energy delivered via 300 / 600 / 1000 µm optical fibers with cannula
Treatment Limitations	Cannot be used in conjunction with fat grafting procedures





### **Other alternatives:**

Bodytite. Introduced into the UK last year, this uses radiofrequency and, at 75 watts, is very powerful. It is suitable for large areas but doesn't produce the same skin tightening as MPX, nor does it have the flexibility when dealing with rounded areas such as the inner thigh. It doesn't have the same range of safety features as MPX, which is invaluable even for an experienced surgeon.

Vaser. Reliant on ultrasound, this is good for small areas but doesn't give the skin tightening of Smartlipo. It works by vibrating the fat cells and damaging them but it can also damage the tissue around it causing pain and bruising. It can also cause irregularities. It has its place but has pros and cons as all systems do.

Other lasers. Targeting the fat cells not the membrane, they can produce unwanted dead tissue under the skin.

### **Realistic Expectations**

Everyone must be realistic with regard to the limitations of any sort of technique.

Even though Laserlipolysis by itself or associated with tumescent lipoplasty is capable of remodelling extensive areas with excess fat, it is not capable of altering the basic structures of the skeleton and muscles.

If a person has large bones, this cannot be modified. In these cases, it is possible to remove the fat in order to attenuate the defect produced by these bones, obtaining significant improvements.

During the visit we describe the possible results that you can achieve with these techniques.

We show you photos of patients before and after Laserlipolysis so that you can get an idea the results that can be achieved.(the pre and post operative photos will be only an examples of what can be achieved but it never indicates that the patients will have the exact same result as every person is extremely individual)

In this way you are able to decide whether we are in the condition to be able to find a solution for the problem afflicting you.

Even though Laserlipolysis by itself is capable of remodelling extensive areas with excess fat, it is not capable of altering the basic structures of the skeleton and muscles.

Nearly all the areas of the body can be improved with Laserlipolysis. You have the option of treating one or more areas at the same time.

During the initial consultation, we will describe the results you can expect, and the order in which these areas should be treated. In this way, we can discuss a treatment plan to achieve the best body shape to suit you.

## **Frequently Asked Questions**

### **How effective is the treatment?**

Visible results are seen immediately with suction. However, it will take 2-3 months post-treatment to start seeing significant results of the treatment. If large amounts of fat are to be removed, a stepped programme will probably be advised to allow for gradual reshaping. Fat can be removed from almost any part of the body.

### **Side Effects?**

No, the majority of cases there are no side effects. Occasionally, however, there may be a temporary bruising of the skin around the area of treatment and slight discomfort usually lasting for a day or two.

### **Does it hurt?**

No, Smartlipo is a minimally invasive surgical procedure and is administered under a local anaesthetic. There may be a sensation of tugging and some minor stinging but this is very tolerable.

### **Are the results permanent?**

Yes, it is a very effective treatment. However, Smartlipo like any weight loss programme needs a sensible diet and a healthy lifestyle to maintain peak condition and efficacy.

### **Can Laserlipolysis be used to treat obesity?**

No, laserlipolysis is not designed to treat obesity. However, Smartlipo with suction can be used to treat two or more large areas in a person who is overweight and who finds it quite difficult to lose weight. A person with obesity, who requests Laserlipolysis, is always recommended to try losing weight by other means first.

### **Can Smartlipo be used for skin tightening alone?**

Yes, especially with the Smartlipo MPX system which has 2 laser wavelengths. The setting of the laser can be used in such a way to treat loose skin with very effective results.

### **Can Smartlipo work on cellulite and stretch marks?**

Smartlipo (treatment) and specifically Smartlipo MPX system has the ability not only to reduce fat and tighten the skin but has the ability to treat cellulite. The laser energy can be set up in such a way that it is designed to tighten the skin and improve cellulite appearance by giving significant skin tightening effects. As regards to stretch mark improvement, there is so far no proven clinical study. However there are some patients who have noticed some improvement regarding their stretch marks after Smartlipo treatment.

## **Will I have saggy skin after the Smartlipo treatment?**

NO, it is the other way round. After the Smartlipo treatment the patient usually has a significant skin tightening effect especially if the surgeon uses the Smartlipo MPX system. This system has the ability to introduce an adequate amount of laser energy, heating the dermis (skin) and the fat within safe parameters, which will give the skin tightening effect.

### **For any age**

The patient's age is no limit for carrying out this technique. Patients of any age can feel safe to undergo laserlipolysis.

People aged from 18 to 80 have benefited from laserlipolysis. The obtaining of positive results depends more on a good skin tone and the level of physical activity than the biological age of the person undergoing this treatment.

### **After extraction will the fat grow back again?**

Laserlipolysis dissolves the fatty cells and it is not possible for them to reproduce themselves. You're new, more harmonious, and attractive silhouette is permanent. If the patient puts on weight again the increase will tend to be distributed proportionally over the entire body. The same applies for a weight loss.

The total number of fat cells in the body of an adult after adolescence is constant. The greater number of adipose cells located in a specific site, the more difficult it will be to reduce this area by dieting alone. The increase in weight is due to the increase in the size of the existing cells, not the creation of new cells.

This is why dieting reduces the size of all the cells in a proportional manner, leaving the body without any significant changes.

### **Permanent Results**

The effects of Laserlipolysis are permanent as this method not only destroys the fat, but also the "blisters" in which the fat accumulates.

As the organism does not have the capacity to produce new cells of this type, the areas treated are not able to re-expand again.

If the person puts on weight after the procedure, the excess fat will be distributed throughout the other areas and it will find its way back into the treated areas.

No new adipose cells will be generated in the sites where this Laserlipolysis treatment has been carried out.

## **What kind of results can I expect?**

Even though the results of laserlipolysis can be quite spectacular, it is not realistic to hope for perfection.

Laserlipolysis enhances the body with a new contour thanks to the reducing of centimetres in localised areas; however it is not sufficient for achieving a harmonic figure. The tonicity of the skin and muscles also play an extremely important role in the appearance of people.

On some occasions it is necessary to surgically extract the excess skin and fat in order to complete the results of the laserlipolysis.

The problem known as “cellulite” or the flabby and wrinkled appearance of the kin, very frequent in women, can also be improved with laserlipolysis.

Minor bleeding and a reduced formation of haematomas have also been observed with respect to the old type of liposuction. Normally it is only necessary to take an analgesic to overcome any post-op discomfort after laserlipolysis combined with the tumescent and peristaltic technique.

To sum up, laserlipolysis with the tumescent technique has demonstrated that it is capable of producing more harmonious results even in large areas of fat, minimising haematomas and swelling, and all of this with a mere local anaesthetic.

At the end of the treatment the fatty tissue will be more compact and have greater tone without any surface irregularities. Due to the lipolysis effect produced by the laser, the body contours improve day by day, providing the expected results within 30 to 90 days.

## **Will my skin contract to fit around my new contours?**

The skin is an elastic structure. Laserlipolysis respects these properties and to a certain extent stimulates them, provoking a re-adapting of the casing (skin) around the contents (fat). Pregnancy is a perfect example. The abdominal skin in the majority of women contracts after childbirth.

## **Pre-operative tests**

Before deciding on laserlipolysis, as with any type of plastic surgery, various blood tests might need in some cases where it is medically indicated and this will be decided during the consultation.

The patient should not take aspirin or ipoprofen for 1 week prior to the treatment.

## **Informed consent**

As with any other surgical operation you will be required to sign a document that indicates that you have read and understood what the procedure known as laserlipolysis consists of. The aim of this book is to inform you about everything that takes place with this type of surgery as there is no better patient than the patient who is aware of what is going to happen.

## **Preoperative instructions**

The following are several recommendations to be kept in mind before the operation. From this moment on Try to stop smoking, as cigarettes reduce the blood circulation and make the healing of wounds more difficult. Do not take aspirin or Ibuprofen as they may interfere with the coagulation. Limit any supplementary intake of vitamin E tablets. If you are taking any prescribed medicine, do not interrupt the therapy without first talking with us.

## **The day before**

Check the time of your operation. One of our assistants will call you to confirm the exact time. If for any reason you do not receive a call from us, please call us to confirm the time.

Personal cleanliness: you are advised to have a shower in the morning and to wash the areas to be operated on.

Meals: have a light breakfast, avoiding heavy or spicy foods.

## **On the day of your operation**

At the time of fixing the date of the operation, you will receive all the necessary material containing the instructions to be followed prior to the surgery which will help you prepare for the laserlipolysis.

What we explain to you following however, will give you a better idea of the actual surgical laserlipolysis experience and describe in detail the results you can expect.

We always ask the patient to arrive at our clinic at least half an hour minutes before the time fixed for the operation.

We always recommend that you arrange for someone to come and pick you up afterwards, especially if you have been administered a tranquilliser, which will normally be the case. Even when our patients say they feel really well, we still insist on this precaution.

Following your arrival we take pre-operative photos and mark the areas of the body that are to be treated with laserlipolysis.

It is quite important for both the patient and surgeon to have objective and

subjective measurements as a result of the Smartlipo treatment. Measurements should be taken pre and post treatment, Subjective measurements can be achieved by taking photos of how the patient will look, however it is equally important to have objective measurements taken, which can be compared at the different stages to monitor the results and progress of the Smartlipo treatment.

Dr Ayoubi took the initiative and developed his own measurement chart (as shown below) which has been adopted by numerous plastic surgeons and cosmetic doctors, not only for Smartlipo/Smartlipo MPX with suction but also traditional liposuction and power assisted liposuction treatments.

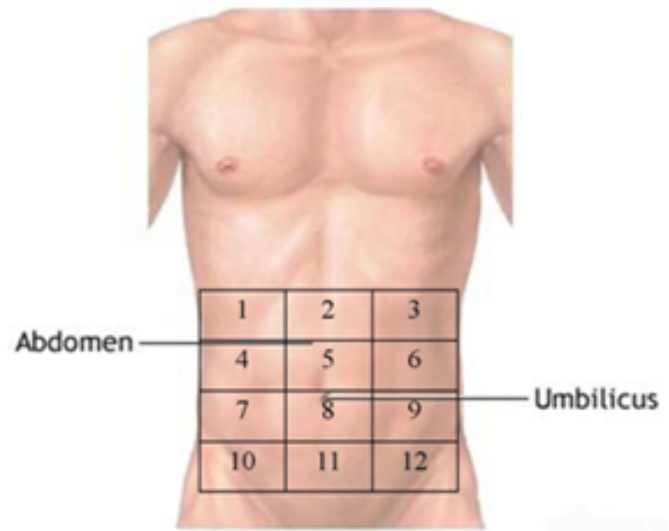
The following chart records the measurements of the exact areas to be treated and will be measured at specified intervals - Surgery date, 4-6 weeks, 3months, and 9months. This will be measured precisely in centimetres to give adequate and objective measurements for the results of the Smartlipo treatment.

<b>Dr Ayoubi's Smartlipo Treatment Measurement Chart</b>				
<b>PATIENT NAME:</b>			<b>DATE:</b>	
<b>AREA</b>	<b>Date of the Surgery</b>	<b>4-6 Weeks Follow up</b>	<b>3 Months Follow up</b>	<b>9 Months Follow up</b>
<b>RIGHT UNDERARM</b>				
<b>LEFT UNDERARM</b>				
<b>UPPER CHEST</b>				
<b>RIGHT UPPER BACK</b>				
<b>LEFT UPPER BACK</b>				
<b>UPPER ABDOMEN</b>				
<b>MIDDLE ABDOMEN</b>				
<b>LOWER ABDOMEN</b>				
<b>FLANKS</b>				
<b>RIGHT INNER/OUTER THIGH</b>				
<b>LEFT INNER/OUTER THIGH</b>				
<b>RIGHT KNEE</b>				
<b>LEFT KNEE</b>				
<b>RIGHT ANKLE</b>				
<b>LEFT ANKLE</b>				
<b>OTHER</b>				
<b>Patient Signature</b>				
<b>Surgeon Signature</b>				
<b>Name of the Surgeon</b>				

This chart is courtesy of Dr A Ayoubi ENT, Facial Plastic and Laser Surgeon

After a last trip to the bathroom you then enter the operating theatre. This is the moment when your body will be cleaned with an iodine antiseptic to sterilise the skin.

- Treatment area divided into 5x5 cm squares.
- Apply laser energy to each outlined quadrant first deep and then superficially.
- Monitor temperature on surface.



## Smartlipo MPX with suction on large abdomen



You are then made to lie down and make yourself comfortable on the bed in the best position for working on the area to be treated.

We usually attach a saline drip to one of your veins in order to give you liquids, antibiotics and analgesics in a direct manner.

An instrument for monitoring your blood pressure will be attached to your other arm and electrodes are attached to your chest for monitoring your heart.

We also attach another instrument (pulse-oxymeter) to one of your fingers in order to measure the quantity of oxygen in your blood. We then anaesthetise the areas where the small incisions are to be made and finally we are ready to begin the operation.

The pre-op preparation generally takes about half an hour before the actual surgery begins. Despite the fact that variations exist from one patient to another, the injection of the anaesthetic solution in the fatty tissue is surprisingly easy. Many patients say they feel greater discomfort when the tissues are distended than when the injection is carried out. We then wait for the anaesthetic to spread throughout the tissues and take full effect. Once the area is completely anaesthetised we can proceed with the laserlipolysis causing you little or no discomfort while you are relaxing. If any sensitive areas are encountered then we inject more anaesthetic solution.

If during the previous visit you have expressed the desire to use the tissue aspirated to fill other areas, this is the moment in which this tissue will be re-injected in order to achieve a more harmonious silhouette.

Once the operation is over, you are washed and the incisions covered with small sterile dressings.

Seeing that the incisions are very small they usually heal without any need of stitches. Finally, the monitors and blood pressure measuring device are removed and you will be helped to put on a compression bandage which will also control the swelling and bruising.

After a brief rest you will be ready to get dressed again and go home. It may be 12 hours before you notice any disturbances due to the effects of the local anaesthetic.



It is a good idea for someone to be with you during the first night after the surgery.

Before going home we will give you post-operative instructions in writing.

It is very important for you to follow these instructions in order to ensure the best possible results.

The first check-up will be carried out the day after the operation when all the dressings are removed, and after which you will be allowed to take a shower.

Another check-up will be carried out two weeks after the operation when the bandage is removed.



Due to the large amount of liquid used as a conveyor of the anaesthetic it is normal for you to have abundant drainage of this liquid mixed with some blood during the first hours.

Do not let this worry you.

Even the swelling tends to be slowly reabsorbed often revealing a slimmer body profile from between seven to thirty days afterwards.

If you have any other additional doubts or questions regarding the laserlipolysis body modelling surgery, please don't hesitate to call us. We can also put you in contact with one of our nurses or other patients who have already experienced this technique.

- Don't forget to take your prescribed medicines with the exception of aspirin.
- Take these with a sip of water.
- If you usually wear contact lenses remove them.
- Do not wear any makeup, creams, perfume or nail polish.
- Wear loose clothing and comfortable shoes.
- Do not put on any jewellery or valuable items.
- Bring the girdle or elasticised garments that you will wear after the operation.
- If you are underage please come accompanied by an adult.
- Do not forget that you must have someone drive you home and that you will not be able to drive by yourself.

Treatment is carried out in a sterile environment .The areas to be treated are marked with a special pencil and each are divided into segments (5x5cm) for each segment. A small incision 1-2mm is made with a micro-scalpel in which the local anaesthetic is injected.

The local anaesthesia is carried out with via longitudinal infiltration of the subcutaneous fatty tissue in anything from ten to twenty directions in order to form a network.

The optical fibre of the laser is inserted into the same incision created for the infiltration of the anaesthetic solution. Its transit through the skin is monitored by means of the guiding light on the laser device itself.The actual treatment begins by slowly moving forwards lengthwise following the lines traced on the skin and trying to constantly maintain the same speed of movement.

Over the last two years I have took the Smartlipo treatment further and developed my own technique for patients with much larger areas of fat. This combined

SmartLipo and gentle suction at the same time.

We laser the deep fat first and then the superficial fat and then suction out the fat. This is producing great results and is relatively painless. I always remind patients that it is not possible to have any procedure without not having some discomfort but this is very good and safe procedure.

The skin tightening in some areas like hips is immediate – patients often like to see results straightaway, they don't like to be told that it can take many months. It is also done under local anaesthetic so there is no need for a general anaesthetic or to stay overnight which also means that it can be done on patients who aren't suitable for a general. There are no stitches, just a very small incision that heals very well and quickly. By three or so months the patients can see the final result.

The basics of peristaltic tumescent laserlipolysis are really simple.

Due to the rapid progress achieved in the research of lipoplasty over the years and the use of tumescent solution, the incisions are usually so small that they heal by themselves without the need for sutures and with a minimum of scarring. To enter even more into detail, the tumescent technique uses large volumes of serum that contain diluted lidocaine (local anaesthetic), combined with epinephrine (adrenalin) which contracts the capillaries temporarily. The lukewarm solution and the diluted sodium bicarbonate in the same prevent the uncomfortable burning sensation that often accompanies local anaesthetics.

The solution is injected into the adipose tissue through small anaesthetised incisions, the majority of which are made in unnoticeable areas so that the tissue returns to being firm and inflated (tumescent). This enables the surgeon to extract the fat in the most precise and uniform manner, in order to produce the most harmonious results. The anaesthetic agent in the solution is diffused throughout the entire fatty tissue, guaranteeing both an excellent anaesthetic and vasoconstriction of the blood capillaries. The contraction of the capillaries is fundamental for minimising bleeding during surgery, and also post-operative haematomas. This not only renders the surgery safer but it also accelerates the recovery times. As a result, the majority of patients can return to work and to their usual activities within a couple of days.

By using a local anaesthetic there is no “against the clock” surgery and we are able to take all the time necessary for achieving the best results.

## **Post-operative instructions**

After the surgery you are invited to follow these recommendations.

Relative relaxation is recommended, preferably sitting up, during the first day after the operation. Do not remove the dressings or girdle until after the first medical check-up.

Take all medication at the specified times.

Once you get home you can start drinking again, and after the first twenty-four hours you can return to your normal diet.

Replace the specific dressings which carry out an absorbing function.

## **The post-op laserlipolysis period**

The recovery after laserlipolysis is usually far more rapid and less uncomfortable than with classical liposuction.

Under all circumstances an elasticised compressing bandage must be applied to the areas treated immediately after the operation, and this must only be removed with our authorisation.

The local tumescent anaesthetic will continue to take effect for twelve hours and for this reason you will not suffer from any discomfort during this initial period.

Normally the only thing you will feel is the typical sensation experienced after an intense session of gymnastics or sport.

This type of discomfort can be kept under control by taking the analgesic medication we will recommend.

It is normal for us to prescribe an oral antibiotic to be taken for a week in order to avoid the possibility of the risk of infection.

Complete rest is highly advised against in order to prevent the possibility of the formation of venous thromboses.

Light physical activity can be commenced the third week after the operation and contact sports and gymnastics after the fourth week.

The first check-up' will be made the day after the operation during which we will replace the absorbent bandages. Permission to take a shower again is usually given after this check-up. The water must be lukewarm and the areas treated must be dried with care, use gauze soaked in mentholated spirits to lightly swab the small incisions.

We will let you know when you can return to work depending on the type of job you carry out.

Patients generally return to work within two to four days after the operation. The areas treated will appear to be slightly inflamed during first days due to the

presence of oedema that always accompanies any type of surgery. This sensation will disappear day by day until the skin gets used to the new lack of adipose tissue underneath.

The total scar-forming and tissue resettling process may take from three to six months depending on various factors ranging from the type of skin to the body area treated.

Normally the small incisions heal without requiring suturing which means that there are no stitches to be removed.

### **Warning signs**

Please don't hesitate to call us if there is the onset of any of the following signs or symptoms:

- Very pronounced asymmetry between the symmetrical areas.
- Acute pulsating pain in any of the areas treated.
- Intense localised heat.
- Body temperature exceeding 38 degrees.
- Abundant bleeding from any of the lesions, not to be confused with the normal loss of tumescent liquid which takes place during the first 24/48 hours after the operation.

### **When can I return to work and my normal activities?**

One of the main benefits of laserlipolysis with the tumescent technique is its prompt recovery attained thanks to the use of a local anaesthetic.

We advise the patient to start walking again as soon as possible after the surgery, especially the day after, and the majority of patients actually feel well enough to walk. In fact, patients report feeling better if they start moving about. Light exercise should be carried out a week after the surgery, and occasionally even before, nevertheless we strongly recommend that patients refrain from carrying out vigorous exercise for two weeks after the operation. The activities that require excessive effort in the areas treated could give rise to haematomas or other disorders.

Experience has demonstrated that the majority of patients return to work and their normal routine a couple of days after the operation.

## **Complications that could arise after laserlipolysis**

In our experience the onset of complications or negative developments during the post-op period after this procedure is extremely rare.

Two general categories should be mentioned however: those that appear precociously (during the two first weeks after the operation) and those that appear later on.

The immediate complications may occur during the operation itself or immediately afterwards, and usually require more urgent treatment than the complications arising later on.

Several transient conditions may also arise, like swear swelling, however these should not necessarily be considered as complications.

Even though we have never witnessed this in any patient subjected to laserlipolysis, the most significant complication is without doubt excessive bleeding. The warning signal is continuous bleeding with bright red blood in one of the bandages, which fails to stop even when the incision is compressed.

If a haematoma is caused by unusual bleeding it may require draining via aspiration.

In some cases small accumulations of liquid may form in the areas treated. This process is known as seroma and it usually appears as a red area which is harder than usual. It may be very painful to the touch and on contact with clothing. The treatment consists of draining this liquid during the medications.

Another potential complication with any kind of surgery is infection. This does not usually appear until several days after the operation and its symptoms may include fever, local redness and/or pain and inflammation of the area concerned. The treatment consists of the administration of a specific antibiotic.

Other complications (extremely rare) are usually due to the presence of a certain asymmetry or a failure to achieve the desired results.

The solution may require the carrying out of a second session which is usually planned after the fourth month from the original operation.

As with any surgical procedure, laserlipolysis is associated with possible side effects like haematomas. Swelling, temporary tumefaction, and discomfort in the area treated surgically. Despite the disorders that are possible after laserlipolysis, these side effects are minimised to a great extent by the tumescent technique.

Any swelling gradually disappears over a period of one or two months after the surgery. The bruising will vary from one person to the next; nevertheless any type of haematoma generally disappears within a period of two weeks. Due to the tumescent technique minimising the surgical irritation, any pain is overcome with mild painkillers, being the only symptom to require these.

Only on very rare occasions may a stronger painkiller be required.

As can be appreciated through current experience on a worldwide level, laserlipolysis with the tumescent technique is amazingly safe.

Complications like blood clots, infections or allergic reactions are extremely rare. If you have any doubts at all about any possible side effects, speak to us about them before the surgery.

### **Combined surgery**

In some patients the performing of a sectioning of the skin may be indicated due to the presence of flaccidity in some of the areas treated. This complementary procedure can be carried out during the first or second surgical operation and is also possible with local tumescent anaesthesia.

### **Few Sessions of Smartlipo**

In some patients few sessions of Smartlipo treatments may be worthwhile for achieving better results.

Some of these include: VelaShape. VelaSmooth or Endermology

## **Dr Ayoubi's Philosophy about Laser Body Sculpting**

First time I have come across Smartlipo when I had read an article in 2002 by Dr Alberto Goldman a plastic surgeon in Brazil, about SmartLipo/Laser lipolysis which fascinated me as an ENT, Facial Plastic and Laser Surgeon.

I tried to get the SmartLipo into the UK but there weren't enough clinical studies available for it to be approved in the country at that stage. Approval was finally given and I was the first Surgeon to introduce the new laser technique from Italy into the UK in 2006.

Speaking specifically about SmartLipo/Laser lipolysis, fat reduction and body sculpting we have to understand the anatomy, physiology of the fat structure in the human body where we have deep loose fat and superficial fat which sits just beneath the skin. This superficial fat is extremely vascular and the fat cells are positioned very closely together.

Prior to launching SmartLipo into the UK, we were using traditional liposuction to achieve fat reduction. Doing traditional liposuction by making an incision in the skin to suction out the deep fat very safely with very good results in majorities of cases, but it is not possible to suck out the superficial fat because of the high risk of bleeding and the damage that could happen to the skin from the inside when we remove that fat.

With some patients – in about 20 per cent of cases – it can result in a 'collapsed banana skin effect' as the skin isn't supported any longer.

As Surgeons, another problem we found with traditional liposuction is that we are restricted in the areas that we can do the procedure i.e. the under the arms liposuction surgery could result in numbness in the hands if the nerves have been damaged by the powerful suction. And under the chin which is extremely vascular area, the bleeding could be severe during the surgery.

The principle is that instead of only sucking the fat out, in Smartlipo treatment the laser targets the fat cells membrane and punctures it. Like a balloon filled with water, we pierce the fat cell and the fat leaks out and get absorbed and drained out through the lymphatic system.

I started doing Smartlipo procedures with the first generation SmartLipo machine (Deka System) which had great results in small areas, particularly in terms of skin tightening. The skin tightening effect is because the heat of the laser goes up to 38-40° and it produces an inflammation which tightens the skin.

## **How the technology has developed since then?**

The difficulty we found was that patients were coming to us who had much larger areas of fat to remove. They were not keen to have traditional liposuction because it is often shown being performed on TV and patients think it looks a very aggressive procedure (Which is not). Also, patients often don't want to have a general anaesthetic or are not able to because of medical reasons.

So we knew from the clinical point of view that we needed a stronger laser. The original Smartlipo machine I was working with had a power of 6 watts then later 10 watts and now the Smartlipo evolved to 18 watts.

## **Smartlipo comparing to other similar systems**

I have been using the Smartlipo MPX since September 2008 when I have introduced this second new generation of Smartlipo from the USA into the UK and Europe. Like its predecessors, the Smartlipo MPX enhances the breakdown of fat, reduces bruising through the coagulation of blood vessels and enhances the skin tightening effect by stimulating fibroblasts and collagen production. The difference is that the speed and efficacy are enhanced in the new Smartlipo MPX.

With its entirely different platform, Smartlipo MPX features 20 W for the 1064 nm wavelength and 12 W for the 1320 nm wavelength.

The 1064 nm wavelength concentrates on the blood vessels and fat cells and this laser beam fires under the skin improves skin tone and act on collagen fibres, all without causing much damage –whereas the 1320 nm wavelength has a higher affinity for fat and this laser energy melts the fat by bursting the cells, making the fat easier to suck out

This increases the efficiency of not only the heating, but the entire process. This meant we could destroy more fat cells in a shorter period of time so not only is the patient having a much faster treatment but we can do much bigger areas and also do multiple areas within the same treatment.

The two lasers work both at the same time but we can change the settings which gives us a greater degree of flexibility in what we can offer to the patients.

Smartlipo MPX also utilizes SmartSense safety feature which regulates the level of laser energy being delivered in relation to the speed at which the handpiece is being moved, thus providing constant and uniform energy delivery throughout treatment. SmartSense prevents laser discharges if the handpiece stops moving but resumes when it starts to move again.

In terms of practice positioning, Smartlipo has been used as a stand-alone treatment as well as an adjunctive procedure to enhance the results of traditional liposuction.

Conversely, traditional liposuction can supplement Smartlipo. You melt the fat, the fat stays behind and then you remove the fat with small cannulas I have noticed that patients who would not consider liposuction would definitely consider Smartlipo. There's no question about it, patients avoid liposuction



because it involves hospitalization, requires at least seven days of downtime and can leave saggy skin. At the same time major surgical techniques for fat reduction leaves a noticeable scar. Involves hospitalization and requires at least ten days of downtime. We don't have these problems with Smartlipo.

I got a great result when I treated a woman with floppy saddle bags. Traditional liposuction would be left with thin, floppy thighs. When I treated her with the Smartlipo MPX, the result was thin, non-floppy thighs.”

Traditional liposuction is an imprecise tool because it's limited to the deep fatty layers around the muscle. With the Smartlipo we can treat the superficial fatty layer and get underneath the dermis with the very small (2 mm) cannula.

When we do this we can get the skin to shrink because we released it from the fatty layer. Then, if we heat the skin to about 38-40°, we can achieve additional shrinkage from reticular collagen stimulation and reformation. This can be done more quickly and precisely with Smartlipo MPX's two wavelengths.

With the previous original Smartlipo or ultrasound, the surgery would be very time consuming. The two wavelengths of the MPX model also provide the capacity for debunking, unlike single wavelength devices. These two wavelengths act synergistically.

Smartlipo has become very popular in the UK because downtime is reduced and results are high quality. I am expecting improved results and the ability to treat difficult cases, as well as both large and small anatomical areas, with the Smartlipo MPX. Also with this advanced new device we are very having impressive results in terms of cellulite improvement.

The skin tightening is immediate – patients often like to see results straightaway, they don't like to be told that it can take a few months. It is also done under local anaesthetic so there is no need for a general anaesthetic or to stay overnight, which also means that it can be done on patients who aren't suitable for a general. There are no stitches, just a very small incision that heals very well.

By three or so months the patients can see the final result. What is important to remember is that this procedure is not designed to lose weight. We can take out a litre or more of fat but this is about body reshaping and sculpting.

As a surgeon who specialises in laser surgery, I find that I am increasingly doing less aggressive procedures and I am getting very good results by combining SmartLipo with gentle suction. That is the wonderful thing with the continuing advances in technology; we can get the results without aggressive invasive surgery.

## **Smartlipo - Scar Free Breast Lift**

Dr Ayham Al-Ayoubi from London Medical and Aesthetic Clinic has created a brand-new laser breast lift, that doesn't involve knives or needles. Instead, it uses a combination of laser-lipo and lasers to lift and tighten.

The Scar-free Breast Lift is a pioneering technique from Dr A Al-Ayoubi using Smartlipo MPX for breast enhancement and lifting reporting a 4 to 7cm lift, all with minimal pain bruising or swelling, less downtime and quick and efficient results.

Smartlipo Scar-free Breast Lift is the most recent application of Smartlipo technology. Fast, efficient, with permanent results, the Breast Lift is like a facelift for the breast and works best on slightly droopy breasts caused by children, ageing or weight loss.

Smartlipo MPX technology works by introducing pulsed laser energy through a cannula to liquefy fat, which is then removed from precise sites in the breast area. Fatty deposits are also removed from the arm pit area and the treatment boosts collagen production.

The laser energy also coagulates the tissue, thereby sculpting body contours and tightening the skin - which in turn provides the lifting effect. The procedure generally causes no bleeding, swelling or bruising resulting in fast recovery.

Taking around 1 hour for the total process the treatment takes place under a local anesthetic which results in minimal downtime for the patient. Clients can return to work within 2 days, the gym after about a week or so.

It's not suitable for very large breasts, though: 'It's perfect for women who have slightly droopy breasts caused by children, ageing or weight loss. It's like a facelift for breasts.'

### **How the Smartlipo Breast Lifting works ?**

The Scar-free Breast Lift is a pioneering technique from Dr Ayham Al-Ayoubi from London medical and Aesthetic Clinic, using Smartlipo MPX for breast enhancement and lifting reporting a 4 to 7cm lift, all with minimal pain bruising or swelling, less downtime and quick and efficient results.

Smartlipo MPX™ technology works by introducing pulsed laser energy through a cannula to liquefy fat, which is then removed from precise sites above the breast area. Fatty deposits are also removed from the arm pit area and the treatment boosts collagen production.

The laser energy also coagulates the tissue, thereby sculpting body contours and tightening the skin – which in turn provides the lifting effect. The procedure generally causes no bleeding and rarely minimum.

Taking around 1 hour for the total procedure, which is done under local anaesthetic resulting in minimal downtime for the patient.

Patients can return to work next day and to the gym after about a week or so.

Smartlipo- Scar free Breast Lift is the most recent application of Smartlipo technology. Fast, efficient, with permanent results, the Breast Lift is like a facelift for the breast and works best on slightly droopy breasts caused by children, ageing or weight loss.

### **The clinical evolution of Smartlipo - By Dr Ayoubi**

The-first time! I heard about the possibility of using lasers for lipolysis was when I read an article on SmartLipo In 2002 by Dr Alberto Goldman a plastic surgeon in Brazil, As an ENT, facial plastic and laser surgeon, it fascinated me and I tried to get SmartLipo into the UK.

Back then, however, there weren't enough clinical studies available for it to be approved in this country. Four years later, approval was finally given and I was the first surgeon to introduce the new laser technique from Italy into the UK in 2006

Prior to SmartLipo, plastic Surgeons performed traditional liposuction for fat reduction by making an incision in the skin to suction out the deep fat very safely, with good results in the majority of cases. But it was not possible to suck out the superficial fat because of the high risk of bleeding and the damage that could occur to the skin. This superficial fat is extremely vascular and the fat cells are positioned very closely together.

The most important thing to understand is that we have two different types of fat in the body: deep fat and the superficial fat which sits just beneath the skin. This superficial fat is extremely vascular and the fat cells are positioned very closely together.

In about 15- 20% of patients, traditional liposuction could result in a sagging effect where the skin is no longer supported. Another problem that liposuction could be restricted in some areas to operate on. For example, performing liposuction under the arms could rarely result in numbness in the hands if the nerves are damaged by the powerful suction. Similarly, under the chin, which is an extremely vascular area, bleeding could be severe during surgery.

## **BREAKING POINT**

Instead of only sucking fat out, in SmartLipo treatment the laser targets the fat cell's membrane only and punctures it. So we pierce the cell, the fat leaks out and is absorbed and drained through the lymphatic system.

I started doing SmartLipo procedures with the first generation machine 6 then 10 watts (Deka system- from Italy ), which had great results in small areas, particularly in terms of skin tightening, caused by the laser's heat, which reaches 38-40°C, producing an inflammation to tighten skin.

The difficulty with the early model was that patients were asking us to remove areas of fat that were too large for the machine to tackle. They were not keen to have traditional liposuction because they see it performed on television and think it seems a very aggressive procedure, which it is not. Also, patients often don't want, or are not able, to have a general anesthetic,

So I knew back then, from a clinical point of view, that we needed a stronger laser. The original SmartLipo machine I was working with had a power of 6W. The next version had 10W and the current machine has evolved to 18W (Deka system).

Cynosure then produced the next generation machine, SmartLipo MPX. This was much more powerful – the laser produces 32 watts.

I've started using the new generation of Smartlipo - SmartLipo MPX since September 2008, when I introduced it from the US into the UK and Europe. Like its predecessors, the Smartlipo MPX enhances the breakdown of fat, reduces bruising through the coagulation of blood vessels and promotes skin tightening by stimulating fibroblasts. The difference is, speed and efficacy are enhanced.

It has a different platform, featuring 20W for the 1,064nm wavelength laser and 12W for the 1320nm wavelength (Total of 32 watts). The 1,064nm wavelength concentrates on blood vessels and fat cells, firing under the skin to act on collagen fibres, without causing much damage, whereas the 1320 nm wavelength has a higher affinity for fat and the laser energy bursts the cells.

This increases the efficiency of the heating and of the overall process. It means we can destroy more fat cells in a shorter time, allowing us to target bigger areas and to do multiple areas within the same treatment.

SmartLipo MPX also features what they call the "SmartSense" safety feature, which regulates the level of laser energy being delivered in relation to the speed at which the hand piece is moved, providing uniform energy delivery throughout a treatment. This prevents laser discharges if the hand piece stops moving but allows them to resume when it moves again.

The most commonly requested areas for women are abdomen and hips. However, a lot of patients have inner and outer thighs done, I have also performed a large number of SmartLipo procedures on the thin and neck area, where the skin tightening effect can be particularly significant.

In men, the hereditary fat in the chest and hip areas is usually stubborn and difficult to shift via exercise and dieting alone. These small areas of stubborn fat

respond well to SmartLipo in a short period of time and patients can see about 40-50% of fat reduction immediately after treatment with some noticeable skin tightening effect. Within 2-3 months they can see a significant result with fat reduction and tightened skin. These areas respond better than the abdomen, where it usually takes up to four months to see the final result.

## **COMBINATION INVASION**

As well as a standalone treatment, Smartlipo has been used as an adjunctive procedure to enhance the results of traditional liposuction. Conversely, liposuction can also supplement SmartLipo.

Over the last two years I have taken the SmartLipo treatment further and developed my own technique for patients with much larger areas of fat. This combines SmartLipo and gentle suction at the same time. We laser the deep fat first, then the superficial fat, and then suction it out.

This is producing great results and is relatively painless. I have noticed that patients who would not consider liposuction will consider laser lipolysis. There's no question about it, patients avoid liposuction because it involves hospitalization, at least seven days of downtime and can leave saggy skin and a noticeable scar.

Traditional liposuction is an imprecise tool because it's limited to the deep fatty layers around the muscle. With Smartlipo MPX, we can treat the superficial fatty layer and get underneath the dermis with a very small (2mm) cannula. When we do this we can get the skin to shrink because we release it from the fatty layer. Then, if we heat the skin to about 38-40°C we can achieve additional shrinkage from reticular collagen stimulation and reformation.

With the original SmartLipo or with ultrasound the surgery would be very time consuming. The two wavelengths of the MPX model also provide the capacity for debunking, unlike single wavelength devices. Also with this new device we are very having impressive results in terms of cellulite improvement.

The skin tightening is immediate – patients like to see results straightaway. It is also done under local anesthetic so there is no need for general anesthetic or to stay overnight, which also- means it can be done on patients who aren't suitable for a general. There are no stitches, just a small incision that heats well.

As a surgeon who specializes in laser surgery, I find that I am increasingly doing less aggressive procedures and I am getting very good results by combining SmartLipo with gentle suction.

## **INFORMED CHOICE**

Not every patient is suitable for SmartLipo treatment. Those who are overweight and don't have a healthy lifestyle or don't exercise enough are not ideal, I usually refer those patients to dieticians or nutritionists to improve their lifestyle and eating habits. In some cases we recommend alternative treatments, such as traditional liposuction or other surgical techniques for fat reduction.

An equally important segment who are unsuitable for SmartLipo are patients who don't have realistic expectations of the improvements they can achieve and the time it will take before they see the full result. Therefore, patient selection is, extremely important during the initial consultation. Also, I strongly believe consultation should be carried out by the same Surgeon who will do the SmartLipo treatment.

To help ensure patients remain realistic about the results they will achieve I devised a chart where we measure each area to be treated in centimeters then measure those same areas again in each follow up visit to see how much objective reduction we have.

I have to stress to patients that SmartLipo is not a lunchtime treatment. Laser-guided liposuction is an exacting and time-consuming process that requires attention to detail and consistency throughout the operating area.

We're talking about the delivery of a significant amount of energy to the deep layer and a complete heating of the dermal layer to a temperature at or close to 38-40°C. A typical tower abdomen requires between 50 and 80 thousand joules of energy to achieve the desired results of fat reduction.

What is important to remember is that this procedure is not designed to lose weight. We can take out a liter or more of fat but this is about body reshaping and sculpting.

Any technique, be it surgery, traditional liposuction, or SmartLipo, will only have the optimum outcome if the patient is committed to a healthy lifestyle to maintain the results and has realistic expectations of the final result, which takes up to four months to see.

### **Dieting and Exercise fail to work in these areas**

The majority of people who try to reduce these problematic areas fail in their intent. Despite the fact that these people lose weight and tone up the muscles of certain other areas, this layer of fat resists against all their efforts.

Laserlipolysis offers a valid and realistic option for the permanent removal of the fat cells in these extremely difficult and resistant areas.

Laserlipolysis allows the surgeon to make tunnels directly inside the layers of body fat, and by means of non-traumatic and delicate manoeuvres, to dissolve and evaporate the fat in such a way that they never form again.

A subsequent elastic compression makes the micro-tunnels collapse, after which the fat is reabsorbed and then eliminated via the lymphatic system.

## **For who is Laserlipolysis indicated?**

The ideal candidate is any person in good health that carries out regular exercise, has good eating habits and well balanced diet. The physical examination is carried out with the person standing still seeing that when they move the anatomy of their body changes.

We have to remember that the elimination of all the fat could be the cause of an irregular skin surface and an abnormal appearance and therefore leaving some of the fat to dissolve through the lymphatic system will help in the skin tightening effect.

Over the past seven years there was in average a 15% annual growth in body shaping treatments, patients are more aware of the increasing number of non-invasive, semi-invasive and combination procedures due to the media and Internet.

The Smartlipo has become the fastest growing treatment for body sculpting over the last two years all around the world, however not every patient is suitable for Smartlipo treatment .i.e. those who are overweight and don't have a healthy life style or don't exercise enough ,also patients who have very large areas of fat.

Those patients we usually refer them to dietitians or nutrition to help them losing weight and improving their life style and dieting habits. Also in some cases we recommend to the patients alternative treatments such as traditional liposuction or surgical techniques for fat reduction.

Equally important patients who don't have realistic expectations with the objective results which they will have in view months time after the treatment. Therefore patient selection is extremely important during the initial consultation also I strongly believe that the consultation should be carried out the physician himself who carry out the Smartlipo treatment.

To help the patients seeing objective results with the Smartlipo I devolved a simple chart where we measure each area to be treated in cm and we measure the areas again in each follow up visits to see how much objective reduction we have step by step.

Any technique, whether it is surgery, traditional liposuction, or SmartLipo, will only have the optimum outcome if the patient is committed to being fit and healthy to maintain the results and have realistic expectations of the final results will usually takes up to three to four months to see.

The best candidates for carrying out Laserlipolysis of the body contours are those individuals who are physically active, in good health, whose weight is normal, or almost normal, and have good skin tone and realistic expectations. Age alone is not a significant influencing factor. Laserlipolysis is a good choice for those who have taken all possible steps for losing accumulated fat without any positive results and who wish to improve their silhouette.

Overweight people can also obtain significant benefits with therapeutic tumescent lipoplasty combined with laserlipolysis.

### **This is not a treatment for obesity**

Laserlipolysis is not a treatment for generalised obesity.

Whenever an obese person asks for the extraction of localised fat, we always suggest losing weight first and we help them to be referred to the nutritionists or dieticians who can help them to lose weight and equally important to have a better and healthier life style and diet.

The majority of people are good candidates for body modelling with Laserlipolysis. Nevertheless, some medical conditions may limit the application of this procedure.

Patients with severe heart, kidney or liver disorders are not suitable candidates. Neither are people who are being treated with anticoagulants. (Unless they can stop their anticoagulants for at least 10 days prior to the Smartlipo treatment this needs to be discussed with their doctors.)

Pre-operative blood analyses are performed in some cases to confirm whether the potential patient is in good health and has good coagulation.



## Summary

You as the patient are more aware of the increasing number of non invasive, semi invasive and combination of procedures due to the media and the Internet, this in turn provides the increasing number of cosmetic treatments performed related to new technologies or less invasive procedures.

For these reasons, SmartLipo is very popular option with downtime reduced, no overnight stay required and the results are of a very high quality.

Our studies using this new technology are very impressive in terms of body sculpting and reshape.

One of the most important things to understand in regards to cellulite improvement or fat removal is that we have two different types of fat in the body: deep fat and the superficial fat which just sits beneath the skin. The superficial fat is extremely vascular and the fat cells are positioned very closely together. When traditional liposuction method is applied; an incision is made into the skin to insert the suction cannula.

Suction of the deep fat can be done safely, however it is not possible to suck out the superficial fat, because of the high risk of bleeding and the damage to the skin from the inside, and once fat is removed it can result in a “collapsed banana skin” effect, (due to being nothing there to support the skin).

Traditional liposuction is an imprecise tool compared to the Smartlipo system because it is limited to removing the deep fatty layers around the muscles. With the Smartlipo you can treat the superficial fatty layer and promote stimulation of the dermal structures.

The skin tighten effect is because the heat of the laser goes up to 38-40degrees and it produces an inflammation which tightens the skin.

The principle of Smartlipo is based on; we laser the fat cell (which targets the membrane and punctures it) instead of only just sucking out the fat. For example, like a balloon filled with water, you pierce the fat cell (balloon) and the fat drains out through the lymphatic system. The structure of the cell is then distributed so it won't continue working in the same way.

The newest generation machine is the SmartLipo MPX. This machine is more powerful than its predecessor the SmartLipo, which maximum output was a 6-10 watt laser. The MPX however have two lasers combined, these produce 32 watts. More importantly the first of the two lasers targets the fat cells with a laser power of 20 watts, while the second targets the water and the blood vessels at 12 watts. Both lasers work simultaneously. The machine also offers setting changes to give a greater degree of flexibility in what you can offer your patients.

The combination of Smartlipo and gentle suction at the same time produces great results and is relatively painless.

Smartlipo is done under local anaesthetic; there is no need for general anaesthetic or an overnight stay. This also means that the procedure can be done on patients who are not suitable for general.

There are no stitches, just very small incisions that heal very quickly.

Results will vary however by three or so months the patient can see the final results.

Smartlipo has been used as a stand-alone treatment as well as an adjunctive procedure to enhance traditional liposuction.

Smartlipo can be used on any part of the body, although performs best in smaller areas such as the knees, upper abdomen and male breast.

A few reminders to any patient considering SmartLipo

- It is not possible to have any procedure without some discomfort, however this procedure is very high-quality and safe.
- As with any surgery procedure to have the optimum results the patient (you) are committed to being fit and healthy to remain results.
- Smartlipo procedure is designed to reshape and sculpt the body, not to lose excessive amounts of fat/weight.

The increased skin tightening effect and the SmartSense device raise the Smartlipo MPX to a different level and I strongly believe that it has a huge future. The success we've experienced with the original Smartlipo device was greater than I thought it would be.

Plastic Surgeons recognize the demand for less invasive cosmetic procedures. And every one has had realised that no longer having a clinic based only on plastic Surgery is enough as Patients are going to clinics offering Smartlipo treatment because it provides good results and is less invasive.

I have to stress out that Smartlipo It is not a lunch break fat removal treatment, Proper technique is required.

Smartlipo - Laser-guided liposuction is not just placing a cannula under the skin for a short time and then saying: we did the procedure!

Physicians can spend a whole day just learning how to enhance the results of liposuction. It's an exacting and time-consuming process that requires attention to detail and consistency throughout the operating area.

Most importantly, it's the delivery of a significant amount of energy to the deep layer and a complete heating of the dermal layer to a temperature at or close to 40° C. A typical lower abdomen would require between 50 and 80 thousand joules of energy to achieve the desired results of fat reduction.

The Smartlipo treatment was a revolution in the philosophy, principles and technique of fat reduction and body sculpting and the Smartlipo MPX is the evolution of this revolutionary technique.

As a surgeon who specialises in laser surgery, I find myself increasingly doing less aggressive procedures like traditional liposuction, and I am getting fantastic results by combining Smartlipo with gentle suction.

Smartlipo is a wonderfully safe, high quality procedure.

It is not yet a replacement for liposuction, although I predict it will be in the next four to five years.

If you would like more information, or to book your consultation, please don't hesitate to contact us on

0208 342 1100 or 0207 291 4604, or alternatively send an email to [info@Lmaclinic.com](mailto:info@Lmaclinic.com)

Mr Ayham Al-Ayoubi MD MS DLORCS(London)

ENT Facial Plastic and Laser Surgeon

## **Making an appointment**

The first step for someone who is thinking about undergoing laserlipolysis is to make an appointment at our Clinic with Dr Ayham Al-Ayoubi who is specialised in this technique.

During the appointment it is important to clear up any possible doubts that you may have, and it is worthwhile bringing a list of doubts with you so you won't forget to ask everything.

Dr Ayoubi will ask you various questions about your clinical history and will then examine the areas to be treated.

It is essential that you don't overlook even the tiniest detail or previous event that could be of importance.

You must let us know if you suffer from any allergies to medicinal products, and also if you have undergone any previous surgery or treatment in the area to be treated or in other areas.

We also need to know if you are taking any medication or are under medical supervision.

You must also inform us if you are taking aspirin, smoke, drink alcohol, or take any form of drugs. Once the clinical examination is over we will give you our opinion about the areas that should be treated and the results that you can expect.

You will also be given an idea of the cost of your specific treatment.

**Photos for  
Smartlipo  
Smartlipo MPX  
Smartlipo Triplex  
with/without Suction  
by Dr Ayham Al-Ayoubi**

The photos below are showing the examples of the treatment.

Each patient has individual results due to medical conditions, lifestyle, etc.

These photos are Courtesy of Dr A Ayoubi



Before



Immediately after treatment wearing a tight.



Next day after treatment with minimum bruising.



After - 3 months

32 years old lady had Smartlipo treatment without suction in her lower abdomen and hips.

It took 3 months to see the final result and you can notice a significant skin tightening effect of the Smartlipo laser.

## Chin and Jaw Line Areas



Before



After - 2 months

Smartlipo under chin and jaw line areas by Dr Ayoubi

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Before



After - 3 weeks

**Smartlipo MPX** under chin area by Dr ayoubi

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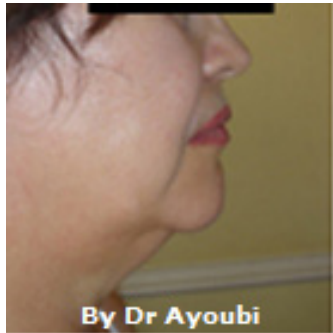


Before

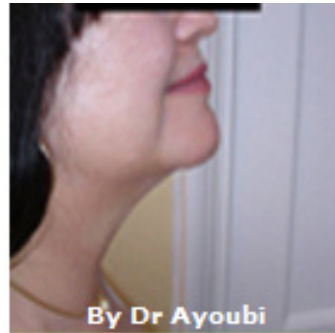


After - 3 weeks

Smartlipo for loose skin in the chin and jaw lines by Dr Ayoubi



Before



After - 1 month

Smartlipo under chin and jaw line areas by Dr Ayoubi

---



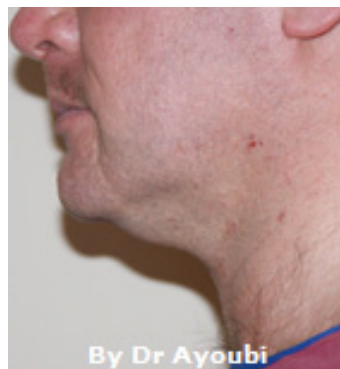
Before



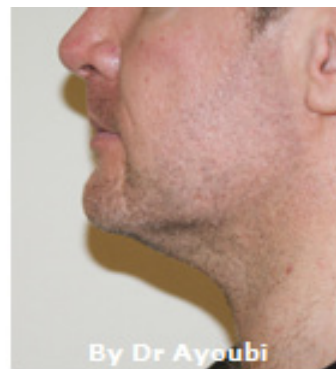
After - 3 weeks

Smartlipo with suction by Dr Ayoubi - under chin area

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Before



After - 6 weeks

Smartlipo by Dr Ayoubi for stubborn fat pocket under the chin



**Under arms**



Before



After - 3 months



Smartlipo without suction for under arms by Dr Ayoubi



Before



After - 3 months



Smartlipo with suction for under arms by Dr Ayoubi

## Male Breast Reduction

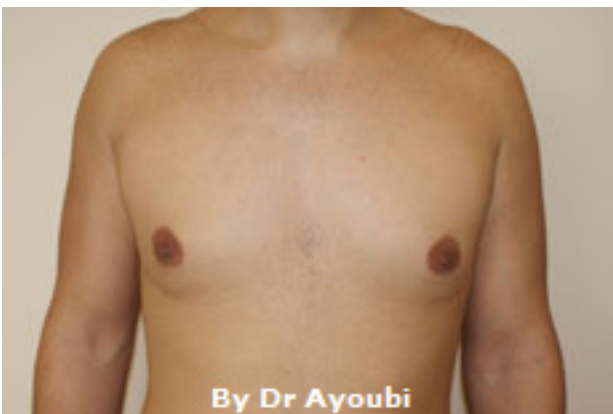


Before

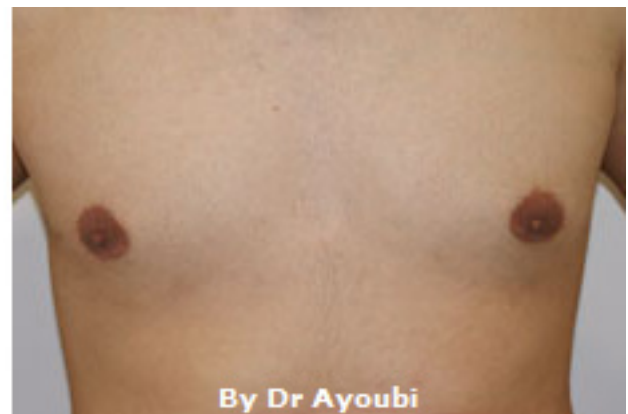


After - 3 months

Smartlipo with a suction for breast reduction  
by Dr Ayham Al-Ayoubi



Before



After - 3 months

Smartlipo with a suction for breast reduction  
by Dr Ayham Al-Ayoubi

## Hips



Before



After - 2 weeks

Smartlipo MPX with suction for hips areas by Dr Ayoubi

---



Before



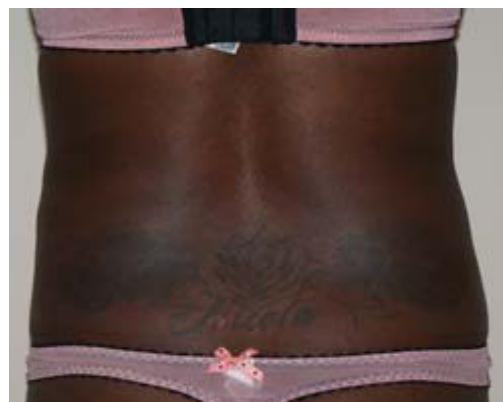
After - 3 months

Smartlipo treatment for hips without suction by Dr Ayoubi

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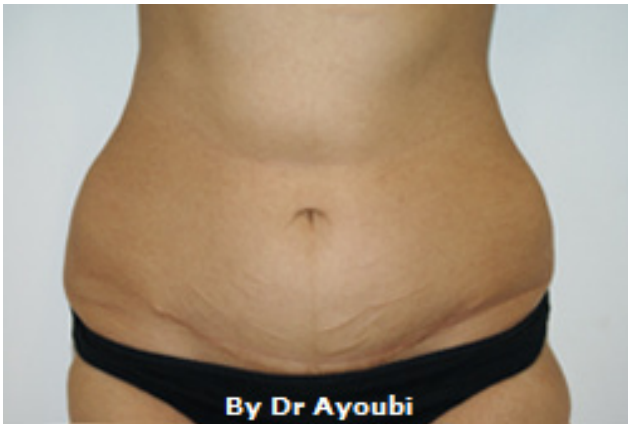
Before



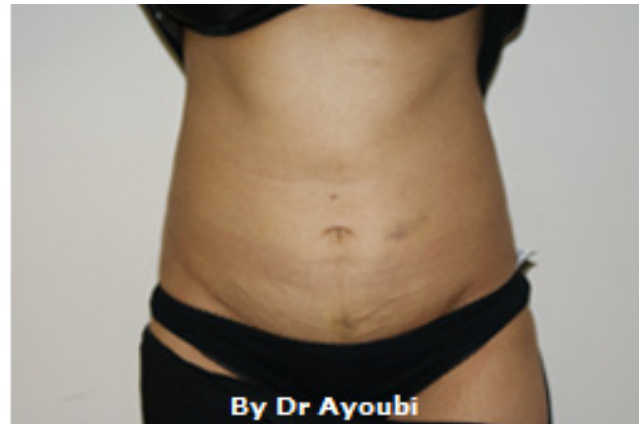
After - 4 weeks

Smartlipo MPX with gentle aspiration by Dr Ayoubi.

It is safe to use Smartlipo MPX on dark skin types 5-6.



Before



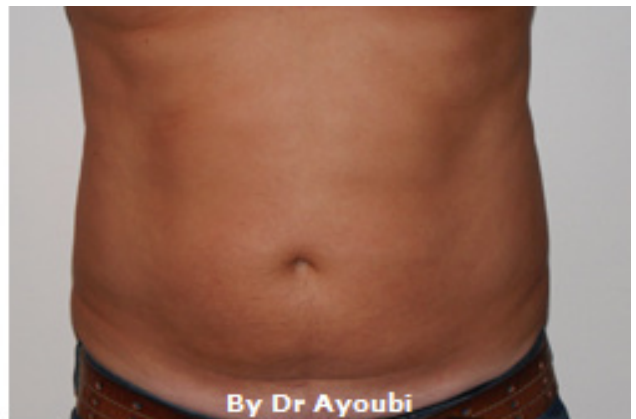
After - 4 weeks

Smartlipo with suction by Dr Ayoubi

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Before



After - 4 weeks

Smartlipo with suction by Dr Ayoubi

## Abdomen



Before



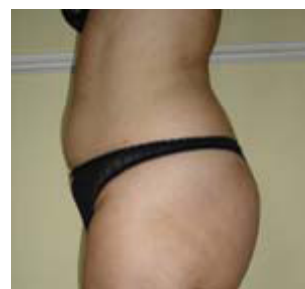
After - 3 months

Smartlipo treatment with suction on the upper and lower abdomen areas by Dr Ayoubi

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Before



After - 3 months



Smartlipo without suction in her lower abdomen and hips areas by Dr Ayoubi



Before



After - 1 month



Before



After - 1 month



Smartlipo by Dr Ayoubi with suction in lower abdomen and side upper back



Before



3 months



9 months

Smartlipo without suction by Dr Ayoubi in the lower abdomen. It took about 9 months to see the final results.

Smartlipo takes longer without suction.



Before



After

Smartlipo treatment on upper and lower abdomen by Dr Ayoubi

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Before



After

Smartlipo MPX with suction by Dr Ayoubi on upper and lower abdomen.

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Before



After - 1 week

Smartlipo MPX by Dr Ayoubi



Before

After - 1 month

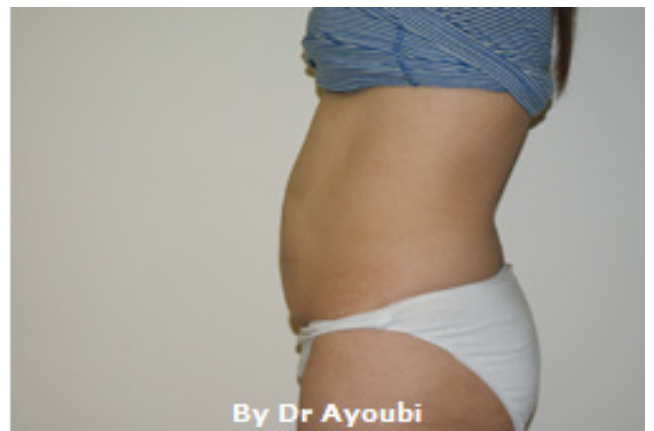
After - 2 months

Smartlipo with suction by Dr Ayham Al-Ayoubi

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Before



After - 2 weeks

Smartlipo with suction by Dr Ayham Al-Ayoubi

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Before



After - 1 week ONLY

Smartlipo with suction by Dr Ayham Al-Ayoubi



**Large Abdomen - Exclusive by Dr Ayham Al-Ayoubi**

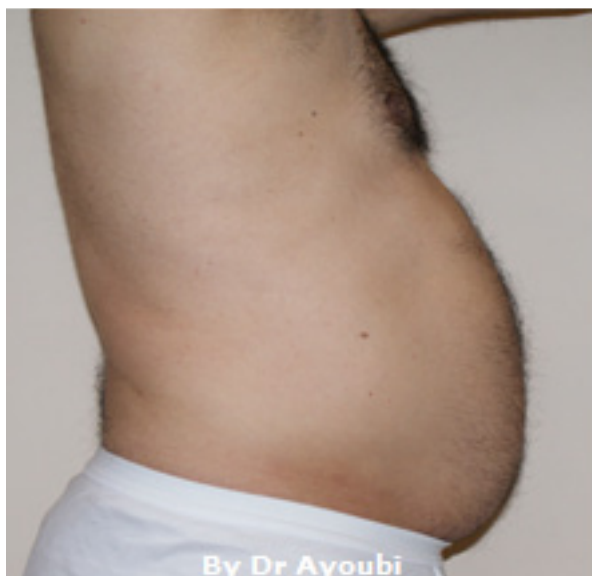


Before

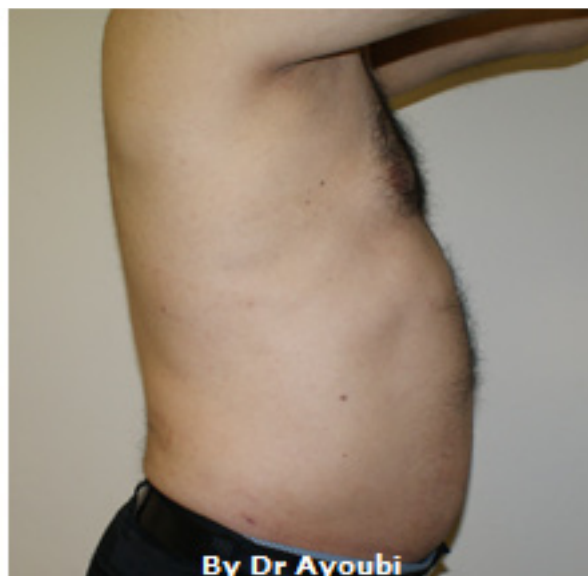


After - 15 weeks

Smartlipo with suction by Dr Ayham Al-Ayoubi



Before



After - 6 weeks

Smartlipo with suction by Dr Ayham Al-Ayoubi

## Outer Thighs



Before



After - 3 months



Smartlipo with suction for outer thighs by Dr A Ayoubi

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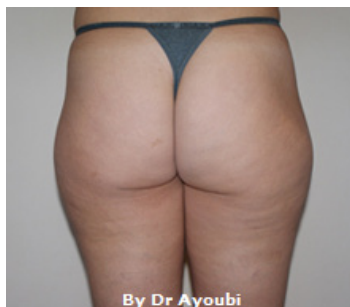
Before



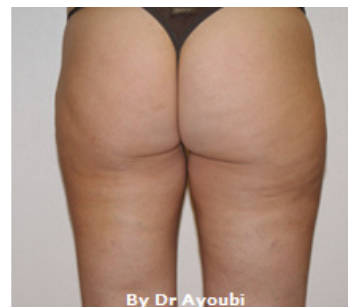
After - 2 weeks

Smartlipo MPX with suction for outer thighs by Dr A Ayoubi

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Before



After - 3 weeks

Smartlipo MPX with suction for outer thighs by Dr A Ayoubi



Before



After - 2 weeks

Smartlipo with suction for thighs by Dr Ayham Al-Ayoubi



Before



After - 2 weeks

Smartlipo with suction for outer thighs by Dr Ayham Al-Ayoubi

## Knees



Before



After - 1 week

Smartlipo MPX with suction for knees by Dr Ayoubi

**Smartlipo Scar Free Breast Lifting - by Dr Ayoubi**



Before



After - 12 days ONLY



Smartlipo for Breast Lifting by Dr Ayoubi



Before



After - 2 months

Smartlipo for Breast Lifting by Dr Ayoubi

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