



Dr Patrick Bowler

Dr Patrick Bowler qualified in 1974 at The Royal London Hospital, entering general practice in 1978. He developed his interest in dermatology and has been in full-time private practice, specialising in cosmetic medicine and skin problems, since 1988. In January 2001, he co-founded The British Association of Cosmetic Doctors, of which he is chairman. He is a member of the American Society for Laser Medicine and Surgery, and the European Association of Cosmetic and Aesthetic Dermatology. He is also medical director of Cosmeceuticals Ltd and the Court House Clinic Group.

RADIOFREQUENCY:

A REAL NON-SURGICAL FACE-LIFT?

Radiofrequency (RF) as a technology has been used in operating theatres for over 50 years to seal bleeding blood vessels. I have used this in my clinic for many years and often noted that, when fired into a wound, it produces an immediate, visible contraction of soft tissue. So it was very interesting when the first machine using RF, Thermage®, came on to the market claiming skin tightening and lifting properties without resorting to the knife.

For a long time, the beauty salon market has had various electrical devices that temporarily lift by stimulating facial-muscle contraction. Although an extremely short-term benefit, it was supported by an expert marketing campaign and many women have experienced the treatment.

Now, according to the claims, we have a technology that can lift cheeks, foreheads, jaw line, and the neck with long-lasting effects, measured in years, not days. However, it takes time and studies to convince experienced practitioners a new treatment may possibly be the next 'Botox®'.

WHAT IS RF?

RF is an electromagnetic energy with a wavelength just longer than microwaves, which heats the dermis and subcutaneous tissues in a controlled manner without inflicting any damage to the epidermis. This can be delivered by monopolar mode, which treats an area larger than the size of the treatment head and can penetrate 20–30 millimetres.

Alternatively, bipolar mode applies emitting and receiving electrodes to the skin so the effect is limited to this small area. It penetrates less than the monopolar.

WHAT HAPPENS TO THE SKIN?

The immediate effect of this heat is to cause the dermal collagen to contract, giving a skin tightening effect. The skin glows and is erythematous for 1–2 hours. There is also a slower progressive effect, where the heat stimulates more collagen production, giving a plumper, more rejuvenated appearance of the skin.



ABOVE: THE ACCENT RF MACHINE

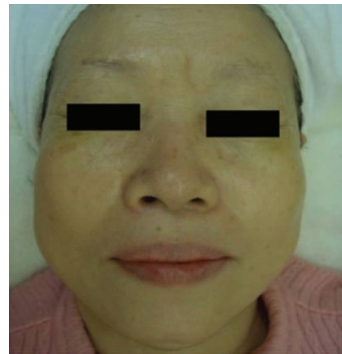
OTHER EFFECTS

The monopolar RF increases blood flow and drainage to the lymphatics. It also has the capability to destroy fat cells!

TISSUE REMODELLING WITH ACCENT®

My research into this technology led me to trial the Accent machine. The main advantages I perceived were that it had both mono and bipolar capabilities and, by using a rapidly moving method of application, and not a stationary technique, clients are easily able to tolerate minor discomfort. The system has the major benefit of requiring no consumables, thereby making the running costs considerably less than with other systems. It is easily portable so there are no transportation restrictions between sites.

TREATMENT SPOTLIGHT



ABOVE:
FACIAL TIGHTENING
BEFORE AND AFTER
TREATMENT

ABOVE RIGHT:
BEFORE AND AFTER
TREATMENT

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Accent® operates at a frequency of 40 MHz, with a power level of 100–200 watts, with variable time duration of 10–30 seconds. The epidermis is protected by a cooling system in the treatment head.

TREATMENT PROTOCOL FOR THE FACE

As with all cosmetic procedures, patient assessment and correct selection is imperative for obtaining the best possible results. My experience so far is that skin tightening in younger age groups will prove unnecessary, with very little observable change. In most people over 70, where there is not so much collagen to heat, we would expect any benefit to be minimal.

Ideal patients will be aged 40–60, with evidence of skin ageing, loss of elasticity, jowl formation, and loss of cheek and jaw line definition. Infra-orbital crêpey skin and loose neck may also produce positive results. A full medical history must be taken and absolute contraindications include cardiac pacemakers (the RF can interfere with the mechanism), any metal work close to the skin surface (for

example, pins and plates in the zygomatic arch), severe heart disease, connective tissue/muscle disorders and pregnancy.

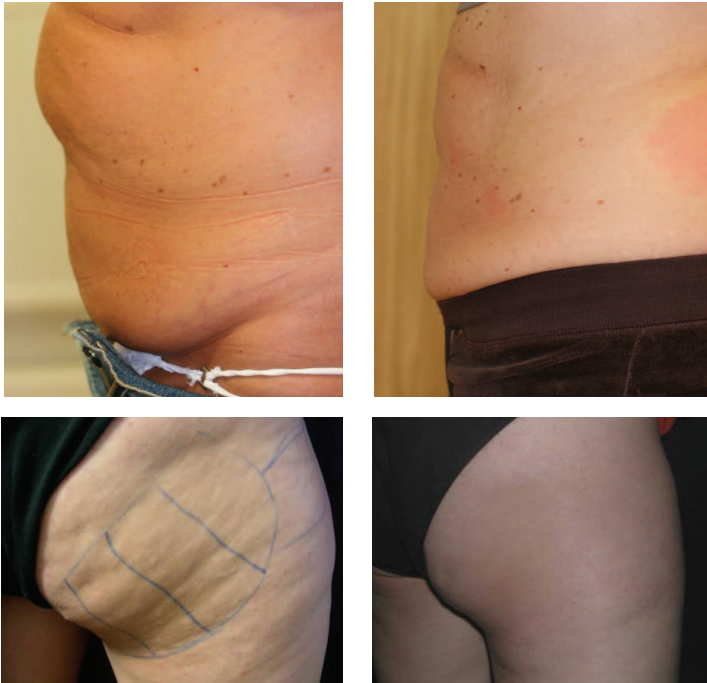
The first step is to divide the face into anatomical areas and treat each area in turn. Select monopolar for areas with thicker skin and facial fat, and bipolar for thinner skin areas around the eyes and forehead. The method of application is crucial to attain optimum results, so training and reassessment are paramount. My staff and I needed an initial and follow-up training sessions before we began to see significant results and increased client satisfaction.

Basically, the aim is to heat the skin to a minimum of 40C, but not exceeding 44C, and maintain this temperature for 1–2 minutes. This is achieved by cleansing the skin and applying an aromatic oil to ease movement of the treatment head. Using a laser thermometer, the base-line skin temperature is measured. This can range from 30–36C, depending on many factors, including the ambient level in your treatment room. Using a rapid, uninterrupted circular or zigzag pattern, heat each individual area in turn. Repeated passes may be necessary before the recommended range of temperature is achieved.

It is imperative to maintain this level for 1–2 minutes by further passes. An even erythema of the skin should be evident. In the jowls or infra-orbital regions, where there are small, localised areas of unwanted fat, it is possible to induce adipose cell lysis. This is achieved by some extra

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TREATMENT SPOTLIGHT



TOP LEFT: A PATIENT BEFORE TREATMENT

TOP RIGHT: THE ABDOMEN AFTER TREATMENT

WITH THE ACCENT

ABOVE LEFT: PATIENT WITH CELLULITE BEFORE TREATMENT

ABOVE RIGHT: THE PATIENT AFTER TREATMENT

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passes in the monopolar mode. Then move on to the next area and repeat the process. An experienced operator can treat the whole face and neck in 45 minutes.

In order to keep the treatment comfortable and bearable for the client, continuous movement of the treatment head is vital. Slow the movement down too much, with too much power, and the heat can become intense and painful. The maxim 'no pain no gain' does not apply in this situation. A slow build-up of heat is preferable, to reach the desired temperature level painlessly.

I have found that three or four sessions, at four-weekly intervals, usually gives satisfactory results. However, these are still early days and this may change with increasing experience.

SIDE EFFECTS

Erythema, and occasionally oedema, are more frequent in the delicate infra-orbital area. In theory, it would be possible to burn the skin but we have not seen any such cases. So far there have been no unexpected side effects.

RESULTS

At the time of writing, there are no clinical studies of note investigating RF and facial treatment. In my clinic, we have treated nearly 50 patients and, although I do not have any statistics, at present the impression is that over 90% notice their general skin condition improves. Comments on changes in skin texture, firmness and smoothness are common. Many

notice a lifting effect immediately following the treatment session. This can be as much as a 50% improvement but subsides over the next few days as any swelling resolves. It does not disappear altogether and, with subsequent sessions, the baseline lift increases, so each treatment gives better visible results.

Do not expect the 'wow' factor of a surgical face lift. The lifting results are subtle but often sufficiently noticeable to show on photographs. Non-responders make up 10-15% but I expect these numbers to reduce with improved client selection and operating technique. As with any treatment there is a large range of response and only the best results appear on manufacturer and clinic websites! We await the results of more studies as doctors worldwide begin to use RF in their practices.

CELLULITE SMOOTHING AND BODY REMODELLING

At this stage, I have less experience using RF for body treatments. By employing the monopolar head it is possible to reduce fatty deposits and tighten skin on the arms, abdomen, buttocks and legs. There can also be a benefit in cellulite.

Client selection is key to good results. This will not work in obesity but is best in small, localised areas of fat. A diet and exercise programme must be followed to achieve optimum levels and maintain improvement.

Higher power settings are necessary, reaching 120–160 watts. As on the face, small areas are treated at a time, reaching a temperature of 40–44C with multiple passes. The temperature must be maintained for two minutes. A session every two weeks, amounting to six to eight treatments, may be required. There are some unbelievable photographs on the web using RF and they will remain as that until more studies assess the benefit and side effects.

SUMMARY

RF is a very exciting, new, non-invasive technology that has the dual benefit of skin tightening and reducing localised fat deposits. The Accent machine is uniquely able to deliver both mono and bipolar energy to treat loose skin on the face, neck and body and reduce small areas of fat. There is a high client acceptance rate and a low side-effect profile. However, although very promising, this is in the early stages of development and more controlled studies are required before meaningful conclusions and recommendations can be forthcoming.

Disclaimer: DR Patrick Bowler has no financial interest in the manufacture or distribution of Accent®. 