



# FOUNDING FATHER

**We chat to leading South African plastic surgeon and medical needling pioneer, Dr Des Fernandes**

There are not many people who can claim to be true pioneers, but Dr Des Fernandes is one such man. Dr Fernandes has become an internationally recognised figure in the worlds of anti-ageing skincare, medical aesthetics and cosmetic surgery. One of the champions of the use of vitamin A in skincare and a leader in the field of medical needling, having developed the principle of 'rollering' more than a decade ago, he has a list of prestigious published papers under his belt and lectures around the world. Having sat in on one of his lectures I am inspired and my head is full of questions to ask the man who has dedicated the later part of his professional life to understanding and improving skin. We start by going back to the beginning to find out how he became so interested in skin...

## BACK TO THE BEGINNING

Born and raised in South Africa, Dr Fernandes studied medicine here before travelling to Britain to qualify as a surgeon. He initially specialised in cardiology, working in various hospitals before returning to South Africa to join the team of heart transplant pioneer, Professor Christian Barnard. After this Dr Fernandes moved into the field of plastic surgery, specialising in cleft lip palate repair and in facial and neck cosmetic surgery, a field in which he now has an international reputation. He was the consultant in charge of the cleft lip and palate unit at the Red Cross Memorial Children's Hospital in Cape Town for 21 years and remembers the time fondly, describing it as the most 'rewarding time in my surgical career'.

In the course of this work, he came across many patients with wrinkled, sun-damaged skin and it became apparent to him that there were no preparations on the market that he could prescribe to safely and effectively repair or prevent such photo-ageing. He was particularly affected by two teenagers with melanoma, both of whom subsequently died.

"In the late 70s we were seeing an increasing number of a patients with melanoma", he says. "Two particular cases affected our whole unit – one was a beautiful 19-year-old girl and the other was a charismatic young man who was also about 19-20. They both presented to us with melanoma. We struggled in vain to keep them alive but they both died before they were 22. They were both extremely special people – the sort of people the world needs for the future – and our whole department was very depressed with this experience. My

attitude to it was to say 'well prevention is the best cure' and I decided that I had to see what I could find out about melanoma and how we can prevent that and all other skin cancers."

After this Dr Fernandes became committed to researching the most effective ingredients to maintain healthy skin from an early age and to treat sun-damaged and problem skin. "I am quite a book worm", he laughs "I am the sort of person who loves going into libraries and reading, so I spent many hours in the medical school library looking through references to skin cancer and what I came across was that as early as the 1950s a physician in Switzerland had used vitamin A to successfully treat solar keratoses. I had been using vitamin A for scars and acne since 1977 so when I read this I realised that it deserved further investigation. I got quite a knowledge of vitamin A and I realised that this in fact was an important part of daily care and I believed that maybe we could even minimise the chance of getting melanoma. In 1979 I met a doctor named Geraldine Milton who had raised the issue of free radicals and my attitude then, I regret to say, was 'you must be crazy'. It shows you how naive and stupid I was but fortunately the other thing it also shows you that I am not entrenched in one idea so I started to look into it and realised the importance of free radical combat and by about 1985 I thought I knew the formula for the 'best skincare in the world' and I actually called it 'the future of cosmetics'."

At this point Dr Fernandes had not conceived the idea that he would end up starting his own skincare company and tried to find products that contained this combination of ingredients. His search was in vain. So he decided to approach some skincare companies..



"If you had told me in 1985 you are going to be involved in the manufacture of cosmetics I would have said 'absolutely not!'" he laughs. "So I wrote to a couple of skincare companies and said 'here's the formula, you should make a cream like this' and they said 'no thank you'." By 1988 Dr Fernandes had created his first skin creams based on ingredients that were proven to improve the health and appearance of the skin – in particular vitamin A, vitamin C,

vitamin E, beta-carotene and alpha hydroxy acids. Although these ingredients are now commonly used in combination in anti-ageing skincare, at the time Dr Fernandes' skincare was an innovation. Initially he used these creams to treat his own patients and in 1990 set up a company to market the products, which he named 'Environ'. But, despite seeing results on himself and with his own patients, it wasn't easy persuading others that this was the beginning of something big, in fact Dr Fernandes offered some of his plastic surgery colleagues a part of his skincare business but they turned him down, a decision many of them no doubt now regret. "At our annual conference of plastic surgery I approached about eight other plastic surgeons and invited them to join me with 10 per cent of the company and they all turned me down", he remembers. "They were friends of mine but they said they were not involving themselves in my stupidity." Environ is now exported and distributed in beauty salons and medical aesthetic clinics in more than 60 countries worldwide. But skincare is not the only innovative concept that Dr Fernandes has developed. Another of his creations is a machine that combines iontophoresis (galvanic current) and sonophoresis (sound waves) to promote healthy, good looking skin without any of the destructive processes used by other anti-ageing techniques. The treatment greatly enhances the penetration of anti-ageing ingredients into the skin for rapid, effective results on photo-aged, pigmented and scarred skin. And then there is his pioneering work in the field of medical needling or Collagen Induction Therapy (CIT).

## ROLL WITH CIT

In recent years the use of medical rollers as a skin rejuvenation technique has grown in popularity but Dr Fernandes was the first to develop a device for this type of skin needling – the Roll-CIT. "I first started using a needle in 1993. About the same time that I was working in Cape Town a man named Orentreich and his son were working in New York and taking a needle and trying to correct a wrinkle by putting the needle under it. They were doing it along the wrinkle and I was doing it at a right angle. The seminal moment then came however when I went to a lecture where a surgeon named Andre Camirand pointed out that he needed the skin through the skin with a tattoo machine and that's when I thought I can get the same effect but not get the bleeding."

This led him to develop the micro-needling technique. Originally the Roll-CIT was designed purely for medical use but over the years Dr Fernandes has devised rollers for salon and home use. The professional use devices come in two different versions – the Medical model which has 1mm needles and the Surgical model has 3mm needles – with longer needles than the home-use device. These can be used by medical practitioners to treat scarring and reduce lines and wrinkles by directly promoting the production of fresh collagen and elastin. Dr Fernandes has also recently developed a new product, the Body Roller, designed for treating larger areas such as the abdomen. Due to be launched soon, the device was specially designed to take into account the fact that no surface of the body is flat and consists of two roller heads that are tilted at an angle to allow for greater coverage of the body. The simultaneous action of the two roller heads also makes it quicker to treat larger areas. The at-home device is designed to help enhance the penetration and effectiveness of anti-ageing skincare products by creating 0.02-0.2mm deep micro channels in the horny layer that normally protects the skin. The company has also recently introduced a new smaller, travel-sized device, the Focus-CIT. Designed to help clients enhance the effectiveness of their skincare regimes, the hand-held tool enables them to treat specific areas, such as upper lip lines, lower eyelids, frown lines or individual pigmentation marks, and to reach places that are relatively inaccessible with the larger Cosmetic Roll-CIT roller. So what makes the Environ products so different to the other rollers now out there on the market? "There is no difference", says Dr Fernandes. "Basically needling of the skin works. The length of the needles is very important. It is useful for so many things. I have needled three year olds for burn scars, I have needled teenagers for acne scars, I have needled 30 year olds from a skin toning point of view. If somebody comes to me and asks for needling it is very rare that I say you absolutely don't need it. I know that the competition hates the 3mm roller they say that it destroys the skin etc but actually it gives the best results. I have used the 3mm roller on myself and my skin has not suffered. We are the only ones in the world as far as I know with a 3mm roller." Dr Fernandes is clearly very passionate about this technique and lectures regularly on the subject. He has also authored/co-authored more than seven papers on the subject. The latest study he has been involved with was published in Plastic Reconstructive Surgery in April 2008 and was entitled 'Percutaneous collagen induction therapy: an alternative treatment for scars, wrinkles and skin laxity'. One of the most impressive things about Dr Fernandes is the fact that if he is going to recommend something to his patients he will try it out on himself first. Not only has he used vitamin A on his skin for almost 28 years, testing out all his different formulations, but he has tried and tested all of his rolling devices on every part of his body and has the pictures – some of which are somewhat gruesome – to prove it. And for a man who is almost 70 he is a testament to what looking after your skin can do.

