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Feature Article

'Skincare 101' With U.S. Dermatologist Dr. Beth Briden

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This summer at the annual Facial Aesthetic Conference & Exhibition, FACE 2014, I was delighted to be given the opportunity to interview a great lady. Dr. Beth Briden is not only a very charismatic and engaging person, but is also an exceptionally modest in her demeanour as a real authority on the birth and growth in the science of hydroxy acids and skin ageing. It was truly a delight to learn from her and I hope you will enjoy this interview as much as I did.

Lorna: Tell me a little about the history of your career, your passions and the areas that you were drawn to research.

Beth: Well, I started as a dermatologist in a larger practice, actually five dermatologists, this was back in 1986, and our senior partner was actually getting into clinical research at that time and he was involved in the first studies of Retin-A. So he actually turned that over to me because he felt that the women that were interested would rather come to me than an older gentleman and he wasn't that interested in it. So that's how I first got started in some of the cosmetics, in the anti-ageing therapies.

And then patients would always come in and want to know how do I take care of my skin? And most of it related to cosmetics and just cleansers, lotions, what to do. So I got interested in that and it just kept progressing.

In the late 80s, many of the researchers that had been doing the research on Retin-A actually moved over to the NeoStrata Company. So they called me up and asked if I would like to help them, or do any kind of research, or opinions on some of their anti-ageing products. So it was at that point that I got involved in the Alpha-Hydroxy Acids and being a consultant for the NeoStrata Company. And that all just fell in place as an anti-ageing, and more of a cosmetic interest, and then I got into lasers and the cosmetic procedures as it just developed down the years.

L: I'd like to go back to basics, as you'd say in American a kind of Skincare 101. What is good skin health? What are the areas that people should be focusing on and be concerned with?

B: The main thing that you want to do is prevent further sun damage.

They used to say 90% of all ageing was due to sun exposure and ultraviolet or photo-damage. Now they're saying maybe more like 70%, 80%, with maybe 10 to 20% from glycation and the other 10% just due to the internal slow down of mechanisms, just internal intrinsic ageing.

So basic skin care that I'd say is number one is you've got to prevent further ultraviolet damage, so using your broad spectrum sun screens and using common sense. We all need some vitamin D so you need to get a little bit of sun, but I believe everything in moderation. But to definitely use sun screens. Then for skin fitness I love the Alpha, Poly

Dr. Elizabeth Briden

Dr. Beth Briden is the founder and medical director of Advanced Dermatology & Cosmetic Institute in Edina, Minnesota, USA. She is a board certified dermatologist and adjunct clinical professor of dermatology at the University of Minnesota Medical School specialising in skin rejuvenation, chemical peeling, lasers, and cosmetic dermatology.

Dr. Briden has worked closely with the founders of alpha-hydroxy acids and superficial chemical peels, Dr. Van Scott and Dr. Yu, the creators of NeoStrata Company Inc., for the past 25 years, with vast clinical experience along with lecturing on these topics internationally in over 26 countries.

She has authored numerous articles in medical journals, text books, and magazines. She is one of the founding board members of the American Society of Cosmetic Dermatology & Aesthetic Surgery and is a member of the AAD, ASDS, ASLMS, and AACS among other medical societies.

and Bionic Hydroxy Acids, because these are non-irritating. They're very potent anti-oxidants that inhibit lipid peroxidation (the oxidative degradation of lipids) and metal chelation, just all the anti-oxidant features. I think those are a vital part of everyday skincare, health and maintenance, hence skin fitness.

L: What about Retinol or Retin-A?

B: Sometimes. I don't personally tolerate Retin-A. Retinoids are good, and even the retinoid derivatives like 0.1% retinol which is shown to be effective, I try to incorporate that because that is more tolerable, but many people can't. I feel that retiniods are important, but the Alpha Hydroxy Acids are more tolerable and actually do more things. So if I had to choose between one. That's why I like the combination products where you get Alpha and Poly Hydroxy Acids along with the retinol or retinoids and then your anti-oxidants.

If you start someone on Alpha or the Poly Hydroxy Acids it improves the barrier function so then their skin becomes more tolerant, so then you can usually add the retinoid as they want to go another step, so you can't throw everything at them at once, you've got to build it up and find what works and is more tolerant.

A couple of products that I particularly like are the NeoStrata Skin Actives because they have virtually every proven anti-ageing ingredient included into formulations of day cream with sun screen and a night cream. But because you can't combine your Retinol and some of the anti-oxidants in the same formulation because they have different requirements to maintain their stability, so this is simple, I like simple, the simpler the better for me. You know one cream in a morning that does it all and one cream at night that does it all.

L: I think that's probably true for a lot of women. If manufacturers can make these products so that it's not a chore, it's just a simple product and simple regime which they can follow, then that's going to be attractive.

B: It is it's a lot easier to do. And the other nice thing is then you don't have to worry about the compatibility and the absorption if you put on something and later something on over it, thinking 'well is that going to get sticky on your face?' 'Is that going to be absorbed or is that going to deactivate it?' etc. So it's nice when they're formulated and tested. I particularly like the science and all the clinical studies they have. You know they test each individual ingredient scientifically and clinically and then after, when they are combined, they re-test them clinically, and do biopsies to show the effects.

L: Earlier when we talked about skin health, you mentioned glycation, could you explain that?

B: Glycation is actually an abnormal process that's a non-enzymatic conversion or binding of a sugar, a reducing sugar like glucose, to a protein. In the skin that occurs with our collagen, especially types 1 and 4, and some of the elastic polymers. What it does is it forms this 'intermediary products', and if they still keep getting exposed to oxidants, and sometimes heat, then they'll go on and combine multiple proteins to form these Advanced Glycation End products or AGEs.

These are a permanent kind of jumbling up of the proteins, they permanently bind and then they prevent the proteins from being de-crated. So they hang around in the skin for a long time and are deposited in the dermis where they actually give you a yellow sallowness to the skin.

They've done studies recently that actually show, even in normal skin, that some of these AGEs will actually fluoresce in the skin. There's one called antosidine that you can see when you look under fluorescents. With ageing the accumulation (of AGEs) will be a five-fold increase from say age 20 to age 85. They've discovered that in diabetics that are exposed to glucose, because of the insulin resistance or lack of insulin, that they have at least a double-fold increase over normal patients.

L: You mentioned the word 'permanent' just now when talking about AGEs, so are they reversible or not?

B: No they're not reversible.

L: So, should you really be trying to combat that early on then?

B: You should yes. And it takes time. It takes several weeks before they (AGEs) develop. So what happens is that sugar molecule opens up, sometimes with heat or sometimes you get a lot of triglycerides and sometimes you can ingest these AGE proteins. They were specifically brought to light in the food industry in the 1980s. The reaction was discovered by a chemist Lewis Mailer back in 1910, then in the 80s the food industry used them as a flavour additive and for colour additives. So what they would do is every time you baked cookies or baked a pie crust, that

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browning effect is a glycation of the proteins that makes it from a soft into a harder one. So it's almost kind of like tanning leather in your skin.

L: So is our diet, the American diet, a high sugar diet actively affecting our skin just as much as environmental factors such as smoking, the sun etc?

B: Probably even more so. Yes because with age you know you do get a gradual increase, but the more sugar you eat - sugar is toxic so the thing is that they're really focusing on are the low glycaemic index (GI) foods so that you don't get those reducing sugars so much in the blood stream, and then of course we're going back to the whole grains and the anti-oxidants, the foods with iron in them, the fruits and vegetables. Those in general are going to do much better. So it's processed bread that got us into trouble!

L: I'd like to go back and talk about Hydroxy Acids. You have a long history of studying them and you mentioned now that there are Poly Hydroxy Acids. Can you explain the evolution of what we now know?

B: We keep finding out more things about these wonderful molecules. The Alpha Hydroxy Acids have been around forever but they were kind of discovered by Drs. Van Scott and Yu in the 70s. Well they kept doing further research and found if you take a Glucuronic Acid which is one of the Alpha Hydroxy Acids and combine it, take its lactone form you get Gluconolactone which is actually a natural component that's derived in the energy cycle of the skin. This gluconolactone is a Poly Hydroxy Acid so instead of binding one molecule at the Alpha Hydroxyl group they have four in this lactone ring. So they can like four times more moisturiser, they combine water and hydrate the skin.

It's also a six carbon molecule so it's slightly bigger, but still small enough to penetrate the skin, so you don't get the stinging and burning, like little darts being thrown at the skin with Alpha Hydroxy Acids. This is just a nice slow kind of penetration. They also have been shown to be a potent anti-oxidant. The one thing particularly with gluconolactone, the second generation Alpha Hydroxy Acid is that it inhibits elastase, so it prevents the breakdown of elastic fibres in the skin.

In addition to stimulating skin growth, it does all the same things as the Alpha Hydroxy Acids in terms of plumping the epidermis and normalising the stratum corneum, and it increases the collagen and the elastic tissue and what they call the dermal matrix, the hyaluronic acid, these glycosaminoglycans (GAGs), they give the dermal plumping.

So it has a nice effect on refining the skin because it causes an exfoliation and enhances cells turnover and it disperses the pigment. Now with the anti-glycation effect that they just found with this; they've always know that it helped reduce sallowness, but they didn't know why until recently when they did these studies, but they found that it makes the skin a little bit more firm and plump by increasing these dermal components.

L: I'd like to talk about chemical peels. I think as devices have become more widely available, and used, it seems like chemical peels have been shoved into a corner because everybody wants to try their new shiny laser! However, I'm sure that they do still have an active role is aesthetic practice. Could you tell me what you think the place of chemical peels is at the moment?

B: Essentially, in my practice, chemical peels are really maintained and are actually increasing again; they're having a resurgence and coming back.

In the late 1980s, when they were first developed, they were the number one cosmetic procedure for anti-ageing. Then as Botox and dermal fillers came in they actually surpassed that. But as far as the lasers, chemical peels have always out performed lasers in terms of even the CO_2 or the Erbium laser, you know even fractional laser resurfacing. So I think there's always a place for them.

The nice thing about chemical peels is that, and I'm specially referring to the glycolic acid peels or alpha hydroxy peels such as citric acid, mandelic acid and glycolic acid, is that you can use them on any skin type. Whereas with lasers you have to be very careful with dark skin because the heat can damage the cells and you can be very prone to hyper-pigmentation. Peels have always been affordable, you can use them on any skin type because they have different solutions and strengths and you can always neutralise it if you're having an untoward or rapid reaction.

They are stimulatory of epidermis, dermis and you know all the components there, where some of the lasers may only target the deeper dermis and you don't get the epidermal repair. So I think there's always a place for chemical peels because they're a good prep for your cosmetic procedures, if you're going to do laser or surgery, and also to help maintain results for patients that can't afford the more expensive laser procedures, they're a good alternative. And they're also very good for other skin conditions from acne to rosacea to keratosis pilaris and ageing.

L: I've been told that glycolic peels are nutritive, can you explain what that means?

B: Well, they're nutritive in the sense that they're not toxic, they're from this organic carboxylic acid which is what glycolic acid is, and so what you're doing is your actually stimulating cell growth so that you're not chemically destroying the skin like with TCA and even with salicylic acid or phenol which are toxic; they kill the cell layers going from the top down, and they peel off.

That's not the case with glycolic acid, it's a very small molecule that mimics the amino acid element and it actually stimulates epidermal growth and repair, it stimulates collagen formation, elastic tissue formation and the plumps up the skin matrix of the hyaluronic acid. So that's what we mean by being more 'nutritive' in that they help feed the skin and promote growth, a rejuvenation rather than a peel where you've got a lot of down time and your killing off the cells and causing them to peel.

L: To finish off with I'd like to know what you're getting excited about currently and what you see for the future?

B: I wish I had a crystal ball.

I mean our goal is to try and prevent as much of the ageing as we can.

So now I think we're just finding out more about glycation and diet and this also goes along with what they call the nutraceuticals, we can deliver very effective topical anti-oxidants and help skin growth topically in the skin, but the big question is how about orally, can we take some of these oral supplements to help?

I think there's going to be a lot of research needed for that because there have been several studies that have come out and say that 'well taking some of these vitamin supplements can be toxic', you can get premature death from them; others say 'it'll help', so I think that's one area where we learn more.

Oral collagen is a little bit different than some of the nutraceutical products like the vitamins and amino acids and that kind of thing. So I think looking at absorption and their effects on the body, on the skin is going to be exciting, because we of course we know diet affects the skin and body so much. So if we can find out a way to get all the nutrients that we need I think that's going to be going towards the future.

I would like to thank Dr. Beth Briden as well as Lorna Bowes and Sue Bird from Aesthetic Source Ltd for giving me the opportunity to undertake this interview. If you wish to find out more about the Neostrata range of skincare products please visit www.aestheticsource.com.

Lorna Jackson

Lorna has been Editor of The Consulting Room™, the UK's largest aesthetic information website, for over a decade, since 2003. She has become an industry commentator on a number of different areas related to the aesthetic industry, collating and evaluating statistics, plus researching, investigating and writing feature articles, blogs, newsletters and reports for The Consulting Room™ and various consumer and trade publications, including *Cosmetic News, Journal of Aesthetic Nursing, Body Language*, *PMFA News*, *Aesthetic Medicine* and *Aesthetic Dentistry Today.* Lorna has also been asked to present at various industry events, including Smart Ideas, BACN and Merz Aesthetics Business Workshops, the FACE Conference and the Clinical, Cosmetic & Reconstructive Expo.

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