

Most men shower, shave, apply a deodorant or antiperspirant and wash and style their hair and there are a multitude of products on the shelves aimed at satisfying this market. In addition we are told that men increasingly use skin care products and a number suffer removal of body hair; the awful sounding back, sack and crack!

There were two very interesting presentations on the subject at Beauty Focus, London 2009: Simon Duffy, co-founder of Bulldog, described the launch and growth of a men's range based on natural and ethical concepts and showed how much could be achieved by shrewd marketing of a previously unknown brand in this sector. The Bulldog brand supplies the basic essentials for showering and shaving plus a skin moisturiser but there are also opportunities in decorative cosmetics and Peter Kelly, owner of Taxi London, talked about the launch of three Taxi London products for men; Guyliner, Manscara, and Disguys and he thinks that makeup for men is here to stay and men will become more comfortable wearing it.

Top 5 Non-surgical cosmetic procedures (USA)

- Chemical peel
- Botox injections
- Microdermabrasion
- Laser hair removal
- Collagen injections

Source: American Society of Plastic Surgeons

The true extent of this market in the UK is the subject of a market report in E.C.M., March 2009, which reported that more men than ever purchased their own products and that it showed a 8.6% year-on-year increase in the 52 weeks ending 25 January 2009 with a spend of £768.998m. Deodorants accounted for 34.5% of this market and skin care 11.9%. These figures are impressive but male grooming products still only represent 8% of the \$345bn global C&T market.

Returning to the basic essentials; as already stated, most men shower and shave. Surfactants for showering range from the ubiquitous sodium laureth sulphate, cocamidopropyl betaine combination to natural saponins such as those extracted from yucca. Another source of natural saponins the bark of a Brazilian tree, *Ziziphus joazeiro*, it contains a high level of natural foaming saponins with good cleansing power and is available from **Soliance** with the trade name **Juazirine**. An interesting alternative to cocamidopropyl betaine is **Tensolive** from **Soliance**. It is a 100% olive based surfactant with the INCI name Olivamidopropyl betaine and it provides a highly stable foam and enhances cleansing properties

Adding skin feel to shower products can substantially improve their attraction in use and add other benefits aside from their prime function of cleansing. **Kendi Oil** from **Soliance** is naturally rich in Omega 3 and γ -tocopherol and so will effectively soften and moisturise the skin. For formulators who prefer the work done for them **Gransil LIFT** from **Grant Industries** is worth a look. It is an anhydrous surfactant in cyclopentasiloxane with citric acid and sodium bicarbonate in a matrix to provide a 3-in-1 product to exfoliate, cleanse and moisturise in one easy step. When applied to wet skin in the shower, Gransil LIFT firstly gently exfoliates the skin then the water causes the citric and bicarbonate to mix and generate copious amounts of foam and product fizz. The polysilicone-11 provides excellent slip and skin moisturisation. An advance on this is suggested by IMCD, which is to mix **Natural Hot TR** with Gransil Lift. Natural Hot TR comes from **Optima Chemicals** and is an anhydrous mixture of calcium chloride and silica in dimethicone that undergoes a prolonged exothermic reaction when it comes into contact with water.

Wet shaving is equivalent to daily exfoliation, with the skin left abraded; suffering from minor razor cuts and with its top layers of protective stratum corneum removed. Macho man then splashes a strongly alcoholic solution of perfume over his face, winces and moves on. However there are alternative post-shaving treatments that are less painful in application and provide longer lasting benefits and there are also ingredients that can be added to pre-shave products to ensure better wet or dry shave results. **Arectosina** from Vevy is a mixture of zinc citrate and propylene glycol citrate that raises the facial hair when applied prior to shaving. **AC Dermapeptide**

Warming from **Active Concepts** is a bio-ferment of capsicum with warming and anti-irritant properties. It is water-soluble and its application in a lotion or gel opens pores and said to provide a closer shave and to increase circulation and cell turnover.

This feature is not about formulation of the basic products but about additives that should enhance the product and be physiologically useful. One such is **Cephalipin** from **Pentapharm**, which is an aqueous solution of a cephalin-containing lipid fraction isolated and purified from cereals. Cephalipin shortens blood coagulation time by 30-50% and finds use as an active in shaving and aftershave products. **Live Yeast Cell Derivative** from **Arch** is a *Saccharomyces lysate* extract that promotes collagen and elastin formation and acts as an anti-irritant to soothe the skin.

Shaving can lead to the uncomfortable and disfiguring condition known as shave burn. To counteract this **Unipex** offers **Neutrazen** containing palmitoyl tetrapeptide-8 that is clinically proven to reduce UV, immune, neurogenic, chemical and mechanical inflammation when incorporated at 2% in a suitable product. It is claimed to visibly reduce redness of the skin and to provide skin soothing properties. Also from **Unipex**, **Abyssine** is a marine polysaccharide that reduces inflammation and protects sensitive skin. **Sea Heather** from **Gelyma** is a patented, Eco-cert approved Mediterranean brown algae complex proven to reduce inflammation and protect irritated razor-burn skin. It can enter cells and inhibit various reactive oxidative species involved in the non-enzymatic pathway of lipid peroxidation, especially the most reactive species: hydroxyl and alkoxy radicals and thus it protects against cellular lysis.

A problem encountered by men, particularly those from Africa and Asia, is folliculitis. Folliculitis occurs when hair follicles become infected, often with *Staphylococcus aureus* or other types of bacteria. Certain variations of folliculitis are also known as hot tub folliculitis and barber's itch. Folliculitis starts when hair follicles are damaged by friction from clothing, blockage of the follicle or shaving. Barber's itch is a staphylococcus infection of the hair follicles in the beard area of the face, usually the upper lip. Shaving makes it worse. *Tinea arbae* is similar to barber's itch, but the infection is caused by a fungus. *Pseudofolliculitis barbae* is a disorder that occurs mainly in black men. If curly beard hairs are cut too short, they may curve back into the skin and cause inflammation.

Cosmetic products for the treatment of a problem with so many possible causes are difficult to formulate without being labelled pharmaceuticals. Careful hygiene is the first stage so antibacterial washes are particularly useful. It is also recommended that desquamation be improved by using mild exfoliants in order to release the hair from an excess of dead skin cells. **Canadian Willowherb** is an extract of *Epilobium angustifolia* from **Unipex** that has antibacterial and anti-fungal activity and could be added to a cleansing wash. It has a long history of use for various ailments and there are numerous studies of its antimicrobial and neutraceutical properties [Ref 1]. It appears to have a broad spectrum of action inhibiting bacteria, yeasts and fungi and topical use of the plant has been widely supported with research demonstrating its antibiotic activity against several target organisms, many of which have been implicated in the development of skin problems. [Ref 2]

In cases of folliculitis **IMCD** suggest the use of **Tamanu Oil** as a natural and effective shave oil that may also be used in an aftershave lotion to soothe, moisturise, heal and soften beard re-growth. The oil has anti-bacterial properties and so will help prevent any current ingrown hairs from getting infected. Retinoids are effective desquamating agents but liable to be irritant. An alternative suggested by Unipex is **Exo-T**. It is an active with retinoid-like activity and trials by **Unipex** demonstrated a higher activity than retinoic acid and it protects the collagen network and improves skin smoothness. **Genti-Fol SA** from **Arch** is betaine salicylate that combines the exfoliating properties of salicylic acid with the moisturising properties of betaine.

Inhibiting hair growth is suggested as another way to reduce the occurrence of folliculitis and **Active Concepts** provides **AC HFCI Complex**, a combination of flavones isolated from cocoa through a proprietary fermentation

process, and a decapeptide. It inhibits hair growth by stimulating the onset of the catagen phase of the hair cycle, bringing the anagen phase to an end. The decapeptide mimics the action of Fibroblast Growth Factor-5, reducing the amount of time the hair follicle remains in the anagen phase, thereby limiting the possible window for hair growth. At the same time the flavones present in cocoa limit ornithine decarboxylase activity, slowing the rate at which growth may occur.

Telocapil from **Pro vital** inhibits tyrosine kinase activity and thus prevents follicular growth during the anagen phase. Another material with hair growth inhibiting properties is **Decelerine** from **Lipotec**. It contains lauryl isoquinolinium bromide that inhibits hair growth plus Pseudoalteromonas ferment extract, which provides a healing and smoothing effect by stimulating human epidermal keratinocytes growth and Aloe vera and allantoin: that have moisturising, soothing and anti-inflammatory properties.

Fancor is well known for its ingredients based on meadowfoam and it provides two materials of interest that reduce irritation and inflammation following shaving. **Meadowlactone** is able to completely prevent the irritation associated with hair relaxers and perms and finds application in shave and post shave formulations. **Meadowderm 100** combines the anti-irritant properties of meadowfoam delta-lactone with the moisturising potential of meadowfoam estolide. **Greentech** supplies **Protection Complex** for post-shave applications. It contains extracts of Malva sylvestris, Arnica montana flower, Grindelia robusta and Achillea millefolium. It has mild astringent properties combined with strong anti-inflammatory activity.

CellActive-Men is an active ingredient complex from **Rahn** specially designed for male skin to increase performance and resilience. The active ingredient complex comprises the osmoregulator, taurine and the adaptogen, Siberian ginseng. In vivo and in vitro studies confirm higher performance for men's skin through accelerated healing of micro-cuts following shaving and a higher resilience in stress situations plus a strong moisturising effect. **Gatuline Skin Repair Bio** from **Gattefossé** is an extract of *Onopordum acanthium* or cotton thistle; a medicinal plant known for its stimulating properties and for the treatment of burns. It is said to stimulate keratinocyte differentiation and promote the healing of wounds and skin damaged by trauma and can be used to combat the effects of post-acne imperfections and help in post-treatment skin recovery.

Acne is a common affliction in teenage and young men and is as irritating and disfiguring as razor burn and folliculitis. It may be treated in a similar way using antibacterial washes, avoiding irritants and by the application of ingredients like Canadian Willowherb. The underlying cause of acne is excessive sebum production. 5-alpha reductase (5-alphaR) is an enzyme located in sebocytes, epidermal and follicular keratinocytes and fibroblasts. It converts testosterone into dihydrotestosterone, which is responsible for sebaceous gland stimulation and the triggering of hyperkeratinisation of the sebum-rich areas of the face, trunk and scalp.

Cimicifuga, also known as Actea racemosa or Black cohosh, is a perennial plant native to Eastern North America listed in the US Pharmacopeia as an anti-inflammatory and sedative ingredient. Cimicifuga racemosa root extract is available from Crodarom as Phytessence Cimicifuga. **Matipure** from **Lucas Meyer** contains Nigella sativa seed oil and Curcubita pepo seed oil in liposome form that are claimed to calm and purify the skin. It also contains magnesium aluminium silicate and hydroxyethylcellulose, which absorb excess sebum. **Rovisome Clear Skin** combines potassium phosphate, isolutrol to normalise the production of sebum and to reduce the formation of comedones.

Cytobiol Iris from **Gattefossé** claims a synergistic action between an iris extract, zinc and vitamin A. It is specifically aimed at young skin, preventing the appearance of acne problems while reducing all symptoms related to the imbalance of cutaneous flora and lipidic metabolism. The iris extract inhibits the release of inflammatory fatty acids and has an astringent effect, the zinc has anti-bacterial activity and vitamin A promotes skin regeneration. Ajidew Zn-100 from Ajinomoto is also zinc based and claims moisturising, anti-bacterial and sebum regulating properties.

Salvona has **MultiSal Natural Acne Remedy**; a multi-component delivery system that offers an overall remedy for acne, taking advantage of natural botanical ingredients. It is composed of sub-micron spheres infused with willow bark, green tea and other ingredients that are effective for exfoliating and have anti-bacterial and anti-inflammatory properties. **Grant Industries** offers **Gransurf 155** for sebum control without irritation. It is Disodium PEG-8 lauryl dimethicone sulfosuccinate and is suggested as a mild surfactant for anti-acne treatment products

Alpaflor Alp Sebum from **Pentapharm** contains an extract from the Alpine plant, *Epilobium fleischeri*. It is designed for oily skin and *in-vivo* studies have shown a reduction in size and appearance of pores, reduction in skin inflammation and a reduction in the production of 5 Alpha-Reductase. *Epilobium fleischeri* is a rare Alpine plant but cultivated under strict conditions in the Swiss Alps for the production of this skincare active. **Beracare AAA** from **Beraca** is a 100% natural blend of Euterpe oleracea oil, Andiroba oil and Copaiba balsam that is rich in natural anti-oxidants, is anti-inflammatory and contains bactericidal actives recommended for the treatment of acne and problem skin.

Moisturisers are a natural progression from after-shave balms and the two functions are often combined. The are many ingredients designed to provide effective moisturising properties and they should work equally well regardless of gender. Claimed to provide sustained release of its moisturising effect **SalSphere Seaweed** from **Salvona** is based on polysaccharides extracted from seaweed that coat sub-micron spheres that are used to retain water. The core of the sphere is infused with humectants such as ceramide, glycerin and botanical extracts, to slow diffusing and sustain the moisturising effect on skin. Seaweed is also fundamental to **Aqua-Shuttle** from **Infinitec**, which applies an innovative encapsulation technology based on nano-sized diatoms to deliver glycerin, sorbitol and *Laminaria digitata* to provide controlled release of intensive, long lasting and effective hydration to skin.

Biophos 35 from **Arch** is a phospholipid-based system that is rich in magnesium and potassium glycoproteins, nucleoproteins, vitamins and glycoposphoproteins that is said to be an excellent moisturiser. Another additive for moisturising from Arch is Acqua-Biomin Zinc Y3, which contains zinc covalently bonded to a yeast polypeptide that is said to increase cell turnover of the dermis, playing a critical role in the healing process.

Hydromanil from **Provital** is a novel moisturising active compound that, because of its innovative structure and production technology, acts as a sequential delivery system of small molecules, resulting in immediate and long-lasting moisturising. Its desquamation regulatory activity and cellular cohesion restoring properties make it suitable for formulations aimed at improving the skin appearance and its high moisturising capacity makes it suitable for after shave balms and moisturisers.

CAPT-System Es-M from **Lucas Meyer** is a phospholipid gel system that is astringent and cooling for post shave applications and it contains escin and menthol to enhance active ingredient diffusion. **Bodyfensine** from **Lipotec** contains acetyl dipeptide-3 aminohexanoate, a new peptide designed to reinforce the skin's natural defence system and to protect the skin from external microbial invasion and lower the risk of infections, such as in acne-prone skin.

Peptides are the current favourite active ingredients for all types of cosmetic products, including moisturisers and anti-wrinkle products. **Infinitec** suggest two peptide-based materials specifically for male skin care. **HYB-ECM** is theophylline tripeptide and **HYB-TIMP** is theophylline hexapeptide. According to the ingredient literature testosterone affects the barrier function of the epidermis and accelerates transepidermal water loss (TEWL). It is proposed that theophylline tripeptide improves the synthesis of collagen within the skin and reduces TEWL. Theophylline hexapeptide is shown to increase skin moisturisation and inhibit the MMP's that break down the extra-cellular matrix by 36%, thereby preventing wrinkles. A third peptide from Infinitec is palmitoyl hexapeptide-26 with the brand name **Shield Bact**. It has strong antimicrobial properties and is suggested for post

shaving and post-depilatory products Extensive literature explaining the mechanism of these three materials with test protocols and results is available from the suppliers.

Men tend to engage in more active sports than women, leading to injuries and muscle pain and various materials are available as an alternative to Ibuprofen for pain relief. Two suggestions from **Salvona** are **MultiSal Pain Relief** and **MutliSal Muscle Toner**. The first material is a multi-component mixture of natural ingredients in a sub-micron delivery system used to relieve local and topical pain. The microspheres are infused with a blend of menthol, wintergreen and other botanicals that work synergistically, for a longer period of time. It is substantive to skin and contains menthol and camphor, which render it cool when applied, but then it gradually warms due to the slow release of methyl salicylate. **MutliSal Muscle Toner** is used for muscle toning, to reduce tissue fat content, and promote a healthy skin appearance. Components, such as conjugated linoleic acid and caffeine are infused within sub-micron spheres that are then encapsulated into microspheres. The sub-micron spheres are released on rubbing when the product is applied to skin, where they adhere and enable gradual penetration of the functional ingredients.

Finally there are two products claimed to reduce middle age spread in men. **Abdoliace** from **Soliace** is a slimming active developed exclusively for men that works by maintaining testosterone levels, which regulate fat storage, specifically in the abdomen area. As men age levels of testosterone decrease, causing an increase in abdominal fat. Using a combination of encapsulated bitter orange and guarana Abdoliace helps maintain testosterone levels and prevent fat build-up with up to a 4.5cm reduction in waist size claimed in just 1 month. **Gemmoslim** from **Jan Dekker** is based on a fig bud extract and claims to reduce waist size by 1 to 2cm in 56 days.

Ingredients suppliers provide extensive literature and claims support for all the materials mentioned. Additional ideas are available from Unipex in a presentation called Mr Concepts, Arch has a presentation called Men's Grooming and the new Croda Direct extranet site, <http://www.croda.com/pc/europe>, has some useful ideas.

The accompanying table identifies the full INCI listing, supplier and UK distributor for each material mentioned.

Ref 1 Nutracos; March/April 2003, pp 38 – 41

Ref 2 McCutcheon, A.R. Ethnopharmacology of Western North American plants with special focus on the genus Artemisia L., PhD Thesis; University of British Columbia, Canada, 1996

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