

Feature: Male Grooming
John Woodruff

Do males do more than shave, shower and put on an antiperspirant or deodorant? Apparently yes, and some do far more than use their partner's moisturiser. A quick look at the web sites of major brands reveals face washes and cleansers, numerous

According to research by
Alban Muller
16% of men use a facial
exfoliator prior to shaving
51% of men use an after-
shave
36% of men apply a
moisturiser
24% of men use a facial
cleanser
94% of men believe they have
a sensitive skin

moisturisers, exfoliating products, eye creams and more. A common theme is sport related with products promising to turbo boost energy levels after a shower; revitalise tired looking skin and to reduce wrinkles.

Presentations at scientific conferences seldom differentiate effects on a basis of gender; the differences come in how a product is packaged and the claims made. There are differences in male and female skin; the male epidermis is 15% thicker than women's, making men's skin more resistant. It has more sebaceous glands than women resulting in a greasier skin with more open

pores that are prone to acne. Up to age 30, male skin is tighter than women's, but by age 35 it rapidly becomes more flaccid; elasticity of connective tissue decreases and skin loses its ability to lock in moisture.[Ref 1]

Still the majority of men wet-shave; a process that involves washing, the application of a shaving aid, rinse off and the application of an after-shave lotion or, in an increasing number of cases, a soothing lotion or moisturiser. The shaving aid, be it gel, foam, mousse or a liquid preparation, is designed to soften the hairs and to add glide to the razor.

Traditionally the after-shave is a nice smelling alcoholic solution to tighten the skin and sterilise razor nicks. It may contain allantoin as a healing aid and glycerin to add some moisturising properties. Lotions and balms typically contain soothing and anti-inflammatory materials as well as anti-ageing compounds.

It appears that ingredient suppliers have many ideas to improve these basic products to make them both more appealing and more useful to males. Clare Broomhead [Rahn] writes that men are simplistic creatures who do not like complicated marketing stories; they simply want products to 'do exactly what it says on the tin'. With that in mind what follows is a round-up of the latest ideas to provide men with what they need with the emphasis on shaving and post-shaving products.

Amihope LL [INCI: Lauroyl Lysine] from **Ajinomoto** is an amino acid based organic powder derived from plant fatty acids and the naturally occurring amino acid, lysine. It provides smooth razor glide with a silky feel, imparting extraordinary slip and skin feel to shaving products and creams. Amihope LL is also suggested as a replacement for dimethicone in skin care products seeking Ecocert approval.

Micro Powders Inc. produce Microslip 519; a micronised form of PTFE that can be added to shave gels and creams to provide slip and glide to the razor. **Amerchol** supply a range of high molecular weight polyethylene glycols. Polyox WSR 301 is PEG 90M and is used to provide slip and improve foam texture and feel in shaving aids while Polyox WSR N-750 is PEG 7M and is used as a coating on razor blades to provide slip.

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Avicel PC 591 from **FMC** is a microcrystalline cellulose with cellulose gum, which gives lubricity to the razor and stabilises the foam from shaving aids. Other materials for improving slip include boron nitride and various silicones.

Menthol is an ideal cooling agent to add to either the shaving aid or to after-shave products but is often disliked for its odour and potential irritation. **IRA Laboratories** offers menthol encapsulated in cyclodextrin. The presence of some free menthol provides an instant effect while the cyclodextrin gives the encased material a sustained delivery with low irritation and odour.

An alternative to the use of menthol for a cooling effect are Cosmospheres GC3-S from **Pelletech**. They are small, soft green spheres that break down when rubbed on the skin. Each small bead contains menthyl lactate with microcrystalline cellulose and offers both cooling for the skin and a strong visual impact in the product.

Other cooling materials are Frescolat [INCI: Menthyl lactate] from **Symrise GmbH**, also available as Frigidil from **Campi y Jove** of Singapore. Questice from **Givaudan** is menthyl PCA and Questice Plus has added menthol for instant cooling followed by an extended effect provided by the menthyl PCA. A similar product is available from **Corum Inc** as Corum 9230. Finally, Methylal from **Lambiotte** is offered as a substitute for volatile cyclic siloxanes and has a strong and refreshing cooling effect.

Exfoliating the face with a razor is an aggressive operation and can leave the skin damaged, inflamed and irritated leading to redness and even swelling. For those with sensitive skin the reactions can be even worse. Sensitive skin is defined as a subjective cutaneous hyperreactivity and those who experience this phenomenon show exaggerated reactions when their skin is assaulted by physical and environmental extremes.

When the skin suffers an aggression, such as exposure to irritating products, solar radiation or mechanical damage, the barrier has an auto-repair system. It has been observed that this recovery is slower with a more basic pH than with an acidic pH. This is the result of poor processing of extracellular lipids in the lower part of the stratum corneum, due to the lack of activity of the enzymes involved. Poor acidification of sensitive skin compromises the delicate homeostasis of the epidermal barrier and prevents easy skin recovery after an aggression.

One of the most frequent causes of mechanical damage is shaving, and products that soothe and soften the damage or discomfort caused by shaving are designed to provide moisture and protection to skin in order to facilitate its epidermal regeneration. Caresoft from **Provital** is an aqueous/glycolic extract of *Curculigo orchoides* root, which is claimed to act on the internal control mechanism of skin pH and improve cohesion between cells. It repairs the integrity and barrier function of the epidermis and reduces skin reactivity and sensitivity.

To calm the skin **Pentapharm** suggests the use of Iricalmin, a biopolymer complex made from plants and created by biotechnology for use in skin care products. The synergistic mixture of triticum vulgare (wheat) germ extract and *saccharomyces cerevisiae* with sodium hyaluronate, panthenol, ascorbyl palmitate and pantolactone act as a multi-functional anti-irritant. Iricalmin is also able to regenerate the protective lipid layer of skin damaged by shaving and it has moisturising properties.

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Gemmocalm from **Jan Dekker** is an extract of *Ribes nigrum* or blackcurrant buds, which is said to have a soothing effect on inflamed and irritated skin and to synergistically enhance the activity of other active ingredients. BiodineV [INCI: Macadamia ternifolia oil; phospholipids, glycine soja sterol, stearic acid, glycerin, safflower oil/palm oil, aminopropanediol esters, squalane] from **Gova BVBA** is said to mimic the liquid crystalline structure of skin lipids. When delivered from a post-shave composition it penetrates the skin to repair the skin barrier and provide instant and long-lasting hydration.

Mibelle Biochemistry proposes the use of AquaCacteen [INCI: *Opuntia ficus-indica* stem extract] for post-shaving products. It blocks the release of stress markers from sensory nerve cells in the skin and calms irritated skin. It claims excellent hydrating properties due to its high content of water-binding compounds and clinical studies show that AquaCacteen is exceptionally soothing and firming. Other materials said to reduce redness and irritation, caused by shaving are Ocaline PF and Nyamplung from **Soliance**. Ocaline PF comprises Cucurbitapepo (pumpkin) seed extract in sea water and Nyamplung is *Calophyllum tacamahaca*, a natural antiseptic with healing properties.

Telangiectasias are small dilated blood vessels near the surface of the skin and are commonly seen on the face around the nose, cheeks, and chin. They manifest themselves as a network of spider veins and can be caused by sensitivity to shaving as well as environmental factors. To combat this **Pentapharm**, now part of DSM, suggest the use of Regu-CEA a multi-mix the principal components of which are spent grain wax, isomerized linoleic acid, palmitoyl tripeptide-5, linoleic acid, triolein, beta-sitosterol, propyl gallate, ascorbyl palmitate and tocopherol in aqueous/glycolic solution. It is described as a unique active complex of effective ingredients to fight the symptoms of red skin and to intercept the cascade of events that can cause damage. Regu-CEA inhibits the expression of cytokine IL-8 and reduces the visible surface of telangiectasia. It also inhibits inflammation and has skin soothing properties.

Avenacare from **Biovelop** is oat beta glucan capable of penetrating through the intercellular lipid matrix of the skin to the deepest layers of the dermis, where they stimulate the synthesis of collagen to reduce wrinkles. As well as helping to restore vitality to the skin, Avenacare provides soothing, gentle relief for minor skin irritations, wounds and burns. Studies show that it reduces skin irritation and inflammation and protects the skin against UV-induced erythema. Other examples of ingredients based on oat chemistry include oat peptides and oat oil from **Oat Cosmetics**. These ingredients have a natural anti-itch effect, which is particularly beneficial in post-shaving balms. The oat oil has also demonstrated a lubricating effect, reducing the drag of the razor.

Many of the active ingredients mentioned in this feature are not gender-specific however HYB-ECM Peptide from **Infinitec** is a hybrid of theophylline with a peptide that is activated by testosterone to reduce TEWL and provide moisturising and anti-wrinkle properties. A second peptide-theophylline hybrid is HYB-TIMP Peptide that inhibits metalloprotease (MMP), a cause of collagen breakdown. This is also only effective in the presence of testosterone and is recommended for use in a moisturising,

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anti-ageing face product, and in particular a product targeted at an older age group when MMP's are more active.

Launched at Formulate 2011 by **Adina Cosmetic Ingredients** was the Lipodisq concept provided by **Malvern Cosmeceutics**. Lipodisq is a biodegradable particle system developed specifically to deliver oily or lipophilic active agents to the stratum corneum. The structure of Lipodisq is based upon natural high density lipoproteins responsible for transporting fats around the body and is formed from membrane phospholipids, surfactants and co-surfactants derived from vegetable sources that break down in the skin.

Lipodisq are of exceptionally small size, typically 10-40 nm depending on the chosen actives and are able to penetrate the aqueous pores that surround the fatty lamellar layers of the stratum corneum. Lipodisq then become trapped in the stratum corneum where they degrade slowly to release their contents into the deeper layers of the skin that acts as a reservoir for the active substance, ensuring a more even release profile. Lipodisq are currently available with retinyl palmitate, retinol, ascorbyl palmitate, sodium ascorbyl phosphate, tocopheryl acetate, *Boswellia serrata* and *Centella asiatica* oils as the active ingredients and are suggested for inclusion in post-shaving and moisturising products.

Rahn has several active ingredients suitable for products aimed at men including CellActive- MEN, which contains taurine, present in popular energy drinks, which provides a very masculine marketing story, whilst moisturising and energising the skin. Also from **Rahn** Defensil is a mixture of plant extracts and sunflower seed unsaponifiables aimed at post-shaving products to reduce inflammation and irritation and studies are available to show it offers stem cell protection.

Like women, most men would like to look younger and more youthful; there is no shortage of ingredients making a promise to achieve that aim but only Proteola from **Rahn** promises to make men look six years younger in just four weeks. It contains olive leaf extract, jujube extract and levan to rebalance the signs of time, claims Rahn. The olive leaf extract is said to activate the proteasome responsible for the degradation of harmful cellular waste, a process that slows down with age. Jujube extract from Chinese dates strengthens the skin's own antioxidant defence system to prevent the formation of oxidised cellular waste and it also increases stress resistance. Levan polysaccharide creates a firming and moisturising film on the skin and this combination is claimed to make skin visibly and perceptibly younger by detoxifying, rejuvenating, moisturising and smoothing.

Ajinomoto suggests a variety of materials suitable for products aimed at the male market. L-Arginine is the amino acid that is a precursor to urea in the skin and when topically applied in a skin moisturiser it results in increased production of urea, resulting in hydration and regeneration of the skin. It can also be used to neutralise carbomers to avoid the use of amines and sodium hydroxide.

Not new but Ecocert approved and suitable for addition to facial cleansers and shower products as an ultra mild amino acid based surfactant with excellent creamy foam, which does not dry out the skin is Amisoft CS-22 [INCI: Disodium cocoyl glutamate, sodium cocoyl glutamate]. It claims to leave the skin feeling soft, clean and moisturised. And finally from Ajinomoto Ajidew ZN-100 [INCI: Zinc PCA] helps

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heal small and cuts from daily shaving, whilst moisturising the skin and keeping the skin clear of bacteria.

Lepidium meyenii root or Maca is an extremeophile that lives 11,000ft in the Andean mountains in Peru and was traditionally taken by the natives before battles as a concentrated energy source. It is also believed to help increase libido and is sometimes referred to as Peruvian Viagra. However for cosmetic use **Laboratories Expanscience** offer it as a hydrolyzed extract named Skinergium for its skin firming and anti-wrinkle properties. It stimulates fibroblast cells to produce collagen and elastin and the sugars present in Skinergium offer luminosity and radiance to brighten the skin complexion.

A non-hydrolysed form is available as Radiancyl from **Cobiosa Industries** of Peru, which also supplies Dragons Blood, a hydro-glycolic extract obtained from the latex of the tree *Croton lechleri*, with claims that it provides multiple beneficial properties for skin care and after shave treatments. The Peruvian name for the *Croton lechleri* tree is sangre de drago, which is Spanish for “blood of the dragon”. When the trunk of the tree is cut or wounded, a dark red, sappy resin oozes out as if the tree is bleeding and it is this resin that is extracted to provide the cosmetic ingredient Dragon’s Blood. Over 90% of its dried weight are proanthocyanidins, which include catequins and proanthocyanidinic oligomers. These compounds have strong anti-oxidant properties and they protect and strengthen the collagen fibres.

Croton lechleri is also the principal active in Cikaderm from **Kalichem**. It has carried out trials on scar reduction using Cikaderm and found it to be effective for healing small wounds and to provide a reduction of itching and improvement in skin appearance. Mamaku Vital essence from **Lucas Meyer** is an extract of *Cyathea medullaris* seeds from a tree fern native to New Zealand with claims to accelerate wound healing and stimulate epidermal renewal. OH-Isostearyl from **Variati S.r.l.** is claimed to assist skin barrier recovery after shaving. It also inhibits TEWL and reduces excessively oily skin by inhibiting the activity of the 5-alpha reductase enzyme. It is an ester formed by reacting lactic acid with isostearyl alcohol and has a polarity very similar to human sebum.

In an effort to make its ingredient more “macho” for men **Unipex** has called its newest offering “Songa”, which means strength or power animal in the Algonquian language. In vitro testing shows that Songa [INCI: *Solidago virgaurea* (Goldenrod) extract] stimulates type 1 procollagen production in human fibroblasts, for optimal skin firmness and integrity. It also demonstrates strong free-radical scavenging activity and enhances collagen tensing effect, resulting in a firmer and tighter skin.

Fibrous proteins which are vital for good skin condition, such as collagen and elastin and glycoproteins such as fibronectin, are formed in the fibroblasts of the dermis. Proteins are formed by the formation of amino acid chains by peptide bonding. A carboxyl group of one amino acid links up with an amino-group of another amino acid. The thermodynamic conditions in the cell do not favour the formation of peptide bonds. Nature solves this problem in the biosynthesis of proteins by first activating the carboxyl group of the amino acid with the help of ATP (adenosine triphosphate). In this process, one molecule of amino acid and one molecule of ATP combine

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together to form an amino acyl adenylate, the activated form of the corresponding amino acid.

Unilactamin from **Unichem** is a combination of activated amino acids obtained from milk [INCI: Hydrolyzed milk protein, nicotinamide and adenosine triphosphate in butylene glycol/water]. If added to after-shave lotions at 2% to 5% it stimulates the skin's own metabolism to improve skin condition and appearance. There is an increase of moisture content in the epidermis and an increase in skin elasticity. It is said to activate dermal connective tissue restructuring and the cell repair mechanism, resulting in a smoothing of fine lines and wrinkles.

If facial hair grew more slowly the frequency of shaving could be reduced. **Lipotec** produce a hydroglycolic solution of Aloe barbadensis leaf extract, lauryl isoquinolium bromide and pseudoalteromonas called Decelerine. Tests show that daily topical application of a 3% gel containing Decelerine substantially reduces beard growth. Also aimed at reducing beard growth Depil Enzyme from **IRA Laboratories** incorporates subtilisin as a hair regrowth inhibitor that effectively works at 1 % - 5% inclusion levels.

AC HFCI [INCI: Lactobacillus\theobroma cacao (Cocoa) extract ferment, decapeptide] from **Active Concepts** is also a hair growth retardant. **Active Concepts** describe it as a complex combination of a decapeptide with flavones isolated from cocoa through a fermentation process. It inhibits hair growth by stimulating the onset of the catagen phase of the hair cycle, bringing the anagen or growth 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 the cocoa limit ornithine decarboxylase activity, slowing the rate at which growth may occur.

An unfortunate effect of age in both men and women is weight gain; women accumulate fat round the waist, buttocks and thighs while men suffer an increase in size of their abdomen. Adjuncts to a healthier life style are the use of topically applied slimming aids: L- Carnitine from **IRA Laboratories** is carnitine in cyclodextrin that promotes cell drainage. The cyclodextrin system provides sustained release of L-carnitine for more effective treatment of cellulite and cell drainage.

Gemmoslim from **Jan Dekker** promises to reduce the volume of male abdomens by 6% and its circumference by at least 2cm after applying a gel containing 5% of this Ficus carica buds extract for 56 days. It apparently works by releasing fat deposits from the adipocytes. Slimexir from **Rahn** is a mix of methylxanthines, an extract of artichoke (Cynara scolymus) and the polysaccharide levan, which mutually support each other to combat excess fat. It suppresses the maturation of adipocytes, so less fat is stored in these cells and causes existing fat to be broken down into fat globules which can then be decomposed

Abdoliance from **Soliance** is a multi-component mixture, the principal actives of which are Paullinia cupana seed and citrus aurantium amara (bitter orange) peel extract in liposome form. Unique to men, it works by maintaining testosterone levels, which then regulate fat storage, specifically in the abdomen area. As men age the levels of testosterone decrease, causing an increase in abdominal fat but by using a combination of encapsulated bitter orange and Paullinia cupana seed Abdoliance

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helps maintain testosterone levels and gives up to a 4.5cm reduction in waist size that can be achieved in just 1month, claims **Soliance**.

Please note: Information including the results of efficacy testing and clinical trials plus a full INCI listing and Ecocert approval if relevant is available from the suppliers or their agents.

REF 1 Male Grooming, SPC 2010

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www.creative-developments.co.uk