knowledge is power

The New Approach to Acne
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Acne

- The postulated mechanism of action consists of an elevated supply of dihydrotestosterone (DHT) acting at the intranuclear androgen receptor of the germinative cell layer of the various components (sebaceous, hair, and ductal lining) of genetically predisposed pilosebaceous units. The effect of the DHT is likely synergised by insulin like growth factor-1 (IGF-1) (Clinics in Dermatology 2008 26, 93–96).
- Where does IGF-1 come from?

Acne

- In westernised societies, acne vulgaris is a nearly universal skin disease afflicting 79% to 95% of the adolescent population. In men and women older than 25 years, 40% to 54% have some degree of facial acne, and clinical facial acne persists into middle age in 21% of women and 3% of men. Epidemiological evidence suggests that acne incidence rates are considerably lower in non-westernised societies. cannot be solely attributed to genetic differences among populations but likely results from differing environmental factors (Arch Dermatol. 2001;138:1584–1590).

Acne

- Acne results from hyperkeratinisation and obstruction of the pilosebaceous follicles secondary to androgen-stimulated failure of normal desquamation of the follicular epithelium, androgen-stimulated sebum production, subsequent colonisation of the follicles by Propionibacterium acne and other organisms, and variably, inflammation. Ecological studies suggest an association between the Western diet and acne (Arch Dermatol. 2002 Dec;138(12):1584–90).

Myths and Truths

- Some common lay and medical beliefs regarding acne. In a 2001 article advocated ‘debunking myths about acne’ and, among ‘myths’ nominated for debunking, were those related to diet (chocolate and fatty foods), hygiene, face cleansing and sun-exposure.
- The evidence base for current recommendations regarding dietary, face-washing and UV-exposure behavioural modifications in acne management is incomplete at best. Studies have often been of small sample size, uncontrolled, or unblinded. There are also, perhaps, a number of other factors that may influence recommendations to patients. The anecdotal evidence of patients that certain foodstuffs exacerbate their acne cannot be dismissed out of hand (Aust Fam Phys. 2001; 30: 1039–1044).
Myths and Truths

+ An Australian study of 50 boys with moderate to severe acne suggests that a diet high in low-GI foods such as wholegrain bread, pasta and legumes helps. The boys in the study had high-GI foods in their diet replaced by high-protein ones. The change resulted in less dramatic rises and falls in blood glucose and hence also in insulin levels. The researchers believe high insulin levels contribute to acne by stimulating oil secretion. High insulin levels are claimed also to be a response to the insulin resistance caused, in turn, by the high growth hormone levels in puberty (Neil Mann, RMIT University Melbourne).

Diet Truths

+ Drinking milk and consuming dairy products from pregnant cows exposes us to the hormones produced by the cows' pregnancy, hormones that we were not designed to consume during our adult years. It is no secret that teenagers' acne closely parallels hormonal activity and the biochemical links between hormones and pilosebaceous activity and acne are being more closely defined every year (J Am Acad Dermatol 2005;52:360-2.0390-962).

Diet Truths

+ Milk is a very complex substance. It contains prolactin, somatostatin, growth hormone releasing factor-like activity, gonadotropin-releasing hormone, luteinizing hormone, thyroid-stimulating and thyrotropin-releasing hormones, numerous steroid hormones, insulin, epidermal growth factor (EGF), nerve growth factor (NGF), IGF-1 and -2, transforming growth factors (TGFs), vitamin D, transferrin, lactoferrin, many prostaglandins including F2α, erythropoietin, bombesin, neurotensin, vasoactive intestinal peptide. It should surprise no one that milk contains such a heavy complement of growth-enhancing hormones. Milk is, after all, specifically designed to make things grow (Vitam Horm 1995;50:77-149).

Diet Truths

+ Improvement in acne and insulin sensitivity after a low-glycaemic-load diet suggests that nutrition-related lifestyle factors may play a role in the pathogenesis of acne (American Journal of Clinical Nutrition, Vol. 86, No. 3, 107-115, July 2007)

+ Low glycaemic load diets may influence sebum production based on the beneficial endocrine effects of these diets (J Dermatol Sci. 2008 Apr;50(1):41-52).

Diet Truths

+ Data indicates that a low glycaemic load diet, comprised of high levels of protein and low GI foods, significantly decreased the mean number of facial acne lesions, therefore alleviating the severity of acne symptoms. However, the multi-facitorial nature of this condition is reflected in the fact that the control group also showed a decrease over time, thereby suggesting that some other factors are at play (Asia Pac J Clin Nutr 2005;14 (Suppl): S97).

+ Eliminate high iodine foods, increase chromium and zinc. Selenium, Vitamin B6 and B5 should also be increased.

Diet Truths

+ Some nutrients to adjust in treatment of acne
  + Increase Omega 3 and 7, potassium, pyridoxine (B6), Vitamin A (shark oil is best), and zinc. Monitor hydrochloric acid levels as they are often low. Increase folate,
  + Decrease or eliminate food sensitivities. Almonds, malt, refined carbohydrates, inorganic iron, HRT, and test for B12 levels (Nutritional Influences on Illness; Werbach MR)
**Insulin**

+ A diet of 44% protein, 35% low glycaemic load carbohydrate and 21% oils/fats (avoiding Omega 6) reduces 5-Alpha Reductase activity, while a diet of 10% protein, 70% simple carbohydrate and high Omega 6 fats significantly increases 5-Alpha Reductase activity.
+ The skin cells of acne patients have been found to be insulin insensitive and utilise sugars so poorly that it has been called ‘skin diabetes’ (*Natural Medicine Instructions for Patients* Pizzorno LU et al 2002)

**Gut and Skin**

**The Gut**

+ The mucosal barrier is established by the single layer of epithelial cells that line the intestine, with erosion and ulcerations being obvious sources of focal barrier defects. The tight junction seals the space between adjacent epithelial cells and, in intact gastrointestinal epithelia, tight junction permeability is the rate-limiting step that defines the overall epithelial permeability. Thus, tight junction defects may be an important source of the overall intestinal barrier defects—that is, permeability increases (Gut 1988; 29:1621-4)

**Leaky Gut**

+ The leaky gut syndrome is the name given to a very common health disorder in which the basic organic defect (lesion) is an intestinal lining which is more permeable (porous) than normal. The abnormally large spaces present between the cells of the gut wall allow the entry of toxic material into the bloodstream that would, in healthier circumstances, be repelled and eliminated.
+ The gut becomes leaky in the sense that bacteria, fungi, parasites and their toxins, undigested protein, fat and waste normally not absorbed into the bloodstream in the healthy state, pass through a damaged, hyper permeable, porous or "leaky" gut

**Leaky Gut**

The leaky gut syndrome is basically caused by inflammation of the gut lining. This inflammation is usually brought about by the following:
+ Antibiotics because they lead to the overgrowth of abnormal flora in the gastrointestinal tract (bacteria, parasites, candida, fungi)
+ Alcohol and caffeine (strong gut irritants)
+ Foods and beverages contaminated by parasites like giardia lamblia, cryptosporidium, blastocystis hominis and others
+ Foods and beverages contaminated by bacteria like helicobacter pylori, klebsiella, citrobacter, pseudomonas and others
Leaky Gut

- Chemicals in fermented and processed food (dyes, preservatives, peroxidised fats)
- Enzyme deficiencies (e.g. coeliac disease, lactase deficiency causing lactose intolerance)
- NSAIDS (non-steroidal anti-inflammatory drugs) like aspirin, ibuprofen, indomethacin
- Prescription corticosteroids (e.g. prednisone)
- High refined carbohydrate diet (e.g. candy bars, cookies, cake, soft drinks, white bread) Prescription hormones like the birth control pill, mould and fungal mycotoxins in stored grains, fruit and refined carbohydrates.

Inflammation

- When the gut is inflamed, it does not absorb nutrients and foods properly and so fatigue and bloating can occur.
- When large food particles are absorbed there is the creation of food allergies and new symptoms.
- When the gut is inflamed the carrier proteins are damaged so nutrient deficiencies can occur.
- Likewise when the detoxification pathways that line the gut are compromised, chemical sensitivity can arise. Furthermore the leakage of toxins overburdens the liver so that the body is less able to handle everyday chemicals.

Inflammation

- When the gut lining is inflamed the protective coating of IgA (immunoglobulin A) is adversely affected and the body is not able to ward off protozoa, bacteria, viruses and yeasts.
- When the intestinal lining is inflamed, bacteria and yeasts are able to trans-locate. This means that they are able to pass from the gut lumen or cavity, into the bloodstream and set up infection anywhere else in the body.
- The worst symptom is the formation of antibodies. Sometimes these leak across and look similar to antigens on our own tissues.

Components and Events of Inflammation.

- Some substances, such as the inflammatory cytokines tumor necrosis factor, interleukin-1, and interleukin-6, escape into the systemic circulation, causing systemic symptoms and activating the hypothalamic–pituitary–adrenal axis, the stress system, NEJM 1995

Inflammation and Immunity

- Adverse reactions to food may initiate a myriad of physiological effects in the body. These reactions may be immunologically or non-immunologically mediated and can result in signs and symptoms ranging in severity from mild to life threatening anaphylaxis. Although the majority of severe reactions are thought to be immunological and mediated via IgE, other immune globulins, such as IgG and IgA, may play a role in adverse reactions to food as well.
- In the presence of ongoing chronic inflammation, the gut immune cells are overwhelmed and loose their ability to maintain T regulatory cells activity.

Stress and the Gut

- It has been well established that chronic stress, anxiety, and negative affectivity are related to the two most prevalent functional gastrointestinal disorders, non-ulcer dyspepsia (NUD) and irritable bowel syndrome (IBS). This is especially true in the context of critical life events and psychological trauma such as sexual, emotional, or physical abuse (The Centre for Psychobiological and Psychosomatic Research, University of Trier).
**The Immune System**

- The immune system constantly and silently destroys, dilutes, or wall off injurious agents and injured tissue. Locally, microvessels dilate and become more permeable, thereby increasing blood flow and exudation of plasma and allowing leukocytes to accumulate in the inflammatory focus. The cells in the inflammatory reaction arrive from the blood (e.g., monocytes, neutrophils, basophils and eosinophils, and lymphocytes) or originate locally (e.g., endothelial cells, mast cells, tissue fibroblasts, and resident macrophages). Locally, immune and immune accessory cells are activated, and cytokines, lipid mediators of inflammation, and neuropeptides are generated.

**Gut Bacteria**

- The studies of the intestinal microflora in 114 patients with acne vulgaris (94 and 20 with its papulopustular and nodulocystic forms). Sixty-one (54%) patients have either the first (23%) or second (38%) impaired bacterial microflora. All the same time, there are no great differences in the content of the intestinal microflora in different forms of acne. It is noted that adding intestinal microflora-correcting agents to combined therapy in patients with papulopustular acne vulgaris and verified dysbacteriosis reduces the duration of treatment by over twice and makes its duration the same as that in patients without dysbacteriosis (Klin Med (Mosk). 2002;79(8):39-42).

**Stress and the Gut**

- Activation of the stress system heightens arousal, accelerates motor reflexes, improves attention and cognitive function, decreases appetite and sexual arousal, and increases the tolerance of pain. The activated system also changes cardiovascular function and intermediary metabolism and inhibits immune-mediated inflammation (NEJM P:1351-63 1995).

**The Gut**

- Altered microbial ecology in the gut may produce disease and dysfunction because of the intense metabolic activity and the antigenic nature of bacterial flora. Bacterial enzymes can degrade pancreatic enzymes, damage the intestinal absorptive surface, release toxins that had previously been bound by conjugation and alter the intestinal milieu in numerous ways, some of which can be easily measured in a properly collected sample of stool. Bacterial antigens may elicit dysfunctional immune responses, which contribute to diseases of the bowel, skin and of connective tissue.

- Carbohydrate intolerance induced by overgrowth of bacteria in the stomach, small intestine and beginning of the large intestine will affect skin and joints.
**Gut, Skin and Dysbiosis**

- Ionescu studied faecal and duodenal flora in patients with atopic eczema and found evidence of gastrointestinal (GI) dysbiosis and subtle malabsorption in the majority. Chronic pancreatitis is another GI-related dysfunction associated with this skin disorder. Immune sensitivity to colonisation by the gastrointestinal yeast Candida albicans or the bacteria Helicobacter pylori are also closely linked with clinical manifestation of dermatitis.
- Other skin conditions are also closely tied to GI dysbiosis, a combination of objective tests of small intestinal architecture and function detected abnormalities in most dermatitis herpetiformis patients (Journ Adv Med. Vol 3, No3 1996).

**Candida and Skin**

- A statistically significant correlation between C. albicans sensitisation (specific IgE antibodies) and skin symptoms was observed only in patients with saprophytic C. albicans exposure. No correlation between C. albicans-specific IgE and severity was shown in patients without gastrointestinal growth. Furthermore, severe eczema was seldom seen in patients without saprophytic C. albicans growth. IgG and IgA antibodies to C. albicans, mainly towards C. albicans mannan, were found in practically all studied. These results suggest a continuous exposure and induction of IgE antibodies by C. albicans in patients (J. SAVOLAINEIN : Dep’t of Medical Microbiology, University of Turku, Finland).

**CandiClear**

- Biotin, Calcium undecylenate, Pau d'arco (Tabebuia avellanedae) bark extract, Enzyme blend (protease, lipase, serrapeptase, hemicelullase, amylase and chitosanase) Berberine (berberine sulfate), Trans-resveratrol (from Polygonum cuspidatum), lysicsmaciae herba (jin qian cao), agastache herba (huo xiang), pulsatillae radix (bai tou weng), lonicerae caulis (ren dong teng)
- CandiClear features calcium undecylenate, a fatty acid that helps keeps Candida from converting to its invasive fungal form.

**Epi-Gastro Enzyme Formula**

- Lindera strychnifolia (wu yao), Lonicera japonica (jin yin hua), Endothelium Corneum Gigeriae Galli (ji nei jin), Alpha-Amylase, Trypsin, Protease, Lipase, Bromelain, Papain, Pepsin and Cellulase
- Increases peptin and hydrochloric acid, enhances protein absorption, and increases gastric emptying time. Helps sterilise the gut and stimulate immunity.
Pre-biotic Mix

- Larch Arabinogalactans, Fructo-oligosaccharides (FOS), Inulin, L- Glutamine and Isomalto-oligosaccharides.
- A pre-biotic feeds the ‘good’ bacteria and enhances immune function. It protects villii, protects the gut mucosa and reduces systemic inflammation.

Gut Clear

- Uncaria rhynchophylla (Gou Teng), Flos Chrysanthemi Indici (Ye Ju Hua), Citrus aurantium (Zhi Ke), Trichosanthes kiinowii (Tian Hua Fen), Angelica Dahurica (Bai Zhi), Agastache rugosa (Huo Xiang), Coix lacryma-jobi (Yi Yi Ren), Tribuli terrestris (Bai Ji Li), Mentha haplocalyx (Bo He), Hordeum vulgare (Mai Ya), Magnolia Flower (Hou Po Hua), Atractylodes macrocephala (Cang Zhu), Pueraria lobata (Ge Gen), Coptis chinensis (Huang Lian), Aucklandia iappa (Mu Xiang), Grapefruit Seed (Pu Tao Zi), Asafoetida (Ferula Foetida) Gum Resin (60 to 75 percent concentrate) (A Wei)

Gut Clear

- Irritable bowel syndrome (IBS) due to stress, Gut dysbiosis, small intestine bacterial overgrowth (SIBO), Low IgA response.
- Heals the gut and restores proper function, reduces inflammation and increases nutrient absorption.

Sea Buckthorn Oil

- Sea buckthorn oil contains rare fatty acids (omega 7) that are identical to our own production of protective lipid emollients.
- The rare combination of highly active palmitoleic and linolenic acids found in the berries & seeds and an abundance of essential vitamins, minerals and a high content of flavonoids, anti-oxidants that boosts healthy cell regeneration and speeds up skins healing metabolism .

ClearSkin HerbCare

- Angelica Sinensis (Dang Gui), Poria Cocos (Fu Ling), Aloe Barbadensis (Lu Hui), Paeonia Lactiflora (Bai Shao), Carthamus Tinctorius (Hong Hu), Vit E (d-alpha-tocopheryl) acid succinate
- 30 subjects according to the criteria of acne (8 males and 22 females) took ClearSkin HerbCare capsule (CSHC) for 90 days. The results showed that the number of acne reduced obviously, and the skin lesions were alleviated, 7 cases were markedly effective, 17 effective, the total effective rate was 80.0%. The results of routine blood and urine tests as well as biochemical indices were within normal range before and after the foretaste test. It could be believed that CSHC had obvious appearance caring and acne treating actions, and it had no obvious influence over subjects (Beijing Municipal Center for Hygiene and Epidemic Control, and Xiyuan Hospital of China Academy of Traditional Chinese Medicine)

Dermatriu

- Ledebouriella divaricata (Fang Feng), Potentilla chinensis (Wei Ling Cai), Clematis chinensis (Wei Ling Xian), Akebia trifoliata (Chuan Mu Tong), Rehmannia glutinosa (Sheng Di), Paeonia lactiflora (Bai Shao), Lopatheri gracilis (Dan Zhu Ye), Dictamnus albus (Bai Xian Pi), Tribulus terrestris (Ci Ji Li), Schizonepeta tenuifolia (Jing Jie), Glycyrrhiza uralensis (Gan Cao), Chromium, Zinc, Vitamin E, Selenium, B6 (P5P)
K2C Skin and ILA

- K2C: Vitamin K2 Menatetrenone, Vitamin K2 Menaquinone-4 and 7 and Vitamin C. Vitamin K plays a key role in protecting skin elasticity and could soon be the latest nutraceutical appearing in savvy high-end cosmetic lines. The research is just coming out that people who cannot metabolize vitamin K end up with severe premature skin wrinkling. (Gheduzzi D, Boraldi F, et al. Lab Invest. 2007 Oct;87(10):998-1008.)
- ILA: Conjugated Linoleic Acid. ILA reduces inflammation associated with insulin resistance and CLA has shown to help the skin regenerate from damage and keep the skin in a juvenile state. Taking CLA as a supplement may help you get finer skin.

The reduction in skin elasticity is due to the calcification of the elastic fibers of the skin. High concentrations of calcium and phosphate in the extracellular space cause calcification and are blocked by K2, Vitamin C and CLA. Scientists investigated the role of vitamin C and linoleic acid intake in skin wrinkling. The study included 4,025 females between the ages of 40 and 74. The researchers found that lower intakes of vitamin C in the diet were significantly associated with the prevalence of wrinkled appearance and senile dryness (Am J Clin Nutr. 2007 Oct;86(4):1225-31)

Skin

- The semi-permeable protective layer

Mucosa; Skin on the Inside

- Acts as the same because it is the same tissue
The five pillars of health, vitality
and longevity
1. A compatible diet-allergy and
   intolerance free
2. Optimal digestive process
   encompassing HCL, enzymes and
   optimal bowel flora
3. Essential nutrients: protein, fats,
   vitamins and minerals
4. Treating inflammation and infection
5. Balancing hormones

What causes acne
■ The diet
■ The Bacteria
■ Inflammation
■ The hormones

Melanie-34yr-old teacher
■ Long history of acne since early high
  school
■ Emotionally debilitating-suicidal-at
  times on anti-depressants
■ Cystic-worse one week before period-
  hair oily then-emotional they and
  crying-21 day cycle
■ Treated with Roaccutane/OCP,
  antibiotics

Also gets a rash
■ After backpacking 2003 in Croatia
■ Annually, now more often
■ Lasts for two weeks, randomly
■ Measles like rash-red and blotchy-
  on arms, legs and face
■ Had a biopsy- non-specific
  inflammatory lesion

Endometriosis- diagnosed 2005-
bad time before period and pain
with period/heavy and pain
then with bowel movements
■ Headaches a lot as a child
■ Bloating and gas-not much
■ Others assyymptomatic
**Diet**
- B: Wheetbix, oats, dates, linseed, banana, skim milk/tea and skim milk
- L: Tuna, tomato, spinach, alfalfa, mung beans, cucumber on wholegrain bread or rice crackers/kidney beans and corn
- 2pm: Fruit salad with apple, orange, melon, grapes and passion fruit
- Snacks on dried fruit and nuts with sultanas and cranberries
- 6pm: Steamed vegies with carrot, zucchini, cauliflower, broccoli also stir fry, quiche and occasional meat
- Dessert: Nuts, yoghurt and berries
- May have more fruit and nuts
- Alcoholic drink once weekly

**Physical examination**
- Slim with body fat 22.5%
- Tongue-coated and strawberry tipped
- Hands: Cold, white spots nails
- Zinc taste test mild+ve
It’s all about
the consultation
by Daniel Dickson

Consultation
- Reasons for client consultations
- History and common practices in the consultation
- Best practice for the consultation
- Reasons for the best practice
- Processes involved in the consultation

Consultation Processes
- Reasons or concerns for their appointment
- Primary and secondary concerns
- Has treatments been effective in the past
- If there is anything that can make the condition worse or better
- What current products/treatments are they undergoing

Conditions
- List conditions – how long have they been present
- Are these conditions under control or alleviated
- What treatment have they undergone
- Have these been successful or have they inflamed the condition

Conditions
- Any secondary concerns
  - e.g. Acne that now led to scarring, cuniform scarring, pigmentation or vascular scarring
- What are their goals and in what sort of time frame
Medications

- What are they on?
- How long have they been taking it?

Medication

- Are there any adverse effects with this medication?
  - i.e. poor sleep can lead to poor circadian rhythm and decreased melatonin which again leads to increased pigmentation. This might be their primary concern.
- When did they last review medication?
  - If it is longer than 12 months they should have this re-visited

Any improvements since taking the medication.
  - i.e. have they been on the medication for 5 years with no change in appearance.
Any additional medications not listed.
  - This is an important question as many people feel that you don't need to know about certain medications.

Causative Factors

- Ongoing development of your knowledge in both conditions and causative factors
- The initial process of elimination while talking to your clients
  - i.e. Acne – professionally you must be thinking of revising texture and normalising cell proliferation, then evacuating the infection of the individual sebaceous glands
- Delivery of an anti-bacterial agent to assist in the killing off of P-Acne bacteria and reducing the likelihood of re-infection

Regulate the excess oil while softening the sebum by adding essential fatty acids (efa) to the clients Home Prescriptives.

- Restore and rebalance the free water level in the epidermis that has been lost because of an impaired acid mantle and dysfunctional bi-layers which has led to trans-epidermal water loss (TEWL).
- Educate clients of hormonal factors that add to the severity of the acne or in some cases causes.

We also must align our achievable goals with the clients expectations
Client Expectation

- It is important prior to the treatment protocol and Home Prescriptive being delivered that you align the client expectation with the achievable results of your treatment protocol.
- It is also important that you educate the client regarding condition, protocol and the importance of their Home Prescriptive use.

The Diverse Approach

- Understanding that many conditions (specifically acne) need to be approached from a topical, internal and emotional point of view.
- Dietary awareness, vitamins and minerals, supplements, stress levels and topical applications should all be considered for a holistic result.

The Diverse Approach

- The combination of topical skin treatments, integrated medicine, vitamin supplements and possible medications may all be required in order to achieve the best results.

Conclusion

- The consultation process is one of the most vital processes for achieving results for your client.
- The client must be educated, on board, and understand your goal.

Conclusion

- Explain the difference to your client between their expectations and achievable results.
- I would encourage motive and protocol to be explored until the client expectation and the achievable results of the paramedical therapist are in line.

Thank you
The new approach to topical acne treatments
by Danné Montague-King

Benzoyl Peroxide
- Re thinking the Benzoyl Peroxide dilemma

Hormones are everything
- So why do we focus on bacteria?

New DMK Acne Concepts
- New and exclusive formulations that move beyond conventional acne ingredients for effective, non-irritating and elegant scientific treatment combinations.
- No harsh peroxides that dry the skin
- Instead, highly effective yet gentle germacides, combined with agents that both suppress sebum and help to cleanse the pores of compacted sebum and debris.

DMK Acne Cleanser
- Combination of deep pore cleanser and acne wash.
- With no SLS or other non-popular surfactants.
Salicylic Acid

- A BHA (beta hydroxyl) found in plants
- One of the main ingredients in aspirin, salicylic acid helps to correct the abnormal shedding of skin cells.
- Extremely helpful in rosacea, eczema and psoriasis
- Helps to unclog pores and prevents lesions.

- Works as an antiseptic
- Works as a keratolytic by causing the cells of the epidermis to shed more readily, preventing pores from clogging up, and allowing room for new cell growth.

The DMK Acne Crème

- This product uses no harsh peroxide which irritates and dries the skin.
- Instead it uses 3 highly effective yet gentle germicides combined with agents that both suppress excess sebum and help to cleanse the pores of compacted sebum and debris.

- Salicylic acid and niacinamide along with Azelaic acid are combined to produce a broad spectrum germicide that prevents bacteria from becoming immune to the killing power of this triad.

The DMK Acne Crème

- Natural North American Ginseng can change immunomodulatory, lipolytic and anti-sebum agents as well as anti bacterial agents.
- Malic acid is derived from apples and is a powerful inhibitor of sebum as well as a gentle exfoliant.

Niacinamide

- Also know as nicotinamide and nicotinic acid.
- Water soluble vitamin (vitamin B group)
- Demonstrates anti inflammatory actions which are of beneficial to patients with inflammatory skin conditions.
### Niacinamide

- The compound can suppress antigen induced lymphocytic transformation
- Demonstrated the ability to block the inflammatory actions of iodides known to precipitate or exacerbate inflammatory acne

### Acne on the Body

**Azelaic Acid**

- Reduces the growth of bacteria in the follicle (propionibacterium acnes and staphylococcus epidermidis)
- It normalises the disordered growth of skin cells, lining the follicle
- Scavenger of free radicals and reduces inflammation

### Azelaic Acid

- Used to treat all acne i.e. both comedonal acne and inflammatory acne.
- It works in part by stopping the growth of skin bacteria that cause acne and by keeping skin pores clear

### Azelaic Acid

- Reduces pigmentation common to acne spots and actinic lentigenes
- Does not result in bacterial resistance to antibiotics
- Regulates sebum production by suppressing 5aReductase
- Does not create photosensitivity (easy sunburn)
Malic Acid

- Help exfoliate the skin to promote smoother and firmer skin
- Acts as an antiseptic

The DMK Acne Crème

- The ingredients are formulated in a non greasy base that contains an exclusive and proprietary anti inflammatory agent Hepes acetate.

These ingredients address the four major causes of acne.
1. It breaks up the filo sebaceous plugs.
2. Destroy bacteria on skin surface and in the follicle.
3. Reduce the effect of testosterone that occurs in both men and woman to enlarge the sebaceous gland, reduce sebum secretion.

DMK Spot Treatment

- Topical camphor, floods the acneic lesions with germicidal essential oil.
- All natural linden extract shrinks the lesion down with astringent compound.
- Malic acid works synergistically with linden extract to help decongest the lesion.
- Finally the powerful anti erythema agent tyramine contracts the tiny capillaries to reduce the swelling and redness till the lesion disappears.

Acne

Before After
knowledge is power