

ACNE

Causes & Treatment Goals

The cause of acne is quite simple, as is the prevention and cure of acne for the great majority of people. To understand how acne forms you will need to know a little about the skin in general.

The skin consists of two layers (see Diagram next page.)

The deep layer, known as the **dermis**, is the foundation of the skin. It is made up mostly of fibrous tissue and contains the blood vessels, nerve endings, hair follicles, sweat glands, oil (sebaceous) glands and other support structures. Think of the dermis as being like the foundations of a house – made of concrete, it lies under the walls of the house and contains all the plumbing services!

The upper layer of the skin is called the **epidermis** and consists of layer upon layer of skin cells held together by a type of glue. The skin cells gradually move from the bottom to the top. As they move they progressively flatten and become more hair or fingernail like in quality (they are said to become **cornified**) and eventually they fall off as dead skin cells. Think of the upper layer of skin as a wall, as you gradually rise to the top, the bricks become more subjected to environmental erosion, getting thinner as the cement between them slowly degrades and then eventually the top bricks start to fall off. The upper, outer dead layer of skin (or top layer of bricks) is called the **Stratum Corneum**.

The next thing to note, is that hair follicles found within the dermis, do not necessarily have a hair growing out of them and the greatest number of hair follicles per square centimetre of anywhere on your body is found on your face. Every hair follicle does however, have an oil gland (**sebaceous gland**) associated with it that produces oil to lubricate the skin and the hair (if it is present) and although people with acne do not necessarily produce more oil than those without acne, the great majority of acne sufferers have oily skin.

So what causes acne? The principle cause of acne is *obstruction* of the opening (called a **pore**) of a hair follicle by dead skin cells in the Stratum Corneum and oil from the oil gland. The oil gland continues to produce oil causing either the hair follicle to swell resulting in small cysts or the oil gland to swell and rupture releasing oil and dead skin cells into the dermis. The dermis does not like oil and dead skin cells and this results in an inflammatory reaction (inflammation = redness and swelling). Bacteria that are naturally occurring in the hair follicle are also trapped and multiply thereby creating an infection, which causes the white top of an acne pustule.

If dead skin cells held together by a type of glue obstructing the outlet of the oil gland is the primary cause of acne, it follows that softening that glue and removing the dead skin cells should ultimately treat the acne and prevent new acne lesions from forming.

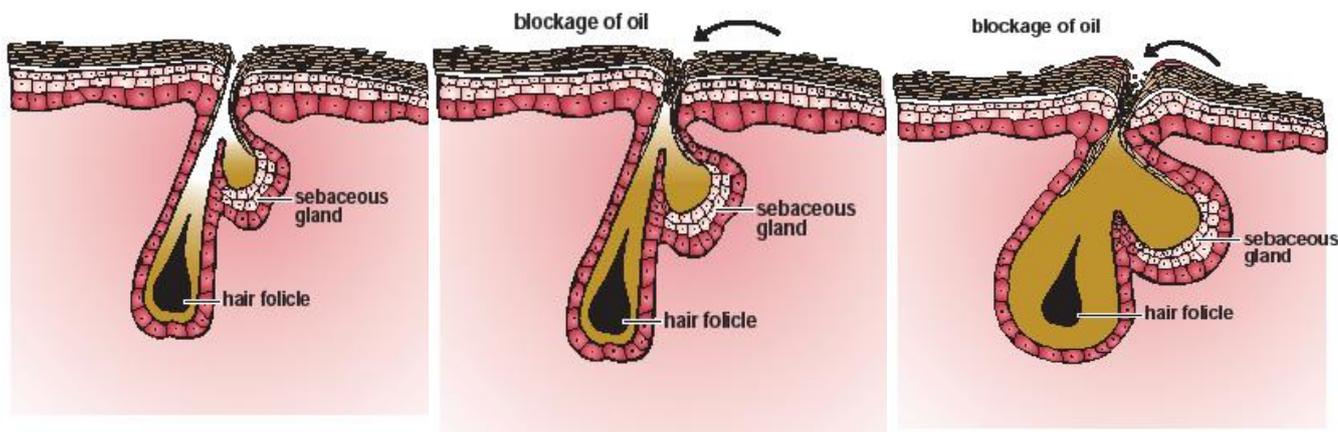
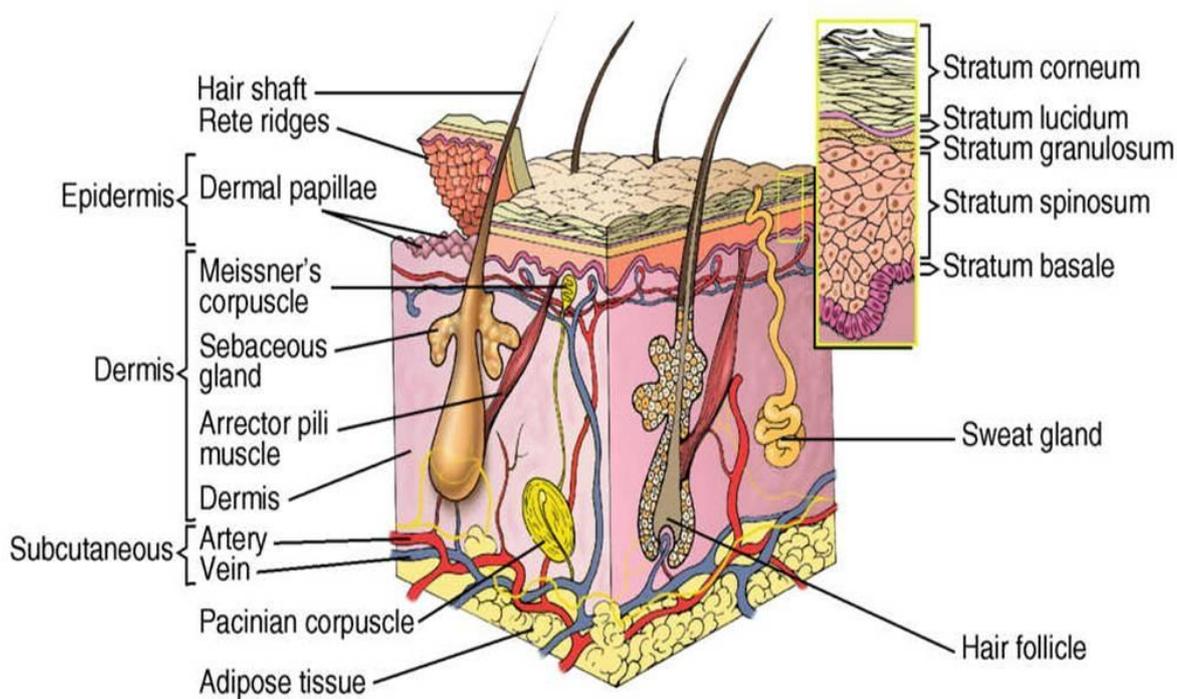
The Acne program at Rejuven8 Cosmetix, has been developed to do just that. Using a combination of skin care products which soften the glue and then remove the dead skin cells plus deep cleaning of the skin and further removal of dead skin cells with Microdermabrasion, we have been able to achieve very rapid and dramatic improvement in acne – usually clearing up the majority of lesions within three to six months.

It is important to understand that several things can aggravate acne. Firstly, creams and oils applied to the skin only increase the amount of oil in the skin and aggravate the blockage of the pores. If you don't believe this try putting a thick cream on the face of a person with acne for a few days and see what happens to their skin. People with acne in general terms should not use creams or oils on their skin, other than those advised by staff at Rejuven8 Cosmetix. It is much more preferable to use gels, lotions or serums in the early stages of treating acne so as not to contribute further to the obstructive processes that caused the acne in the first place.

Also most cosmetic foundations consist of particles suspended in a cream base. The cream is bad for acne but the particles are also bad as they enter the open pores and add to the dead skin cell plug obstructing the pore. If you want to get rid of your acne you **have to stop covering it with cream-based make up** and change over to a mineral-based makeup that does not block the pores. Never ever go to sleep with makeup on. Remember, with the program developed by Rejuven8 Cosmetix most acne will clear within ninety days so you won't need to wear camouflaging makeup anyway.

Remember, acne is a condition caused by obstruction of hair follicles. The way to treat and prevent acne is to remove the obstruction and remove the dead skin cells that cause the obstruction. Do not put anything on the skin that contributes to the obstruction and this involves following a very simple skin care program and avoidance of creams and makeup that aggravate the problem. It also requires consistency and persistency. It will not get better in one week or two weeks but it will get better provided you follow the program as directed without forgetting or leaving out any of the steps involved.

It's up to you – all you have to lose is your acne.



NORMAL SKIN

***BLOCKAGE OF PORE
(Blackhead)***

***FOLLICLE SWELLS AND
BACTERIA MULTIPLY
(White heads & Cysts)***

Treatment goals

Treating the Obstruction

We have already established that dead skin cells, the glue that sticks dead skin cells together and oil, are the main ingredients in the 'obstructive plug' that blocks the opening of the hair follicle. So to treat the obstruction we must address each of these ingredients in turn.

Dead skin cells are present on the outer layer of the epidermis (the Stratum Corneum) and this layer can be quite thick in acne sufferers so it makes sense to try and thin down and remove this layer of dead skin cells. This can be done on a daily basis using 'exfoliating' skin care and less frequently using mechanical methods such as Microdermabrasion. Exfoliation through skin care can be carried out alternate days to twice daily depending upon the severity of the acne and the condition of the skin. It is advisable to use a smooth rounded particulate exfoliator so as to avoid 'scratching' the skin (eg ASAP Daily Exfoliating Scrub, Skinstitut Glycolic Scrub). Microdermabrasion is advised to be carried out 2-4 weekly and it involves the blowing of smooth abrasive crystals onto the skin together with suction to remove the crystals plus exfoliated dead skin cells. During the Microdermabrasion treatment AHA/BHA masks or peels can be used to more deeply remove the layer of dead skin cells and the obstructive plugs. Physical extraction of the obstructive plugs and clearing of the blocked pores can also be performed by your cosmetic practitioner using a skin curette and this will be done during the Microdermabrasion treatment or in a separate treatment (Ultra Clear Facial). Mechanical removal of obstructive plugs within the hair follicle and dead skin cells forms an essential part of the Rejuven8 Cosmetix acne program and is paramount to the successful treatment of acne skin conditions. Your cosmetic practitioner will advise you of the number and frequency of treatments dependent upon your specific condition and the issues present together with your daily schedule and of course your budget. If you are unable to include these basic treatments as part of your acne program, improvement in the condition will be significantly delayed or not considered to be achievable.

Treating the glue that sticks the dead skin cells together involves the use of Alpha Hydroxy and Beta Hydroxy Acids ie AHA/BHA preparations. This may be incorporated into the exfoliating skin preparation (eg ASAP Daily Exfoliating Scrub, Skinstitut Glycolic Scrub), a cleansing preparation (eg ASAP Daily Facial Cleanser, Skinstitut Glycolic Cleanser) or in a separate gel formulation (ASAP Clearskin Gel, Environ Sebugel A). The AHA/BHA loosens the glue and separates the dead skin cells, allowing for the exfoliation of these skin cells off the skin and away from the hair follicles.

Treating the oil gland function is a little more difficult. There are really two parts to this, one is to avoid those things that increase oil gland production and the second is to try and reduce the activity and size of the oil gland itself. Avoiding the use of astringent toners on the skin, keeping the skin cool and protected from the sun and a low carbohydrate diet will address overactivity of the oil gland. However, to reduce the size and activity of the oil gland, factors such as age, gender and hormonal influences need to be taken into account. Occasionally, a hormonal imbalance in females leads to sporadic increases in oil production and one way to address this is to artificially stabilise the hormones by using an Oral Contraceptive Pill. Spironolactone is another medication that can affect hormonally triggered acne by reducing the production of oil in the skin. This hormonal imbalance can also be present in males but for obvious reasons it can be a little more difficult to treat. The use of topical Vitamin A has also been shown to reduce the size and activity of the oil glands and although it takes a little longer to produce an effect it is used at an earlier stage than oral medications (eg Differin Gel, Environ Sebugel A, Environ AVST Gel, Environ Intensive Retinol).

Preventing Further Obstructions

Obviously clearing blocked pores and removing any infected debris in the skin is very important to ultimately clear the acne, so it makes sense not to do anything to the skin that will encourage more congestion and obstruction. The use of gels, lotions (eg Skinstitut Moisture Defence – oily skin) and serums (eg ASAP Super B Complex) should be used instead of creams and mineral based makeup should be used instead of cream based makeup. Makeup and pollutants should be cleansed off the skin regularly to prevent build up (eg ASAP Gentle Cleansing Gel). Sunscreens are essential in our climate to avoid sun damage but in acne sufferers they also help prevent red/brown pigmentation and scarring at the site of pimples so it is important to use a 30-50+ sunscreen when outdoors (eg Skinstitut Age Defence SPF50+) and a 15+ sunscreen if indoors (eg Youngblood makeup, Environ Alpha Day Lotion SPF15+, ASAP Sheer Tint Moisturiser SPF15+ (CC Cream)). Sunscreens that are a lotion or gel are preferable and

there are some specifically formulated for problem/oily skins. Mineral makeup often contains a SPF 15+ and this is useful for indoor sun protection. The use of astringent toners can encourage further oil production and also lead to increased dead skin cell formation so they should be avoided.

Treating the Bacteria

Bacteria are naturally occurring in the hair follicle and within the sebaceous oil gland. In normal skin, the bacteria are present in controlled numbers because the hair follicle is open to topical preparations and the oil gland produces a normal balanced level of oil. When the pore is blocked the oil gland continues to secrete oil causing the gland to swell and eventually rupture. This leads to inflammation and the trapped bacteria begin to multiply into an abnormally high number. The bacteria feed on the oil and release toxic irritants further inflaming the skin causing swelling and redness. When the pore is blocked it is very difficult for topical antibiotics to penetrate into the follicle to reduce the bacteria. Therefore, oral antibiotics may be required to treat the bacterial overgrowth via the bloodstream. A course of oral antibiotics may last from a couple of weeks to a few months depending on the severity of the bacterial infection and the response to treatment. The usual antibiotic of choice is Bactrim DS. However, alternate antibiotics may be advised if there is a known allergy to this antibiotic or a poor response during treatment. It is not uncommon to see clients who have been prescribed prolonged courses of Tetracyclines (eg Minomycin, Akamin etc) as this used to be the antibiotic of choice several years ago. Unfortunately, bacteria present in acne became quite resistant to this antibiotic and current research advises its use only in those cases allergic to Bactrim. Once the blocked pore has been cleared via Microdermabrasion and correct skin care, topical antibiotics (eg Eryacne 2% Gel) are much more successful and can be introduced at a later date to allow for adequate antibacterial effect when the oral antibiotic is stopped.

Treating the Inflammation

Inflammation results from a combination of trapped oil in the hair follicle and the production of toxins secondary to the multiplication of bacteria. Once the obstructed pores are cleared and the bacterial issue is under control, the inflammation will tend to settle down but there are ways of calming down inflammatory processes while waiting for this to happen. Soothing gels (eg ASAP Soothing Gel) and serums (eg ASAP B Super B Complex) can be used on the skin to alleviate redness and inflammation and help speed up the healing process.

Treating the scarring

Often there will be residual pigmentation and scarring where active acne pustules were present. The pigmentation is a mixture of red and brown discolouration and as stated above, it is best to try and avoid this effect with the use of sunscreens. Once pigmentation and scarring has occurred the use of more intense treatments is required. When the active acne is under control and very few new pimples are forming, dermal skin rolling with a home roller together with professional cosmetic skin dermal needling are very effective ways to eliminate the visible scarring left behind from acne pimples. The pigmentation can be addressed by IPL and/or Laser Genesis treatments combined with de-pigmenting preparations (eg doctor formulated prescription de-pigmenting gels, Skinstitut Even Blend Serum). These are very safe and effective ways to clear up any marks on the skin left behind from acne pimples. Several treatments may be required and the number, frequency and type of treatment will be advised by your cosmetic practitioner (eg IPL Limelight, Laser Genesis, Chemical Peels, Skin Dermal Needling, IPL Prowave Hair Reduction). Visit our website www.rejuven&cosmetix.com.au for further information on these treatments.