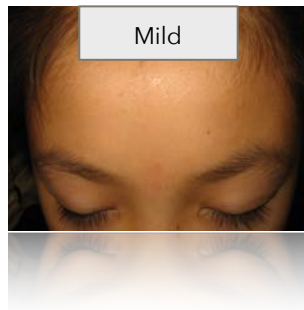


# ACNE

## What is acne and why do I have pimples?

The medical term for “pimples” is acne or acne vulgaris (vulgaris means “common”). Most people get some acne. Acne does not come from being dirty; rather, it is an expected consequence of changes that occur during normal growth and development. Hormones, bacteria, and your family’s tendency to have acne may all play a role.



Mild



Moderate



Severe

## What causes my acne?

There are four contributors to acne—the body’s natural oil (sebum), clogged pores, bacteria (with the scientific name *Propionibacterium acnes*, or *P. acnes*, for short), and the body’s reaction to the bacteria living in the clogged pores (which causes inflammation). Here’s what happens:

(1) Sebum is produced in the normal oil-making glands in the deeper layers of the skin and reaches the surface through the skin’s pores. An increase in certain hormones occurs around the time of puberty, and these hormones trigger the oil glands to produce increased amounts of sebum.

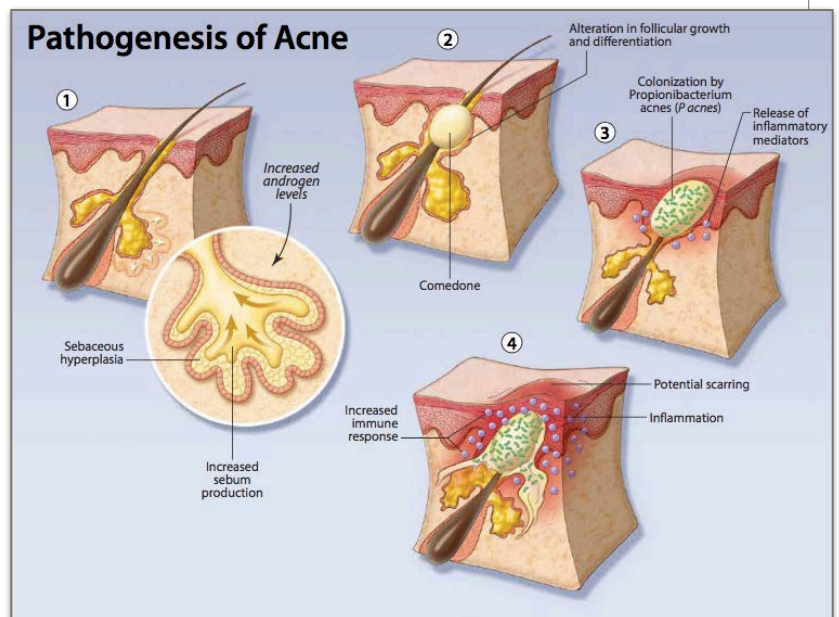
(2) Pores with excess oil tend to become clogged more easily.

(3) At the same time, *P. acnes*—one of the many types of bacteria that normally live on everyone’s skin—thrives in the excess oil

(4) The buildup of *P. acnes* causes a skin reaction (inflammation).

» A plug that extends to, or forms a little deeper in the pore, or one that enlarges or ruptures may cause more inflammation. The result is red bumps (papules) and pus-filled pimples (pustules).

» If plugging happens in the deepest skin layer, the inflammation may be even more severe, resulting in the formation of nodules or cysts. When these types of acne heal, they may leave behind discoloured areas or true scars.



## How the different medications work

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### Topical medications

- » Benzoyl peroxide (BP) helps to fight inflammation and kills bacteria. It helps prevent resistance of bacteria to topical antibiotics. A benzoyl peroxide “wash” may be recommended for use on large areas such as the chest and/or back. Mild irritation and dryness are common when first using benzoyl peroxide-containing products. Be careful because benzoyl peroxide can bleach towels and clothing!
- » Retinoids (such as adapalene, tretinoin, or tazarotene) unplug the oil glands by helping peel away the layers of skin and other things plugging the opening of the glands. Mild irritation and dryness are common when first using these products. Avoid facial waxing since this can lead to extra irritation.
- » Antibiotics fight bacteria and help decrease inflammation. Topical antibiotics commonly used in acne include clindamycin, erythromycin, and combination agents (such as clindamycin/benzoyl peroxide or erythromycin/benzoyl peroxide). Mild irritation and dryness are common when first using these products. Typically, topical antibiotics should not be used alone as treatment for acne.
- » Other topical agents include salicylic acid, azelaic acid, dapsone, and sulfacetamide. Mild irritation and dryness can also occur when first using these products.

### Oral medications

- » Antibiotics include tetracycline-class medicines (tetracycline, minocycline, and doxycycline); erythromycin; trimethoprim-sulfamethoxazole; and occasionally cephalexin or azithromycin. These drugs decrease bacteria and inflammation, and are most effective for moderate-to-severe acne. A product containing benzoyl peroxide should be used along with these antibiotics to help decrease the possibility of antibiotic resistance.
- » Hormonal treatment is used only in females and usually consists of oral contraceptives (birth control pills). Spironolactone is also sometimes used.
- » Isotretinoin, a derivative of vitamin A, is a powerful drug that is reserved for acne which is severe or when other medications have not worked well enough.

## Medication Instructions

### **BENZOYL PEROXIDE**

Each morning, wash with benzoyl peroxide (you can use up to 10% wash, but the higher concentrations may be more irritating or drying); leave on the skin for 3 to 5 minutes; rinse thoroughly. At night, you can use a mild cleanser (such as Dove, Neutrogena, Purpose, or Cetaphil). Most of the time, it should be used once a day as some people will find that using it twice a day will irritate and dry out your skin.

**WARNING:** Benzoyl peroxide bleaches fabrics. Don't get it on towels, clothing, upholstery, pillowcases, linens, or carpeting.

**SIDE EFFECTS:** Benzoyl peroxide - drying, redness, bleaching of clothes, towels and sheets, contact allergies.

### **TOPICAL ANTIBIOTICS (e.g. Topical Clindamycin)**

Clindamycin: Apply this product once or twice a day as instructed by your physician.

**NOTE:** Always use benzoyl peroxide in your acne treatment plan if you are using topical clindamycin. Without benzoyl peroxide, the bacteria associated with your acne may develop resistance to clindamycin.

### **TOPICAL RETINOIDS (e.g. Adapalene, Tretinoin, Tazotene)**

Tretinoin: When applying this topical medication to the face (usually at night), use the "5-dot" method. Start by placing a small pea-sized amount of the medication on your finger. Then, place "dots" in each of 5 locations of your face: mid-forehead, each cheek, nose, and chin. Next, rub the medication into the entire area of skin - not just on individual pimples! Try to avoid the delicate skin around your eyes and corners of your mouth. Don't forget to use proper sun protection while using tretinoin!

**NOTE:** If irritation develops, call your doctor and stop the use of this medication for a couple of days. When irritation subsides, begin applying every other night.

**SIDE EFFECTS:** Retinoids - dryness, redness, increased sun sensitivity.

### **COMBINATION PRODUCTS (e.g. TactuPump, Biaqua)**

When applying these topical medications to the face (usually at night), use the "5-dot" method. Start by placing a small pea-sized amount of the medication on your finger. Then, place "dots" in five locations of your face: Mid-forehead, each cheek, nose, and chin. Rub the medication into the entire area of skin - not just on individual pimples! Avoid the delicate skin around your eyes and corners of your mouth. Use proper sun protection while using products.

**NOTE:** If irritation develops, call your doctor and stop the use of these medication for a couple of days. When irritation goes away, begin applying every other night.

**WARNING:** These products may bleach fabrics. Don't get it on towels, clothing, upholstery, linens, or carpeting.

### **DOXYCYCLINE**

Take one pill ONCE or TWICE a day.

**NOTE:** Always take these pills with lots of water! A pill stuck in the esophagus can cause lots of burning. Don't "pop" a pill right before bed. Stay upright for at least one hour after taking a pill.

**WARNING:** Doxycycline makes you extra sensitive to the sun! If you notice any of the following, stop using the medication and notify your health care provider: headaches; blurred vision; dizziness; sun sensitivity; heartburn-stomach pain; irritation of the esophagus; darkening of scars, gums, or teeth (more often with minocycline); nail changes; yellowing of the eyes or skin; joint pains-and flu-like symptoms. Taking oral antibiotics with food may help with symptoms of upset stomach.

**SIDE EFFECTS:** Severe headaches; dizziness; sun sensitivity; irritation of the esophagus; nail changes.

### **MINOCYCLINE**

Take one pill ONCE or TWICE a day.

**WARNING:** Though less likely than doxycycline, minocycline may increase your sensitivity to the sun, so practice excellent sun protection! If you notice any of the following, stop using the medication and notify your health care provider: headaches; blurred vision; dizziness; sun sensitivity; heartburn-stomach pain; irritation of the esophagus; darkening of scars, gums, or teeth; nail changes; yellowing of the eyes or skin; joint pains and flu-like symptoms.

**SIDE EFFECTS:** Severe headaches; dizziness; sun sensitivity; irritation of the esophagus; discoloration of scars, gums, or teeth; nail changes.

Minocycline can rarely cause liver disease, joint pains, severe skin rashes, and flu-like symptoms. If you should notice yellowing of the eyes or skin, or any of the above, notify your doctor and stop using the medication immediately.

### **HORMONAL THERAPY: ORAL CONTRACEPTIVE PILLS**

Birth Control Pill: Take your birth control pills as directed on the medication packet.

**NOTE:** Try to find a regular time in your day to take the pill so that you don't forget. The best time is about half an hour after a meal or snack, or at bedtime. If you do forget to take your daily pill at the regular time, take one as soon as you remember and take the next at your regular scheduled time.

**WARNING:** Do not take this medication until discussing it with your physician if you smoke, are pregnant (or trying to become pregnant), have a personal history of breast cancer, have a condition called Factor 5 Leiden deficiency, have a family history of clotting problems, regularly have migraine headaches (especially with aura or due to flashing lights), or have any vaginal bleeding other than that associated with your menstrual cycle.

## TIPS FOR WASHING THE SKIN

Good skin hygiene is important to support any acne treatment plan. Here are several suggestions for practicing good skin hygiene to keep your skin looking its best:

- » Everyone with acne should wash the skin twice a day: once in the morning and once in the evening. This includes any showers you take.
- » Use a gentle cleanser or soap to wash your face. Do not use harsh scrubs or exfoliating products with microbeads as these can cause irritation to the skin. Avoid using harsh, deodorant soaps, as well.
- » Do not scrub the skin with a washcloth or loofah as these can irritate your acne. Acne does not come from "dirt", so it is not necessary to scrub the skin clean. In fact, scrubbing may lead to dryness and irritation that makes the acne even worse and harder for patients to tolerate acne medications.
- » Over-the-counter "acne washes" often contain salicylic acid or benzoyl peroxide. These ingredients can be helpful in clearing oil from the skin and reducing bacteria, but they may also be drying and can add to irritation. Hold off using these products unless specifically recommended by your doctor.
- » Wash the skin as soon as possible after playing sports or other activities that cause a lot of sweating. Also, pay attention to how your sports equipment (shoulder pads, helmet strap, etc.) might be making your acne worse.
- » When you use makeup, moisturizer, or sunscreen make sure that these products are labeled "non-comedogenic", or "won't clog pores", or "won't cause acne".
- » Try not to "pop pimples" or pick at your acne as this can delay healing and may result in scarring or dark spots. Picking/ popping acne can also cause a serious skin infections.
- » Wash or change your pillow case once to twice a week, especially if you use products in your hair.
- » Facials and other treatments to remove, squeeze, or "clean out" pores are not recommended. Manipulating the skin in this way can make acne worse and can lead to severe infections and/or scarring. It also increases the likelihood that the skin will not be able to tolerate acne medications.

## TIPS FOR APPLYING THE MEDICINE

- » Apply your medication to clean, dry skin. Wait 15-20 minutes after washing before applying the medicine.
- » When putting acne creams on the face, use the "5-dot" method. Put a small pea-sized amount of the medication on your finger. Then, place "dots" on these 5 locations: mid-forehead, each cheek, nose, and chin. Next, rub the medication into the entire area of skin - not just on pimples! Avoid the delicate skin around your eyes and corners of your mouth.
- » If your medications make your skin too dry, try using them "every other night" or even "every third night." Gradually work up to daily.
- » Moisturizer, sunscreen, and make-up may be used with topical acne medications. In general, acne medications are applied first.
- » It is especially important to always use sunscreen when using a topical retinoid or oral antibiotic. These medicines can make your skin more sensitive to the sun. In general, sunscreen gets applied AFTER any acne medications.
- » Don't stop using your acne medications just because your acne got better. Remember, the acne is better because of the medication, and prevention is the key to treatment.