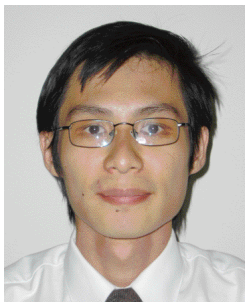


# Rosacea and perioral dermatitis

Rosacea is a common skin condition that usually affects the face and can give the appearance of red cheeks or a 'drinker's nose'. Although the causes of rosacea remain unclear, there are many therapeutic options available. Perioral dermatitis, which is often confused with rosacea, is also discussed.



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## Rosacea

Although rosacea is common, many people do not realise they have this condition, simply accepting it as 'their usual skin or appearance'. The prevalence of rosacea in the population is reported to be 10%; it is particularly common in fair-skinned people of Celtic and north European descent. Its onset is typically between 20 and 50 years of age, and it affects women two to three times more often than it does men.

Patients may present with a multitude of signs, symptoms and complaints, such as:

- sensitive skin – 'All creams make my face sting or burn'
- red nose or cheeks – 'I always look as if I'm embarrassed'
- broken blood vessels – 'I look like a drinker but I don't drink!'

- flushing
- papules and pustules – 'But I'm too old to have pimples!'
- ocular complaints, such as dryness, conjunctivitis and blepharitis
- facial swelling – 'My nose feels thicker or bigger'.

## A clinical diagnosis

The diagnosis of rosacea is usually based on the patient's history and physical examination. Skin biopsy is usually unnecessary.

Persistent redness of the central area of the face for at least three months has been proposed as the sole requisite for a diagnosis of rosacea. Other primary features such as facial flushing, papules and pustules and broken blood vessels (telangiectasia) are supportive but not necessary

## IN SUMMARY

- Rosacea is a chronic condition with occasional flares; active and maintenance therapy may be needed.
- Identification of the rosacea subtype is useful to guide therapy, which must be tailored to the individual.
- It is important to educate patients and involve them in managing their condition.
- Referral to a dermatologist may be needed for resistant cases of rosacea, if skin thickening is an issue, or if isotretinoin is required. Referral to an ophthalmologist may be needed for patients with ocular symptoms.
- Perioral dermatitis has a chronic, fluctuating course that may last months or even years but severity varies between individuals.
- Treatment of perioral dermatitis, with oral or topical antibiotics, is important as this condition can persist if left untreated.

**Table 1. Symptoms and signs of rosacea**

**Primary**

- Flushing
- Persistent redness
- Bumps and pimples
- Visible blood vessels

**Secondary**

- Eye irritation
- Burning or stinging
- Dry appearance
- Plaques
- Skin thickening
- Swelling
- Signs beyond the face



PHOTOLIBRARY

for diagnosis. Secondary features include burning or stinging, oedema, dryness, eye manifestations and phymatous changes (Table 1). The combination of clinical features determines the subtype, which, in turn, guides therapy.

**Classification**

Rosacea has been classified into the four standard subtypes discussed below. Many patients may have characteristics of more than one subtype at the same time.

**Erythematotelangiectatic rosacea**

Erythematotelangiectatic rosacea (also known as redness rosacea) is characterised by redness of the central face with broken blood vessels (Figure 1). The skin is usually fine in texture, in contrast to the sebaceous quality seen in patients with the other subtypes. Roughness and scaling can sometimes develop in affected areas with longstanding rosacea.

The flushing experienced by patients with rosacea is prolonged and usually lasts for more than 10 minutes, unlike transient physiological flushing. Rosacea flushing predominantly affects the central face but may also involve the peripheral face, ears, neck and upper chest, with characteristic sparing of the periocular skin. It can be triggered by emotional factors, extreme weather, alcohol, spicy foods, hot drinks, exercise, and hot showers

or baths. However, it can also occur without known stimuli.

Stinging or burning can accompany the flushing, but systemic features such as sweating, light headedness and palpitations are noticeably absent. Topically applied agents may cause stinging, burning or itching, and dermatologist referral of affected patients for patch testing may be warranted to exclude an allergic contact dermatitis.

**Papulopustular rosacea**

Papulopustular rosacea is the classic form of rosacea with obvious central redness. Small papules and/or pinpoint pustules are a common feature due to persistent or episodic inflammation (Figure 2). Broken blood vessels and oedema may be subtle. Flushing in patients is milder and more likely to occur without a known trigger than in patients who have redness rosacea.

Most sufferers of papulopustular rosacea are middle-aged women, and the clinical features rarely progress beyond those outlined above in these women. Men with this type of rosacea can experience more pronounced solid facial oedema and phymatous changes than women. The reasons for this gender distinction are unknown.

**Phymatous rosacea**

Distinct skin thickening and irregular surface nodularities usually affect the nose (rhinophyma);

Figure 1. Red complexion and nasal telangiectasia typical of the redness rosacea subtype.

continued



Figure 2. Midface involvement with inflammatory papules and pustules typical of papulopustular rosacea.



Figure 3. Rhinophyma in a patient with phymatous rosacea.

Figure 3), chin, forehead, ears, and eyelids in patients with phymatous rosacea.

#### Ocular rosacea

Blepharitis and conjunctivitis are the most common symptoms of ocular rosacea. Patients complain of burning, stinging and itching eyes, and feel that there is a foreign body in their eyes. Other possible signs include eyelid inflammation (with recurrent chalazion), meibomian gland inflammation, conjunctival redness and watery or dry eyes. Keratitis, scleritis, iritis and their complications can occur but are infrequent. Ocular manifestations often present concurrently or following skin signs. Affected patients require specific treatment for the ocular involvement, and referral to an eye specialist may be required.

#### Differential diagnoses

The differential diagnoses listed below should be considered in patients with suspected rosacea.

- **Acne**, especially in middle-aged adults with late onset acne, features comedo

formation and is not normally associated with any eye signs or symptoms.

- **Prolonged facial application of topical corticosteroids** may result in an eruption that mimics classical papulopustular rosacea. This eruption occurs where the corticosteroid has been applied. A thorough history is often sufficient to establish the diagnosis.
- **Chronic sun damage** can lead to facial redness and telangiectasia. Physical examination should reveal other sun-exposed areas such as the facial periphery, neck and upper chest. Often sun damage coexists in patients with rosacea.
- **Photodermatitis** manifests as the development of skin sensitivity with repeated solar exposure. The photo-distribution will be an important clue to diagnosis.
- **More rare systemic diseases** such as polycythaemia vera, carcinoid, mastocytosis, and some connective tissue diseases (e.g. systemic lupus erythematosus, dermatomyositis and mixed connective tissue disease) will

have systemic features in addition to the red facial appearance. Specific laboratory markers can usually confirm these diagnoses.

- **Types of facial dermatitis** such as atopic, seborrhoeic or allergic contact dermatitis should be considered. Perioral dermatitis is discussed later in this article.

#### History and examination

It is important to ask the following questions when taking a patient's history as some of the signs and symptoms of rosacea are episodic and may not be evident on examination:

- Is the patient susceptible to flushing and what are the triggering factors?
- Does the patient get papules and pustules? If yes, where do they appear?
- Does the patient experience burning or stinging? If yes, with what products?
- Does the patient experience eye symptoms?
- Has the patient applied topical corticosteroids to his or her face? If so, which ones and for how long?
- How much sun exposure has the patient experienced?

It is important to find out what treatments patients have already tried and for how long, as well as establishing how effective they were. Management is based on an active treatment followed by a maintenance treatment. Many patients do not appreciate that rosacea can be a chronic condition with episodic flares.

One concern that patients may have is that they are to blame for their rosacea. It is important to explain that rosacea is due to a patient's skin type and that certain environmental factors may also contribute. The exact aetiology remains unclear, and a thorough discussion of its cause is beyond the scope of this article. It is useful to direct patients to objective resources for further information. Useful information can be found on the websites of the US National Rosacea Society

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([www.rosacea.org](http://www.rosacea.org)) and the Australian College of Dermatologists ([www.dermcoll.asn.au](http://www.dermcoll.asn.au)).

We usually complete the history by asking patients what they are most concerned about; often the answer is developing a rhinophyma. Such concerns should be addressed.

### Pathophysiology

As mentioned above, the cause of rosacea remains unclear. Various factors are implicated in its pathogenesis and it is possible that a combination of these factors imposed on susceptible individuals may manifest in the different rosacea subtypes. Possible causative factors include:

- abnormalities of skin structure affecting the pilosebaceous unit and/or dermal matrix degeneration
- environmental exposure to sunlight and heat

- impaired vascular homeostasis
- dietary factors and gastrointestinal diseases
- microbial agents such as *Helicobacter pylori*
- mites such as *Demodex*.

### General treatment measures

Patients should avoid exacerbating factors such as hot or windy weather and hot baths and showers. Other common triggers for rosacea that should be avoided are heavy exercise, emotional stress, alcohol, and hot or spicy food and drink.

Skin sensitivity is a common problem, so avoidance of irritating skin care products and cosmetics is also recommended. Exposure to the sun should also be avoided or reduced, and nonirritant sunscreens used regularly.

Nonirritant cosmetics can minimise the redness of rosacea. Concealing makeup

that has a green tint is particularly good at countering redness.

A good source of patient information on general treatment measures is found on the US National Rosacea Society website ([www.rosacea.org](http://www.rosacea.org)).

### Tailored treatment

Approaching therapy by rosacea subtype is the most clinically useful methodology. Because rosacea varies from one individual to another and is often chronic with periods of active flare, treatment must be tailored to the individual.

#### Redness rosacea

Patients with redness rosacea should be advised to use nonirritant cleansers, moisturisers, sunscreens and cosmetics to reduce skin sensitivity resulting from epidermal barrier dysfunction. Perfumed products and abrasive products such as

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scrubs should be avoided.

Topical metronidazole (Rozex Cream and Gel, Metronidazole Gel) is often used initially as an anti-inflammatory agent. Although available in gel and cream formulations, the cream preparation may be preferred for patients with sensitive skin.

Another first line agent worth considering is azelaic acid (Finacea, Acnederm Medicated Lotion), especially if patients find topical metronidazole to be of little benefit. Patients should apply these topical agents twice daily for a trial period of three months, after which time the effectiveness of treatment should be assessed.

Other topical agents that are less commonly used include clindamycin (CindaTech, Dalacin, Zindaclin), which can be extemporaneously compounded in a low irritant base. Tretinoin (Retin-A, Retrieve Cream, Stieva-A) may correct epidermal barrier function and dermal

matrix structure, but it can be very irritating and should be introduced gradually.

Oral doxycycline may be beneficial for patients with sensitive skin who experience significant irritation or whose condition has become recalcitrant. However, the success of oral antibiotics in treating redness and flushing is variable.

Telangiectasia is hard to treat and affected patients may require electrocautery, vascular laser or intense pulsed light.

#### Papulopustular rosacea

Patients with papulopustular rosacea usually need topical or oral antibiotics, which are used for their anti-inflammatory action. Initial control is achieved with the combination of a topical anti-inflammatory agent (azelaic acid or metronidazole) and an oral antibiotic (such as doxycycline or minocycline [Aka-min, Minomycin]). Long term symptom

control is managed using topical agents.

Topical tretinoin can be used as a second line treatment if the rosacea is refractory to the combination therapy outlined above. Oral isotretinoin (Roaccutane, Isohexal, Oratane) is effective but it is reserved for the most severe or recalcitrant cases and the doses used are usually lower than those prescribed for acne.

Laser therapy and intense pulsed light are adjunctive therapies that can improve the vascular component of the rosacea.

#### Phymatous rosacea

Early and moderate skin thickening in patients with phymatous rosacea can respond to low dose oral isotretinoin, which reduces sebum production. Antibiotics and corticosteroids have limited success in patients with this condition.

Once phymatous rosacea has progressed to a stage of significant deformity,

continued



Figure 4. Persistent red eruption of tiny papules and papulopustules characteristic of perioral dermatitis. The eruption originates periorally but can sometimes extend to the perinasal and periocular areas as shown here.

surgery is the mainstay of treatment and referral of patients to a plastic or dermatological surgeon may be required. Techniques such as dermabrasion, cryosurgery, electrosurgery and lasers destroy abnormal tissue, and re-epithelialisation from the remaining glandular epithelium gives a good cosmetic result.

#### Ocular rosacea

Liquid tears are used for symptomatic relief of dryness and itching in patients with ocular rosacea, and topical corticosteroid eye drops may also help. Referral of patients to an ophthalmologist for assessment and treatment may be needed. Oral doxycycline is effective in controlling ocular symptoms.

### Perioral dermatitis

Perioral dermatitis commonly occurs in women between 16 and 45 years of age. The condition has a chronic, fluctuating course that may last months or even years, but the severity varies between

individuals. A burning or irritating sensation is common and often exacerbated by sunlight, soaps, cosmetics and other topical products.

Patients present with a persistent red eruption of tiny papules and papulopustules that are predominantly around the mouth, but there is a characteristic narrow zone of sparing around the vermilion border of the lips. The condition may extend to perinasal and periocular areas (Figure 4).

Although there are many suspected causative factors, the definitive cause remains unknown. Implicated factors are cosmetics, moisturisers, fluorinated toothpaste, contact irritants or allergens and potent topical corticosteroids.

#### Treatment

Treatment is important because perioral dermatitis can persist if left untreated. Once treated, the prognosis is good and recurrence rates are low.

Oral or topical antibiotics are the mainstays of treatment. The tetracyclines (e.g. doxycycline or minocycline) are the most effective of the oral antibiotics. Patients should be prescribed a course of tetracycline for four to six weeks at doses of 50 to 100 mg. Erythromycin (EES, E-Mycin, Eryc) is an alternative for children or pregnant women.

Topical antibiotics that can be used include erythromycin (Eryacne 2%), clindamycin and metronidazole. These are usually applied twice daily by the patient after gentle face washing. Oral antibiotics have a faster response time than topical antibiotics, which usually need to be administered for at least six to 12 weeks to be effective.

If patients are using a topical corticosteroid, the dosage should be reduced gradually over two to four weeks, with the aim of stopping the treatment completely.

Patients with perioral dermatitis should also be advised to avoid using heavy or greasy cosmetics, sunscreens and moisturisers.

### Conclusion

The early diagnosis and management of rosacea will reduce morbidity and lessen disease progression in patients. Identification of the rosacea subtype is useful to guide therapy of this chronic condition; maintenance therapy may be required. Patient education and involvement of patients in managing their disease is important. Patients with resistant rosacea or in whom skin thickening is a problem or isotretinoin treatment is required should be referred to a dermatologist, and those with ocular symptoms may need referral to an ophthalmologist.

Treatment of perioral dermatitis with oral or topical antibiotics results in a low rate of recurrence of this condition. Once treated, the prognosis of affected patients is good. MT

#### Further reading

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**DECLARATION OF INTEREST:** Dr See has written educational material for Galderma.

Dr Chia: None.

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