Diagnosis/Definition:

A follicular eruption with comedones (blackheads and/or whiteheads), inflammatory papules, pustules, and cysts, generally found on the face and upper trunk. The disease is common in adolescence, but may first be noted in children as young as 8 years old, and is also quite common in pre-menopausal women. It is not unusual for women in their 20s or 30s to present with acne, stating that they had little or no acne in teenage years.

Mild acne: superficial lesions that are mostly comedonal, with little or no inflammation and no evidence of scarring or cysts.

Moderate acne: more inflammatory lesions with red papules and pustules, and often post-inflammatory hyperpigmentation, but no significant scarring or cysts.

Severe acne: cystic lesions and scars.

Initial Diagnosis and Management:

Diagnosis: The diagnosis is usually straightforward. The major skin condition in the differential is rosacea, particularly in adults. Rosacea tends to be mid-facial and not to have comedones, but rosacea and acne may coexist. Less commonly confused with acne are steroid acne, epidermoid (erroneous called “sebaceous”) cysts, flat warts, molluscum contagiosum, angiofibromas of tuberous sclerosis, and other benign growths.

Adjunctive measures: Instruct the patient not to over-wash. Washing and astringents may dry the skin and make it more difficult to tolerate the prescription medications. Similarly, over-the-counter acne therapies are not as effective as prescription therapy and should generally be discontinued once prescription therapy is instituted. Oily cosmetics, moisturizers, and hair care products should be discontinued.

Mild acne: The goal of treatment is to prevent or minimize the formation of the primary lesion, the comedo. Treatment should be instituted with a topical agent that is comedolytic, generally a topical retinoid. Tretinoin 0.05% cream used every evening is a standard first-line therapy. Tretinoin gels are more effective than tretinoin cream, but gels are also more likely to be drying and irritating, and are not always well tolerated in a dry climate. It is very important that the patient understand that this medication may take several months to work well. Dryness may be managed with a light, minimally greasy moisturizer such as Cetaphil or Moisturel. If that is insufficient, decreasing the frequency of tretinoin use to every other day may be helpful. Other topical retinoids are also available and may be preferable in selected cases.

Topical 2% erythromycin used in conjunction with 5% benzyl peroxide gel is an alternative therapeutic approach which is currently less expensive than topical retinoids and may work well in some cases. This type of therapy is not as effective in treating the primary lesion, the comedo.

Moderate acne: It is still a major goal to treat the primary lesion, the comedo. Therefore, a topical retinoid, as described above, remains an important part of therapy. A second goal of treatment for moderate acne is to treat the inflammation. In general, this is accomplished by the use of an oral antibiotic. Although topical antibiotics may be preferred in some cases, they are not as effective as oral antibiotics. The usual antibiotics chosen are tetracyclines or erythromycin. Of the tetracyclines, doxycycline given at a dose of 100 mg po qd or bid is often the best choice, as it is generally easy to take, inexpensive, and effective. Its major disadvantage, compared with the other tetracyclines, is that it is more likely to cause sun sensitivity (sunburning much more easily than usual). The sun sensitivity is more likely to occur in fair-skinned persons, and sunscreens may be only moderately helpful in prevention.

Tetracycline, given at a dose of 500 mg po qd to bid, is an alternative therapy. Certain foods may significantly affect its absorption, and it is best taken just with water. Because of this, some patients find compliance with therapy difficult. Minocycline 100 mg po qd to bid is typically easy to take and effective, but is currently most costly than doxycycline or tetracycline. (Minocycline is currently non-formulary.) Erythromycin 500 mg po qd to bid may be a good alternative, particularly for persons who are sun sensitive. Some patients with milder inflammatory acne may do well with very low doses of antibiotics (doxycycline 50 mg po qd, tetracycline 250 mg po qd, minocycline 50 mg po qd, or erythromycin 250 mg po qd.)
### Initial Diagnosis and Management (Cont’d):

Severe acne: Initial treatment is usually the same as for moderate acne, if possible with the higher dose of oral antibiotic. Referral to dermatology is usually appropriate (see below).

### Ongoing Management and Objectives:

Decreased numbers of lesions and minimization of scarring are the goals of treatment. Total clearing of acne is usually not an achievable goal.

Scarring should not be confused with post-inflammatory hyperpigmentation. Scars show a change in the contour of the skin, for example, ice-pick scarring, while post-inflammatory hyperpigmentation is a change in the color of the skin. The major importance of the distinction is that scars are permanent, while post-inflammatory hyperpigmentation is usually temporary. Post-inflammatory hyperpigmentation may take several months to resolve, though, and in the interim, if new inflammatory lesions are forming, it may be difficult to appreciate improvement.

Compliance with therapy should be reviewed at each visit.

Some patients do well with therapy but very infrequently have an isolated small cyst or deep inflammatory nodule. In that circumstance, it may be helpful to inject directly into the cyst a small amount of triamcinolone 2.5 (2 ½) mg/ml. This often serves to decrease the inflammation quickly, over the course of a few days.

### Indications for Specialty Care Referral:

Mild to moderate acne: Poor response to standard therapy after 6 months, assuming the patient has been compliant.

Severe acne: In general, patients with severe acne should be referred to dermatology. It is acceptable in most cases to place the patient on a treatment regimen highly likely to be effective (e.g., doxycycline 100 mg po bid plus topical tretinoin qd), and schedule a non-urgent visit to dermatology. For patients with extremely severe cystic acne (e.g., see pictures of acne conglobata), more immediate referral to dermatology may be advisable.

For severe acne that is unresponsive to standard therapies, Accutane may be recommended. (Note that Accutane is currently non-formulary.) Accutane is highly teratogenic, and its use is tightly regulated by the FDA. Females must be on a highly effective method of birth control (such as oral contraceptives) plus a second method of birth control (such as condoms), and must have been using these methods for at least a month before Accutane is instituted. The regulations governing the use of Accutane, including the severity of acne required before Accutane use is considered, are strictly adhered to in Denver Health dermatology clinics. Although it is probably the case that most patients referred to dermatology for possible Accutane treatment do in fact receive Accutane either at the initial visit or after a trial of other therapy, there are some patients who are not good candidates for Accutane. Please do not promise to any patient that he/she will receive Accutane.

### Test(s) to Prepare for Consult:

### Test(s) Consultant May Need To Do:

**Disclaimer:** Adherence to these guidelines will not ensure successful treatment in every situation. Further, these guidelines should not be considered inclusive of all accepted methods of care or exclusive of other methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding the appropriateness of any specific procedure, therapy, or referral must be made by the physician/provider in light of all circumstances presented by an individual patient.
Criteria for Return to Primary Care:

Acne stabilized

Accutane course completed

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