Seborrheic dermatitis is acute or chronic papulosquamous dermatitis presenting with dry scales and underlying erythema; in some cases, pruritus is present. Dandruff is when there is mild scaling without any erythema; it can happen if the scalp is oily or dry. It may be the result of several factors, including hormonal imbalance, impaired metabolic nutrition, diet, tension, increased bacteria and fungi activity, biochemical changes in the scalp, topical medications, and cosmetics. Seborrheic dermatitis is when there is general erythema without tight, thick, silvery scales. Psoriasis is evidenced by the presence of well-demarcated red plaques. The scaling of the scalp resulting from tinea capitis may appear to be dandruff or seborrheic dermatitis but alopecia (hair loss) is usually present in tinea capitis.

Compounded Treatments: Routine treatment for seborrhea of the scalp involves a shampoo that may contain tar, zinc pyrithione, or selenium, used daily if reasonable. A ketoconazole 1% or 2% shampoo can be used twice weekly. Solutions or lotions of topical corticosteroids can be used twice daily, if needed.

INTRODUCTION
Scalp disorders may be painful, annoying, and unsightly. Our society has placed a major emphasis on appearance. Because of this emphasis, many scalp disorders cause undue stress and embarrassment. Some scalp problems can be easily treated, but many of them require treatment for many months or even years. Compounding pharmacists can significantly contribute to successful therapy in compounding for scalp disorders. The scalp consists of many parts and produces several substances, which includes but is not limited to skin, sweat-glands, sebaceous glands, hair shafts, hair. When these are not functioning properly and are not in harmony with one another, various scalp disorders can occur.

SCALP DISORDERS AND THEIR TREATMENT
Seborrheic Dermatitis and Dandruff
Seborrhoeic dermatitis is acute or chronic papulosquamous dermatitis presenting with dry scales and underlying erythema; in some cases, pruritus is present. Dandruff is when there is mild scaling without any erythema; it can happen if the scalp is oily or dry. It may be the result of several factors, including hormonal imbalance, impaired metabolic nutrition, diet, tension, increased bacteria and fungi activity, biochemical changes in the scalp, topical medications, and cosmetics. Seborrhoeic dermatitis is when there is general erythema without tight, thick, silvery scales. Psoriasis is evidenced by the presence of well-demarcated red plaques. The scaling of the scalp resulting from tinea capitis may appear to be dandruff or seborrhoeic dermatitis but alopecia (hair loss) is usually present in tinea capitis.

FORMULATIONS FOR SEBORRHEIC DERMATITIS AND DANDRUFF
Rx
Hydrocortisone 1% and Menthol 0.25% Antipruritic Scalp Lotion
Note: This is a water miscible vehicle that is easy to wash off.

FORMULATIONS FOR SEBORRHEIC DERMATITIS AND DANDRUFF
Rx
Selenium Sulfide 1% Shampoo
Note: Patients can select their shampoo of choice.

Rx
Zinc Pyrithione 1% Shampoo
Note: Patients can select their shampoo of choice.

Rx
Triamcinolone 0.1% Scalp Lotion
Note: This is a water miscible vehicle that is easy to wash off.

Rx
Anti-Seborrhea Clear Lotion
Note: This is an in-water miscible vehicle that is easy to wash off.

Rx
Sulfur 1% Shampoo
Note: This is an in-water miscible vehicle that rinses out easily.

Rx
Phenol, Glycerin, and Mineral Oil Shake Lotion
Note: This is a mineral oil vehicle.
Psoriasis
Psoriasis is an inflammatory skin disease that may be based upon a genetic predisposition. When the skin is injured or irritated, it tends to induce lesions of psoriasis at the site. There are several variants of psoriasis, the most common being the plaque type. Psoriasis presents as silvery scales on bright red, well-demarcated plaques that may be accompanied by itching.

Compounded Treatments: The treatment of psoriasis in the scalp may be selected based on its extent and severity. Therapy can be initiated using a high- or highest-potency corticosteroid preparation. Other measures include tar preparations, such as anthralin and coal tar, which can be administered topically. For example, triamcinolone acetonide 2.5 to 10 mg/mL can be injected in aliquots of 0.1 mL, every 1 to 2 cm in the involved areas. The total dose should not exceed 30 mg per month for adults. Another treatment includes daily use of anthralin 0.5% ointment.

Other therapeutic approaches involve the use of topical diphenylcyclopropenone and squaric acid dibutyl ester. These agents serve to sensitize the skin; this is followed by the application of progressively weaker concentrations designed to produce a slight dermatitis. This results in hair regrowth within 3 to 6 months in some patients.

Drug-induced alopecia may result from thallium, excessive vitamin A, retinoids, antimutagenic agents, anticoagulants, antihypertrophic drugs, oral contraceptives, thimethadone, sildarpin, propranolol, indomethacin, amphetamines, salicylates, gentamicin, and levodopa. Drug-induced alopecia is very disconcerting to the patient, but the problem of hair loss is reversible when the causative agent is discontinued.

Compounded Treatments: No real treatment is indicated here other than discontinuation of the causative agent.

Hair Loss
Alopecia occurs most commonly as a patterned, or androgenic baldness. It is of genetic predetermination with the earliest changes occurring on the front sides of the scalp and at the crown of the skull. The extent of hair loss is variable and unpredictable but may be experienced by approximately 80% of all men.

Compounded Treatments: A 5% solution of minoxidil alone or in combination with other active agents can be used generally twice daily in both male and female patients. Those patients that respond are generally less than five years into their hair loss.

Alopecia areata is believed to be the result of an immunologic process. Typically, this presents as patches that are smooth, without scarring. Tiny hairs, generally 2 to 3 mm in length, may be seen. At the edges of active lesions are small telogens or resting hairs which can be easily removed. In some cases, the scalp may eventually be involved. Alopecia areata is a self-limiting disease where there may be complete regrowth of hair in about 80% of cases. In some cases, mild alopecia areata is resistant to therapy.

Compounded Treatments: Severe forms of alopecia areata may be treated by systemic corticosteroids; however, recurrence of alopecia areata is not uncommon after therapy is discontinued. Corticosteroids can also be administered intralesionally; for example triamcinolone acetonide 2.5 to 10 mg/mL can be injected in aliquots of 0.1 mL, every 1 to 2 cm in the involved areas. The total dose should not exceed 30 mg per month for adults. Another treatment includes daily use of anthralin 0.5% ointment.

No real treatment is indicated here other than discontinuation of the causative agent.

FORMULATIONS FOR HAIR LOSS
Rx
Minoxidil 5% and Retinoic Acid 0.01% Scalp Lotion
Note: This lotion is easy to apply and rinse out.
Rx
Minoxidil 2% and Finasteride 0.1% Scalp Lotion
Note: This lotion is easy to apply to the scalp; the vehicle evaporates.
Rx
Spironolactone Scalp Lotion
Note: This is a water-miscible vehicle that is easy to rinse out.
Rx
Diphenylcyclopropenone 0.1% to 2.0% Solutions
Note: These solutions are primarily for application by a physician.
Rx
Squaric Acid Dibutyl Ester 0.1% to 1% Solutions
Note: These solutions are primarily for application by a physician.

Ringworm
Ringworm presents as a ring-shaped lesion with an advancing scaly border and central cleared area, or as scalp patches with a distinct border on the skin or scalp. The affected areas may also itch. Generally, the patient has had recent exposure to an infected cat. Tinea capitis is the most common causative agent.

Compounded Treatments: Many of the topical antifungal agents can be used, including miconazole, clotrimazole, ketoconazole, econazole, sulconazole, oxiconazole, clocitrazone, butenafine, and terbinafine. Topical dosage forms commonly used include creams, solutions, and gels. If the preparation is exposed to wet environments, an ointment may be appropriate. Treatment should be continued up to two weeks after symptoms have resolved.

FORMULATIONS FOR RINGWORM
Rx
Clotrimazole 1% Scalp Lotion
Note: This is an easy-to-remove water-miscible vehicle.
Rx
Miconazole 1% and Tolnaftate 1% Scalp Lotion
Note: This is an easy-to-remove water-miscible vehicle.
Rx
Ketoconazole 2% Solution
Note: This is an easy-to-remove water-miscible vehicle.