Plastic and Aesthetic Nursing

NCPD 2.5 ANCC Contact Hours

Performing a Nonsurgical Hair Restoration Consultation

Natalie Yaker, MSN, AGNP-C, CANS

The condition of an individual's skin and hair is an indication of the state of the physiological mechanisms inside their body. Practitioners performing hair restoration consultations should have a clear understanding of the anagen, catagen, and telogen phases of the hair growth cycle and a clear comprehension about the various types and causes of hair loss, including the use of glucagon-like peptide-1 medications and the effects of Long COVID. Nurses can use the Assessment, Diagnosis, Planning, Implementation, and Evaluation nursing process format when providing a professional hair consultation. The goal of this manuscript is to teach aesthetic practitioners how to conduct a thorough nonsurgical hair restoration consultation.

Key words: alopecia, hair consultation, hair growth cycle, Ludwig Scale, Norwood Scale

The condition of an individual's skin and hair is an indication of the state of the physiological mechanisms inside their body. Providing a hair consultation generally takes about 45–60 min. During the consultation, the practitioner should educate the patient about the diagnosis, treatment options, and prevention strategies for hair restoration. The goal of this manuscript is to teach aesthetic practitioners how to conduct a thorough nonsurgical hair restoration consultation, either virtually or, ideally, in person.

BACKGROUND INFORMATION

Hair Growth Cycle

Practitioners performing hair restoration consultations should have a clear understanding of the hair growth cycle. As shown in Figure 1, the hair growth cycle occurs in three phases. This cycle begins with the *anagen phase*, the active phase during which the hair matrix of the hair follicle undergoes rapid mitotic activity and produces hair fibers. This is the longest phase of hair growth, lasting anywhere from 2 to 6 years (Healthwise, 2023; Natarelli et al., 2023).

The second phase is the *catagen phase*. During this phase of the hair growth cycle, the dermal papilla moves up and away from the hair follicle, the hair follicles shrink, and hair growth is inhibited. Only about 1% of the hairs on an individual's head are in this phase at any one time. This phase lasts approximately 1–2 weeks (Healthwise, 2023; Natarelli et al., 2023).

The final stage is the *telogen phase*. This phase is a resting and shedding period. Approximately 9% of the hairs on an individual's head are in this phase at any one time. During this phase, the dermal papilla moves away from the dormant hair follicle and the hair shaft does not grow. The follicles remain in this inactive stage for 90–120 days. An individual can expect to lose between 150 and 200 hairs per day. Toward the end of this cycle, old hairs shed and new hairs begin to grow, which brings the cycle back to the anagen phase (Healthwise, 2023; Natarelli et al., 2023).

Types of Alopecia

Practitioners performing nonsurgical hair restoration consultations should also have a clear comprehension about the various types and causes of hair loss. *Alopecia* means the loss of hair. The genetic predisposition for hair loss can be passed on from the maternal or paternal side of the family (LeWine, 2024). A total of 50% of men over age 40 develop male pattern hair loss (Healthdirect, 2022). A total of 33% of all women develop female pattern hair loss (Cleveland Clinic, 2024a). In the United States, 56 million individuals (35 million men, 21 million women) are dealing with hair loss challenges (Duong, 2024). There are various types of alopecias that include, but are not limited to, the following:

- *alopecia areata* (a chronic, autoimmune disease that causes hair loss in patches);
- *alopecia totalis* (a severe form of alopecia areata that causes complete loss of hair on the scalp);

Natalie Yaker, MSN, AGNP-C, CANS, is a Nurse Practitioner and certified trichologist specializing in aesthetic injections, advanced laser treatments, and hair restoration at John Q. Cook, MD, Whole Beauty Institute, Chicago, Illinois.

The author reports no conflicts of interest.

Address correspondence to Natalie Yaker, MSN, AGNP-C, CANS, Whole Beauty Institute, 737 North Michigan Ave., Suite 760, Chicago, IL 60611 (e-mail: nyaker@wholebeautyinstitute.com).

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. All rights reserved.

DOI: 10.1097/PSN.0000000000000626

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

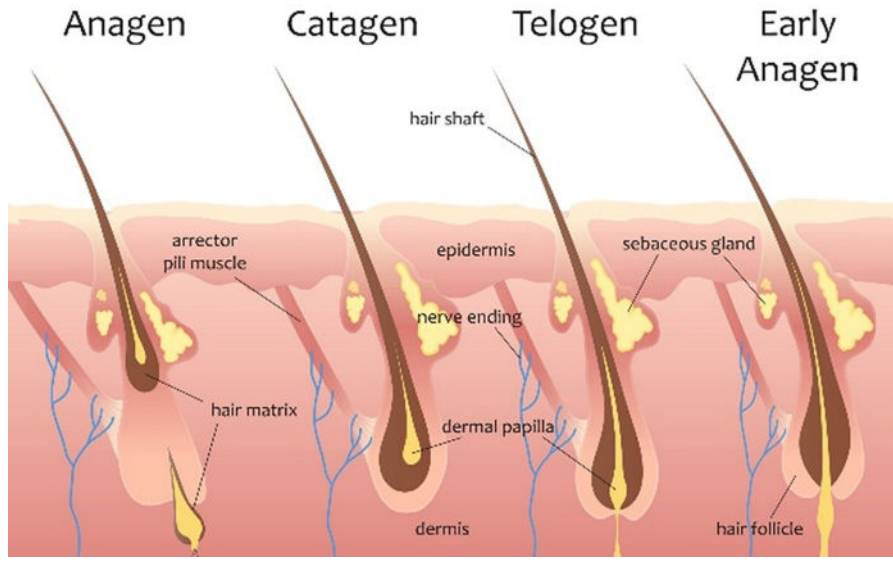

FIGURE 1. Phases of hair growth cycle. *Note.* iStock.com/Artis777. *Anagen*: The active phase during which the hair matrix of the hair follicle undergoes rapid mitotic activity and produces hair fibers. *Catagen*: The dermal papilla moves up and away from the hair follicle, the hair follicles shrink, and hair growth is inhibited. *Telogen*: The dermal papilla moves away from the dormant hair follicle and the hair shaft does not grow. *Early Anogen*: Old hairs are shed, and new hairs begin to grow.

- *androgenetic alopecia* (a genetic and hormonal, patterned hair loss);
- *frontal fibrosing alopecia* (a condition that destroys the hair follicles and causes hair loss in a band-like pattern on the front and sides of the scalp);
- *scarring alopecia* (an inflammatory condition that destroys hair follicles, causing scarring and permanent hair loss);
- *telogen effluvium* (excessive shedding of resting or telogen hairs that occurs after stress, hormonal changes, or certain medications);
- *traction alopecia* (a type of hair loss that occurs when the hair roots are under tension from tight hairstyles); and
- *trichotillomania* (a mental health condition that causes people to compulsively pull out their hair).

The patchy autoimmune alopecias include alopecia areata, alopecia totalis, and frontal fibrosing alopecia. Mechanical forms of alopecia include traction alopecia and scarring alopecia (Qi & Garza, 2014).

Because androgenetic alopecia is the most common form of alopecia in both men and women, in this manuscript, I will focus on conducting a hair restoration consultation for a patient with androgenetic alopecia, which can be caused by hormonal, aging, lifestyle, and genetic factors (Qi & Garza, 2014).

Causes of Androgenetic Alopecia

Androgenetic alopecia, particularly when occurring in men, is caused by a heightened sensitivity and miniaturization of the scalp follicles to androgenic hormones, specifically *dihydrotestosterone* (DHT; a hormone that stimulates the development of male characteristics). Androgens play a role in female pattern hair loss, but other factors are also involved. This form of hair loss may also be caused by a variety of genetic and environmental factors (e.g., aging and endocrine diseases); however, most of these factors are unknown (Chen et al., 2022; Goldstein & Goldstein, 2022; Ho et al., 2024; Ustuner, 2013).

Glucagon-Like Peptide-1 Medications

In addition to genetic and environmental factors, there are two important medical phenomena that may contribute to hair loss. The first of these is the use of *glucagon-like peptide-1s* (GLP-1s; a class of drugs used to treat type 2 diabetes and obesity). There is some evidence that GLP-1 medications may cause hair loss (Desai et al., 2024; Kobren, 2023; Pelc, 2024). The United States Food and Drug Administration (2024) is currently reviewing GLP-1 medications to evaluate a possible link to hair loss.

Long COVID

The second is *Long COVID* (coronavirus disease), a chronic condition that occurs in patients after severe acute respiratory syndrome coronavirus 2 (*SARS-CoV-2*) infection and is present for at least 3 months. Long COVID includes a wide range of symptoms or conditions including fatigue, dyspnea, and hair loss that may improve, worsen, or be ongoing (Garrigues et al., 2020; Otsuka et al., 2022).

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Hair Loss History:
At what age did you begin losing your hair?
What is your main area of concern? ○ **Hairline/Temple** ○ **Frontal Area** ○ **Mid-Scalp** ○ **Crown**
I am experiencing: ○ **Thinning** ○ **Receding** ○ **Shedding** ○ **Breakage** ○ **Baldness**
How would you characterize your current degree of hair loss? ○ **Minimal** ○ **Moderate** ○ **Extensive**
How fast are you losing your hair? ○ **Slow** ○ **Gradually** ○ **Quick**
Do you suffer from ○ **Oily scalp** ○ **Itchy/dry/faking scalp**
What family member(s) also have some (minimal to extensive) hair loss?
Hair Medication History:
Are you currently taking, or have you ever taken Propecia/Proscar/Finasteride? ○ **Yes—start date:** ○ **No** ○ **In the past—dates:**
Are you currently taking, or have you ever taken topical Rogaine/Minoxidil? ○ **Yes—start date:** ○ **No** ○ **In the past—dates:**
Are you currently taking, or have you ever taken topical Finasteride + Minoxidil? ○ **Yes—start date:** ○ **No** **In the past—dates:**
Are you currently using testosterone or testosterone boosters? ○ **Yes—start date:** ○ **No** ○ **In the past—dates:**
Have you tried any of the following? ○ **Dutasteride** ○ **Platelet Rich Plasma** ○ **Scalp Micropigmentation** ○ **Spironolactone** ○ **Laser Therapy** ○ **Other:**
Hair Surgical History:
Have you ever had a prior hair restoration surgery? ○ **Yes—when:** ○ **No**

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Current Hair History:
Have you ever been evaluated by a dermatologist for your scalp/hair condition? If yes, what was your diagnosis?
Do you have a history of excessively pulling out your hair (Trichotillomania)? ○ Yes—last episode: ○ No
Have you had a serious illness, been hospitalized, or received general anesthesia within the past year? ○ If yes—please explain:
Have you been under severe amount of SUDDEN stress within the past year? (Sudden death in family, divorce, etc.)? ○ If yes—please explain:
What type of diet do you follow?
Any history of eating disorder? ○ Yes ○ No
Have you had excessive weight loss or weight gain? ○ Yes—explain: ○ No
How often do you wash your hair? ○ Once a week ○ 2-3x a week ○ Every day
Do you routinely color your hair? ○ Yes—how often: ○ No
Do you routinely straighten, dry, or chemically perm your hair? ○ Yes—explain: ○ No
Do you currently wear a hair piece, hair system, or extensions? ○ Yes—what type: ○ No ○ In the past—dates:

FIGURE 2. Male Hair Loss Questionnaire. Courtesy of John Q. Cook, MD, Whole Beauty Institute. https://www.johnqcookmd.com/?utm_source=google.

CONDUCTING A HAIR CONSULTATION

Most nurses love acronyms and are familiar with the ADPIE acronym for the nursing process that stands for: Assessment, Diagnosis, Planning, Implementation, and Evaluation. Aesthetic practitioners can use this same process when providing a professional hair consultation.

Assessment

During the *Assessment*, the practitioner should gather information about the condition of the patient's hair by asking open-ended questions. Obtaining complete and detailed information may require some detective work, but it is the most important part of the consultation process.

Practitioners can use the Male Hair Loss Questionnaire (Figure 2) or the Female Hair Loss Questionnaire (Figure 3) as part of the assessment process.

Laboratory Testing

Because imbalances in certain laboratory tests can contribute to hair loss, practitioners should review the results of any current laboratory testing the patient has undergone. Practitioners may want to consider recommending the patient undergo new laboratory testing. Laboratory testing is indicated when the practitioner's assessment suggests an underlying comorbidity. Practitioners should also recommend the patient undergo annual laboratory testing. Because many conditions can cause or contribute to hair loss, there is no routine panel of tests to evaluate hair loss. However, there are a number of laboratory tests that can help determine the cause of hair loss:

- **Blood tests** can help identify deficiencies or underlying health issues that may be contributing to the patient's hair loss:
  - *Complete blood count* provides information about white blood cells and platelets, which can help identify inflammatory conditions contributing to hair loss (Saxena, 2024).
  - *Iron serum* and *ferritin serum* deficiencies cause the body to borrow the iron stored in the hair

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Hair Loss History:
At what age did you begin losing your hair?
What is your main area of concern? ○ Hairline/Temple ○ Frontal Area ○ Mid-Scalp ○ Crown
I am experiencing: ○ Thinning ○ Receding ○ Shedding ○ Breakage ○ Baldness
How would you characterize your current degree of hair loss? ○ Minimal ○ Moderate ○ Extensive
How fast are you losing your hair? ○ Slow ○ Gradually ○ Quick
Do you suffer from ○ Oily scalp ○ Itchy/dry/faking scalp
What family member(s) also have some (minimal to extensive) hair loss?
Hair Medication History:
Are you currently taking, or have you ever taken Propecia/Proscar/Finasteride? ○ Yes—start date: ○ No ○ In the past—dates:
Are you currently taking, or have you ever taken topical Rogaine/Minoxidil? ○ Yes—start date: ○ No ○ In the past—dates:
Are you currently taking, or have you ever taken topical Finasteride + Minoxidil? ○ Yes—start date: ○ No ○ In the past—dates:
Are you currently using testosterone or testosterone boosters? ○ Yes—start date: ○ No ○ In the past—dates:
Have you tried any of the following? ○ Dutasteride ○ Platelet Rich Plasma ○ Scalp Micropigmentation ○ Spironolactone ○ Laser Therapy ○ Other:
Hair Surgical History:
Have you ever had a prior hair restoration surgery? ○ Yes—when: ○ No

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Current Hair History:
Have you ever been evaluated by a dermatologist for your scalp/hair condition? If yes, what was your diagnosis?
Do you have a history of excessively pulling out your hair (Trichotillomania)? ○ Yes—last episode: ○ No
Have you had a serious illness, been hospitalized, or received general anesthesia within the past year? ○ If yes—please explain:
Have you been under severe amount of SUDDEN stress within the past year? (Sudden death in family, divorce, etc.)? ○ If yes—please explain:
What type of diet do you follow?
Any history of eating disorder? ○ Yes ○ No
Do you get your menstrual periods each month? ○ Yes ○ Menopausal—date of last menstrual period:
Have you been pregnant within the past year? ○ Yes ○ No
Are you currently on birth control? ○ Yes—type: ○ No
Have you ever had issues with any of the following? ○ Fertility ○ Excessive body/face hair ○ Cystic acne ○ Polycystic Ovary Syndrome
Have you had excessive weight loss or weight gain? ○ Yes—explain: ○ No
How often do you wash your hair? ○ Once a week ○ 2-3x a week ○ Every day
Do you routinely color your hair? ○ Yes—how often: ○ No
Do you routinely straighten, dry, or chemically perm your hair? ○ Yes—explain: ○ No
Do you currently wear a hair piece, hair system, or extensions? ○ Yes—what type: ○ No ○ In the past—dates:

FIGURE 3. Female Hair Loss Questionnaire. Courtesy of John Q. Cook, MD, Whole Beauty Institute. https://www.johnqcookmd.com/?utm_source=google.

follicles (primarily in the form of ferritin) and use it for more vital functions, which leads to weakened hair follicles and increased hair shedding (Johnson, 2019).

- *Thyroid-stimulating hormone* levels determine whether the thyroid gland is overactive or underactive, both of which can disrupt the hair growth cycle. The thyroid gland produces hormones that

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

keep the hair follicle healthy and working correctly. When the hair follicles receive too many or too few hormones, they cannot function as they should (Cleveland Clinic, 2024b).
    - *Vitamin B12* deficiency causes the body to produce fewer and larger red blood cells that are unable to transport sufficient amounts of oxygen to the scalp and hair follicles, which causes the hair to fall out (Gokce et al., 2022; Passam, 2022).
    - *Calcium* when present in sufficient levels helps maintain the structure of hair follicles, supports the secretion of hormones (especially androgen hormones such as estrogen, testosterone, and DHT [the major hormone responsible for hair loss]) and enzymes (e.g., biotin) necessary for healthy hair growth, and helps the body absorb iron (AAYNA Clinic, 2023; Gokce et al., 2022).
    - *Vitamin D* regulates the hair growth cycle, which includes its growth, rest, and shedding phases. Without sufficient vitamin D, the growth phase shortens, and the resting phase lengthens, resulting in increased shedding (Gokce et al., 2022; McDougall, 2023).
    - *Erythrocyte sedimentation rate* and *C-reactive protein* levels are markers of inflammation in the body. Elevated levels can indicate an underlying autoimmune condition such as lupus, which can cause hair loss (Saxena, 2024).
- **Hormone tests** help identify hormone levels that may be contributing to the patient's hair loss:
    - *Prolactin* is responsible for breast development, lactation, and other bodily functions. In women, high levels of prolactin cause hair loss by interfering with the ovaries' production of estrogen. In men, high levels of prolactin cause hair loss by stimulating the production of DHT, which can harm hair follicles (Ferguson, 2023; Thieme, 2024).
    - *Testosterone* plays an important role in the development of male sex characteristics. The body converts testosterone to DHT. High levels of testosterone increase body and facial hair growth but also increase DHT levels. When DHT levels are too high, it overstimulates the hair follicles, which causes the hair to become smaller, finer, and lighter resulting in hair loss (Morales-Brown, 2024).
    - *Dehydroepiandrosterone* (DHEA) produces androgens and estrogens, the male and female sex hormones. DHEA can increase the production of testosterone, which increases DHT levels. DHEA also inhibits an enzyme in the hair follicle that is essential for nucleic acid synthesis and can disrupt the growth of scalp hair (Icahn School of Medicine at Mount Sinai, 2024; Kasick et al., 1985).
    - *Luteinizing hormone* (LH) stimulates ovulation and helps prepare the uterus for implantation and the testes to produce testosterone. LH deficiency in women causes changes in hair growth, hot flashes, irregular periods, mood changes, and fatigue. LH stimulates the testes to produce testosterone, which increases DHT levels (MedlinePlus, 2023).
- **Genetic tests** can help identify genetic variations that may be contributing to the patient's hair loss. For example, the TrichoTest™ (Fagron Genomics, Austin, Texas, USA) is a genetic test performed on a patient's DNA that analyzes 13 genes and 48 genetic variations related to alopecia (Epstein, 2023).

Norwood Scale/Ludwig Scale

During the assessment, practitioners may want to utilize either the Norwood Scale for men or the Ludwig Scale for women. These classification systems have been widely used by practitioners for determining an individual's stage of hair loss and assessing their response to therapy.

Norwood Scale. The *Norwood Scale* is a diagnostic tool that enables users to classify the various stages of male pattern baldness (Norwood, 1975). The Scale was first introduced by Dr. James Hamilton, a scientist and researcher in male hormones, in 1951 after studying more than 300 men with male pattern baldness. Dr. O'Tar Norwood revised and updated the Scale in 1975 after studying patterned hair loss in 1,000 men. For this reason, it is sometimes referred to as the Norwood–Hamilton Scale (Gupta & Mysore, 2016). Norwood observed that hair thinning in men starts in the temples and in the crown or *vertex* (the most superior point of the cranium) and slowly progresses to encompass the entire top of the scalp (Gupta & Mysore, 2016; Norwood, 1975). As shown in Figure 4, the Norwood Scale defines seven major types of male baldness.

Ludwig Scale. The *Ludwig Scale* was developed by Dr. Erich Ludwig in 1977 after observing 468 women with hair loss. As shown in Figure 5, this classification consists of three grades of hair loss in women, each with subcategories reflecting the progression of thinning. The Ludwig Scale is a valuable tool for providers to diagnose and treat various stages of female pattern hair loss (Ludwig, 1977).

PATIENT SCENARIO

Sunny is a newly divorced 48-year-old man who makes an appointment for a consultation with a hair loss practitioner for the first time. During the consultation, he reports that over the last couple of years, he has noticed that his hair appears thinner and the stress from worrying about his hair loss is interfering with his sleep. He describes the areas of hair loss as being located primarily in the mid-part line and on the crown of his head. Sunny

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

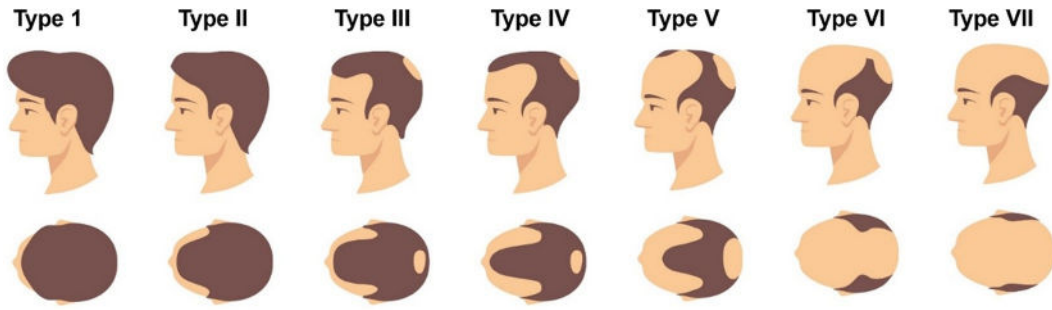

FIGURE 4. Norwood classification of male pattern hair loss. *Note.* iStock.com/PCH-Vector. *Type I:* Minimal or no recession of the hairline. *Type II*: Triangular, usually symmetrical, areas of recession at the frontotemporal hairline. *Type III*: Deep symmetrical recession at the temples that are bare or only sparsely covered by hair. Hair loss is primarily from the vertex with limited recession of the frontotemporal hairline. *Type IV*: The frontotemporal recession is more severe than in Type III, and there is sparse hair or no hair on the vertex. The two areas of hair loss are separated by a band of moderately dense hair that extends across the crown. This band connects with the fully haired fringe on the sides of the scalp. *Type V:* The vertex hair loss region is separated from the frontotemporal region, but the separation is less distinct. The band of hair across the crown is narrower and sparser, and the vertex and frontotemporal regions of hair loss are larger. *Type VI*: The bridge of hair that crosses the crown is gone with only sparse hair remaining. The frontotemporal and vertex regions are joined together, and the extent of hair loss is greater. *Type VII*: The most severe form of hair loss. Only a narrow band of hair in a horseshoe shape remains on the sides and back of the scalp. This hair is usually not dense and may be quite fine. References: Gupta and Mysore (2016) and Norwood (1975).

states that he has always had thin hair, just like his maternal grandmother. He is a vegetarian and only washes his hair once a week after completing his workout. He undergoes annual physical examinations, the most recent exam being approximately 30 days ago. Except for having slightly elevated blood glucose levels, the results of the recent laboratory tests ordered by his physician were all within normal range. Because of the cost and his uncertainty about their effectiveness, he has never tried any hair supplements or treatments.

The aesthetic practitioner has a lot of information to unpack with poor Sunny! It is important for the practitioner to note that although he is being seen for hair restoration, a prudent practitioner will provide additional tips and suggestions for improving other areas of his health. Consider the following data the practitioner has gleaned from the information provided by Sunny:

- *Medical history*: Slightly elevated blood glucose
- *Family history*: Maternal grandmother had thin hair
- *Onset*: Last couple of years
- *Last menstrual period/cycles*: N/A
- *Laboratory testing*: Current
- *Diet*: Vegetarian
- *Stress*: Currently going through a divorce/Worrying about hair loss and thinning
- *Sleep*: Inadequate/Disturbed
- *Exercise*: Weekly
- *Previous use of hair restoration products*: None
- *Current use of hair restoration products*: None
- *Hair care*: Weekly shampoo
- *Glucagon-like peptide-1 medications*: None
- *Long COVID*: No

Diagnosis/Diagnostic Tools

After completing a thorough assessment, the practitioner inspects Sunny's hair and scalp using the following tests and diagnostic tools to formulate a diagnosis:

- *Hair pull test*: is a simple test that measures the severity of hair loss. During a pull test, the practitioner gathers small sections of hair, about 40 strands each, from different parts of the scalp and applies a gentle tug. If six or more strands fall out when tugged, the patient is experiencing active hair loss. As a rule, patients do not prefer this method of

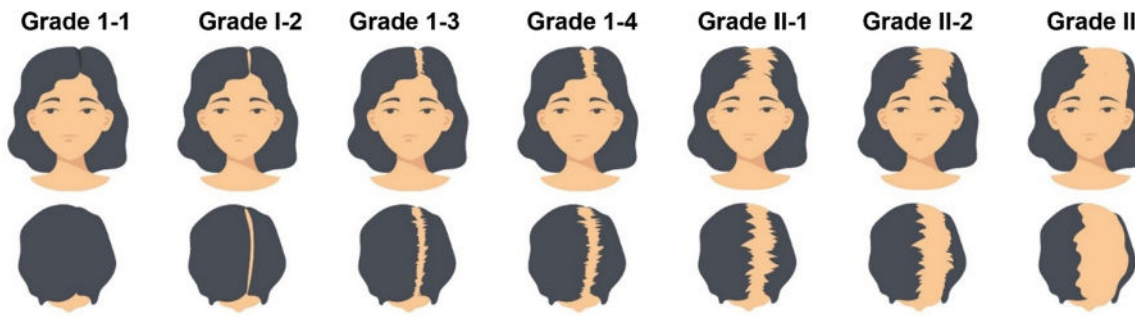

FIGURE 5. Ludwig classification of female pattern hair loss. *Note.* iStock.com/PCH-Vector. *Grade I-1 through I-4:* Perceptible thinning of the hair on the crown. *Grade II-1 through II-2:* Pronounced widening of the hair on the crown and visible scalp. *Grade III*: Severe hair loss with baldness at the top of the head. Reference: Ludwig (1977).

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

diagnosis, believing that the hair pulling causes further trauma and distress.

- *Dermatoscope*: is a hand-held device that practitioners can use to examine and diagnose skin and scalp disorders. Using a dermatoscope is a noninvasive examination that provides tangible and visible evidence to patients in real time. Patients can present to the clinic appearing to have a full head of hair that when examined by a practitioner using a dermatoscope shows noticeable *miniaturization* (a process where the hair follicles shrink, causing hair shortening, thinning, weakness, and breakage).

As shown in Figure 6, the dermatoscopic examination of Sunny's scalp showed a build-up of *sebum* (an oily substance produced by the sebaceous glands to keep skin moisturized and protected), dead skin, and debris. Due to Sunny's infrequent hair hygiene practices, this is not a surprising finding.

- *Scalp biopsy*: involves removing a 4-mm scalp specimen, which is the most definitive and invasive diagnostic test. For example, when a patient presents with visible erythema, edema, and excoriation (3 E's), it is prudent for the practitioner to remove a specimen and send it to a pathologist for evaluation. Notably, sutures or staples should remain in place for 7–10 days, and hair does not grow back in the biopsied area.
- *Microscopic examination*: Sunny's microscopic examination showed that his *terminal hair* (coarse, pigmented hair that grows on the scalp, eyebrows, and eyelashes) was becoming miniaturized, while the amount of his *vellus hair* (short, fine, light-colored body hair found on most body surfaces) was increasing.

FIGURE 6. Dermatoscopic examination of Sunny's hair. *Note.* Dermatoscopic examination of Sunny's scalp showed a build-up of sebum, dead skin, and debris. The spacing between hair groupings is caused by the various growth cycles. The lack of hair follicles shows that the hairs are in the catagen and telogen phase.

Planning

During the planning stage, the practitioner works with the patient to create outcomes for the patient's care. The plans are developed collaboratively by the patient and practitioner based on the patient's goals and the practitioner's assessment and diagnosis.

- **Improve Hair Health**
  - ***Hygiene***
    - *Shampoo/Conditioning*: Sunny is not effectively cleaning or conditioning his hair and scalp. The skin on an individual's face is the same as the skin on their scalp. Each day sweat, dirt, debris, and sebum are deposited on the face and scalp. Consider the analogy of the scalp being like soil and the hair symbolizing the crop. Inadequately prepared soil will not produce prosperous crops. Incorporating daily hair washing will help Sunny remove sebum and maintain the health and cleanliness of his skin and scalp.
    - *Supplements*: Because he is a vegetarian, Sunny may not be consuming sufficient protein, which is imperative for maintaining strong, healthy hair. Consider that hair is 97% protein and 3% water. *Amino acids* are the building blocks of protein. Therefore, adding amino acid supplements and consuming 120–160 g of plant-based and nonanimal proteins to Sunny's diet will help support his hair growth (Gokce et al., 2022).
- **Reduce blood glucose** levels to provide adequate blood flow to the vessels in the scalp. There are several ways Sunny can lower his blood glucose levels to improve his overall health and hair outcomes:
  - *Diet:* Eating foods that are low in calories, saturated fat, sugar, and salt helps reduce elevated blood glucose levels. Eating high-fiber foods also slows down the digestion of carbohydrates and the absorption of sugar.
  - *Physical activity*: Incorporating physical activity 2–3 times per week helps the body burn sugar and makes the body more sensitive to insulin.
  - *Hydration*: Ensuring adequate hydration helps stabilize blood glucose levels.
  - *Sleep*: Poor sleep patterns are linked to higher blood glucose levels.
  - *Stress*: High stress levels increase *cortisol* (a hormone that increases blood glucose levels, enhances the brain's use of glucose, and slows nonessential functions).
  - *Low-level laser therapy*: A noninvasive treatment that uses red or near-infrared light to stimulate

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

healing and relieve pain and inflammation can improve blood flow and circulation to the scalp; however, these treatments are costly (Semeco, 2024).

- **Activate *dormant hairs* (hair follicles that are alive but not actively producing hair) and reduce miniaturization**
  - ***Topical Minoxidil/Oral Finasteride***
    - *Topical minoxidil* is a stimulant for hair growth. This medication increases blood flow and circulation to the scalp and extends the anagen phase of the hair growth cycle, which increases hair length and thickness. Minoxidil is available in 2% and 5% aerosol foam and liquid solution formulations as an over-the-counter topical agent for both men and women. Minoxidil should be applied 1–2 times daily (Patel et al., 2023).
    - *Finasteride* reduces serum DHT levels by inhibiting the conversion of testosterone to DHT (Mazzarella et al., 1997). It is available as a 1 mg tablet that should be taken once daily (Price et al., 2006; Zito et al., 2024) and a 0.25% topical solution that should be applied twice daily (Caserini et al., 2014).
    - Minoxidil and finasteride work through different mechanisms to tackle hair loss, so mixing them leads to more effective, longer-lasting results (Chandrashekar et al., 2015; Sheikh et al., 2015).
    - In a single-center, randomized, 3-arm, open-label pilot study conducted over a 2-year period that included 60 men, Bharadwaj et al. (2023) evaluated and compared the efficacy of three treatment regimens: topical minoxidil 5% solution, topical finasteride 0.25% solution, and a combination of topical 5% minoxidil and 0.25% finasteride solution. The researchers found that the combination therapy showed greater efficacy in increasing total hair density and terminal hair count than the monotherapy without producing any significant side effects (United States Food and Drug Administration 2024).
  - ***Platelet-Rich Plasma (PRP) Therapy Injections.*** This treatment uses the patient's own blood cells to accelerate healing in a specific area. PRP consists of two elements: *plasma*, the liquid portion of blood, and *platelets*, small, colorless cell fragments in the blood that help stop bleeding and form clots. Platelets also contain growth factors that trigger cell reproduction and stimulate tissue regeneration or healing. *PRP* is simply blood that contains more platelets than normal.
    - PRP injections involve creating PRP from a patient's blood sample and injecting the PRP into the area where hair loss has occurred. In some cases, the clinician may use ultrasound to guide the injection. The goal is to accelerate the healing process by increasing the concentration of specific growth factors in a specific area. PRP injections are an effective method for treating male pattern baldness (Johns Hopkins Medicine, 2024). The disadvantage of this treatment is that the injections can be costly and painful for some. The injections also need to be administered as a series of treatments.

Sunny and the practitioner develop the following plan to address Sunny's hair growth issues:

- Wash hair daily
- Exercise 2–3 times per week
- Consume 120–160 g of protein daily
- Incorporate stress-relieving behaviors (e.g., relaxation techniques)
- Apply topical minoxidil 5% and topical finasteride 0.25% twice daily

FIGURE 7. Progress of Sunny's hair growth.

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Implementation

During the implementation phase, the patient begins carrying out the interventions outlined in the plan of care. The 3 C's to success are consistency, compliance, and commitment. During this stage, it is important for the practitioner to implement a plan that uses a step-wise approach and considers the patient's current lifestyle and financial situation. The practitioner must also educate the patient about treatment options.

Evaluation

The evaluation phase involves regularly assessing the patient and comparing the current findings against the initial assessment findings to determine the effectiveness of the interventions and overall treatment plan. Practitioners should conduct follow-up appointments with the patient at 3, 6, 9, and 12 months after the initial consultation. Important elements for the practitioner to include in the evaluation follow-up appointments include:

- Emphasizing the importance of individual elements of the treatment plan and evaluate the patient's compliance with each element.
- Evaluating the progress of the hair restoration. Updating/revising the treatment plan as needed.
- Discussing/recommending other services offered by the facility to support hair restoration and/or other treatment areas.
- Taking photographs.
  - Photographs are important for demonstrating and documenting progress.
  - Do not use a cell phone to take photographs. Use a professional camera that remains in the clinical setting.
  - As shown in Figure 7, the photograph showing the difference between 6 months and 12 months after treatment is important.
- Emphasizing the importance of maintaining each element of the treatment plan.

CONCLUSION

Applying the nursing process during a nonsurgical hair restoration consultation ensures that the patient receives individualized care, rather than a "one size fits all approach." Patients are seeking out providers who offer evidence-based treatment options to improve and maintain their current state of hair health. By using the nursing process, providers can ensure that each consultation is patient-centered and focused.

REFERENCES

AAYNA Clinic. (2023, June 24). *Calcium deficiency and hair loss: 9 Facts everyone needs to know*. https://www.aaynaclinic.com/calcium-deficiency-causes-hair-loss/#.

Bharadwaj, A. V., Mendiratta, V., Rehan, H. S., & Tripathi, S. (2023). Comparative efficacy of topical finasteride (0.25%) in combination with minoxidil (5%) against 5% minoxidil or 0.25% finasteride alone in male androgenetic alopecia: A pilot, randomized open-label study. *International Journal of Trichology*, *15*(2), 56–62. https://doi.org/10.4103/ijt.ijt_72_22

Caserini, M., Radicioni, M., Leuratti, C., Annoni, O., & Palmieri, R. (2014). A novel finasteride 0.25% topical solution for androgenetic alopecia: Pharmacokinetics and effects on plasma androgen levels in healthy male volunteers. *International Journal of Clinical Pharmacology and Therapeutics*, *52*(10), 842–849. https://doi.org/10.5414/CP202119

Chandrashekar, B. S., Nandhini, T., Vasanth, V., Sriram, R., & Navale, S. (2015). Topical minoxidil fortified with finasteride: An account of maintenance of hair density after replacing oral finasteride. *Indian Dermatology Online Journal*, *6*(1), 17–20. https://doi.org/10.4103/2229-5178.148925

Chen, S., Xie, X., Zhang, G., & Zhang, Y. (2022). Comorbidities in androgenetic alopecia: A comprehensive review. *Dermatology and Therapy*, *12*(10), 2233–2247. https://doi.org/10.1007/s13555-022-00799-7

Cleveland Clinic. (2024a). *Female pattern baldness*. https://my.clevelandclinic.org/health/diseases/24943-female-pattern-baldness.

Cleveland Clinic. (2024b, January 11). *Is my thyroid to blame for my hair loss?* healthessentials. https://health.clevelandclinic.org/is-my-thyroid-condition-to-blame-for-my-hair-loss.

Desai, D. D., Sikora, M., Nohria, A., Bordone, L., Caplan, A. S., Shapiro, J., & Lo Sicco, K. I. (2024). GLP-1 agonists and hair loss: A call for further investigation. *International Journal of Dermatology*, *63*(9), 1128–1130. https://doi.org/10.1111/ijd.17246

Duong, L. (2024, October 4). All 109 hair loss statistics (categorized & visualized). *Scandinavian Biolabs*. https://scandinavianbiolabs.com/blogs/journal/hair-loss-statistics#section-10.

Epstein, J. (2023, July 26). Trichotest in Miami. *Foundation for Hair Restoration*. https://www.foundhair.com/plastic-surgery/trichotest#:.

Ferguson, S. (2023, September 18). Can prolactin cause hair loss? *Hers*. https://www.forhers.com/blog/prolactin-hair-loss.

Garrigues, E., Janvier, P., Kherabi, Y., Le Bot, A., Hamon, A., Gouze, H., Doucet, L., Berkani, S., Oliosi, E., Mallart, E., Corre, F., Zarrouk, V., Moyer, J. D., Galy, A., Honsel, V., Fantin, B., & Nguyen, Y. (2020). Post-discharge persistent symptoms and health-related quality of life after hospitalization for COVID-19. *Journal of Infection*, *81*(6), e4–e6. https://doi.org/10.1016/j.jinf.2020.08.029

Gokce, N., Basgoz, N., Kenanoglu, S., Akalin, H., Ozkul, Y., Ergoren, M. C., Beccari, T., Bertelli, M., & Dundar, M. (2022). An overview of the genetic aspects of hair loss and its connection with nutrition. *Journal of Preventive Medicine and Hygiene*, *63*(2 Suppl 3), E228–E238. https://doi.org/10.15167/2421-4248/jpmh2022.63.2S3.2765

Goldstein, B. G., & Goldstein, A. O. (2022, August 10). Patient education: Androgenetic alopecia in men and women (Beyond the Basics). *UpToDate*. Retrieved October 18, 2024 from https://www.uptodate.com/contents/androgenetic-alopecia-in-men-and-women-beyond-the-basics.

Gupta, M., & Mysore, V. (2016). Classifications of patterned hair loss: A review. *Journal of Cutaneous and Aesthetic Surgery*, *9*(1), 3–12. https://doi.org/10.4103/0974-2077.178536

Healthdirect. (2022, August). *Male patterned baldness*. https://www.healthdirect.gov.au/male-pattern-baldness#:.

Healthwise. (2023, November 16). Types of hair loss. https://myhealth.alberta.ca/Health/pages/conditions.aspx?hwid=ug2799.

Ho, C. H., Sood, T., & Zito, P. M. (2024). Androgenetic alopecia. In *StatPearls*. StatPearls Publishing; Retrieved October 18, 2024 from https://www.ncbi.nlm.nih.gov/books/NBK430924/.

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.

Icahn School of Medicine at Mount Sinai. (2024). *Dehydroepiandrosterone*. https://www.mountsinai.org/health-library/supplement/dehydroepiandrosterone.

Johns Hopkins Medicine. (2024). *Platelet-rich plasma (PRP) injections*. https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/plateletrich-plasma-prp-treatment#:.

Johnson, J. (2019, November 18). What to know about ferritin and hair growth. *Medical News Today*. https://www.medicalnewstoday.com/articles/327027.

Kasick, J. M., Bergfeld, W. F., Steck, W. D., & Gupta, M. K. (1985). Adrenal androgenic female-pattern alopecia: Sex hormones and the balding woman. *Cleveland Clinic Quarterly*, *50*(2), 111–122. https://www.ccjm.org/content/ccjom/50/2/111.full.pdf

Kobren, S. D. (2023, May 14). Misuse of Ozempic for rapid weight loss can cause significant and perhaps permanent hair loss. *Dermatology Times*. https://www.dermatologytimes.com/view/misuse-of-ozempic-for-rapid-weight-loss-can-cause-significant-and-perhaps-permanent-hair-loss.

LeWine, H. E. (2024, February 15). *Hereditary-patterned baldness*. Harvard Health Publishing. Harvard Medical School. https://www.health.harvard.edu/a_to_z/hereditary-patterned-baldness-a-to-z#:.

Ludwig, E. (1977). Classification of the types of androgenetic alopecia (common baldness) occurring in the female sex. *British Journal of Dermatology*, *97*(3), 247–254. https://doi.org/10.1111/j.1365-2133.1977.tb15179.x

Mazzarella, G., Loconsole, G., Cammisa, G., Mastrolonardo, G., & Vena, G. (1997). Topical finasteride in the treatment of androgenic alopecia. Preliminary evaluations after a 16-month therapy course. *Journal of Dermatological Treatment*, *8*(3), 189–192. https://doi.org/10.3109/09546639709160517

McDougall, S. (2023, October 9). Hair loss and vitamin D—How to spot and treat a deficiency. *TheIndependentPharmacy.co.uk*. https://www.theindependentpharmacy.co.uk/hair-loss/guides/hair-loss-and-vitamin-d-how-to-spot-and-treat-a-deficiency.

MedlinePlus. (2023, December 5). *Luteinizing hormone (LH) levels test*. https://medlineplus.gov/lab-tests/luteinizing-hormone-lh-levels-test/.

Morales-Brown, P. (2024, January 12). Everything you need to know about DHT. *Medical News Today*. https://www.medicalnewstoday.com/articles/68082.

Natarelli, N., Gahoonia, N., & Sivamani, R. K. (2023). Integrative and mechanistic approach to the hair growth cycle and hair loss. *Journal of Clinical Medicine*, *12*(3), 893. https://doi.org/10.3390/jcm12030893

Norwood, O. T. (1975). Male pattern baldness: Classification and incidence. *Southern Medical Journal*, *68*(11), 1359–1365. https://doi.org/10.1097/00007611-197511000-00009

Otsuka, Y., Nakano, Y., Hagiya, H., Tokumasu, K., & Otsuka, F. (2022). Recovery from alopecia after COVID-19. *Cureus*, *14*(1), e21160. https://doi.org/10.7759/cureus.21160

Passam, Z. (2022, April 4). Vitamin B12 and your hair. *Philip Kingsley*. https://www.philipkingsley.co.uk/hair-guide/healthy-hair-nutrition/vitamin-b12.html#:.

Patel, P., Nessel, T. A., & Kumar, D. D. 2023, February 24. Minoxidil. In *StatPearls*. StatPearls Publishing; Retrieved October 2, 2024 from https://www.ncbi.nlm.nih.gov/books/NBK482378/.

Pelc, C. (2024, January 8). Ozempic, Wegovy under investigation for side effects like suicidal ideation, hair loss. *Medical News Today*. https://www.medicalnewstoday.com/articles/ozempic-wegovy-side-effects-suicidal-ideation-hair-loss.

Price, V. H., Menefee, E., Sanchez, M., & Kaufman, K. D. (2006). Changes in hair weight in men with androgenetic alopecia after treatment with finasteride (1 mg daily): Three- and 4-year results. *Journal of the American Academy of Dermatology*, *55*(1), 71–74. https://doi.org/10.1016/j.jaad.2005.07.001

Qi, J., & Garza, L. A. (2014). An overview of alopecias. *Cold Spring Harbor Perspectives in Medicine*, *4*(3), a013615. https://doi.org/10.1101/cshperspect.a013615

Saxena, K. (2024, February 3). Blood tests for hair loss: Unlocking hair health. *Redcliffe labs*. https://redcliffelabs.com/myhealth/lab-test/blood-tests-for-hair-loss-unlocking-hair-health/

Semeco, A. (2024, May 20). 14 Easy ways to lower blood sugar levels naturally. *Healthline*. https://www.healthline.com/nutrition/14-ways-to-lower-blood-sugar.

Sheikh, S., Ahmad, A., Ali, S. M., Ahmad, M. U., Paithankar, M., Saptarshi, D., Kale, P. B., Maheshwari, K. B., Barkate, H. V., Hl, P., Mushtaq, M., & Ahmad, I. (2015). A new topical formulation of minoxidil and finasteride improves hair growth in men with androgenetic alopecia. *Journal of Clinical & Experimental Dermatology Research*, *6*, 1–6.

Thieme, S. (2024, March 18). The connection between male hormones and hair loss. *Hair Doctor*. https://nashvillehairdoctor.com/hair-loss/connection-hormonal-hair-loss-men/#:.

United States Food and Drug Administration. (2024, June 21). July–September 2023 potential signals of serious risks/new safety information identified by the FDA Adverse Event Reporting System (FAERS). https://www.fda.gov/drugs/fdas-adverse-event-reporting-system-faers/july-september-2023-potential-signals-serious-risksnew-safety-information-identified-fda-adverse.

Ustuner, E. T. (2013). Cause of androgenic alopecia: Crux of the matter. *Plastic and Reconstructive Surgery Global Open*, *1*(7), e64. https://doi.org/10.1097/GOX.0000000000000005

Zito, P. M., Bistas, K. G., Patel, P., & Syed, K. (2024). Finasteride. In *StatPearls*. StatPearls Publishing; Retrieved October 2, 2024 from https://www.ncbi.nlm.nih.gov/books/NBK513329/.

The test for this nursing continuing professional development activity can be taken online at www.NursingCenter.com/CE/PSN

Copyright © 2025 International Society of Plastic and Aesthetic Nurses. Unauthorized reproduction of this article is prohibited.