

Telemedicine Alopecia Assessment: Highlighting Patients With Skin of Color

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Alopecia has been one of the more common concerns reported at teledermatology (TD) visits during the COVID-19 pandemic. In light of the growing use of TD, a team of experts were consulted to develop workflows for virtual hair and scalp examinations, with particular consideration for skin of color patients.

Cutis. 2022;109:40-42.

Practice Gap

In accordance with World Health Organization guidelines on social distancing to limit transmission of SARS-CoV-2, dermatologists have relied on teledermatology (TD) to develop novel adaptations of traditional workflows, optimize patient care, and limit in-person appointments during the COVID-19 pandemic. Pandemic-induced physical and emotional stress were anticipated to increase the incidence of dermatologic diseases with psychologic triggers.

The connection between hair loss and emotional stress is well documented for telogen effluvium and alopecia areata.^{1,2} As anticipated, dermatology visits increased during the COVID-19 pandemic for the diagnosis of alopecia¹⁻⁴; a survey performed during the pandemic found that alopecia was one of the most common diagnoses dermatologists made through telehealth platforms.⁵

This article provides a practical guide for dermatology practitioners to efficiently and accurately assess alopecia by TD in all patients, with added considerations for skin of color patients.

Diagnostic Tools

The intersection of TD, as an effective mechanism for the diagnosis and treatment of dermatologic disorders, and the increase in alopecia observed during the COVID-19 pandemic prompted us to develop a workflow for conducting virtual scalp examinations. Seven dermatologists (A.M., A.A., O.A., N.E., V.C., C.M.B., S.C.T.)

who are experts in hair disorders contributed to developing workflows to optimize the assessment of alopecia through a virtual scalp examination, with an emphasis on patients of color. These experts completed a 7-question survey (Table) detailing their approach to the virtual scalp examination. One author (B.N.W.) served as an independent reviewer and collated responses into the following workflows.

Telemedicine Previsit Workflow

Components of the previsit workflow include:

- Instruct patients to provide all laboratory values and biopsy reports before the appointment.
- Test for a stable Wi-Fi connection using a speed test (available at <https://www.speedtest.net/>). A speed of 10 megabits/second or more is required for high-quality video via TD.⁶
 - Provide a handout illustrating the required photographs of the anterior hairline; the mid scalp, including vertex, bilateral parietal, and occipital scalp; and posterior hairline. Photographs should be uploaded 2 hours before the visit. Figures 1 and 2 are examples of photographs that should be requested.
 - Request images with 2 or 3 different angles of the area of the scalp with the greatest involvement to help appreciate primary and secondary characteristics.
 - Encourage patients to present with clean, recently shampooed, dried, and detangled natural hair, unless they have an itchy or flaky scalp.
 - For concerns of scalp, hairline, eyebrow, or facial flaking and scaling, instruct the patient to avoid applying a moisturizer before the visit.
 - Instruct the patient to remove false eyelashes, eyelash extensions, eyebrow pencil, hair camouflage, hair

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The authors report no conflict of interest.

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Survey Questions on Telemedicine Scalp Examination^a

1. What are the 5 most common diagnoses you've made about scalp and hair concerns in patients of color using teledermatology?
2. Is the frequency of diagnosis of these conditions the same as it is among your in-person visits?
3. How do you conduct a virtual scalp examination? In other words, imagine that you are teaching a medical student how to conduct a virtual scalp examination; list the 5 to 7 steps you include in your instructions.
4. Are there specific pearls that you use when performing your virtual scalp examination?
 - For example, are there 2 similar differential diagnoses but there is something about the scalp examination or history that helps you?
 - Or maybe it's your approach to the examination: For example, do you have a nurse who does something beforehand via teledermatology that makes your appointment seamless?
5. Given 2 similar differential diagnoses, is there something about the scalp examination or history that helps you?
6. What is the greatest difficulty with the virtual scalp examination? When do you require an in-office alopecia visit?
7. Are there any diagnoses that you hesitate to make virtually and for which you require an in-person visit?

^aCompleted by an expert panel of 7 dermatologists.

accessories, braids, extensions, weaves, twists, and other hairstyles so that the hair can be maneuvered to expose the scalp surface.

- Instruct the patient to have a comb, pic, or brush, or more than one of these implements, available during the visit.

Telemedicine Visit Workflow

Components of the visit workflow include:

- If a stable Wi-Fi connection cannot be established, switch to an audio-only visit to collect a pertinent history. Advise the patient that in-person follow-up must be scheduled.
- Confirm that (1) the patient is in a private setting where the scalp can be viewed and (2) lighting is positioned in front of the patient.
- Ensure that the patient's hairline, full face, eyebrows, and eyelashes and, upon request, the vertex and posterior scalp, are completely visible.
- Initiate the virtual scalp examination by instructing the patient how to perform a hair pull test. Then, examine the pattern and distribution of hair loss alongside supplemental photographs.

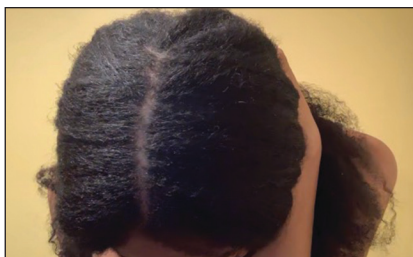


FIGURE 1. Patient photograph of the vertex scalp prior to a teledermatology appointment. Instruct the patient to put their chin down. Taking the photograph with the hair parted from the nape of the neck to the mid frontal point of the hairline is particularly valuable for surveying hair density and diagnosing certain scalp disorders.

- Instruct the patient to apply pressure with the fingertips throughout the scalp to help localize tenderness, which, in combination with the pattern of hair loss observed, might inform the diagnosis.

- Instruct the patient to scan the scalp with the fingertips for “bumps” to locate papules, pustules, and keloidal scars.

Diagnostic Pearls

Distribution of Alopecia—The experts noted that the pattern, distribution, and location of hair loss determined from the telemedicine alopecia assessment provided important clues to distinguish the type of alopecia.

Diagnostic clues for diffuse or generalized alopecia include:

- Either of these findings might be indicative of telogen effluvium or acquired trichorrhhexis nodosa. Results of the hair pull test can help distinguish between these diagnoses.
- Recent stressful life events along with the presence of telogen hairs extracted during a hair pull test support the diagnosis of telogen effluvium.
- A history of external stress on the hair—thermal, traction, or chemical—along with broken hair shafts following the hair pull test support the diagnosis of acquired trichorrhhexis nodosa.

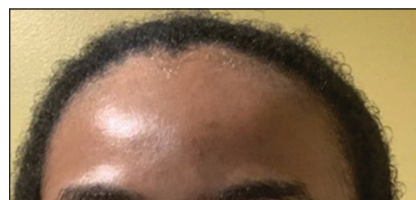


FIGURE 2. Patient full-view photograph of the face, including eyebrows and eyelashes, prior to a teledermatology appointment. Other helpful images include the right and left temporal areas and the occipital area, if relevant (not shown).

Diagnostic clues for focal or patchy alopecia include:

- Alopecia areata generally presents as focal hair loss in an annular distribution; pruritus, erythema, and scale are absent.

- Seborrheic dermatitis can present as pruritic erythematous patches with scale distributed on the scalp and, in some cases, in the eyebrows, nasolabial folds, or paranasal skin.⁷ Some skin of color patients present with petaloid seborrheic dermatitis—pink or hypopigmented polycyclic coalescing rings with minimal scale.^{7,8}

- Discoid lupus erythematosus, similar to seborrheic dermatitis, might present as pruritic, scaly, hypopigmented patches. However, in the experience of the experts, a more common presentation is tender erythematous patches of hair loss with central hypopigmentation and surrounding hyperpigmentation.

Diagnostic clues for vertex and mid scalp alopecia include:

- Androgenetic alopecia typically presents as a reduction of terminal hair density in the vertex and mid scalp regions (with widening through the midline part) and fine hair along the anterior hairline.⁹ Signs of concomitant hyperandrogenism, including facial hirsutism, acne, and obesity, might be observed.¹⁰

- Central centrifugal cicatricial alopecia typically affects the vertex and mid scalp with a shiny scalp appearance and follicular dropout.

Diagnostic clues for frontotemporal alopecia include:

- Frontal fibrosing alopecia (FFA) often presents with spared single terminal hairs (lonely hair sign).

- Traction alopecia commonly presents with the fringe hair sign.

Scalp Symptoms—The experts noted that the presence of symptoms (eg, pain, tenderness, pruritus) in conjunction with the pattern of hair loss might support the diagnosis of an inflammatory scarring alopecia.

When do symptoms raise suspicion of central centrifugal cicatricial alopecia?

- Suspected in the setting of vertex alopecia associated with tenderness, pain, or itching.

When do symptoms raise suspicion of FFA?

- Suspected when patients experience frontotemporal tenderness, pain, or burning associated with alopecia.

- The skin hue of the affected area might be lighter in color than, and contrast with, the darker hue of the photoaged upper forehead.¹¹

- The lonely hair sign can aid in diagnosing FFA and distinguish it from the fringe sign of traction alopecia.

- Concurrent madarosis, flesh-colored papules on the cheeks, or lichen planus pigmentosus identified by visual inspection of the face confirms the diagnosis.^{9,12} Madarosis of the eyebrow was frequently cited by the experts as an associated symptom of FFA.

When do symptoms raise suspicion of lichen planopilaris?

- Suspected in the presence of pruritus, burning, tenderness, or pain associated with perifollicular

erythema and scale in the setting of vertex and parietal alopecia.¹³

- Anagen hair release is observed during the hair pull test.^{11,14}

- The experts cited flesh-colored papules and lichen planus pigmentosus as frequently associated symptoms of lichen planopilaris.

Practice Implications

There are limitations to a virtual scalp examination—the inability to perform a scalp biopsy or administer certain treatments—but the consensus of the expert panel is that an initial alopecia assessment can be completed successfully utilizing TD. Although TD is not a replacement for an in-person dermatology visit, this technology has allowed for the diagnosis, treatment, and continuing care of many common dermatologic conditions without the patient needing to travel to the office.⁵

With the increased frequency of hair loss concerns documented over the last year and more patients seeking TD, it is imperative that dermatologists feel confident performing a virtual hair and scalp examination on all patients.^{1,3,4}

REFERENCES

1. Kutlu Ö, Aktaş H, İmren IG, et al. Short-term stress-related increasing cases of alopecia areata during the COVID-19 pandemic. *J Dermatolog Treat.* 2020;1. doi:10.1080/09546634.2020.1782820
2. Cline A, Kazemi A, Moy J, et al. A surge in the incidence of telogen effluvium in minority predominant communities heavily impacted by COVID-19. *J Am Acad Dermatol.* 2021;84:773-775. doi:10.1016/j.jaad.2020.11.032
3. Kutlu Ö, Metin A. Relative changes in the pattern of diseases presenting in dermatology outpatient clinic in the era of the COVID-19 pandemic. *Dermatol Ther.* 2020;33:e14096. doi:10.1111/dth.14096
4. Tanacan E, Aksoy Sarac G, Emeksiz MAC, et al. Changing trends in dermatology practice during COVID-19 pandemic: a single tertiary center experience. *Dermatol Ther.* 2020;33:e14136. doi:10.1111/dth.14136
5. Sharma A, Jindal V, Singla P, et al. Will tele dermatology be the silver lining during and after COVID-19? *Dermatol Ther.* 2020;33:e13643. doi:10.1111/dth.13643
6. Iscrupe L. How to receive virtual medical treatment while under quarantine. Allconnect website. Published March 26, 2020. Accessed December 9, 2021. <https://www.allconnect.com/blog/online-doctor-visit-faq>
7. Elgash M, Dlova N, Ogunleye T, et al. Seborrheic dermatitis in skin of color: clinical considerations. *J Drugs Dermatol.* 2019;18:24-27.
8. McLaurin CI. Annular facial dermatoses in blacks. *Cutis.* 1983; 32:369-370, 384.
9. Suchonwanit P, Hector CE, Bin Saif GA, McMichael AJ. Factors affecting the severity of central centrifugal cicatricial alopecia. *Int J Dermatol.* 2016;55:e338-343. doi:10.1111/ijd.13061
10. Gabros S, Masood S. Central centrifugal cicatricial alopecia. *StatPearls [Internet].* StatPearls Publishing; 2021. Updated July 20, 2021. Accessed December 9, 2021. <https://www.ncbi.nlm.nih.gov/books/NBK559187/>
11. Ross EK, Tan E, Shapiro J. Update on primary cicatricial alopecias. *J Am Acad Dermatol.* 2005;53:1-37. doi:10.1016/j.jaad.2004.06.015
12. Cobos G, Kim RH, Meehan S, et al. Lichen planus pigmentosus and lichen planopilaris. *Dermatol Online J.* 2016;22:13030/qt7hp8n6dn.
13. Lyakhovitsky A, Amichai B, Sizopoulou C, et al. A case series of 46 patients with lichen planopilaris: demographics, clinical evaluation, and treatment experience. *J Dermatolog Treat.* 2015;26:275-279. doi:10.3109/09546634.2014.933165
14. Tan E, Martinka M, Ball N, et al. Primary cicatricial alopecias: clinicopathology of 112 cases. *J Am Acad Dermatol.* 2004;50:25-32. doi:10.1016/j.jaad.2003.04.001