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### Publication Date

2023-09-01

### DOI

10.1016/j.jdin.2023.02.018

Peer reviewed

# National Psoriasis Foundation Telemedicine Task Force guidance for management of psoriatic disease via telemedicine



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Telemedicine emerged as an alternative care delivery system used to offer effective long-term management to patients with chronic, inflammatory conditions such as psoriatic disease. Teledermatology can provide reliable clinical information through thorough history-taking and virtual evaluations that include patient-provided images and disease activity assessment tools that may help accurately diagnose and manage patients with psoriasis. The integration of validated screening tools for psoriatic arthritis and effective teledermatology practices may improve access to specialists, thus avoiding preventable delays in the diagnosis and treatment of patients with psoriatic arthritis. Although the provision of telehealthcare should not completely replace high quality, in-person dermatologic or rheumatologic visits, the convenience and collaborative nature of teledermatology may lead to expanded access and expedited care in the appropriate setting, whether it be in a virtual or in-person visit. (JAAD Int 2023;12:32-6.)

**Key words:** biologics; psoriasis; psoriatic arthritis; telemedicine; teledermatology; topical therapy.

## INTRODUCTION

The use of technology to provide access to health care is not a new idea, with reports dating back to the 1870s with the use of telephone. Physicians have since continued to leverage emerging technologies to deliver quality care from remote locations.<sup>1</sup> This was especially apparent when the COVID-19 pandemic caused sudden and drastic changes in

health care delivery and access. Telemedicine utilization among dermatologists increased from under 15% to >95% after the pandemic, reflecting its marked popularity among patients and uptake for physicians.<sup>2,3</sup> Importantly, this has highlighted that teledermatology can be used beyond the context of a global health crisis to provide continuity of care and improve access to health care more broadly.

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Drs Han and Armstrong are co-senior authors of this article.

Funding sources: Supported by the National Psoriasis Foundation. IRB approval status: Not applicable.

Accepted for publication February 19, 2023.

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2666-3287

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<https://doi.org/10.1016/j.jdin.2023.02.018>

## TELEMEDICINE AND PSORIASIS

Teledermatology emerged as an alternative care delivery system used to offer effective long-term management to patients with chronic, inflammatory skin conditions such as psoriasis. Unlike conventional in-person care, accurate diagnosis and management by virtual visits rely partly on the quality of live video images and photographs provided by patients. When properly collected, these images can be of appropriate quality for physicians to make accurate assessments of disease severity using Psoriasis Area and Severity Index (PASI) scores in patients of different skin phototypes.<sup>4,5</sup> Alternatively, standardized online training videos may be used to teach patients

how to assess PASI, affected body surface area (BSA), and patient global assessment to provide reliable assessments of disease severity when quality images are difficult to produce during virtual evaluations.<sup>6,7</sup> Physicians may also guide patients to perform thorough self-evaluations of other areas of their body that might be difficult to appreciate on live video or photographs, such as the scalp and genitals.<sup>8</sup> Physicians may tailor teledermatology evaluation strategies based on what tools are readily available and accessible to each individual patient.

As compared with in-person care, collaborative and efficient teledermatology models equivalently improve PASI scores, BSA, and dermatology life quality index.<sup>7,9,10</sup> The combination of thorough history-taking and virtual evaluations based on live video or photographs and patient assessments allows dermatologists to manage treatments for psoriasis to achieve significant improvements in disease severity.

Teledermatology expands the ability to deliver patient care. Distance, incapacity, and transportation costs are barriers to in-person care for many patients with psoriasis.<sup>4</sup> Teledermatology reduces travel costs and time to initiation of care and similarly improves functional status and mental health in patients with psoriasis compared with in-person care.<sup>11,12</sup> Teledermatology bypasses physical barriers to care and encourages patients to take active roles in the management of their condition, leading to improved treatment adherence, patient quality of life, and overall health.<sup>9,13</sup>

Similarly, teledermatology allows physicians to reach patients with psoriasis in institutions with

restricted access. Patients with psoriasis who are institutionalized for psychiatric reasons face uncommon difficulties in setting up external appointments and have a high patient turn-around time, in other words, the total time needed for patient transport and completion of an in-patient encounter.<sup>14</sup>

Teledermatology allows comparable management strategies as in-person visits and reduces patient turn-around time by 90% for these patients.<sup>14</sup> This approach to dermatologic care optimizes patient comfort while providing effective treatment for psoriasis and decreasing the need for chaperoning staff members for in-person evaluations.<sup>14</sup> Imprisoned patients may also benefit from teledermatology when in-person consults are difficult

to coordinate. This may also be used as a tool to address disparities in care provision.<sup>15</sup> Teledermatology can provide equitable, quality health care to specific subpopulations of patients with psoriasis.

Despite achieving comparable improvements in disease severity, the estimation of areas of involvement and induration of psoriatic lesions are different between teledermatology and in-person evaluations.<sup>16</sup> Low quality of photos and live video images, lagging internet connection, and lack of an in-person physical examination may contribute to the limited appreciation of certain lesional characteristics in virtual evaluations. Physicians can advise patients to take photos or conduct video visits in well-lit areas with a steady camera set-up to help assure clear, well-focused images for the virtual evaluation. The use of hybrid teledermatology that combines patient-provided photos and a real-time interaction via a telephone call can address issues encountered with a poor internet connection.<sup>17</sup> BSA determination can be automated, with 96% agreement of the automated photo-based measurement and dermatologists' BSA measurements.<sup>18</sup> Teledermatology can allow physicians to efficiently evaluate and manage patients with psoriasis of different skin phototypes and varying disease severity in remote locations.

## TELEMEDICINE AND PSORIATIC ARTHRITIS

It is critical to determine if teledermatology is suitable for addressing comorbid conditions that affect patients with psoriasis. Up to 30% of patients

### CAPSULE SUMMARY

- Teledermatology offers more accessible health care to patients with psoriatic disease.
- Virtual evaluations may help accurately diagnose and manage patients with psoriatic disease while expediting care in the appropriate setting, whether it be in a virtual or in-person visit.

*Abbreviations used:*

BSA:	Body surface area
PASI:	Psoriasis area and severity index
PsA:	Psoriatic arthritis
PASQ:	Psoriasis and Arthritis Screening Questionnaire
PEST:	Psoriasis Epidemiology Screening Tool

with psoriasis develop psoriatic arthritis (PsA); undertreatment and diagnostic delay of PsA lead to irreversible joint damage and significant functional impairment.<sup>19,20</sup> Dermatologists may play a key role in mitigating the disease burden by screening patients with psoriasis for joint disease, as 85% of patients develop psoriasis before PsA.<sup>21</sup> There are 3 validated PsA screening tools available: the Psoriasis and Arthritis Screening Questionnaire, the Psoriasis Epidemiology Screening Tool (PEST), and the Toronto Psoriatic Arthritis Screen. Of these, PEST has strong sensitivity, specificity, and positive and negative predictive values.<sup>22</sup> PEST is readily accessible for patients on the National Psoriasis Foundation's website (<https://www.psoriasis.org/psoriatic-arthritis-screening-test/>), wherein patients can answer 5 simple questions and quickly receive their results for presentation at a virtual evaluation.<sup>23</sup>

Following the identification of suspected PsA, an in-depth discussion and evaluation of joint involvement are warranted. Teledermatology applications using physician-guided palpation, photos of involved joints, and thorough history-taking allow physicians to accurately diagnose active arthritis, dactylitis, or enthesitis; evaluate pain through a visual analog scale; and manage therapeutics for PsA.<sup>24-26</sup> Further physician-guided evaluation techniques involve patients comparing suspected involved digits or joints with the uninvolved contralateral body area, with careful inspection for signs and symptoms of redness, swelling, and pain upon palpation.<sup>8</sup> In the setting of back pain and stiffness, a thorough evaluation of axial involvement may be conducted through a physician-guided physical examination using specific detailed tests and spinal range of motion tests.<sup>27</sup>

Despite the development of virtual evaluation techniques, the accurate determinations of disease activity may be limited, in some cases of complex joint disease, without an in-person physical examination.<sup>25,28</sup> Employing a flexible approach to teledermatology for PsA, in which simpler and established cases are managed through virtual visits and complex cases are followed in an in-person fashion, has been proposed as a solution to provide quality care in the appropriate setting, based on each

individual patient's needs.<sup>29</sup> Nevertheless, the collaborative approach of virtual evaluations may provide sufficient information to reliably assess for PsA, deliver comparable patient satisfaction to in-person visits based on patient-reported outcomes, and offer prompt management and referrals to a rheumatologist, especially when used to expand access to care when rheumatologists are in short supply.<sup>25,29</sup>

## CONCLUSIONS

Teledermatology is a valuable tool that can be used to supplement other care modalities for patients with psoriatic disease. Although it is not a direct replacement for in-person care, when utilized appropriately, it can be used as a tool to achieve numerous goals of care, such as identifying patients who need a rheumatology referral and increasing access to care. Teledermatology can provide reliable clinical information through thorough history-taking and virtual evaluations that include patient-provided images and disease activity assessment tools that may help accurately diagnose and manage patients with psoriasis. The use of objective measures, including PASI and dermatology life quality index scores, is helpful to quantitatively measure patient disease activity but is not necessary for routine clinical care, treatment selection, or assessing treatment response in non-research settings. The integration of validated screening tools for PsA and effective teledermatology practices may improve access to specialists, thus avoiding preventable delays in the diagnosis and treatment of patients with PsA. Although the provision of telehealthcare should not completely replace high quality, in-person dermatologic or rheumatologic visits, the convenience and collaborative nature of teledermatology may lead to expanded access and expedited care in the appropriate setting, whether it be in a virtual or in-person visit.

## Position Statements

1. Teledermatology is a reasonable alternative for providing long-term management of patients with psoriasis. Teledermatology may be an option for initial visits, especially when incapacity, distance, and circumstances (eg, access issues among the institutionalized and imprisoned population) prevent the realization of an in-person evaluation.
2. It is important to guarantee the accessibility of in-person care for patients with psoriasis and ensure that telemedicine does not supplant such availability.
3. A discussion about the available virtual evaluation tools (ie, live video visits, patient-provided

photos, disease severity assessment tool training videos, etc.) should be undertaken to determine what form of teledermatology is best suited for a patient-physician encounter. This decision should consider patient familiarity with the virtual evaluation platform used, access to stable internet connection, and skillfulness with taking photos and video with electronic devices. Counseling on how to provide high quality images for the encounter should be performed prior to the telehealth visit.

4. Developing better technology—allowing for reliable, high quality image capture and appropriate workflows that emulate a dermatology in-person practice—is important in helping to expand the applicability and utility of teledermatology. Standardized, accessible, and objective modalities to assess BSA/PASI may be helpful in having objective measures to monitor for treatment response. The PEST should be provided to patients every 6 months to screen for PsA to help mitigate the undertreatment and delay in the diagnosis of this common comorbidity in patients with psoriasis.
5. A flexible approach to teledermatology for PsA proposes the efficient utilization of in-person and virtual care based on the severity and complexity of the appreciated joint disease. Thorough history-taking and collaborative evaluation techniques are useful in assessing for joint involvement in patients with suspect PsA. Simpler and established cases may be suitable for virtual evaluations, whereas complex or severe cases may warrant an in-person evaluation and referral to a rheumatologist.
6. Telemedicine has the potential to allow for collaborative connected-health models to expand the reach of experienced dermatologists to help comanage patients with primary care physicians and community dermatologists who are not comfortable with newer systemic treatments for psoriasis.

We would like to thank the National Psoriasis Foundation Telemedicine Task Force, all the above faculty, in addition to Rick Fried, MD, PhD and Soumya Reddy, MD for their critical review of the manuscript.

#### Conflicts of interest

Steve R. Feldman received compensation from AbbVie, Accordant, Advance Medical, Almirall, Alovtech, Amgen, Arcutis, Arena, Argenx, Biocon, Boehringer Ingelheim, Bristol Myers Squibb, Caremark, Celgene, Dermavant, Eli Lilly, Galderma, GlaxoSmithKline/Stiefel, Helsinn, Informa, Janssen, Leo Pharma, Menlo, Merck, Mylan,

National Biological Corporation, National Psoriasis Foundation Novan, Novartis, Pfizer, Qurient Forte, Regeneron, Samsung, Sanofi, Sun Pharma, Suncare Research, UCB, UpToDate, Valeant, and vTv Therapeutics and is the founder and majority owner of [www.DrScore.com](http://www.DrScore.com) and the founder and part owner of Causa Research. Abby Van Voorhees is consultant for Novartis, Celgene, Novartis, Merck, Dermira, UCB, BMS, Amgen, and Boehringer Ingelheim and conducts research for AbbVie, Novartis, and Allergan. Lawrence Green is investigator, speaker, and/or consultant for AbbVie, Amgen Inc, Arcutis, Dermavant, MC2, Novartis, Lilly, OrthoDerm, SunPharma, and UCB. Sergio Schwartzman has received consulting fees, research grants, speakers' bureau activity, or ownership or partnership from AbbVie, Amgen, Boston Scientific, Crescendo Bioscience, Dermtech, Eli Lilly, Genentech, Gilead Sciences, Janssen, Medtronic, Myriad Genetics, National Psoriasis Foundation, Novartis, Pfizer, Regeneron, Samsung, Sanof, and UCB and has participated in the advisory boards of Jubilant, Myriad, and Stelexis. Evan Siegel has received research grants, consulting fees, and speaker fees from AbbVie, BMS, Eli Lilly, Novartis, Janssen, and UCB. Kelly M. Cordoro is a founding member of the Psoriasis Investigator Group of the Pediatric Dermatology Research Alliance, a counselor for the International Psoriasis Council, and contributor of psoriasis educational materials to the American Academy of Dermatology. Leon Kircik has received research grants from AbbVie, Allergan, Almirall, Amgen, Arcutis, Boehringer Ingelheim, Breckinridge Pharma, Bristol Myers Squibb, Celgene, Cellceutix, Centocor, Combinatrix, Connetics, Coria, Dermavant, Dermira, Dow Pharma, Dr Reddy's Laboratories, Eli Lilly, Galderma, Genentech, GlaxoSmithKline, Idera, Johnson & Johnson, Leo Pharma, Maruho, Merck, Medicis, Novartis AG, Pfizer, PharmaDerm, Promis, Stiefel, Sun Pharma, UCB, Valeant, and XenoPort and has received honoraria from AbbVie, Allergan, Almirall, Amgen, Arcutis, Biogen Idec, Bristol Myers Squibb, Celgene, Cipher, Connetics, Dermavant, Dermira, Dr Reddy's Laboratories, Eli Lilly, Galderma, Genentech, GlaxoSmithKline, Johnson & Johnson, Leo Pharma, Merck, Novartis AG, PharmaDerm, Promis, Sero (Merck Sero International SA), Stiefel, Sun Pharma, Taro, UCB, and Valeant. Wilson Liao has received research grant funding from AbbVie, Amgen, Janssen, Leo, Novartis, Pfizer, Regeneron, and TRex Bio. Jason E. Hawkes has received personal fees/honoraria from AbbVie, Janssen, LearnSkin, LEO Pharma, Novartis, Pfizer, Sanofi, UpToDate, and VisualDx. Jeffrey Weinberg is a speaker for AbbVie, Amgen, Eli Lilly, Novartis, Sun, Leo Pharma, and Pfizer and an investigator for Dermavant, AbbVie, Corrona Psoriasis Registry, Dermira, Lilly, Novartis, and Pfizer. John Koo has served as an advisor for AbbVie, Amgen, Celgene, Janssen, Eli Lilly, Leo Pharma, EPI, Novartis, Pfizer, Sun Pharma, and Ortho Dermatologics, Regeneron/Sanofi, and UCB. Elizabeth Brezinski Wallace serves as an investigator for Pfizer and Target Real World Evidence. April Armstrong is investigator for Sanofi Genzyme, Bristol Myers Squibb, Dermavant,

Dermira, Eli Lilly, Galderma, Janssen—Ortho, Inc, Kyowa Hakko Kirin, AbbVie, Janssen Pharmaceuticals Inc, Leo Pharma, Modernizing Medicine, Novartis Pharmaceuticals Corp, Ortho Dermatologics, Pfizer Inc, Regeneron Pharmaceuticals, Sun Pharma, and UCB Pharma; a speaker for AbbVie, Regeneron Pharmaceuticals, and Sanofi Genzyme; and on the data safety monitoring board for Boehringer Ingelheim/ Parexel. George Han is investigator, consultant/advisor, or speaker for AbbVie, Amgen, Arcutis, Athenex, Bausch Health, Boehringer Ingelheim, Bond Avillion, Bristol Myers Squibb, Celgene Corporation, Dermavant, DermTech, Eli Lilly and Company, EPI Health, Janssen Pharmaceuticals, LEO Pharma, MC2 Therapeutics, Novartis, Ortho Dermatologics, PellePharm, Pfizer, Regeneron Pharmaceuticals, Sanofi Genzyme, SUN Pharmaceutical Industries Ltd, and UCB and conducts research for Bausch Health, Eli Lilly and Company, Janssen Pharmaceuticals, and Novartis. Natalia Pelet del Toro, Rayan Yahia, Seemal R. Desai, and Leah M. Howard have no conflicts to declare.

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