



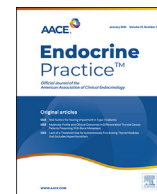
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## Commentary

## Maintaining Professional Encounters and Enhancing Telemedicine Interactions With Core Virtual-Clinical Values

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*"I remind my fellows, residents and medical students that what we do is a privilege. People let us into the most intimate aspects of their lives, and they look to us to help guide them through very complex and delicate situations."*

- Shikha Jain, MD

## Introduction

The coronavirus disease 2019 (COVID-19) pandemic has increased telemedicine usage at a dramatically rapid rate.<sup>1</sup> Current estimates predict that telehealth will continue to have a lasting impact on health care delivery even after the pandemic ceases.<sup>2</sup> Recent evidence suggests that patients with certain pre-existing medical conditions may be more susceptible to COVID-19–related complications,<sup>3</sup> making telemedicine a vital tool for vulnerable populations to safely receive medical care. According to the Centers for Disease Control and Prevention, endocrine-related conditions, such as type 2 diabetes mellitus and obesity, are 2 of the 8 pre-existing conditions that put patients of any age at an increased risk of severe illness from COVID-19.<sup>4</sup> Furthermore, patients with adrenal insufficiency are likely to suffer from COVID-19–related complications secondary to stress-induced adrenal crises, which require increased

glucocorticoid replacement therapy. Steroid dose adjustments and education on “sick day” rules are appropriate topics for telemedicine encounters.<sup>5</sup> It has also been recommended that patients with endocrine neoplasms should appropriately participate in telemedicine consultations to minimize the risk of COVID-19 infection.<sup>6</sup> Therefore, endocrinologists play a vital role in the care of these vulnerable patients in both the management of chronic conditions and minimization of COVID-19 exposure. Virtual encounters add another layer of unfamiliarity in providing quality medical care to this at-risk population. While endocrinologists have demonstrated an impressive adaptability over the past several months, many are overwhelmed by the seemingly ever-changing virtual standard of care, making it easy to lose touch with the interpersonal skills necessary to maintain a provider-patient relationship. Here, we introduce core virtual-clinical values, with a focus on appropriate appearance, verbal and nonverbal communication skills, and the physical environment surrounding a virtual encounter (Table). We believe that these recommendations will strengthen provider-patient relationships, enhance virtual interactions, and ultimately better patient care in the era of telemedicine.

## Appearance

At the beginning of an encounter, patients formulate an opinion of providers and their represented institutions from how providers project themselves on screen. A traditional, semiformal clinic attire helps establish patients' trust and increases their willingness to share medical concerns, thereby strengthening patient-provider relationship and alleviating anxiety.<sup>7</sup> Physicians should dress in semiprofessional clothing, with a clean, ironed white coat showcasing their name, title, and affiliation on the breast pocket for ease of identification. Providers should be well-groomed, with appropriately styled hair kept away from the face. Attires with patterns or large logos, accessories (jewelry or ties), masks (social distance-permitting), and outerwear (hats, scarves, and gloves) should be minimized because they can create visual and aural disturbances.

Abbreviations: COVID-19, coronavirus disease 2019.

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**Table**  
Overview of Appearance, Communication, and Environmental Considerations for Providers and Patients During a Telemedicine Visit

Core virtual-clinical values	Providers	Patients and special considerations
Appearance	Dress	White coat optional
	Business professional attire under a white coat	Pediatric populations
	Name, title, and affiliation should be visible on breast pocket of coat	Contraindications to professional dress
	Distractions to avoid	Scrubs in surgical and emergency department settings
	Patterned clothing or large logos	Traditional, conservative attire in geriatric populations
	Jewelry and accessories	Patient rights
	Masks (if safe to remove)	Patients may terminate a visit if a provider dresses inappropriately
	Hats, scarves, and gloves	
	Provider rights	
	Providers may terminate a visit if a patient dresses inappropriately	
Interaction and communication	Verbal communication	Verbal communication considerations
	Patient-centered questioning	Emphasize patient-centered conversations
	Empathy and support	Encourage active patient participation and questions
	Shared decision making	Special considerations
	Nonverbal communication	Eye contact is achieved by looking into the camera and not at the patient on the screen
	Appropriate eye contact	Avoid increasing voice volume by using a functioning microphone
	Centered body positioning	Patient rights
	Proximity to the camera	Patients may terminate a visit if a provider's interactions are inappropriate
	Upright posture and slight forward lean	
	Uncrossed, symmetrical arms	
Head nods and facial expressions		
Appropriate vocal delivery (tone and volume of voice)		
Provider rights		
Providers may terminate a visit if a patient's interactions are inappropriate		
Environment	Environmental considerations	Patient privacy considerations
	Private	Use headphones
	Quiet, well-lit, and uncluttered	Use "chat" functions on virtual platforms
	Avoid insensitive decor	Consider rescheduling
	Avoid virtual backgrounds	Patient rights
	Provider rights	Patients may terminate a visit if a provider's environment is inappropriate or offensive
Providers may terminate a visit if a patient's environment is inappropriate or offensive		

*Patient Considerations*

When treating surgical patients, scrubs may be appropriate over a traditional clinic attire, and a geriatric population may respond positively to a formal, conservative approach.<sup>7</sup> Physicians caring for pediatric patients may consider not wearing a white coat if it hinders the patient-provider dynamic.<sup>8</sup> Providers should note these variations and strive to understand their specific population to build positive relationships. Patients should be informed prior to their visit if a physical examination is required in order to dress and plan appropriately.

**Communication Skills**

Perfecting communication skills is vital for telemedicine encounters because current research suggests that a provider-patient relationship can be established over virtual platforms without a prior in-person visit if strong verbal and nonverbal behaviors are used.<sup>9</sup>

*Verbal Interactions*

Health care professionals should initiate a virtual encounter with open-ended questions, allowing patients to express their concerns in their own words, respond to emotions with support

and empathy, and engage in shared decision making. Encouraging active patient involvement increases satisfaction and leads to better health outcomes.<sup>10</sup> To enhance virtual patient experience, special attention should be paid to avoidable behaviors that negatively impact a virtual visit, such as physician-dominant communication and shorter appointments (compared with in-person consultations).<sup>10</sup> Ensure a properly working microphone prior to the visit to avoid raising your voice, which can be associated with aggression and dominance—a communication style that can negatively affect patient outcomes.<sup>11</sup>

*Nonverbal Cues*

Nonverbal communication provides context and emotional information. The providers' position, posture, and eye contact are crucial to building trust during a telemedicine encounter. Providers should center their profile in the camera, maintain a slight forward lean, sit with uncrossed arms, and utilize head nods and facial expressions to signify an active and welcoming listening environment.<sup>11</sup> Special attention should be paid to maintaining eye contact during virtual visits. Eye contact is made by looking directly into the camera instead of looking at the patient's eyes on the screen. If taking notes is needed and will compromise eye contact, the provider should inform the patient to expect these interactions so that they are not misinterpreted as disinterest.

### Patient Considerations

Because literature suggests that patients are less engaged in telemedicine encounters,<sup>10</sup> providers should encourage frequent questions, clarify medical decision making, and actively participate in the appointment to enhance outcomes and build a trusting provider-patient relationship.

### Environment

Providers should work to limit environmental distractions and, above all, ensure patient privacy. Physicians should choose a well-lit, quiet, and uncluttered environment and silence all electronic devices, televisions, and radios. Any surrounding visual distractions should be removed, paying particular attention to decor that could be considered offensive, harmful, or insensitive. Alternative virtual background locations should be avoided because this can lead to patient confusion.

The most critical environmental factor involves ensuring patient confidentiality. The visit should be initiated by asking the patient if this is still an appropriate time for the appointment and asking if they are in a location where it is suitable to speak openly about their health condition(s). If the patient feels that their privacy may be jeopardized, providers can (1) utilize headphones, (2) take advantage of the “chat” function when discussing particularly sensitive information, or (3) reschedule the encounter for when the patient is in a more private location.

### Patient Considerations

Unlike physicians, patients may not always have the ability to construct a thoughtful environment for their appointment. When available, the same recommendations for providers should be matched by the patient to create a mutually respectful appointment.

### Conclusion

We discussed 3 basic, foundational core virtual-clinical values to help endocrinologists and other health care providers ensure positive patient interactions while caring for patients with both chronic health conditions and susceptibilities to COVID-19 complications. Physicians should strive to wear a clean white coat with proper identification over their professional, semiformal attire. Special attention should be paid to verbal communication skills that emphasize patient-centered dialog and shared decision making as well as nonverbal skills, including appropriate eye contact, body symmetry, uncrossed arms, and encouraging head nods. Lastly, providers should work to create a well-lit, private, quiet environment that is void of any harmful or offensive visual or audial distractions. Although patient outcomes have yet to be fully assessed in the telemedicine setting, we believe that these recommendations will guide exemplary patient care by enhancing patient satisfaction and strengthening and/or establishing trusting and respectful provider-patient relationships for vulnerable patient populations who must stay socially and physically distant. We must remember that this is a time of extreme uncertainty for our patients, who look to us for guidance, reassurance, and hope. It is a privilege that providers can care for patients over virtual platforms during these unprecedented times.

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### Author Contributions

All the authors contributed to this manuscript in terms of researching the material, drafting sections, tables, editing, critical revision, and final approval of the manuscript.

### Disclosure

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### References

1. Global Market Insights. Telemedicine market size by service (tele-consulting, tele-monitoring, tele-education/training), by type (telehospital, telehome), by specialty (cardiology, gynecology, neurology, orthopedics, dermatology, mental health), by delivery mode (web/mobile [telephonic, visualized], call centers), industry analysis report, regional outlook, growth potential, price trends, competitive market share & forecast, 2020 – 2026. Global Market Insights. Accessed June 1, 2020. <https://www.gminsights.com/industry-analysis/telemedicine-market>.
2. American Medical Association. COVID-19 makes telemedicine mainstream. Will it stay that way? American Medical Association. Accessed June 1, 2020. <https://www.ama-assn.org/practice-management/digital/covid-19-makes-telemedicine-mainstream-will-it-stay-way>.
3. Garg S, Kim L, Whitaker M, et al. Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019 — COVID-NET, 14 States, March 1–30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(15):458–464.
4. Centers for Disease Control and Prevention. People with Certain Medical Conditions. 2020. Accessed September 3, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>
5. Arlt W, Baldeweg SE, Pearce SHS, Simpson HL. Endocrinology in the time of COVID-19: management of adrenal insufficiency. *Eur J Endocrinol*. 2020;183(1):G25–G32.
6. Casey RT, Valk GD, Schalin-Jääntti C, Grossman AB, Thakker RV. Endocrinology in the time of COVID-19: clinical management of neuroendocrine neoplasms (NENs). *Eur J Endocrinol*. 2020;183(2):G79–G88.
7. Rehman SU, Nietert PJ, Cope DW, Osborne Kilpatrick A. What to wear today? Effect of doctor's attire on the trust and confidence of patients. *Am J Med*. 2005;118(11):1279–1286.
8. Kazory A. Physicians, their appearance, and the white coat. *Am J Med*. 2008;121(9):825–828.
9. Elliott T, Tong I, Sheridan A, Lown BA. Beyond convenience: patients' perceptions of physician interactional skills and compassion via telemedicine. *Mayo Clin Proc Innov Qual Outcomes*. 2020;4(3):305–314.
10. Gordon HS, Solanki P, Bokhour BG, Gopal RK. “I'm not feeling like I'm part of the conversation” Patients' perspectives on communicating in clinical video telehealth visits. *J Gen Intern Med*. 2020;35(6):1751–1758.
11. Beck RS, Daughtridge R, Sloane PD. Physician-patient communication in the primary care office: a systematic review. *J Am Board Fam Pract*. 2002;15(1):25–38.