Figure 1 Examination of a patient's hand being conducted through a glass partition.

not always preferred, as it may lead to misdiagnosis, carries ethical and legal issues, and may not be feasible in a resource-poor setting.[1,2] However, dermatological emergencies may still arise where it becomes imperative to see the patient personally.

To overcome this problem, we propose the use of a glass cabin or a glass partition between the doctor and the patient, through which interaction can take place. The glass partition allows visual examination of the patient's skin directly or with the help of a magnifying lens, and even the use of a dermatoscope is possible through the glass (Fig. 1). A two-way audio communication system can be used for conversing. The cabin could also contain a source of illumination for better visualization. This setup protects both the doctor and the patient from any communicable disease, and may ease disease phobia. Using this method, emergency outpatient practices can largely be continued with healthy individuals even without personal protective equipment, which is currently not easily available because of an increased demand all over the world.[3] Given that examination and diagnosis in Dermatology are mainly visual, it makes this setup particularly suitable for this specialty, and could also be useful for Psychiatry. This set-up could be continued for safety even after the spread of COVID-19 is controlled.

S. Gupta,[1] (iD) **R. S. Jangra,[2] A. V. Gujrathi,[1] A. Mahendra,[1] R. Singla,[1] A. Sharma[1] and S. Gupta[3]**
Departments of [1]Dermatology; [3]General Medicine, Maharishi Markandeshwar Institute of Medical Sciences and Research (MMDU), Mullana, Ambala, India; and [2]Sun Skin Clinic, Pratap Nagar, Ambala, India
E-mail: sanjeevguptadr@gmail.com

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Screen mirroring, screen casting and screen sharing during COVID-19: what dermatologists should know

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In the present COVID-19 pandemic, social distancing is an important parameter to contain the spread of this novel coronavirus. Consequently, it is important to understand the utility of technology in maintaining connectivity. The wireless connectivity of the devices (mobile phones, tablets and computers) used in daily routine life has changed the way we connect and interact with each other. The same is true in the medical field as well. The technological advancement in these devices has brought clinicians closer in ways that has reduced the need for face-to-face meetings. All this has been made possible through streaming of data. Streaming refers to a continuous flow of information in the form of visual and/or audio data, which can be shared with other people. Screen mirroring (SM), screen casting (SC) and screen sharing (SS) are some of the easy ways to share data through streaming. Utilizing technology to the advantage of medicine (and Dermatology) is an art. That said, it is important to know the basics of SM, SC and SS before understanding their utility for Dermatology.

SM, as the name suggests, allows the content of a smartphone or tablet to be projected on to a computer, TV screen or projector. During SM, the screen of the phone (with a picture, video, document or presentation) is continuously shared with the receiving device. To do this, SM requires software running both on the device sending the content and on the device receiving the content. Specific applications (Mirroring360, ApowerMirror, TeamViewer, Miracast, among others)

are available that allow for the pairing of the mobile phone and laptop/desktop. The application has to be installed in both systems. Once paired and made operable, the screen of the phone is projected on to the desktop. Mirroring has been used in the past as a teaching tool.[1] In Dermatology, it can be used to project clinical pictures, videos and presentations for teaching young clinicians and can also be used for continuing medical education. Additionally, live dermoscopy images can be projected from the phone to a big screen. Once a dermatoscope is attached to the phone, the SM application is started and the relevant system is selected for pairing. The dermoscopic picture is then projected directly on to the desktop screen. The larger screen allows multiple dermatologists to share their input on the dermoscopic image simultaneously.

SC differs from SM that mirroring of the screens is not required. SC requires a digital media app (such as Google Chromecast) to be installed on the receiving device. The app first downloads the video or other media sent from the sending device and then plays the content on the receiving device. In Dermatology, SC can be used as a teaching tool in the form of video-based lessons, which are recorded by the instructor on their own computer, along with the narration delivered through a microphone and captured by the app.[2] The instructor is not featured on camera; only the screen actions and voice commands are recorded. The flexibility of SC allows the instructor to record lessons according to their schedule, and the students can also access these lessons at a time convenient to them.

SS is basically the same as SM, except that it can be done from a remote location. SS requires both sender and receiver to have the same or compatible systems (examples include GoToMeeting, Slack and Skype). Whereas SM and SC can use smaller devices such as mobile phones, SS requires computers or tablets with compatible systems. In SS, the host computer sends encrypted information to a remote computer over a network. SS can be used to conduct departmental meetings, virtual workshops and project discussions without being in the same room. A difficult clinical case or dermoscopic picture can be shared with fellow dermatologists for their opinion.

Thus, through SM, SC and remote SS, dermatologists can stay connected with all intradepartmental and interdepartment professionals, whose opinion is often sought in various clinical scenarios and for assessment of dermoscopic images. This is an easy way to seek opinion and simultaneously maintain social distancing. Teaching of young dermatologists can also be continued through these platforms. As the current epidemic demands adequate social distancing to reduce human-to-human transmission, technological advancements will be needed to help clinicians to continue providing an adequate Dermatology service.

D. Jakhar,[1] iD **I. Kaur[1]** iD **and S. Kaul[2]** iD
[1]Department of Dermatology, North Delhi Municipal Corporation Medical College and Hindu Rao Hospital, New Delhi, India; and [2]Department of Internal Medicine, John H. Stroger Hospital of Cook County, Chicago, IL, USA
E-mail: dr.deepakjakhar@yahoo.in
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Makeshift face shield for healthcare professionals during the COVID-19 pandemic

The world is currently going through an arduous time owing to the COVID-19 pandemic. Correct personal protective equipment (PPE) must be used by health care professionals when dealing with patients infected with this virus.[1] An important part of the PPE kit includes a proper, full body gown and a face shield that covers the front and sides of the face. However, owing to the sudden surge in demand for PPE because of COVID-19, there is a dire shortage in almost all countries.[2] Although there is more availability of disposable/nondisposable isolation gowns, face shields are in extremely short supply.

We have tried to overcome the problem of face shields by using transparent sheets of the type usually used in overhead projectors or any other transparent sheets of appropriate size (Fig. 1a). Holes are punched close to one end of the sheet using a paper punch (Fig. 1b). A string is passed through these holes with enough string left on either side for tying (Fig. 1c). The free ends of the string are tied around the head and the string is further secured by paper surgical tape (Fig. 1d). This provides adequate protection for the eyes and the face. Obviously, it is not an alternative to proper face shields but can be very useful as an emergency backup and for resource-poor settings.

S. Gupta,[1] iD **R. S. Jangra,[2] S. Gupta,[3] A. V. Gujrathi[1] and A. Sharma[1]**
Departments of [1]Dermatology; [3]Medicine, Maharishi Markandeshwar Institute of Medical Sciences and Research (MMDU) Mullana, and [2]Sun Skin Clinic, Ambala, India
E-mail: sanjeevguptadr@gmail.com