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American Telemedicine Association Ocular Telehealth Special Interest Group Statement:

Ocular Telehealth Assessments and Disease Monitoring

PART ONE- Elements of a Remote Comprehensive Eye Exam

The American Telemedicine Association (ATA) Ocular Telehealth Special Interest Group (Ocular SIG) issues the following two-part statement about remote ocular health assessments, telehealth disease monitoring, and the need for telehealth in the eye care arena. The first part addresses the elements needed to provide high quality remote eye exams, and the second part addresses the need for telehealth as a tool for eye care delivery. Written in response to laws and policies recently set by professional boards and state lawmakers that inadvertently or deliberately limit the practice of ocular telehealth, these two statements are intended to address concerns raised by lawmakers and regulators, drawing on the vast clinical experience and expertise of the authors to show how eye care providers use ocular telehealth programs to serve eye care patients' needs.

The Ocular SIG represents multiple disciplines, including but not limited to optometrists, ophthalmologists, non-eye care professionals, and attorneys. Our members have significant expertise in ocular telehealth, with many of the clinicians actively practicing telehealth in various healthcare settings and systems across the United States.

We have previously issued Practice Guidelines for Ocular Health - Diabetic Retinopathy (Third Edition)¹, [Telehealth Resources for Eye Care During COVID-19](#)² and a previous statement specific to refractive correction via telehealth³. In this two-part statement, we discuss our assessment that:

- (A) an optometrist or ophthalmologist (collectively referred to as "eye care providers" or "ECPs") can conduct an ocular health assessment (including the elements of a comprehensive eye examination) and prescribe corrective eyewear in a single patient encounter using ocular telehealth. Should the patient need additional services that can only be provided in-person, the telehealth encounter can speed the referral for and delivery of such care.
- (B) Ocular telemedicine should be allowed—and even encouraged—to improve access to care, improve population health and enhance the ability of ECPs to practice.

This statement about remote ocular health assessments is intended to address questions about which elements of an eye health examination can be performed using telehealth, how the processes work, and where technology is currently lacking but may develop in the future. We emphasize that, even if every procedure or test in an eye exam cannot currently be performed remotely, other elements of an eye exam should be allowed to be conducted remotely. Indeed, there are specific benefits to conducting exams remotely even in part.

Because ECPs can perform many eye examination elements remotely, they are better able to triage patients.⁴ Ocular telehealth allows ECPs to handle many patient questions, concerns, and health and vision issues remotely, saving both the patient and practitioner the time, inconvenience and cost of unnecessary travel for an in-person visit.

However, the Ocular SIG notes that several state legislatures and professional licensing boards have taken the position that ocular telehealth programs cannot meet all the elements of the eye examination that a patient may need, and therefore all (or at least initial) patient encounters must be in person. This position does not account for technological advances that allow ECPs to use the same or similar equipment as is used in-person in a remote encounter to diagnose and treat patients. Legislators and regulators should take notice of the widespread adoption of telehealth and telemedicine by both patients and providers in eye care that has occurred with significant benefit and with no meaningful evidence of patient harm.

The second statement is entitled “The Need for and Benefits of Ocular Telemedicine for Primary and Specialty Eye Care”. It addresses why we believe that it is important for eye care professionals to be able to use professional judgment as to whether and when to use telehealth in ocular health assessments and prescribing corrective eyewear.

Access to both primary and specialty eye care continues to be an issue in many communities and populations, and, notably, the need (demand) for eye care is increasing faster than the supply of eye care providers. Trust, communication, transportation, and cost/lack of insurance have been identified as major barriers to accessing eye care.⁵ In persons with diabetes in particular, in addition to cost, access to timely care and overshadowing of eye disease by systemic diabetes burden were commonly noted as barriers. These barriers are magnified because the supply of ECPs is not growing as fast as the population, with a shortage of ophthalmologists of more than 6000 predicted by 2025.⁶

While the supply of optometrists may be able to meet projected demand at least until 2030 (assuming adequate baseline supply in 2016),⁷ these estimates do not capture changes in health care delivery patterns or disparities between supply and demand at localized geographic levels. There are increasing reports of a shortage of both optometrists and ophthalmologists in rural and other areas not seen as attractive locations for ECPs to live. A 2015 article noted that in 2011, 24% of US counties had no optometrist or ophthalmologist,⁸ while a 2020 article found that “Rural counties continue to have a disproportionately lower supply of eye care providers, although some growth has occurred.”⁹

As demand for eye-related surgery increases, with a flat supply of ophthalmologists providing that surgical care, optometrists will be called upon to provide more primary and secondary eye care. Per the American Optometric Association, about 4.2 million cataract surgeries were provided in 2020 with an estimated 16,042 FTE ophthalmologists available, whereas by 2023 those figures increase to 5.6 million procedures and 16,518 FTE ophthalmologists. While not nearly as profound, similar trends appear for other age-related conditions, such as glaucoma, age-related macular degeneration, and diabetic retinopathy, through the current decade.¹⁰ As a result, the workload for optometrists will increase, potentially exacerbating concerns about access to eye care in rural and other under-served areas.

Ocular telemedicine enables more efficient use of professional resources, as optometrists and ophthalmologists can see patients at multiple locations in the same day without having to travel, allowing better utilization of their time. It can also help address the aforementioned barriers to eye care: improving both trust and communication by facilitating patient-provider interaction, lowering transactional costs and often reducing the direct costs of an eye examination through enhanced competition, and reducing transportation burdens for patients.

While increased access to care is likely to lead to higher utilization of eye care services, there is no evidence that ocular telemedicine leads to duplication of services or unnecessary treatment. Rather, allowing ECPs to use ocular telemedicine for initial eye examinations can lead to improved patient understanding of the difference between refractive error correction and a comprehensive eye exam, and when each is needed.

It is the experience of clinicians in the Ocular Telehealth SIG that use of remote eye exams allows the doctor to refer patients earlier for in-person care when needed than would have occurred without telemedicine. Additionally, the communication between the doctor and patient via telemedicine about the reason why in-person care is needed builds trust and can lead to improved patient adherence to in-person follow-up referrals. Patients value convenience as well as quality, they care about costs, and they have demonstrated a high degree of satisfaction when telehealth is used appropriately. Providers are discovering that using telehealth offers both personal (e.g., lifestyle flexibility) and professional benefits such as greater efficiency and the ability to see more patients.

CLINICAL GUIDELINES

1. Establishment of a patient-provider relationship

A patient-provider relationship is traditionally understood to be established when the provider agrees to provide services to a person to address health care needs, whether the service was provided by mutual consent, implied consent, or was provided without consent pursuant to a court order.

When ECPs see a new eye care patient, they should first take steps to obtain the patient's consent to be treated via telehealth (thereby establishing the patient-provider relationship); subsequent telehealth encounters may presume consent. Under the traditional understanding of a patient-provider relationship, such a relationship in eye care may be established by telehealth means (with or without a tele-presenter¹¹) if the patient consents to receive care via telehealth, and the ECP, using their professional judgment, determines that the patient's chief complaint can be evaluated and potentially diagnosed and treated via telehealth services.

Therefore, an initial meeting where the patient and the ECP are physically in the same location should not be required to establish the relationship when both the patient and the ECP have consented to the telehealth encounter. Patients need not be in-person with the ECP to provide informed consent to the use of telemedicine.

However, some states require an initial meeting where the patient and the ECP are in the same physical location or interactive 2-way real-time communication to establish the relationship, without regard to whether the standard of care requires such an encounter. We believe this is an undue restriction of the relationship and does not allow the ECP to exercise professional judgment when deciding which services can be provided via telehealth versus which services must be done in the same physical location as the patient.¹²

Establishing a patient-provider relationship should be accomplished by performing the following actions per the ATA's guidelines for all of telehealth:

- a. Obtain the patient's consent for telehealth with documentation in the medical record.
- b. Take reasonable steps to verify the patient's identity according to local, state, or federal regulations.
- c. When a synchronous telehealth service is provided, inform the patient of the provider's identity and applicable credentials at any time prior to the completion of the service. When asynchronous (store-and-forward) telehealth services are provided, the patient/provider relationship is formed when the provider accepts the responsibility to provide the patient with the service requested, even though the patient will typically not be informed of the provider's identity and credentials until receiving the report, prescription or other outcome of the service.

An example of recent state legislation that allows for the provider-patient relationship to be established via telehealth is NH SB 390 (as excerpted below), which became law in August 2022 and is codified at R.S.A. 329:1-c:

"Physician-patient relationship" means a medical connection between a licensed physician and a patient that includes an in-person or face-to-face 2-way real-time interactive communication exam or an exam using telemedicine, as defined in RSA 310-A:1-g, I-b, provided the physician: (i) verifies the identity of the patient receiving health care services through telemedicine; (ii) discloses to the patient the physician's name, contact information, and the type of health occupation license held by the physician; (iii) obtains oral or written consent from the patient or from the patient's parent or guardian, if state law requires the consent of a parent or guardian for use of telemedicine services; and (iv) meets the standard of care.

When establishing the provider-patient relationship via telehealth, ECPs should consider communicating the following information to patients:

- a. If further care is likely to be needed as part of continuing the care provided by telehealth and the patient doesn't already have a provider for such care, advise the patient of the identity of the eye care professional who will continue to provide the patient's eye care, if different from the initial provider, or inform the patient that additional care is appropriate from a provider of the patient's choice.
- b. Inform the patient where the patient's records may be obtained.
- c. Educate patients about any limitations to telehealth for their specific eye care need.
- d. As part of informed consent to the use of telehealth, advise patients that they are under no obligation to use telehealth. The provider is not obligated to arrange in-person care should a patient decline to use telehealth.

Once the patient-provider relationship has been established, the ECP can make an appropriate clinical judgment about whether some or all of the patient's eye care issue(s) would be suitable for a telehealth modality of care or whether the patient should instead be referred for an in-person examination. The initial triage phase to gather enough information to make this decision can occur via telehealth.

2. Providing standard of care with telehealth technology

Background:

There are several types of ocular telehealth programs that involve different modalities for care. Examples include:

1. An ECP could use a synchronous, direct video call to the patient for symptom triage purposes, and both the patient and the ECP can be in remote locations (e.g., in their homes).
2. A patient with glaucoma presents to a testing center, receives testing, and the ECP follows up with a video call to the patient to discuss findings and propose treatment options (asynchronous and synchronous - hybrid telehealth).
3. A patient seeking a comprehensive eye examination in order to obtain a prescription for corrective eyewear presents to an office (established treatment site) that contains the appropriate optometric equipment. In this example, the ECP is in a remote location and is able to receive initial screening data collected by clinical assistants at the established treatment site. The ECP can conduct an eye examination by controlling the optometric equipment remotely from the ECP's location, all while the ECP and patient are in synchronous communication via video conferencing technology.

An ECP uses software as a medical device to collect information the ECP deems necessary (e.g., visual acuity assessment, medical history, pictures of the patient's eyes, etc.) for assessing a patient's visual correction needs. Different ocular telehealth programs have different purposes and capabilities; it is important to distinguish between types of ocular telehealth programs and which programs are clinically appropriate for the patient's primary issue. The ECP should be allowed to use professional judgment and discretion to determine whether and how to use ocular telemedicine to meet the patient's needs while meeting the standard of care. As technology advances, it will be important for both ECPs and regulatory authorities to stay abreast of new modalities or new methods of delivering eye telehealth services.

The ATA Ocular SIG believes that a misunderstanding regarding the capabilities of ocular telehealth programs has contributed to laws and regulations that restrict or even prohibit ECPs from providing the full spectrum of clinically appropriate eye care services using telemedicine. The same standard of care should apply to all patient encounters, whether seen in-person or remotely using telehealth technology. However, the decision to use telemedicine in eye care should be made by the ECP in consultation with the patient; this should not be arbitrarily dictated by a law or regulation that does not consider the available and upcoming technology and ECP professional discretion. Specifically, the outcomes of eye exams conducted via current telehealth technology can be clinically equivalent to an in-person exam when using certain types of FDA-approved technology.

The remainder of this statement is focused on the types of programs that can provide an initial ocular health assessment or a follow-up disease monitoring visit. For more information about online refraction or vision check programs, please refer to our previously published resource entitled [Refractive Ocular Telehealth: Refraction and Visual Acuity Testing](#) {LINK}.

Ocular Telehealth Assessment Models:

Assessing the health of a patient's eyes is an important goal during provision of eye care, whether done in-person or via telehealth. An ocular health assessment is defined as an examination capable of diagnosing whether the patient has a visually significant disease, and if so, whether the patient's disease state is stable or progressing. Eye exams for ocular health assessments often include a refraction (an assessment of the patient's refractive error) and when appropriate, may lead to a prescription for corrective eyewear. Note: This is different from vision and refraction determination only (see above).

We note that a comprehensive ocular health assessment is not always medically necessary every time a patient has a refraction and the ECP prescribes corrective eyewear. When a patient is not receiving an ocular health assessment, the ECP should inform the patient of both the goal and the limitations of the services provided and when and how to seek an appropriate comprehensive ocular health assessment or eye examination.

State Licensing Board Regulation

Several state optometry boards and associations advocate for restrictions on comprehensive eye examinations via telehealth, citing that (1) every patient needs a comprehensive eye examination prior to the prescription of corrective eyewear, and (2) current technology does not allow an ECP to meet the same standard of care for a comprehensive eye examination as an in-person encounter. As explained above, the ATA Ocular SIG disagrees.

Based on our years of clinical experience with ocular telemedicine and the high quality of outcomes, as well as patient satisfaction and provider recognition of the value of telemedicine, the Ocular SIG has concluded that not every encounter with a patient seeking a prescription for corrective eyewear needs to include a comprehensive eye exam (see definition below and see "[Refractive Ocular Telehealth: Refraction and Vision Acuity Testing \(2019\)](#)," an Industry Brief published by the Ocular SIG). The ECP should have the discretion to determine whether an intermediate eye exam is appropriate for the patient's specific needs.

CLINICAL GUIDELINES

OPHTHALMOLOGY

The American Academy of Ophthalmology (AAO) sets out the following guidelines to bill for comprehensive or intermediate exams and evaluations, including billing and coding guidelines.

Link: <https://www.aao.org/eyenet/article/fact-sheet-for-the-comprehensive-eye-visit-codes>

What is a comprehensive exam and evaluation? In brief, it is a general evaluation of the complete visual system. To bill for a comprehensive Eye visit code, you also must initiate or continue a diagnostic and/or treatment plan (see checklist below).

Comprehensive or intermediate exam? The comprehensive Eye visit codes (92004 and 92014) require all 12 elements of the examination (see checklist below), whereas you can submit the intermediate codes (92002 and 92012) if you've performed at least three, but fewer than 12, codes.

Comprehensive Eye Visit Code Checklist

Use this checklist for CPT codes 92004 and 92014.

History

- Chief complaint
- History
- General medical observation

Examination

Perform—and document—all 12 elements of the exam, unless patient age or trauma prevents you from doing so (in which case, document the reason).

- Visual acuity
- Gross or confrontation visual fields
- Extraocular motility
- Conjunctiva
- Ocular adnexa
- Pupil and iris
- Cornea
- Anterior chamber
- Lens
- Intraocular pressure
- Optic nerve discs
- Retina and vessels
- Dilation: As medically necessary. If not dilated, document why.

Initiation of Diagnostic and Treatment Program

Actions that could satisfy the codes' post-exam requirements include, but are not limited to, the following:

- Prescription of medication, glasses, or contact lenses
- Arranging for special ophthalmological diagnostic or treatment services
- Consultations
- Laboratory procedures
- Radiology services
- Recommendation or decision for or scheduling or performance of a major (90-day global period) or minor (0- or 10-day global period) surgical procedure.
- Scheduling necessary follow-up of a medical problem
- Other:

OPTOMETRY

The American Optometric Association (AOA)

Link: <https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/EBO%20Guidelines/Comprehensive%20Adult%20Eye%20and%20Vision%20Exam.pdf>

VISION CARE PLANS

The National Association of Vision Care Plans (NAVCP) POLICY STATEMENT:

Ocular Telemedicine – Vision Plan Covered Services and Provider Guidelines

Link: https://5df048.a2cdn1.secureserver.net/wp-content/uploads/2020/07/NAVCP_PPP_Telemedicine-Policy-Statement_FL_6-29-2020.pdf

Note that because dilation is not provided in a comprehensive telehealth eye exam, the NAVCP policy calls for widefield or ultra-widefield retinal imaging.

GENERAL

ECP medical decision-making and communication of findings and results to the patient are also necessary elements.

Other exam elements that the ECP may wish to consider include:

1. Testing of ocular motility
2. Testing of eye alignment / binocularity
3. Testing of visual fields (confrontation)
4. Keratometry (for contact lens patients)
5. Refraction with standard techniques to accurately measure myopia, hyperopia, astigmatism and anisometropia
6. Ocular Coherence Tomography (OCT testing)
7. Visual Field analysis (formal)

OCULAR TELEMEDICINE – Patient In-office; Doctor Remote

At this time, for an ocular health assessment to meet the community standard of care with the elements listed above, some parts of the exam require technology that is not currently available for home use. Therefore, patients would need to go to an established treatment site (i.e., an

ophthalmologist or optometrist's office) with equipment capable of obtaining the required ocular information. At the established treatment site, the patient typically will meet with a telepresenter, an individual who works under the general supervision/guidance of the ECP and who gathers critical information.

The ECP typically is at a distant site (e.g., their home, another office, or another secure and private location), and in most cases, can control the equipment at the established treatment site remotely to gather the required data. When necessary, the ECP may interact with the patient in real-time, using a video conferencing connection to conduct the ocular health assessment and present the findings and treatment plan to the patient.

There are some instances where an ECP determines during a remote telemedicine encounter that the patient should be examined further in-person. For example, the ECP may detect a condition that requires a dilated fundus examination or other specialized testing not available through telemedicine. When this occurs, as is the case when an in-person exam needs to be referred to another health care provider for an in-person exam and more specialized testing, the initial ECP refers the patient to an appropriate provider. As noted, telemedicine has the added benefit of allowing such referrals to occur sooner than when a patient postpones care because in-person care is not conveniently available.

The ATA Ocular SIG notes that the remote ECP working with a telepresenter at the established treatment site has the responsibility to confirm (as with any assistant who is delegated clinical tasks) that the delegation is to a person who is properly trained and supervised. General supervision (as opposed to direct or in-person) is appropriate; we find no clinical reason why the elements of a comprehensive exam for most patients cannot be performed with the support of a telepresenter under general supervision.

Clinical information gathered by the telepresenter is stored in a HIPAA-compliant manner and transmitted to the ECP for interpretation, followed by conveyance of results to the patient. Communication of results to patients may occur utilizing a variety of methods, including but not limited to:

- a video session direct to the established treatment site before the patient leaves
- via letter
- via follow up telephone call, or via a video session scheduled with the patient a day or two after they complete the ocular health assessment.

When the ECP and patient are not in a real-time conversation (including a conversation via video) to discuss the diagnosis and treatment plan, the other modalities of ocular telehealth assessment are asynchronous (store-and-forward). Some modalities may have a hybrid component if a synchronous video or telephone call is utilized afterwards to convey results.

Synchronous, asynchronous, and hybrid eye telemedicine programs have demonstrated clinical equivalency to in-person eye care in multiple ways:

- a. The numerous citations in the medical literature that demonstrate the accuracy of telehealth vs. traditional in-person examinations in comparative clinical trials for both initial ocular health assessment and disease monitoring (see Appendix A).
- b. Equipment developed by multiple companies that permit ECPs to “remote in” and control the equipment themselves, even when they are physically distant from the patient. One such example is a remotely controlled phoropter system. The ECP remotes into the automated phoropter and uses it in an identical manner to the way they would if they were providing care in-person.
- c. The comprehensive ocular telehealth programs that assess ocular health may or may not be combined with refraction, along with prescription of corrective eyewear by an ECP, to improve the patient’s visual function.

Other Considerations for Asynchronous or Hybrid Comprehensive Eye Telehealth Programs:

A patient may need refraction and corrective eyewear to improve visual function; the process to generate such a prescription may be simultaneous to the ocular health assessment or occur subsequently thereafter. The cadence and frequency in which refractions and ocular health assessments occur may or may not align. For example, a patient may require an updated eyeglass prescription yearly, but the patient’s eyes and visual system are healthy enough to require an ocular health assessment every 2-3 years.

The Ocular SIG strongly advocates that states allow the individual ECP to be able to make that determination following the guidelines of their respective professional organizations. Both optometrists and ophthalmologists should be granted the freedom and ability to provide their patients with the appropriate level of ocular telehealth they deem necessary to meet the patient’s needs while striving to ensure good ocular health status.

The ATA Ocular SIG strongly agrees with the ATA Policy Principles and particularly note the second principle related to Provider Autonomy is particularly relevant to telehealth for eye care.

Link: <https://www.americantelemed.org/policies/ata-policy-principles/>

Enhance Provider Autonomy. Telehealth plays an important role in delivering care across the continuum. Federal and state policy should treat healthcare services delivered remotely no differently than services provided in-person. The modality used to deliver care should be determined by the clinician, in consultation with the patient, and should meet the same standard of care as services provided in person. Telehealth should not be limited to any specific technology provided that it is safe, effective, appropriate, and able to be fully integrated into clinical workflows.

References:

1. <https://www.liebertpub.com/doi/10.1089/tmj.2020.0006>
2. <https://www.americantelemed.org/resources/telehealth-resources-for-eye-care-during-covid-19/>
3. Refractive Ocular Telehealth: Refraction and Vision Acuity Testing (2019), Ocular SIG ATA Industry Brief ; <https://www.americantelemed.org/resources/refractive-ocular-telehealth-refraction-and-vision-acuity-testing/>
4. The technology allowing remote eye care continues to evolve. For example, the FDA recently created a new product code for digital acuity charts. <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPCD/classification.cfm?id=QTO>
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4897391/#:~:text=After%20reviewing%20relevant%20articles%20the,education%2C%20communication%2C%20and%20trust>
6. <https://bhwh.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/surgical-specialty-report.pdf>
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8. <https://pubmed.ncbi.nlm.nih.gov/25602911/>
9. <https://pubmed.ncbi.nlm.nih.gov/32445703/>
10. <https://www.aoa.org/news/practice-management/perfect-your-practice/optometrys-medical-eye-care-opportunity-a-boon-for-patients-coordinated-care?sso=y>
11. An eye care tele-presenter is a medical or optometric assistant who has been trained to be present with the patient during an eye examination where the eye care practitioner is remote. The tele-presenter may assist the doctor-patient communication and perform data collection tasks under the supervision of the practitioner.
12. We note that unfortunately, some laws and rules use “in-person” and “face-to-face” interchangeably. There are instances where the standard of care requires that the provider must be physically present with the patient, which we define as “in-person”. There are also instances in health care where it is necessary and sufficient that the patient and the provider be able to see and speak to each other, which can be accomplished by a real-time synchronous interaction, which we define as “face-to-face”. “Real-time audio communication without video” may be adequate to meet the standard of care in other instances. Finally, the standard of care may be met by asynchronous interaction using store-and-forward technologies as appropriate. We believe that unless there is a pattern of misuse or a significant risk from the use of telehealth without the appropriate level of patient-provider communication, the appropriate use of telehealth communication can and should be left to the provider rather than limited by regulation.