Table E1: Current AAO recommendations for screening and evaluating ophthalmic patients at risk for or harboring COVID19[39]

	COVID-19 Symptoms/Risk Factors	High Risk* for COVID-19	COVID-19 Positive	Recommended Triage	Recommended Precautions
Routine or previously scheduled appointment	Yes/No	Yes/No	Yes/No	Defer and reschedule appointment If COVID-19 positive, CDC guidelines should be followed for care	Refill meds via phone No PPE necessary
Urgent/emergent problem	No	No	No	See patient in eye clinic	No speaking during slit lamp exam No PPE necessary CDC standard precautions
	Yes	No	No	See patient in eye clinic	Patient and providers wear surgical masks Gown, gloves, eye protection recommended N-95 mask recommended for procedures that may aerosolize virus
	Yes/No	Yes	No	See patient in ER or hospital equipped to managed COVID-19	Provider should wear surgical mask, gown, gloves, eye protection
	Yes/No	Yes/No	Yes	Patient should stay at hospital or present to ER/hospital	Provider should wear N-95 mask, gown, gloves, eye protection

Table E2: Telemedicine Definitions and Concepts[40,41]

Term	Definition
Telemedicine	Delivery of clinical services using electronic communication technologies.
Synchronous (Live or Real-time) telemedicine	Simultaneous, real-time communication between a healthcare provider and patient (or referring provider) located in separate, distant locations.
Asynchronous ("store-and-forward") telemedicine	Exchange of medical information in which the medical history or record review is provided at a separate time than the assessment and plan.
"Virtual check-in"	Phone or video communication initiated by an established patient to determine whether or not a new problem requires an urgent office visit.
Remote interpretation of patient data	Interpretation of securely submitted photos or video from an established patient to determine whether or not the patient requires an urgent office visit.
Online patient communication	Any form of communication between patient and provider using written technologies, including email, online patient portals, and text messaging.
Interprofessional consultation ("E-consult")	Written, phone, or video communication between a referring provider and consulting provider for a new problem in a new or established patient to determine next steps in management.
Place of service	In billing, a required code to indicate the physical location of the patient during the provided service (02 = telemedicine, 11 = office, etc.). Conceptually, all telemedicine takes place at the patient's present physical location.
"Privileging by proxy"	Providers credentialed at a "home" institution are allowed to provide clinical services via telemedicine at a remote institution without needing full credentialing at the remote institution.
Business Associate Agreement (BAA, also HIPAA BAA)	A written agreement between two parties (individuals or business entities) that outlines the responsibilities to maintain HIPAA privacy and security requirements.
Live Real-time Video	Real-time video evaluation performed between provider and patient
Telephone Communication	Real-time telephone evaluation performed between provider and patient
Secure Email or Online Portal Communication	Exchange of written digital communication between provider and patient
Provider-to-Provider Consultation ("E-Consult")	Video, phone, or written consultation between a referring provider and consulting provider about a mutual patient, resulting in a written report of recommendations that is based on discussion with the referring doctor and review of existing clinical records; No direct consultant contact with the patient is made.

Table E3: Institutional Considerations Before Starting Telemedicine

	Pre-COVID-19	During COVID-19
Patient Privacy (HIPAA)	• Patient's informed consent must be given • No discoverable recording of video or audio can be made • Platforms used must be secured and encrypted to HIPAA standards (eg, VA Video Connect, doxy.me), may require Business Associate Agreement (BAA)	• Unsecured platforms may be used (eg, FaceTime, Skype, Zoom) and HIPAA violations during this time will not be enforced, provided that the services provided are "in good faith" *(see Privacy and Security section)*
Medical Liability	• Valid, current medical malpractice liability policy • Check with individual carriers for policy specifics, many carriers have provisions allowing for telemedicine	• No changes
Medical Licensure	• Separate medical licenses required in each state based on where the patient is located (some exceptions exist for large institutions)	• Valid current license in one state is temporarily recognized in any state
Facility Credentialing	• Each institution requires separate credentialing • "Privileging by proxy"	• Credentialing requirements and BAA temporarily waived

Table E4: Types of Telemedicine Formats

Telemedicine Format	Description
Live Real-time Video	Real-time video evaluation performed between provider and patient
Telephone Communication	Real-time telephone evaluation performed between provider and patient
Secure Email or Online Portal Communication	Exchange of written digital communication between provider and patient
Provider-to-Provider Consultation ("E-Consult")	Video, phone, or written consultation between a referring provider and consulting provider about a mutual patient, resulting in a written report of recommendations that is based on discussion with the referring doctor and review of existing clinical records; No direct consultant contact with the patient is made.

Table E5: Select Patient Selection Guidelines for Video and Telephone Telemedicine

	Good Video Telemedicine Candidate	Good Telephone Candidate	Poor Telemedicine Candidate
Technology Requirements	• Smartphone or computer with webcam • Broadband internet connection	• Cell phone with good connection signal • Landline phone	• No access to phone or computer

Patient Compliance	• Able to follow directions • Hearing mostly intact • Speaks same language or translator available	· Able to follow directions · Hearing mostly intact · Speaks same language or translator available	• Some forms of dementia • Nonverbal patients • Altered mental status • Poor hearing • Speaks different language with no translator available
Urgency of medical problem	• Emergent or urgent problems that require visual confirmation before workup (e.g., CN3 palsy) • Semi-urgent or nonurgent problems in concerned patients • Suspected or confirmed COVID-19 patients with conditions that do not require in-person exam	• Emergent or urgent problems that require neuro-ophthalmic history before workup • Semi-urgent or nonurgent problems in concerned patients • Suspected or confirmed COVID-19 patients with conditions that do not require an in-person exam	· Emergent conditions that should go to ER for immediate care

Type of medical problem	• External or efferent system disease (e.g., ptosis, nystagmus, ocular alignment) • Subjective visual complaints with previously normal eye exam • Afferent visual disease with prior ancillary testing (including fundus photos) • Follow-up of conditions with prior ancillary testing (including fundus photos)	• Subjective visual complaints with previously normal eye exam • Follow-up of patient's symptoms after medical treatment initiation • Acute problem that patient wishes to discuss before considering exam	• Diplopia requiring prism measurements • Afferent visual disease without prior ancillary testing • Provider-directed concerns about patient's condition requiring in-person evaluation
Physical exam requirements	• External exam • Pupil evaluation (e.g., anisocoria) • Ptosis evaluation • Afferent disease with previously normal fundus exam or with prior fundus photo • Gross motility evaluation	• No physical exam	• No prior dilated fundus exam • Detailed slit lamp exam or fundoscopic exam required • Prism measurements required
Ancillary test requirements	• Prior ancillary testing performed or not required • Remote visual field testing	• Prior ancillary testing performed or not required	• OCT, fundus photo, FA, ERG, VEP, or higher-detail VF required

OCT = optical coherence tomography, FA = fluorescein angiography, ERG = electroretinography, VEP = visual evoked potential, VF = visual field

Table E6: Currently Available Telemedicine Platforms[5]

Platform	Cost to Provider	Capacity for EHR Integration	HIPAA Compliant	Works independently of EHR
Allscripts	$89/month ($3000 implementation fee)	Yes	Yes	No
AmWell	Variable	Yes	Yes	No
CareClix	Variable	Yes	Yes	Yes
Cisco WebEx	Free	No	No	Yes
Doxy.me	Free	Yes	Yes	Yes
DrFirst	$300/year	Yes	Yes	Yes
eClinicalWorks	$2/visit	Yes	Yes	Yes
FaceTime	Free	No	No	Yes
Greenway Health	Variable	Yes	Yes	No
Medici	$150/month	Yes	Yes	Yes
NextGen	$75/month ($400-500 set-up fee)	Yes	Yes	No
SnapMD	Variable	Yes	Yes	No
Skype	Free	No	No	Yes
Zipnosis	$159/month (additional set-up fee)	Yes	Yes	No
Zoom	No (40 min for free with multiple users)	Yes	Yes (Pro and Healthcare versions)	Yes

Table E7: Telemedicine Codes and Requirements

	Outpatient Live Synchronous (Video) E/M	Virtual Check-in	Remote Data Interpretation	Interprofessional Consultation (E-Consult)	Online Communication (Portal, E-mail)	Telephone E/M
Code(s)	New: 99201-99205 Established: 99212-99215	G2012	G2010	99446-99451	99421-99423	99441-99443
Type of Patient	New or established	Established ^	Established^	New or established	Established^	Established ^
Modality	HIPAA- compliant video^	Phone or video	Secure email	Written request or phone/video	EMR portal, secure email	Phone
Place of Service	02 11#	02 11#	02 11#	02 11#	02 11#	02 11#
Modifier	95	N/A	N/A	N/A	N/A	N/A
CMS Rules	Patient must live in HPSA* Patient must connect at approved facility* Billable by time alone or medical decision making alone# Total time spent by physician during day of E/M visit#	Cannot be related to prior E/M visit Cannot result in urgent E/M visit	Cannot be related to recent E/M visit Cannot result in urgent E/M visit	Cannot be related to recent E/M visit Cannot result in urgent E/M visit	Total time spent over 7 calendar days Cannot be related to E/M visit within last 14 days	Total time spent "in medical discussion" #

* Waived for COVID-19
^ Not enforced during COVID-19
# New or modified during COVID-19

Table E8: Codes and 2020 CMS Fee Schedule for Non-Face-To-Face Telemedicine Services

Time spent	Virtual Check-in	Remote Data Interpretation	Interprofessional Consultation (E-Consult)	Online Communication (Portal, E-mail)	Telephone E/M
No time requirement	G2012, $14.80	G2010, $12.27	------	------	------
5+ minutes	------	------	99451, $37.53	------	------
5-10 minutes	------	------	99446, $18.41	99421, $15.52	99441, $46.19#
11-20 minutes	------	------	99447, $37.17	99422, $31.04	99442, $76.15#
21-30 minutes	------	------	99448, $55.58	99423, $50.16	99443, $110.43#
31+ minutes	------	------	99449, $73.98		

New or modified during COVID-19

Table E9: Codes and 2020 CMS Fee Schedule for New Live Video Telemedicine Services

Time spent	NEW Outpatient Live Synchronous (Video) E/M
11-20 minutes	99201, $46.56
21-30 minutes	99202, $77.23
31-45 minutes	99203, $109.35
46-60 minutes	99204, $167.09
61+ minutes	99205, $211.12

Table E10: Codes and 2020 CMS Fee Schedule for Established Live Video Telemedicine Services

Time spent	ESTABLISHED Outpatient Live Synchronous (Video) E/M
11-15 minutes	99212, $46.19
16-25 minutes	99213, $76.15
26-40 minutes	99214, $110.43
41+ minutes	99215, $148.33