



VISION ACADEMY
people | research | education

Guidance for anti-VEGF intravitreal injections during the COVID-19 pandemic

Publication in
Graefe's Archive for Clinical and Experimental Ophthalmology

Objective

To provide guidance for the management of patients with retinal disease which requires intravitreal injections of anti-VEGF agents during the COVID-19 pandemic

The Vision Academy provides ophthalmic specialists with a forum to share existing skills and knowledge, build best practice, and lead the wider community in the drive towards optimized, compassionate patient care.

Through their collective expertise, the Vision Academy seeks to provide guidance for best clinical practice in the management of retinal disease, particularly in areas with insufficient conclusive evidence.

Development of Vision Academy considerations



- There is an urgent need to address how we can best provide ophthalmic care for patients during the ongoing global COVID-19 pandemic
- Several organizations have already produced general guidance for ophthalmologists:
 - American Academy of Ophthalmology (AAO)¹
 - French Society of Ophthalmology (SFO)²
 - German Ophthalmological Society (DOG)³
 - Royal College of Ophthalmologists (RCOphth)^{4,5}
- Patients requiring intravitreal injection treatment are mostly in COVID-vulnerable groups

The Vision Academy Steering Committee convened to create a set of considerations specifically for managing patients with retinal disease which requires treatment with intravitreal injections during the COVID-19 pandemic

1. American Academy of Ophthalmology. Important coronavirus updates for ophthalmologists. Available at: <https://www.aao.org/headline/alert-important-coronavirus-context>. Accessed March 2020;

2. Société Française d'Ophtalmologie. Quelle conduite à tenir adopter vis à vis des injections intravitréennes (IVT) dans cette période d'épidémie au Covid-19 -SARS-CoV-2 ?. Available at:

https://www.sfo.asso.fr/files/files/FPHUNG/epidemie_au_covid-19_-_ivt.pdf. Accessed March 2020; 3. Deutsche Ophthalmologische Gesellschaft. Coronavirus COVID-19. Available at:

<https://www.dog.org/?cat=288>. Accessed March 2020; 4. The Royal College of Ophthalmologists. COVID-19 clinical guidance for ophthalmologists. Available at: <https://www.rcophth.ac.uk/2020/03/covid-19-update-and-resources-for-ophthalmologists/>. Accessed March 2020. 5. The Royal College of Ophthalmologists. Medical retinal management plans during COVID-19. Available at:

<https://www.rcophth.ac.uk/wp-content/uploads/2020/03/Medical-Retinal-Management-Plan-during-COVID-19-UPDATED-300320-1-2.pdf>. Accessed April 2020.



GENERAL CONSIDERATIONS



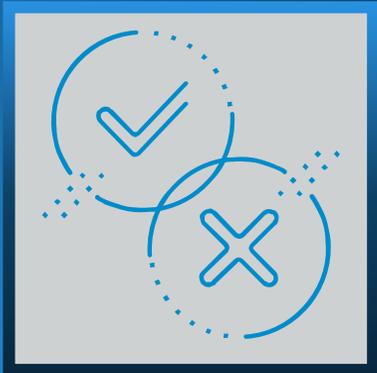
- **As important as vision loss may be to patients, non-ophthalmic life-threatening situations supersede ophthalmological considerations**
- The safety of patients and healthcare staff is of paramount importance in all decision-making
- Medical/healthcare staff can be a source of contamination, so should be scrupulously monitored for signs of infection (and possibly quarantined according to national / institutional guidelines)
- Staff should be regularly (re-)trained on COVID-19 safety practices and they should meticulously follow personal, facility, and instrument hygiene / disinfection rules as per local guidelines
 - Video guidance may be beneficial as it can be viewed when workload / time permits

GENERAL CONSIDERATIONS



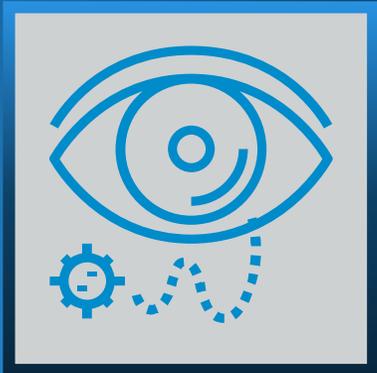
- Patients should wear a mask to reduce the potential transmission of COVID-19 to healthcare staff or other patients
- Appointments of COVID-19-positive / suspect patients
 - Should be deferred until total resolution of symptoms or risk
 - Emergency surgery / intervention due to imminent danger of blindness or severe vision loss should proceed in an adequate facility with appropriate PPE
- Non-urgent appointments
 - Should be postponed where there is capacity to reschedule within a reasonable time period
- Consistency in the management and use of PPE throughout the patient journey is essential

PRIORITIZING PATIENTS ACCORDING TO MEDICAL NEED



- Diabetic and elderly patients are most vulnerable to COVID-19 complications and should not be exposed to avoidable risk
 - However, continuation of care where possible is important to avoid irreversible vision loss
- In general, patients with nAMD (especially in the first 2 years of treatment), new patients with significant vision loss, new CRVO cases, neovascular glaucoma, and monocular or quasi-monocular patients (only one eye >20/40) should be prioritized and their treatment schedules maintained
- DME and BRVO patients are less likely to suffer irreversible vision loss in the short term^{1,2} and postponement of appointments for non-monocular patients should be considered (except acute phase of RVO)
 - Prolonged treatment postponement (>4–6 months) should be avoided
- These considerations should be thoroughly discussed (remotely) with the patient, taking into account the local legal / regulatory environment and the status of the epidemic

REDUCING EXPOSURE DURING THE PATIENT VISIT



- Pre-screen patients by phone to identify symptomatic or suspected COVID-19-positive patients and direct them to an appropriate setting with enhanced protection measures and PPE (e.g. a designated section of the clinic or hospital)
- Educate on and enforce hygiene measures by providing a “Dear Patient” letter¹ prior to the appointment
- Limit waiting room attendance:
 - One accompanying adult, only if necessary
 - Queue outside
 - Space out appointments
 - Remind and enforce 1- or 2-meter distance, per local guidelines
- Good ventilation is recommended in all rooms to reduce any potential viral vector load
- Keep examination as brief as possible; consider distancing measures between patients, HCPs, and staff

REDUCING EXPOSURE DURING THE PATIENT EXAMINATION



- Avoid thorough VA testing
 - A simple test, ideally self-performed, may be sufficient (e.g. near-reading chart)
 - Perform brief VA testing if an important vision change is reported, jumping to smallest-achievable line
- Fix large plastic / plexiglass shields on slit lamp
 - Both patients and physicians should consider wearing a face mask during slit lamp examination
- Limit OCT examinations and the use of special instruments (e.g. tonometer / fundus camera / angiograph) unless absolutely critical to decision-making
- Staff must wear PPE (masks, gloves, goggles, and suits) for patients who are COVID-19-positive / suspected positive (or for all patients) as directed by local authorities and institution
 - An N95 or FFP2 mask is preferred¹
- Thoroughly disinfect hands and equipment including keyboards between patients

OCT, optimal coherence tomography; PPE, personal protective equipment; VA, visual acuity.

1. World Health Organization. Advice on the use of masks in the context of COVID-19. Available at: https://apps.who.int/iris/bitstream/handle/10665/331693/WHO-2019-nCov-IPC_Masks-2020.3-eng.pdf?sequence=1&isAllowed=y. Accessed April 2020.

INTRAVITREAL ANTI-VEGF TREATMENT REGIMEN CONSIDERATIONS



- To minimize exposure, aim to preserve treatment visits rather than monitoring visits whenever possible. Refrain from treatment regimens that require frequent monitoring to adjust intervals:
 - Do not switch treatment regimen (unless clear non-response)
 - Do not change treatment intervals in patients with nAMD responding to a fixed-dosing regimen, if possible
 - For patients with AMD in variable-interval regimens (T&E, PRN): consider reverting to last effective treatment interval and use this for fixed dosing, to minimize the need for monitoring
 - In new patients, maintain the loading phase schedule and select longer-acting drugs if possible
 - In patients with DME / RVO who are already on dexamethasone implants, consider reimplantation only if they are responding well and have a history of normal IOP under treatment

INTRAVITREAL ANTI-VEGF TREATMENT REGIMEN CONSIDERATIONS



- Telemedicine consultations can be useful to help physicians assess which patients should attend the clinic in person; they could also be particularly useful for monitoring patients who are at less risk of irreversible vision loss and can be deprioritized
 - In such patients, it may be acceptable in the short term (<4–6 months) to monitor the disease on function only
 - Prolonged treatment postponement (>4–6 months) should be avoided
- Equip and instruct your patients to self-monitor their vision (e.g. with Amsler grids, by reading texts with various font sizes)
- Where feasible, implement the use of home monitoring technologies such as smartphone apps
 - These may be acceptable for monitoring on function only in the short term (<4–6 months) in such patients, e.g. non-monocular DME and RVO patients (excluding those with significant vision loss from recent DME and patients in the acute phase of RVO)

TREATMENT FACILITY ORGANIZATION



- Consider implementing home care if and where feasible, particularly for patients under lockdown
 - Home injections may be acceptable in some countries
- Emergency surgery / intervention in symptomatic or suspected COVID-19-positive patients should take place in an appropriate setting with PPE
- For asymptomatic / non-COVID-suspect patients who need treatment
 - Referral to a non-hospital-based clinic may be preferable, especially in cases with high infection rates / medical facility shortage

REASSURING PATIENTS



- An emergency contact number manned by a senior ophthalmologist should be provided to offer consistent / appropriate patient-triaging advice
- The Vision Academy has created a template “Dear Patient” letter, which provides advice and instructions for patients regarding intravitreal injections¹
 - This should be adapted to the specific situation and guidance of each country and institution
- Reassure patients who are used to an individualized treatment approach that fixed-dosed anti-VEGF regimens are an effective way of delivering treatment²⁻⁴

VEGF, vascular endothelial growth factor.

1. Korobelnik JF *et al. Graefes Arch Clin Exp Ophthalmol* 2020 [in press]; 2. Schmidt-Erfurth U *et al. Ophthalmology* 2014; 121 (5): 1045–1053; 3. Rosenfeld PJ *et al. N Engl J Med* 2006; 355 (14): 1419–1431; 4. Brown DM *et al. N Engl J Med* 2006; 355 (14): 1432–1444.

REASSURING PATIENTS



- Reassurance that in most cases (i.e. DME) vision will not be significantly adversely affected by interrupted / postponed treatment may have medico-legal issues
 - Risk–benefits must be carefully weighed, discussed with the patient, and documented
 - Always consider the local legal / regulatory environment
- **More than ever, talk (remotely) to your patients, explain what is at stake, and make them an active partner in treatment decisions**

CONCLUSIONS

- Strategies for managing patients with retinal disease during this uncertain time should focus on:
 - Minimizing the risk of exposure to COVID-19 for both the patient and healthcare staff
 - Simplifying anti-VEGF treatment regimens
 - Prioritizing treatment for those at greatest risk of irreversible vision loss
- By implementing stringent safety practices and triaging those who are most vulnerable, we have the opportunity to continue to provide the best possible care to patients



The Viewpoint 'Guidance for Anti-VEGF Intravitreal Injections During the COVID-19 Pandemic' can be downloaded from:

<https://www.visionacademy.org/vision-academy-community/COVID-19-materials>