



Binocular Vision, Perception, & Pediatric Optometry Section

This guide contains the requirements and procedures for becoming a Clinical Diplomate in the Section on Binocular Vision, Perception and Pediatric Optometry of the American Academy of Optometry. Please review the requirements carefully and if you have any questions, contact the BVPPPO Clinical Diplomate Chair.

Clinical Diplomate Candidate's Guide

Binocular Vision, Perception & Pediatric Optometry (BVPPPO) Clinical Diplomate status is a prestigious designation for optometrists who have demonstrated exemplary diagnostic and patient management skills, clinical proficiency, and professional judgment that ensure the highest quality of care for their patients; they are recognized for their knowledge and expertise in the areas of binocular vision, perception and pediatric optometry. Diplomates of the section have both a deep and broad base of knowledge in all aspects of BVPPPO with an emphasis on either Binocular Vision & Perception or Pediatric Optometry. For those who have expertise in binocular vision, perception and pediatric optometry, yet do not provide patient care, please see the guidelines for the Research Diplomates of the section.

Candidates' Welcome

Welcome to the Binocular Vision, Perception and Pediatric Optometry Section's (BVPPPO) Diplomate program. The process of becoming a Diplomate is challenging yet a rewarding one as you expand your knowledge base. Not only will you gain from the study, research, preparation and assembling of case reports, you will also achieve satisfaction and recognition in the validation of better patient care. You will meet colleagues from all parts of the world who share mutual interests, and to whom you may refer patients and discuss both clinical and research topics with confidence.

After you have successfully completed this process, your lifelong learning continues for deeper understanding of established areas and of new advances in our field. We encourage that you seek volunteer opportunities, accept new responsibilities and leadership roles in the BVPPPO Section, and participate in the AAO annual meeting.

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Please note that this document supersedes all previous guides.

I. REQUIREMENTS FOR BECOMING A CANDIDATE

The following are a list of requirements for all candidates who are interested in becoming a Clinical Diplomate in the Binocular Vision, Perception and Pediatric Optometry Section:

1. Be a Fellow in good standing of the American Academy of Optometry (AAO)
2. Be a member of AAO Binocular Vision Perception Pediatric Optometry (BVPPO) section
3. Request an application indicating your desire to become a Diplomate of the Section by emailing: membership@aaoptom.org.
 - The application can be initiated at any time, and you have five years to complete the requirements.
 - Submit a current curriculum vitae
 - Pay the application fee of \$100
 - Identify the emphasis you wish to pursue:
 1. Clinical Diplomate:
 - a. Binocular Vision & Perception (BVP emphasis)
 - b. Pediatric Optometry (PO emphasis)
 2. Research (non-clinical) Diplomate (see research track guidelines)

II. OVERVIEW OF THE DIPLOMATE PROCESS

Each application is reviewed by the BVPPO Clinical Diplomate Committee to ensure the candidate has the work experience and education, and cares for patients that aligned with the Section case report topics. The application fee will be reimbursed if the candidate is not accepted.

After the acceptance of your application, you will have five years to complete the following four requirements to achieve Diplomate status:

1. Case reports (5)
2. Written examination
3. Practical examination
4. Oral examination

Mentor

Candidates need to select a mentor (or two) to guide and advise them through the Clinical Diplomate process. If you have a mentor in mind, feel free to ask that person then notify the Clinical Diplomate Chair. If you are unsure of whom to work with, please communicate with the Clinical Diplomate Chair who can assist.

Case Reports

Case reports are the portion of the process that is conducted remotely and not at the AAO annual meeting. One case report must be submitted and accepted by the Case Report Committee before the written examination may be taken. There are three (3) mandatory topics and two (2) topics to be selected from a list of eight (8) options. If you have a question about the appropriateness of a case that you have selected, please contact the Case Report Chair to discuss.

Clinical Diplomate Preparatory Course

The preparatory course is recommended as additional learning resources for the process and is typically offered the Tuesday before the AAO annual meeting. It is also an opportunity to be introduced to other candidates as well as current BVPPO Diplomates.

Written Examination

The written examination is offered once at the AAO annual meeting, typically on the Wednesday of the meeting. At least one case report must be accepted to take the written exam. Please notify the Clinical Diplomate Chair of your intention to take the written examination by July 1.

Practical Examination

The practical examination is offered once at the AAO annual meeting at an off-site location, typically on the Wednesday or Thursday. The candidate must have all five case reports accepted and pass the written examination to take the practical exam. Please notify the Clinical Diplomate Chair of your intention to take the practical examination by July 1.

Oral Examination

The oral examination is conducted at the completion and passing of all of the case reports and the written and practical examinations. The oral examination is offered once at the AAO annual meeting, typically on the Thursday or Friday. Please notify the Clinical Diplomate Chair of your intention to take the oral examination by July 1.

Awarding of Diplomate Status

Upon successful completion of the process, candidates are nominated for Diplomate status. The candidate will be expected to attend the BVPPO Section *Reception* and the Academy's Leadership & Legacy Event at which you will be introduced as a new Diplomate and accept your certificate.

Application Re-Submission

All requirements must be completed within a five-year period. Failure to satisfy the requirements during that period will necessitate a re-submission of an application including the non-refundable application fee. Candidate may be required to retake some or all parts of the examinations offered by the BVPPO Clinical Diplomate Committee. Any and all parts of the examinations are encouraged to be taken as soon as possible in order to advance toward recognition as a Diplomate.

III. OVERVIEW OF BEHAVIORAL OBJECTIVES FOR BVPPPO CANDIDATE

The candidate will be able to successfully describe and demonstrate/implement when appropriate as per below:

Infant Vision & Vision Development (including Refractive Error) Behavioral Objectives

- Describe methods of evaluating the eyes and visual status (i.e., eye health, refractive, visual acuity, binocularity, accommodation assessments) of an infant, preschool, school-aged child (less than 13 years of age), and an older patient with developmental deficits. Discuss the benefits and limitations of the various methods designed for the differing capabilities of these patients.
- Describe normal growth and development of the eye, orbit, and visual system from birth through the first 6 years of life.
- Describe normal growth and developmental characteristics of infants and children in the areas of physical development, gross and fine motor skills, cognitive changes, speech and language development, and social skills.
- Describe the development of visual acuity, accommodative skills, pupillary response, and ocular motor skills including fixations, pursuits, saccades, versions, vergence, and optokinetic nystagmus.
- Discuss the concept of emmetropization, theories regarding the failure of emmetropization, and the role, if any, of refractive correction on emmetropization.
- Discuss the physical, emotional, and ocular signs/symptoms of child abuse and neglect.
- Discuss the important issues relating to the prenatal, perinatal, and postnatal case history.
- Describe vision screening techniques appropriate for infants, preschoolers, and school-aged children. Identify the validity of various screening test batteries by sensitivity and specificity.
- Discuss the management considerations for a pediatric patient with aphakia.

Vision, Learning & Vision Perception Behavioral Objectives

- Describe methods of obtaining, clarifying and assessing information gathered from parents, teachers and/or other professionals regarding potential visual processing deficiencies, including a developmental history from parents, a teacher questionnaire, and psycho-educational evaluation results.
 - Interpret results of a psychoeducational evaluation including IQ tests and implications for prognosis for vision therapy.
 - List and describe the methods (including clinician observations) of evaluating the developmental level of performance in the areas of:
 - Gross motor and bilateral integration

- Laterality and directionality
 - Visual analysis to include: form discrimination, figure ground, visual closure, and form constancy
 - Visual memory and visualization
 - Visual motor integration and visually guided fine-motor control
 - Auditory processing skills, to include: auditory visual integration, auditory discrimination, and auditory memory
 - Explain various theories of reading disability, particularly the possible influences of visual pathways and their integration with language and memory.
- Develop the diagnosis and prognosis given a case history, test findings, and observations.
 - Be able to correlate entering signs and symptoms with vision perception testing results.
 - Describe how visual or visual perception problems can affect academic performance.
 - Propose possible recommendations to educators about classroom accommodations for a child with vision processing deficiencies.
 - Determine and describe what information gathered in the case history, optometric evaluation, or other ancillary testing would suggest the need for additional testing or treatment by another professional.
 - List and describe a sequential vision therapy program, including a rationale for lens therapy, for visual processing deficits, and possible follow-up care.
 - Describe the underlying principles and be able to illustrate specific vision therapy techniques used in remediating visual perceptual-motor development (e.g., explain the sequence of therapy involved in training laterality and directionality skills).
 - Define learning disability, reading disability, and dyslexia and be able to describe the psycho-educational methods used to identify these conditions.
 - Describe the roles of educators & other medical professionals in the multidisciplinary care of the child with learning problems, including optometry's role in the Individual Education Plan (IEP) / 504 Plan with learning problems. Describe instances where referrals are appropriate.

Non-strabismic Binocular Vision/Accommodative Disorders Behavioral Objectives

- List and describe diagnostic methods used in evaluating:
 - Ocular motility/eye movement skills: pursuits, saccades, fixation.
 - Accommodative skills: amplitude, facility, accommodative response (posture or accuracy), and relative accommodation.
 - Vergence skills: near point of convergence, vergence facility, magnitude of

heterophoria, fixation disparity, and fusional vergence.

- Sensory fusion: second degree fusion, suppression, and stereopsis
- Given a simulated patient, analyze the results of the diagnostic testing and determine abnormal and normal findings.
- Given a simulated patient, determine the diagnosis and provide supportive findings (e.g., convergence insufficiency - receded NPC, high exophoria at near, reduced positive fusional vergence at near).
- Evaluate and explain the relationship between entering signs and symptoms, and test data to achieve an accurate diagnosis of vision efficiency problems (e.g., blur at distance after near work and a finding of accommodative infacility).
- Describe the theoretical and physiological relationships between accommodation and vergence.

Discuss fixation disparity testing and analysis as well as the control systems model for vergence and accommodation.

Strabismus & Amblyopia Behavioral Objectives

- Identify the following areas associated with strabismus and/or amblyopia: refractive status, visual acuity, monocular fixation, characteristics of the deviation (comitancy, frequency, direction, laterality (eye dominance), magnitude, AC/A ratio, cosmesis), correspondence, sensorimotor fusion (second degree fusion, stereopsis, and motor fusion).
- Given a simulated patient, evaluate and interpret the results of the diagnostic testing, and formulate a diagnosis and a prognosis for the patient's condition(s).
- Recall the etiology, prevalence and clinical characteristics of the following conditions:
 - Amblyopia: form deprivation, refractive (isoametropic and anisometropic), strabismic, and relative amblyopia
 - Comitant Strabismus
 - Exotropia: convergence insufficiency, basic exo, divergence excess, infantile XT
 - Esotropia: convergence excess, basic eso, divergence insufficiency, accommodative refractive, non-refractive and combined ET, partially accommodative ET, infantile ET, acute-onset comitant ET, microtropia, monofixation syndrome, microtropia with identity, blind spot syndrome and pseudoesotropia
- Vertical strabismus
- Sensory strabismus

- Noncomitant Strabismic Conditions
 - Dissociated vertical deviation
 - Overaction of inferior obliques
 - A-V Syndromes
 - Paretic strabismus (IIIN, IVN, VIN)
 - Special forms of strabismus: Duane syndrome, Brown syndrome, endocrine myopathy, fractures of the orbit, myasthenia gravis, thyroid eye disease, etc.
- Other types of strabismus
- Consecutive strabismus
- Recall and contrast current theories relative to the etiology of strabismus, amblyopia, eccentric fixation, and anomalous correspondence.

Vision Therapy Behavioral Objectives

- List and describe in detail the sequential management considerations relative to vision inefficiency (basic skills) which would include rationale for treatments of: optimum distance prescription, added lens, prism, occlusion, vision therapy (amblyopia, suppression, sensory-motor skills) and/or surgery. Describe home- and office-based therapy, follow-up care and others.
- Describe the underlying principles and be able to illustrate specific vision therapy techniques used in the remediation of ocular motility, accommodative, and non-strabismic vergence deficiencies. For example, when using the single Aperture-Rule Trainer, describe where vergence and accommodation are positioned when the patient reports clear and single vision.
- List and describe the sequential management considerations relative to strabismus and amblyopia which would include a rationale for therapies of: optimum distance prescription, added lens, prism, occlusion, vision therapy (anomalous correspondence, amblyopia, suppression, sensory-motor skills) and/or surgery. Describe potential pharmacological therapy, home- and office-based therapy, and possible follow-up care.
- Describe the underlying principles and be able to illustrate specific vision therapy techniques used in the remediation of strabismus and amblyopia. For example, explain the process of co-variation of correspondence that occurs in intermittent exotropia.

Neurological Problems and Pediatric Ocular Disease Behavioral Objectives

- Describe the assessment, differential diagnosis, and management of the most significant congenital and early acquired ocular disorders (e.g., congenital cataracts, retinopathy of prematurity, red eyes, uveitis, nasolacrimal duct obstruction, glaucoma, optic nerve disorders,

albinism, retinitis pigmentosa, retinoblastoma).

- Describe the clinical presentation, differential diagnosis, and management of different forms of nystagmus including congenital, acquired, latent, sensory, manifest-latent, and spasmus nutans.

Describe the clinical presentation, differential diagnosis, and management of III, IV, and VI nerve palsies.

Pediatric Neurodevelopmental Disorders Behavioral Objectives

- Describe the physical and ocular manifestations as well as appropriate examination techniques when dealing with individuals diagnosed with intellectual impairment, deafness, and developmental disabilities such as cerebral palsy, Down syndrome, Fragile X syndrome, autism spectrum disorders, fetal alcohol syndrome, etc.
- Describe common causes of visual impairment in children. Be able to address the examination techniques, differential diagnosis, and treatment options and plan, as well as referrals to other medical and educational resources.
- Define learning disability, reading disability, and dyslexia and be able to describe the psycho-educational methods used to identify these conditions.
- Describe the clinical characteristics and current treatment procedures for attention deficit disorder and attention deficit & hyperactivity disorder.
- Describe the roles of educators & other medical professionals in the multidisciplinary care of the child with learning problems, including optometry's role in the Individual Education Plan (IEP) / 504 Plan with learning problems. Describe instances where referrals are appropriate.

Acquired Brain Injury or Traumatic Brain Injury (including Concussion) Behavioral Objectives

- Define ABI, TBI, and concussion and discuss their causes.
- Describe the physical and ocular manifestations as well as appropriate examination techniques when dealing with individuals diagnosed with acquired or traumatic brain injury.
- Describe the clinical characteristics and current treatment procedures for the ocular sequelae of acquired brain or traumatic brain injury (including concussion).
- Discuss any co-management considerations.
- Describe the role of other professionals involved in the care of the patient, such as physical therapists, occupational therapists, vestibular therapists, or neuro-psychologists.

Pharmacology

- List ages for which ophthalmic drugs are approved (e.g., erythromycin is approved for all ages).

- Describe the risks of anticholinergic agents.
- Describe differences, if any, in strength of cycloplegic agents.
- Provide appropriate prescriptions for pediatric eye diseases where pharmacologic therapy is effective.

IV. CASE REPORT REQUIREMENTS AND WRITING GUIDE

The first step in the Diplomate process is to complete the case report requirement. The purpose of the case report requirement is to inform the Clinical Diplomate Committee of your patient care approach and to determine your knowledge and expertise in specific areas of the clinical care of pediatric patients and those with binocular vision and perception disorders. The case reports are important in the process as they are used to determine the candidate's thought process with regard to differential diagnosis, sequential management considerations, informed consent of treatment options and patient management/adherence.

For case reports where the patient requires vision therapy (home-based or office-based), your sequential management considerations should be discussed and will be assessed by the Reviewers. For all case reports, informed consent of treatment options should be discussed with the patient (parent/caregiver) and adherence-support of selected treatment option(s) should be implemented and will be assessed by the Reviewers.

Case reports are primarily intended as a means of demonstrating your knowledge, thought process, and management acumen; therefore, comprehensive literature reviews are not necessary. Of course, please add references (up to 15) as appropriate, particularly if you feel that they support your decision-making process. The Reviewers want to see your approach to patient care presented in a concise and understandable manner.

Please be sure to de-identify all case reports and attached materials; do not include the patients' names, your name or practice's name.

Your case reports will be sent to two BVPPO Diplomates for review. Please wait until your first case report is accepted before submitting subsequent case reports. This will allow you to receive feedback from the Reviewers and ensure that your first case report is the appropriate length and format, and contains sufficient content before you complete your other case reports.

A. Case Report Format

1. Your email submission should include your name and e-mail address. Please remove these identifying details from of the case report.
2. The cover page of the case report should include the following three items:
 - a. Your Candidate ID number: This is assigned upon starting the Clinical Diplomate process.

- b. The Case Report Topic-Name, Topic-Column (A or B) and Topic-Number (1-8) that you are intending to fulfill.
 - i. For example: Case Report: Traumatic Brain Injury, Column B, Topic 8
 - c. Abstract of the case report (about 150 words).
3. The Case Report Committee will assign each report a coded identification number and will forward the case report to two Reviewers who are Diplomates in the Section. This anonymous coding requirement helps eliminate any potential bias. Avoid references to institutions that may identify you personally.
 4. The case report should include the following key elements: patient demographics, case history, ocular status/diagnostic testing, assessment, management plan, follow-up and outcome, discussion, and references.
 5. The purpose of the case report is to demonstrate topic expertise and successfully communicate this expertise in a clear concise fashion. Do not assume that the readers know what you are thinking. *Explain everything in detail, including your thought processes*, especially with regards to diagnosis and treatment, yet in a clear concise fashion. If a test was not reported, it is assumed that it was not done. Reports that solve problems and deal with difficult clinical situations are more highly regarded and acceptable than mundane reports where all the clinical findings are perfect. Comprehensive testing at the initial assessment and follow-ups is recommended, otherwise explain why some tests were not completed how they would add value to your diagnosis and treatment.
 6. Record data in a manner that is easily understood in a clear and concise fashion. It is acceptable to record findings as "normal," if those findings have no significant bearing on the case being discussed. For instance, if the candidate is describing the anterior segment of the eye as "normal" in a case of convergence insufficiency then this is sufficient. Readers from a different background as yours may not understand your "shorthand" or conventions, so please stay with standard optometric abbreviations. If unsure, it is recommended to avoid abbreviations completely. Do not record extraneous information.
 7. Case reports should be submitted double-spaced using Microsoft Word, with pages numbered. Use of line-numbering to make it easier for Reviewers to identify specific items for appraisal or comment. Graphic images should be attached as JPEG files or embedding in the case report document. Use image compression or reduce the size and/or resolution of images submitted as possible before embedding in your document. Contact the Case Reports Committee if you are unfamiliar with file compression techniques. Total file should not exceed 2MB.
 8. The case history should contain sufficient information (as appropriate) in regard to chief complaint, onset/duration, symptoms/signs, prior treatment and results, medical and ocular history (patient and family), developmental history / milestones, academic performance, and prior testing results and/or treatment.

9. Testing should be comprehensive to elucidate a diagnosis versus a minimum test battery. This approach of ample testing should be performed at follow-up appointments, as appropriate. It is preferred to limit the need to explain what important tests would be performed next time a similar case was presented to the candidate. Do complete testing when possible.
10. The logic, or thought process, of the diagnosis should be described. If appropriate, discuss the differential diagnosis(es).
11. For a binocular vision case, discuss why you accepted or rejected a treatment option in the sequential management considerations which includes:
 - a. Rationale for lens prescription and wearing time described
 - b. Added Lenses (Plus or Minus) at distance or near
 - c. Prism (horizontal or vertical)
 - d. Occlusion
 - e. Vision therapy: Anomalous Correspondence
 - f. Vision therapy: Active Amblyopia
 - g. Vision therapy: Anti-suppression
 - h. Vision therapy: Sensory / Motor Skills
 - i. Surgery
 - j. Maintenance / Monitor Therapy
12. For ocular disease cases, discuss why you implemented or deferred a medication/treatment option(s).
13. Describe the treatment options including treating, not-treating, monitoring and others.
14. Ensure informed consent of treatment options is presented to the patient (guardian/parent) to allow sufficient information for them to choose their treatment-path.
15. If vision therapy is the patient's choice for treatment, provide a rationale for the sequencing of office- and home-therapy procedures.
16. For an amblyopia or a strabismus case where active vision therapy is NOT a significant part of treatment, discuss the rationale for and components of the sequential management considerations (see point 11) and active vision therapy program if he/she would manage the case with vision therapy.
17. Describe your protocol or strategy to help the patient (parent/guardian) adhere to the treatment for best care and success.

If applicable, as the primary managing doctor, describe your role as a part of the multi-disciplinary team in the care of the patient.

18. Describe and adequately reflect on the case including alternative treatments and identify and discuss any limitations.
19. Ensure the tables and figures are well-constructed and easy to understand.
20. Ensure the case report written clearly and concisely, free of jargon (unless the terms are identified for the reader), and without substantial amount typographic and grammatical errors. Approach the case reports as if they to be submitted for publication in a peer-reviewed scholarly journal with appropriate references (up to 15).

If English is not your native language, consider having a native English speaker who has an understanding of optometry to help proofread the paper especially for grammar and syntax.

From time to time, the Section Executive Committee will make changes to specific case report category requirements. You will be required to satisfy the new category requirement(s) if you have not previously done so. An exception will be made if the Committee is aware that you are currently working on a case report to satisfy that particular category, or if you have previously submitted a report to satisfy that particular category and are preparing that report for resubmission.

B. Case Report Topics

The requirement is to have **five (5)** clinical case reports accepted: three mandatory topics from Column A and two selected topics from the list of eight options in Column B.

Column A (complete all 3 topics)	Column B (select 2 topics)
1. Management of Significant Refractive Error	1. Non-Strabismic Binocular Vision Disorders
2. Treatment of Amblyopia	2. Learning-Related Vision Problem (Visual Information Processing)
3. Treatment of Strabismus	3. Pediatric Patient with Identified Developmental Disability
	4. Pediatric Patient with Visual Impairment
	5. Pediatric Ocular Disease
	6. Management of Childhood Myopia
	7. Management of Infant Aphakia
	8. Traumatic Brain Injury

Column A. Candidates are required to submit all three case reports in Column A:

1. Management of Significant Refractive Error:

Case should be for a child <4 years of age with previously uncorrected significant refractive error or aphakia. Prescribing rationale, any emmetropization and risk factor considerations, and effect on function (visual and other) should be discussed.

2. Treatment of Amblyopia:

Case should be for a patient with unilateral amblyopia whose treatment requires more than refractive correction only. In addition to a discussion about sequential management considerations for vision therapy, the candidate should discuss alternative treatment options that may be applicable to the case.

3. Treatment of Strabismus:

Case must be of a patient with strabismus where the treatment required is more than refractive correction alone; an unsatisfactory choice for a diplomate case report might have an accommodative esotropia that resolves entirely with hyperopic prescription or a simple low-frequency intermittent strabismus. Using sequential management considerations which include distance optical prescription, added lenses, prism, occlusion, vision therapy (amblyopia, anomalous correspondence, anti-suppression, sensory-motor skills), and/or surgery, the candidate should discuss how, why, and when in the course of care, they implement treatment(s) of the patient's binocular visual function. Thus, simply referring a patient for surgery, without any treatment provided by the candidate other than examination and diagnosis, is not acceptable. If the patient was co-managed with a pediatric ophthalmologist, neuro-ophthalmologist, physician (specializing in certain diseases that "cause" strabismus*), or optometric vision therapy specialist, pertinent treatment information from that practitioner must be included.

*e.g., endocrinologist for thyroid eye disease, neurologist for myasthenia or Multiple Sclerosis (MS)

Column B. Candidates are required to submit two case reports selected from the list of **eight (8)** topic options in Column B:

1. Non-strabismic Binocular Vision Disorders (with or without an associated accommodative or eye movement disorders):

For this case, appropriate testing should be done to diagnose/rule-out heterophoric, accommodative and eye movement disorders. Case should be managed primarily with active vision therapy and your sequential management considerations for vision therapy treatment

discussed.

2. Learning-Related Vision Problem (Visual Information Processing):

Case should include both visual efficiency and visual perceptual diagnoses and be managed primarily with active vision therapy and your sequential management considerations discussed. A case demonstrating your role as a multi-disciplinary team member is preferred.

3. Pediatric Patient with Identified Developmental Disability:

Case should include unique concerns in regards to the diagnosis and treatment of a patient with a developmental disability, as well as any referrals for additional evaluations and/or care. Any deficits found in visual efficiency and visual perceptual skills should be addressed. Discuss your role as a part of the multi-disciplinary team in the care of the patient.

4. Pediatric Patient with Visual Impairment:

Case should include unique concerns in regards to the diagnosis and treatment of a child with visual impairment, as well as any referrals for additional evaluations and/or care. The candidate should provide some level of low vision management either as the sole low vision provider or co-management with a low vision specialist. Discuss your role as a part of the multi-disciplinary team in the care of the patient.

5. Pediatric Ocular Disease:

Case should be either ocular or a neuro-ophthalmic condition or disease where active management is tailored specifically to the pediatric patient. Case should involve a condition or disease that has its onset in childhood and affects visual development and/or general health and development. Some acceptable case examples include preseptal cellulitis, glaucoma, herpes simplex keratitis, corneal ulcer, fungal infection, uveitis, active toxoplasmosis or histoplasmosis, or phthiriasis palpebrarum. A simple conjunctivitis or corneal abrasion is not acceptable. The case needs to be managed primarily by the candidate. The patient may be co-managed with other professionals and health care providers, provided that the candidate was the individual who made the visual diagnosis and provided the treatment.

6. Management of Childhood Myopia:

Case should be for a child < 15 years of age for whom a myopia control strategy was implemented. Clinical assessment, prescribing rationale, and any environmental, accommodative/vergence, familial, or other risk factor considerations should be discussed. The candidate must address rationale for, and components of, an active myopia management program. This may include pharmacological, optical (spectacle or contact lens), environmental/behavioral, or other management strategies. The case needs to be primarily managed by the candidate and requires a series of follow-up visits over a minimum of two years to address the treatment options prescribed to slow the progression of myopia.

7. Management of Infant Aphakia:

Case should be for a child < 2 years of age with unilateral or bilateral aphakia, for whom the candidate manages the refractive error with a contact lens correction. Clinical assessment, prescribing rationale, contact lens fitting process, and the management of any other vision-related sequelae (e.g., amblyopia, strabismus, secondary opacification of the visual axis, glaucoma, and require additional eye surgery, etc.) should be discussed. The case needs to be primarily managed by the candidate and involves a series of follow-up visits to illustrate the early refractive and visual outcomes. If the patient was co-managed with another eye care provider, pertinent treatment information from that practitioner should be included.

8. Traumatic Brain Injury:

Case should be a child or adult suffering from a traumatic brain injury (TBI) (including concussion) where the primary functional effects are related to sensory motor integration, binocular vision, accommodation, ocular motility, and/or visual perception. The candidate must address lens correction considerations and prescribe either active vision therapy or vision rehabilitation with adaptive technology. Additional disorders such as peripheral or central visual field loss, if present, should be managed either by the candidate or with a low vision specialist. The case should demonstrate understanding of the neurological etiology. The case needs to include appropriate integration of other health care professionals (e.g., primary care provider, neurology, occupational and physical therapy), the patient's family, employer and educator (if applicable), and other support services. This case report could be considered as a substitute for the non-strabismic binocular vision/accommodation disorders or treatment of strabismus case depending upon the presenting signs; however, for this to be a proper substitute, the candidate must have prescribed active vision therapy.

C. Substitution for Case Reports

You may substitute a published case report(s) or book chapter in place of a required written case report, if the following criteria are met:

- Must be a direct substitute for the required case report
- Was published in a peer-reviewed journal (if not a book chapter)
- You are the first author
- The Case Report Chair and Reviewers will decide whether or not the substitution requirements are met.

Generally, the information required in the publication needs to be comparable to that required for the written case report. The committee may ask for supplemental information if it is not included in the published case report (e.g., more details in regard to the office- and home-therapy program or follow-up).

Consideration will be given to applicants who no longer see a particular type of patient or do not have a case that satisfies a specific case report requirement. In such a case, the Clinical

Diplomate Committee has the discretion to make an alternate written assignment relating to that particular case report requirement.

D. Submission and Review Process

Case reports are submitted through email to the Case Report Chair. Upon receiving a case report, the Case Report Chair assigns the case report a coded number and forwards it to two Reviewers who are BVPPO Diplomates. All case reports and attached materials should be de-identified; do not include your name, the patient's name, or your practice's name. This ensures HIPAA compliance and candidate anonymity.

If the case report is returned to you for revision, the comments and questions from the Reviewers need to be addressed by revisions or explanation. Referees may ask for clarification or justification of your clinical decision making.

Each revision to the initial case report should be outlined briefly in a cover letter. Changes and additions to the case report should be made to the original document with the changes highlighted or using "track changes" provided that your name or initials are not tracked; see

http://wordribbon.tips.net/T010222_Making_Sure_Changes_and_Comments_are_Anonymous.html (You can hover your mouse pointer over a change or comment to make sure that your name does not appear).

Revised case reports will be sent back to the original Reviewers for their appraisal. A case report is considered accepted when all necessary revisions have been made and accepted by the Reviewers and Case Report Chair; the Case Report Chair will inform you when the report is accepted.

The Reviewers will likely provide suggestions regarding other diagnostic or treatment considerations, which may be helpful as you prepare for the oral examination.

Every attempt will be made to send you Reviewers' comments within 3 weeks. Candidates are strongly encouraged to work with a mentor (current BVPPO Diplomate) during this process. Once the initial case report is accepted you may submit the other case reports for review. Your final, revised case reports are provided to the oral examination team.

Early submission is strongly encouraged to allow adequate time for review and revision (if necessary). When the five case reports have been accepted by the Case Report Chair, you will have completed this phase of the Diplomate process.

E. Updating of Case Report Requirements

From time to time, the Clinical Diplomate Committee will make changes in specific case report requirements. You will be required to satisfy the new requirement(s) if you have not previously done so. An exception will be made if the Case Report Chair is aware that you are currently

working on a case report to satisfy a prior requirement or if you have previously submitted a report to satisfy a prior requirement and are in the process of revising it for resubmission.

V. EXAMINATIONS

A. Written Examination Requirements

Once you have at least one case report (not a substituted published paper) accepted, you are eligible to take the written examination. If you intend to take the written examination at that year's AAO annual meeting, please advise the Diplomate Chair by July 1st of that year.

The written examination evaluates your knowledge in the aspects of binocular vision, visual perception, pediatric optometry, and case analysis. The examination format is approximately 90 multiple-choice questions in National Board of Examiners in Optometry format and a series of short answer and/or essay questions. It may include video analysis of pediatric visual conditions. Four hours are allotted for this examination. A minimum score of 80% is required to successfully pass the examination. If you fail the written examination, all outstanding case reports must be completed and accepted before retaking the written examination at a subsequent AAO annual meeting.

The written exam is tailored to the clinical emphasis chosen- Binocular Vision & Perception (BVP) or Pediatric Optometry (PO). Approximately 75% of questions are core items and apply to both the Binocular Vision & Perception and pediatric optometry emphases. About 25% are specific to each emphasis.

Table: Proportion of items on written exam

CONTENT AREA	BINOCULAR VISION & PERCEPTION EMPHASIS	PEDIATRIC OPTOMETRY EMPHASIS
Infant visual development and refraction	5-10%	5-10%
Visual information processing	5-10%	5-10%
General development or systemic disease	2-5%	2-5%
Non strabismic binocular and accommodative conditions	10-15%	5-10%
Strabismus	15-20%	15-20%
Amblyopia	5-10%	3-8%
Ocular disease	10-15%	15-20%
Ocular associations of systemic disease including	5-10%	15-20%

traumatic brain injury		
Vision therapy	10-15%	5-10%
Pharmacology	2-5%	5-10%

B. Practical Examination Requirements

When all five case reports have been accepted and the written examination has been successfully completed, you are eligible to take the practical examination. If you intend to take the practical examination at the AAO annual meeting, please advise the Clinical Diplomate Chair by July 1st of that year.

The practical examination is typically conducted at an optometrist's office in the area of that year's AAO annual meeting. The Clinical Diplomate Vice-Chair will provide the exact time, location, and information about transportation to and from the site. Approximately 4 hours are allocated for this examination.

The practical examination is designed to evaluate the candidate's clinical competency in the following areas: technical skills (psychomotor), diagnosis (cognitive), and communication (patient, parent, other professional).

The practical examination will involve performing tests/therapy on patients. BVPPO Diplomate proctors will observe you for each patient. You will be given any necessary history and test findings, and asked to evaluate, on a patient, conditions or disorders such as those listed below. You should think aloud as you work, to explain your rationale and methods to the proctors. If you need any equipment that you do not see, please mention this to the proctors. The following represents an overview of the practical examination. There is additional information about specific procedures and equipment in the appendix.

i. Technical Skills

This area is intended to assess your ability to efficiently and accurately administer appropriate clinical procedures used in the identification, diagnosis, and treatment of binocular vision and perceptual dysfunctions (see written examination behavioral objectives for specific conditions). Each section is to be completed in approximately 30 minutes. You will be asked to assess patients in each of the following categories:

1. Strabismus/amblyopia: conduct tests to determine strabismus characteristics, comitancy, correspondence, sensorimotor fusion, and monocular fixation status.
2. Non-strabismic binocular vision/accommodation disorders: conduct diagnostic tests to measure aspects of accommodation, vergence, and ocular motility. Demonstrate vision therapy procedures for accommodation, vergence, and ocular motility.
3. Visually-related learning problem: administer and score visual perceptual/visual information processing tests.

4. Pediatric optometry: administer age-appropriate tests of visual acuity, accommodation, binocularity, eye alignment, refractive error, and ocular health for an infant/toddler or child with developmental disabilities.

ii. Diagnosis

This area assesses the candidate's ability to analyze test results obtained directly from the patient or as given to the candidate by the proctor. The candidate is required to provide the correct diagnosis for the following types of cases:

1. Strabismus and amblyopia
2. Non-strabismic binocular vision disorders
3. Visually-related learning problem
4. Examination of an infant/toddler or child with developmental disabilities
5. Pediatric Ocular Disease

iii. Patient Communication

This area is intended to assess your ability to communicate with the patient (and parent, when applicable). You will be evaluated on the content of your discussion as well as the communication style. The following categories may be discussed:

1. Comprehensive case history of a patient (or from the parent of a patient) presenting with strabismus, amblyopia, non-strabismic binocular vision/accommodative problem, visually-related learning problem, developmental disability, visual impairment or ocular disease.
2. Ability to present a comprehensive case presentation to a patient or parent of a pediatric patient with strabismus, amblyopia, non-strabismic binocular vision/accommodative problem, visually-related learning problem, developmental disability, visual impairment or ocular disease. The case presentation should include the diagnosis and prognosis.
3. Discuss informed consent of treatment options to a patient or parent of a pediatric patient of treatment-options, not-treating, monitoring or other.
4. Once treatment approached has been selected by the patient (or parent) then discuss adherence strategies to support the patient to complete the treatment plan (e.g., counselling, written instructions, tracking sheets, appropriate follow-up, etc)

C. Oral Examination Requirement

After successful completion of the case reports, and the written and practical examinations, you are eligible to sit for the oral examination. Please communicate your intention of taking the oral examination to the Clinical Diplomate Chair by July 1st prior to the AAO annual meeting.

Purpose: The oral examination is not a strict defense of your case reports. Instead, it provides candidates an opportunity to more fully demonstrate their knowledge in binocular vision, perception, and pediatric optometry, and to discuss their approach to managing these types of patients. A major objective is to assess candidates' understanding of core binocular vision, perception, visual development and pediatric disease principles, both from diagnostic and treatment perspectives, and to provide candidates an opportunity to justify their diagnostic and treatment methods and rationales.

Format: In a private setting, and in a congenial and professional atmosphere, the oral examination committee (comprised of 3-5 BVPPO Diplomates) will ask the candidate to introduce themselves and provide an overview of their patient care experience and practice setting. Then they will ask the candidate theoretical and practical questions. The Chair will structure the interview to gain insight into the strengths and weaknesses of the candidate as revealed on the written or practical examinations and accepted case reports. Areas of opportunities for learning (from the case reports, written and practical examinations) will be available to the Oral Examiners to formulate questions.

Duration: It is approximately one hour in length.

VI. SCHEDULING EXAMINATIONS AT THE AAO ANNUAL MEETING

You may take all parts of the examination sequence in one year or may elect to take specific parts of the examination as long as aforementioned requirements are met.

Typically, a candidate will start by getting their 1st case report accepted followed by writing the remaining 4 case reports while taking the written exam at their readiness. Then typically, in one year at the AAO annual meeting, the candidate takes the practical and oral examinations.

Please provide the Clinical Diplomate Chair by July 1 of your intentions for taking the written, practical, and/or oral examinations at that years' AAO annual meeting. Typically, the written is administered on Wednesday at the meeting, the practical on Wednesday or Thursday, and the oral examination on Friday. Because multiple candidates may be taking the examinations, we ask that you be flexible for scheduling during the meeting. Be sure that the Clinical Diplomate Chair has your contact information so he/she can get in touch with you during the meeting.

VII. REPEATING EXAMINATIONS

Failure to achieve the required level of performance on any part (written, practical, or oral) of the examination necessitates that part of the examination be taken again at a subsequent AAO annual meeting. Any parts of the examination that were completed successfully within the 5 year window need not be repeated.

VIII. DISCUSSION AT AAO ANNUAL MEETING

If you have taken any part of the examination process during the Academy Meeting, the Clinical

Diplomate Chair will contact you to schedule a meeting. Your progress will be reviewed and helpful suggestions provided. If you have completed all of the requirements, you will be informed of this. Upon completion of the requirements, you will be nominated for the Diplomate status in Binocular Vision, Perception, and Pediatric Optometry, which is granted by the Board of Directors of the American Academy of Optometry. We request that you attend the Academy's Leadership & Legacy Event, where you will be introduced as a new Diplomate in Binocular Vision, Perception & Pediatric Optometry.

IX. APPLICATION PERIOD

The candidate has a five (5) year period from the date of acceptance of the application to complete the Diplomate requirements. Failure to complete the requirements in this time frame will necessitate a re-submission of your application and fee and may require retaking the parts of the examination that were completed. If eligible (all 5 case reports accepted), you may take all three parts of the examination in one year; otherwise, you may take the parts for which you are eligible. The BVPPO Executive Committee has the right to extend the candidacy period in special circumstances.

X. APPENDIX

A. Examples of Case Reports

Sample case reports are posted on the AAO website in the BVPPO section.

B. Additional Practical Examination Information Evaluation of Strabismus and Amblyopia

Ocular Alignment

- Cover testing (unilateral, simultaneous prism and alternate cover test)
- Comitancy testing: alternate cover test in different action fields, red lens/Maddox rod test, Parks 3-step, versions

Correspondence Testing

- Major amblyoscope testing for correspondence (as available)
- Bagolini striated lens test
- Red lens test for correspondence
- Hering-Bielschowsky afterimage test

Additional testing: performed as necessary

- Cüppers Bifoveal Test (as appropriate)

- Haidinger's brushes and Afterimage transfer (as appropriate)

Monocular fixation Testing

- Visuoscopy

Visual Skills Evaluation/Treatment

Oculomotor Evaluation

- Objective evaluation of pursuits and saccades (4+ scale, or equivalent)
- Developmental Eye Movement (DEM) or King-Devick test

Accommodative Evaluation

- Accommodative facility
- Accommodative accuracy (MEM or Nott retinoscopy)

Binocular Vision Therapy

- Vision therapy procedures (one technique chosen by the proctor, one technique chosen by the candidate) using: Brewster-type stereoscope, Aperture rule, Vectograms or Tranaglyphs, cheiroscope (single oblique mirror stereoscope), eccentric circles, lifesaver cards (colored circles cards), Brock string, Wheatstone stereoscope

Visual Processing/Developmental Evaluation

Case History

- Detailed case history

Evaluation of Non-Motor Processing Skills

- Test of Visual Perceptual Skills (TVPS, Gardner) or equivalent

Evaluation of Visual Motor Skills

- Developmental Test of Visual Motor Integration (Beery VMI) or equivalent

Case Presentation

- Presentation of test findings to patient/parent/teacher

Preschool Examination

Visual Acuity/Fixation Preference

- Pediatric visual acuity assessment (e.g., Lea symbols, HOTV, Cardiff, Teller Cards)
- Fixation preference testing

Binocular Evaluation

- Hirschberg / Kappa
- Krimsky
- Brückner test
- Prism bar vergences

Refractive Error Evaluation

- Retinoscopy using lens bar

The following equipment will be available for your use:

- Snellen visual acuity chart; Lea, HOTV, Cardiff, or preferential looking cards
- Phoropter, chair and stand
- Major amblyoscope and targets
- Macular Integrity Tester/Trainer (Haidinger's brushes)
- Bagolini striated lenses
- Worth dot
- Afterimage flasher
- Brewster-type stereoscope with stereograms
- Brock string
- Polachrome orthopter (illuminated Vectogram holder)
- Vectograms
- Tranaglyphs
- Cheiroscope
- Aperture-rule trainer
- Free space fusion cards (e.g., eccentric circles, lifesaver cards)
- Retinoscopy lens bars
- ± 2.00 accommodative flippers
- #9 Vectogram or accommodative rock cards
- Polarized suppression check strips
- Loose prisms with red lens
- Horizontal prism bar
- Anaglyphic and Polarized filters

- Pointer
- Tape measure
- Beery Visual Motor Integration Test (VMI)– (test plates, manuals, and recording sheets)
- Test of Visual Perceptual Skills (TVPS) (test plates, manuals, and recording sheets)
- Developmental Eye Movement (DEM) Test (test plates, manuals, and recording sheets)

You are asked to bring the following equipment:

- Occluder
- Age-appropriate cover test targets
- Diagnostic set (ophthalmoscope w/ visuoscopy target, retinoscope, transilluminator)
- MEM cards
- Maddox rod
- PD ruler

The Diplomate Committee cannot guarantee which versions of the various perceptual tests will be available on site. If the candidate prefers to bring their own TVPS (or other motor free visual perceptual skills test), saccadic test (King-Devick or DEM), or standardized test of visual motor integration, s/he may do so.