NORA Skills Level II Case Report Requirements

- In order for candidates to complete NORA Skills Level II they are required to present two written patient case reports that significantly involve Neuro-Optometric Rehabilitation.

- The two cases are expected to be different in nature that will demonstrate different aspects of the candidate’s diagnostic and clinical skills. For example, the candidates should avoid having two sports concussion cases that received very similar treatment.

- The case report must be typed, 12-point font, double-spaced and submitted as a Word document or equivalent.

- Save the file and name it as FNORA Level 2 Case Report #, (Topic-Patient’s Initials) followed by your initials and date of submission:
  - For example: FNORA Level 2 Case Report One (TBI-JY) AP 3 24 19

- If the candidate’s profession is not Optometry, the case report must involve the findings and treatment from a Neuro-Optometrist in order for the case to be considered a Neuro-Optometric case report.

- Email to the NORA Fellowship Committee Chair Dr. Derek Tong OD FAAO FCVOVD FNORA at odtong@yahoo.com

Case report

Abstract (confine to no more than 200-350 words)

It should consist of these sections: BACKGROUND, CASE REPORT, CONCLUSIONS followed by 3 to 8 KEYWORDS. The abstract should briefly summarize the patient’s background, findings, treatment and outcome.

ABSTRACT (Sample)

**Background:** Traumatic brain injury (TBI) is common and one in every five cases of TBI was caused by motor vehicle accident. Patients with TBI were found to have high prevalence of vision symptoms and dysfunctions. We are reporting a patient who sustained a TBI from a motor vehicle accident and received treatment by a developmental optometrist with Neuro-optometric rehabilitation and a physical therapist with Integrative Manual Therapy™.

**Case Report:** A 28 year old Caucasian male was examined for a Neuro-optometric evaluation. His vision problems started after he sustained a TBI due to a car accident 11 years ago. His main symptoms included reading difficulties, ocular pain, headaches, and depth perception problems. The evaluation revealed binocular dysfunction, accommodative dysfunction, oculomotor dysfunction,
reduced peripheral visual awareness, and visualization anomalies. Treatment included 20 sessions of weekly office-based optometric vision therapy, home-based syntonics, primitive reflex integration, and single vision lenses with base-in prism. He also received approximately 13 sessions of Integrative Manual Therapy™ over a 11 month period which began 5 months prior. At the 1-month post vision therapy progress evaluation, he reported significant improvement in symptoms. Shortly after, his family relocated back to his home state. Maintenance home-based visual activities were prescribed and he was recommended to continue his care with a developmental optometrist in his area. A phone follow up 15 months later indicated that his symptoms had remained stable.

**Conclusion:** Patients with TBI secondary to car accidents can suffer detrimental vision symptoms. This case illustrates that significant improvement of symptoms and quality of life of a TBI patient is possible as long as 11 years post injury.

**KEYWORDS:** Traumatic Brain Injury, motor vehicle accident, Neuro-Optometric Rehabilitation, Optometric Vision Therapy, Integrative Manual Therapy™, Syntonics, Primitive Reflex, Base-in Prism.

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**Introduction**

_In order to retain the confidentiality of the patient, do not include the name, date of birth, address, phone number of the patient._

I. **History (review):**

A) Patient’s initials; age, gender, occupation, educational background, work status, marital status, family composition, patient’s level of dependence/independence

B) Referring professional(s) and their areas of specialization

C) Referring professional’s reasons for the referral

D) Patient’s reasons for the consultation

E) Date of onset and details of presenting symptoms and signs of the neurological dysfunction: areas and degrees of disablement, levels of pain and/or discomfort; effects on normal daily living

F) Condition/s (inherited or acquired, acute or chronic, related to disease, trauma or injury, sensory and/or motor loss (e.g. TBI, Stroke, brain surgery etc.)

G) History of medical, and surgical treatment and list of medications

H) Previous rehabilitation services received

I) A brief summary of the results from other disciplines.

J) Patient's overall functional abilities (speech, mobility, alertness, etc.)

K) Overview of patient's and patient’s family functional global goals in resolving patient’s problems
L) Patient’s and family’s expectations from this consultation within the broader perspective of the global goals

II General Background information on the existing conditions (for example, TBI, Stroke). Include references.

III Based on the patient’s history, what specific areas are you interested in evaluating? Why?

IV Patient assessment/s

Candidates should consider the following tests. Your selection of tests will be reviewed. In addition, testing that was omitted should be explained if there are specific reasons not to perform or if it should have been performed. Non-optometric candidates should attempt to gather these findings from the optometric evaluation prior to the referral to you or after your referral to the optometrist, as well as any information you gathered during the vision screening that triggered the referral.

A. Visual analysis:

a. Eye health external and internal: biomicroscopy (corneal and lenticular reflexes, media transparency and light transmissibility), tonometry (eye pressure), ophthalmoscopy. Dilated Fundus Examination results and who/when to be performed (if not done).

b. Ocular measurements: size and position of eyes; horizontal and vertical diameters and configuration of the palpebral fissures; degrees of symmetry/asymmetry, proptosis or retraction, ptosis; size of cornea, iris; size and shape of pupils, Hirshberg reflex test

c. Visual sensory evaluation: visual acuity at distance and near (right eye, left eye, and both eyes); pupil responses to light direct and consensual and accommodation/convergence; pupil size range from scotopic , through mesopic to photopic stimulation; stereopsis, ocular dominance, right, left and both eye visual projection and midline testing; visual field testing (to rule out hemianopsia etc.); color vision testing.

d. Objective and subjective refraction at distance and near, best corrected visual acuity (right eye, left eye)

e. Binocular and oculomotor evaluation: monocular and binocular ocular motility, pursuits, saccades, ocular dominance, ocular muscle balance at far and near; amplitudes of accommodation, near point of convergence, positive and negative fusional reserves; tests of oculomotor comitancy (if strabismus is present); positive and negative relative accommodation and convergence, accommodation
B. **Integrative sensory-motor assessments.** Should include at least one test for Visual Midline Shift Syndrome. Test may include evaluations of reflexes, vestibular functions, static and dynamic body posture, balance and basic orientation, touch, proprioception, kinesthesia, taste/smell, vision, handedness, footedness, eye/hand, eye/foot coordination, body coordination and audition speech motor.

C. **Integrative Perceptual-motor assessments.** Should include at least one test for balance and gait (walking). Test may include perceptual tests which relate to answering questions of what, where, when, how and why with regard to object localization and identification and pertain to perspective, shape and size constancies, visual and auditory memory, recognition of likes and differences, separation and togetherness, spatial and temporal orientation, classification and categorization, copying ability, hand and finger dexterity.

D. **Integrative cognitive assessments.** Tests may include tests of concentration and attention, intelligence/cognitive screening, short and long-term visual memory, visualization, vocabulary and language skills, reading accuracy, comprehension and reading speed, number and sequencing skills, deductive and inductive reasoning, writing ability, spelling ability.

V. **Diagnosis/Impression - Details of the diagnosis should include the candidate’s diagnosis, arrived at after conducting his/her examinations and reviewing the reports of examinations of other practitioners from other disciplines.**

VI. **Case conference and discussions**

A. In conjunction with the patient and the patient’s family or support system

B. Coordination of care and/or report to other disciplines

VII. **Treatment/Management Plan (including the planned integration with other disciplines)**

Are lenses (such as low plus or other therapeutic lenses) prescribed? If not, would they likely be helpful? (and why)

Are prisms (such as base-in prisms) or yoked prisms prescribed? If not, would they likely be helpful? (and why)

Are tints prescribed? If not, would they likely be helpful? (and why)

Are occlusions (such as Binasal Occlusion) prescribed? If not, would they likely be helpful? (and why)
Is Optometric Vision Therapy prescribed? If not, would it likely be helpful? (and why)

VIII. Prognosis and prospects for successful outcomes
IX. Follow-up plan for re-evaluations
X. Future/Life-long care plan (if applicable)
XI. Summary / discussion
XII. What would you have done differently with this case?
XIII. Include a reference section for special treatment that was rendered

The references section should follow the reference format of a peer-reviewed optometric journal such as Vision Development and Rehabilitation

https://www.editorialmanager.com/vdr/account/Authors_Final.pdf

or Optometry and Vision Performance

https://www.ovpjournal.org/author-guidelines.html

Sample Case Reports:

Vision Dysfunctions after Motor Vehicle Accidents: a Case Report


Visual Field Defects secondary to a Cerebral Vascular Accident


From Braille to Quilting: a Neuro-Optometric Case Report