**Interventions to address Vision and Visual-Perceptual Impairments to Optimize Occupational Performance in Adults with Acquired Brain Injury: A Cross-Sectional Survey of Occupational Therapy Practices**

**Objective of the study**: The aim of the study is to investigate the current occupational therapy treatments offered to individuals of the adult population with vision and visual-perceptual impairments secondary to an acquired brain injury (including but not restricted to stroke, brain tumours, traumatic brain injury) as well as exploring the gaps between these practices and evidence-based interventions.

**Instructions**: You will be presented with a list of interventions categorized according to the vision or visual-perceptual impairments (visual acuity, visual field, oculomotor functions, visual stress) and will be asked to answer with a Likert-scale (*Never, Rarely, Sometimes, Often, Always*) about the frequency of your use of the listed interventions in your practice. There will also be comment sections available after each intervention, if you wish to give your opinion on these.

**Duration of the survey**: 25-30 minutes

**Inclusion criteria**:

Are you an occupational therapist working in Canada?

[ ]  Yes [ ]  No

In the past 5 years, have you worked with adult patients presenting vision or visual-perceptual impairments as a result of ABI?

[ ]  Yes [ ]  No

If you don’t meet these criteria, please do not proceed to the completion of the survey.

**Visual Acuity**

**Definition**: The ability to see small detail. Deficits in visual acuity may result from the disrupted ability to focus light onto the retina, as well as the retina’s inability to correctly process an image formed by the central nervous system (Warren, 2013).

1. **How frequently do you use the following intervention methods when treating visual acuity impairments?**

**In the comment section for each intervention, you can explain why you are or are not using it in your practice.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | Comments |
| **Refer to optometrist/ophthalmologist for optical devices (e.g. prescription for eyeglasses, magnifiers, etc.)**  |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Refer to Low Vision Center for access to RAMQ issued low vision optical aids, high technology devices/technology (e.g. electronic magnifiers, closed circuit television) or specialized rehabilitation services** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Compensatory: Implementation of general principles to increase the visibility of the task/environment** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Contrast | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Bright colors | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Optimal lighting | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Enlarged objects/print | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize pattern | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize visual clutter | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Organization | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Simplification of the task | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Non optical assistive devices (e.g. large print telephone)** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Management of glare sources**  |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Covering reflective surfaces | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Use of colored filters (e.g. tinted lenses, tinted overlay (for on top of paper)  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Positioning recommendations to avoid glare sources | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |

1. **Are there any other interventions you use in your practice to minimize the impact of visual acuity impairments on occupational performance that are not mentioned in the survey?**

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|  |

**Other comments:**

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**Visual Fields**

**Definition**: Refers to what can be seen when looking straight ahead. Visual field deficits may result from damage to the optic pathway that transmits information from the retina to the central nervous system, or damaged receptor cells found in the retina. The most common visual field deficits following a brain injury is homonymous hemianopia (Warren, 2013).

1. **How frequently do you use the following intervention methods when treating visual fields deficits?**

**In the comment section for each intervention, you can explain why you are or are not using it in your practice.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | Comments |
| **Refer to optometrist/ophthalmologist for optical devices** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Prism | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Occlusion  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| “Total occlusion is achieved by means of a patch or opaque tape on the client’s glasses.” “With partial occlusion, an opaque material added to the client’s glasses blocks input to the central visual field, leaving the peripheral field unobstructed.” (Radomiski & Trombly Latham, 2013). |  |
| **Placement of items in the field of good vision** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Increase awareness of visual field loss** |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Visual scanning training** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Scanning activities in a static position for near/intermediate distances (e.g. scanning worksheets, scanning activities on computer. | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Scanning activities in a static position for far distances (e.g. find targets on a wall) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Scanning activities in a dynamic position (e.g. find targets while walking) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Dynavision  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Place items in the field of poor vision | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Scrolling text for reading**  |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Anchoring techniques for reading** (e.g. a bright ruler placed vertically on left margin) |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Anchoring techniques for activities of daily living** (e.g. a bright piece of tape placed on the left side of table) |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Saccadic eye movement training for reading** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Training for vertical oriented text reading** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Vision Restorative Therapies** “a subset of vision therapy, are remedial interventions that attempts to stimulate the impaired visual field by introducing lights, letters, or objects randomly outside the intact field of view.” (Berger, Kaldenberg, Selmane & Carlo, 2016) |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Audiovisual Stimulation (AVT)** “consists of scanning training in which a visual stimulus, typically illumination of light-emitting diodes, is presented accompanied by a white noise auditory stimulus.” (Berger, Kaldenberg, Selmane & Carlo, 2016) |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Implementation of general principles to increase the visibility of the task/environment** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Contrast | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Optimal lightning | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Enlarged objects/prints | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize pattern | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize visual clutter | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Organization | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Simplification of the task | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |

1. **Are there any other interventions you use in your practice to minimize the impact of visual field impairments on occupational performance that are not mentioned in the survey?**

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**Other comments:**

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**Oculomotor Function**

**Definition**: The ability to focus an image on the fovea of both retinas, and maintain this focus as long as needed. Oculomotor deficits may result from the inability of the eyes to align with each other. Significant differences in acuity and alignment may result in diplopia (Warren, 2013).

1. **How frequently do you use the following intervention methods when treating oculomotor deficits?**

**In the comment section for each intervention, you can explain why you are or are not using it in your practice.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | Comments |
| **Refer to optometrist/ophthalmologist for optical devices**  |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Prisms  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Taping/patching | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Filter or absorptive lenses | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Vision therapy exercises in conjunction with an optometrist** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Red/green tranaglyphs | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Aperture rule | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Activities to obtain fusion | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Pencil push-ups | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Brock string exercises | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Refer to physiotherapist for oculomotor exercises** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Audiovisual stimulation (AVT)** “consists of scanning training in which a visual stimulus, typically illumination of light-emitting diodes, is presented accompanied by a white noise auditory stimulus.” (Berger, Kaldenberg, Selmane & Carlo, 2016) |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Anchoring techniques** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Red/green reading sheets** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Gaze stabilization activities to work on eye movements, pursuits and saccades** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Word games and puzzles | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Computer activities | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Worksheet | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Vergence-based oculomotor rehabilitation | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Refer to Low Vision Rehabilitation Centre for access to optical aids, high technology devices/technology and specialized rehab services.** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |

1. **Are there any other interventions you use in your practice to minimize the impact of oculomotor function impairments on occupational performance that are not mentioned in the survey?**

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**Other comments:**

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**Visual Stress**

**Definition**: The distortion and discomfort experienced with the inability to see comfortably (Wilkins, 1995).

1. **How frequently do you use the following intervention methods when treating visual stress?**

**In the comment section for each intervention, you can explain why you are or are not using it in your practice.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | Comments |
| **Refer to optometrist/ophthalmologist for optical devices or therapy (e.g. filter or absorptive lenses, tinted/colored lenses, sunglasses)** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Visor** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Binasal Occlusion** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| **Implement general principles to decrease the luminosity of the task/environment** |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |
| Reduce contrast | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Reduce brightness (room, screen) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Reduce blue light on electronic devices | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Optimal lightning | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Tinted filters | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Filters/colored overlays | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Reduce glare on surfaces | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Typoscope | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Enlarged objects/prints | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize pattern | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Minimize visual clutter | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
| Simplification of the task | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |
|  | *Never* | *Rarely* | *Sometimes* | *Often* | *Always* |  |

1. **Are there any other interventions you use in your practice to minimize the impact of visual stress on occupational performance that are not mentioned in the survey?**

**Are there any other interventions for visual stress that you use in your practice that is not mentioned in the survey?**

|  |
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|  |

**Other comments:**

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**Sociodemographic**:

**Please complete the following items.**

|  |  |
| --- | --- |
| Age: [ ]  20-25-year-old[ ]  26-30-year-old [ ]  31-35-year-old [ ]  36-40-year-old [ ]  41-45-year-old [ ]  46-50-year-old | [ ]  51-55-year-old [ ]  56-60-year-od [ ]  61-65-year-old [ ]  66-70-year-old[ ]  71-year-old ≤ |
| Sexe: [ ]  Male[ ]  Female [ ]  Other |  |
| Level of education: [ ]  BSc. Occupational Therapy [ ]  MSc. Occupational Therapy[ ]  PhD. Occupational Therapy |  |
| Practice setting: [ ]  Hospital [ ]  Private clinic[ ]  CLSC (Quebec)/ Home care [ ]  Rehabilitation Center | [ ]  Canadian National Institute for the Blind[ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Number of years of experience as an occupational therapist: [ ]  ≤ 5 years[ ]  6-10 years[ ]  11-15 years [ ]  16-20[ ]  21 years ≤ |  |
| Number of years of experience working with a population with vision and visual-perceptual impairments secondary to an ABI: [ ]  ≤ 5 years[ ]  6-10 years[ ]  11-15 years[ ]  16-20 years [ ]  21 years ≤ |  |