Texas School for the Blind & Visually Impaired Outreach Programs

CVI Study Group 1: CVI Symposium - Lotfi Merabet

October 15th, 2018

Facilitated by

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Today’s Agenda
- New PSA!
- CVI Symposium: The role of the thalamus
- Planning for the next study group

PSA Connectivity
- Brain processes information by cycling information to different areas
- CVI: this cycling is interrupted
- http://www.perkinselearning.org/cvi/educators/symposium/2018
  2018 Symposium_Bauer_Bennett_Merabet 8:36-12:30

Visual Pathways

![Image of visual pathways](Figure 1: Image of visual pathways)

<table>
<thead>
<tr>
<th>Parvo Cells</th>
<th>Magno Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority of cells in LGN: 85-90%</td>
<td>Minority of cells in LGN: 10-15%</td>
</tr>
<tr>
<td>Small receptive field</td>
<td>Large receptive field</td>
</tr>
<tr>
<td>Slow conduction rate</td>
<td>Fast conduction rate</td>
</tr>
<tr>
<td>Low contrast sensitivity</td>
<td>High contrast sensitivity</td>
</tr>
<tr>
<td>Able to differentiate detailed stimuli</td>
<td>Able to differentiate only coarse stimuli</td>
</tr>
<tr>
<td>Color sensitive</td>
<td>Color blind</td>
</tr>
</tbody>
</table>
Processes information about color and detail | Processes information about depth and motion

Thalamus

Figure 3: Photo of bathroom

CVI Systems

- Vision affects all Development
- CVI during Development vs. Acquired
- CVI as Office Building

Enhance Plasticity

- Multisensory and Sensorimotor
- Environmental challenges
- Exercise

Ocular VI or CVI?

Figure 4: Image of visual pathways

Next Study Groups: back to the 3-4 time slot on Mondays

December 10th, 2018    February 11th, 2019    April 15th, 2019

In the chat box:

- Write your email/name and the date when you want to let the group look at your student and give you ideas for things to try. Lynne will contact you!
- Write your email/name and a special topic in CVI if you would geek out, like Lynne did.

Texas School for the Blind & Visually Impaired Outreach Programs
CVI Study Group 1: CVI Clinic 2018-19
Thank you for joining us!

References:

- CVI_Symposium_Bauer_Bennet_Merabets
  http://www.perkinselearning.org/cvi/educators/symposium/2018
- Thalamic Attention
  https://www.coursera.org/lecture/neurobiology/thalamic-attention-qNi4P
- Parvo and magno diagrams:
  Early divergence of magnocellular and parvocellular functional subsystems in the embryonic primate visual system. Claire Meissirel, Kenneth C. Wikler, Leo M. Chalupa, Pasko Rakic
  Proceedings of the National Academy of Sciences May 1997, 94 (11) 5900-5905; DOI: 10.1073/pnas.94.11.5900
  http://www.pnas.org/content/94/11/5900
  https://www.ucalgary.ca/pip369/mod2/visualpathways/magnoparvo
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