Particularly Potent Patient Procedures: Post-Pandemic*

(*We hope!)

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Abstract:

Presenting suggestions, resources and methodologies to benefit patient care and office efficiency.

Vision Therapy

Visual Mem & Visual-Spatial, Sensory and Motor

Tachistoscope **(Android) Pawan Salanki cf. "Tumbling E" target**
(Variable Shutter speed, interval delay, Starting delay)

Another take on Visual Memory:

Impossible Speed Reading **Game (iOS) Gamma Lateral**

Visual Memory and Eye Movements:

Speed Reading - Reader

Visual Attention Therapy **(iOS) (Lite version is free) Tactus Therapy Solutions**

(Modes for testing and for training/intervention)

Figure-Ground

Doodle Pop **(iOS) "Find the Double"**

Find Out: Find Hidden Objects **(Android)**

Elements of Scanning & Figure Ground.

Hidden Objects – Doodle Puzzle **(iOS)**

Hidden Doodles **(Android)**

Find Stuff **(Android)**

Discrimination

Find the **Difference: Spot Fun (iOS)**

Find the Difference – Spot it **(Android)**

Various Visual-Motor Skills

Dexteria **fine motor skills VMI (iOS/Android) Binary Labs Other modules available**

Of interest: ***OT at Home*** **(iOS)**

OT Mom learning

ot-mom-learning-activities.com [/figure-ground-perception.html#ToddlerFigureGround

(website gives ideas for skills such as Gross/Fine Motor, Midline Crossing. VMI, intersensory/SI)

eyecanlearn.com/perception/

Techniques for

- **Visual Discrimination**
- **Sequential Memory**
- **Spatial Relations**
- **Figure-Ground**
- **Visual Closure**
- **Form Constancy**

Among the tasks:

“Find the ladybug.”

Another method for visual memory training: Series of objects shown on screen for 30 sec; task to remember as many as possible.

Main page has suggestions for tracking, pursuits, saccades.

Pacing

For VT activities, if you need a metronome for timing:

Besides numerous metronome apps available, e.g.,

Smart Metronome & Tuner (iOS)

Simple Metronome (Android)

[both at no charge, plus others that are paid, or offer in-app purchases]

there is also a free selection on the Web, using a browser, e.g.,

metronomeonline.com

metronome-online.com

musicca.com/metronome

metronom.us

online-metronome.org

app.soundgrail.com/metronome

8notes.com/metronome

metronome.click

Binocularity – Anaglyph generation

Stationary anaglyphic targets

Over the last number of years, I've spoken on tools to generate anaglyph videos, using cues such as parallax – here are two methods to produce anaglyphic stills from photos. It is especially helpful if doing home or remote therapy. You can send materials home with patients without being concerned with their not returning them. (It is possible to use Photoshop to create an anaglyph from a single jpeg image - or from a side-by-side stereo pair - giving you control over disparity, among other things, but it involves isolating color channels, and can be complicated. There are easier ways.)

(These can sometimes get better results than do the phone apps.)

One of the free *online* tools within convertimage (red/cyan for best cancellation; red over OS):

convertimage.net/online-photo-effects/create-anaglyph-stereoscopic-3d-images-online.asp#example-stereoscopic-3D-effect

https://www.mockofun.com/tutorials/anaglyph-3d/

(Also allows creation of a color fringe, a chromatic aberration effect [not needed for therapy])

Moving anaglyphic targets

Note that on the Roku platform, all the private channels were disabled last winter. In addition, alas, the Roku channel *DriveinClassics*, which was a public channel that had been there for years (I last mentioned it four years ago), with free access to 35 full-length films in anaglyph format, has been removed as well.

Fortunately, there is still a selection of some anaglyph films available online.

Among them:

On *YouTube*:

***Revolt of the Zombies* '36**
Bela Lugosi's *Invisible Ghost* '31 and *The Devil Bat* '40
***Bride of the Gorilla* (Lon Chaney) '51**
Halloween Stories
***Chucky 3D* (Fan film)**

The Roku platform had Alfred Hitchcock's *Dial M for Murder* in Anaglyph available free for years, but it's not there anymore.
(When it first came out in theaters in 3D, almost 30 years after it was filmed, I suggested that strabismics should be able to get in for half price)

You can still buy the film in 3D Blu-ray (BD) format, but Active Matrix (or even a passive 3D-TV system) requires much more extensive and expensive equipment, both to read the disc, and to display the images. For anaglyphs, you do not have to buy major equipment. If you want a large display for more periphery, you can get an LED projector for under $100 (previously discussed and demoed), to which an HDMI anaglyphic signal can be input in a somewhat darkened room. Anaglyph glasses are inexpensive, and are more suited to use with a trial frame, with lenses or prisms – cf. Prism Reader in free space. The larger the target, the better.

You may notice from the above selection - & these are only some of those available - as it is not advisable to show horror flicks to 10-yr-old VT patients, you have 2 nice cartoons there, & some other selections,

<u>Some Anaglyphic Cartoons on YouTube</u>

Big Buck Bunny
Looney tunes - *Coyote Falls*

Roller coaster simulations (several)
Log Flume simulation: *3D Video Water Slide*
3D Dinosaur Video [also posted elsewhere under different titles]
***Inside a Tropical Forest* 3D (24 min)**

CO River Rafting simulation: *Grand Canyon 3D* Anaglyph (45 min)

… and some other shorts that I've shown in past years.

There are some 3D videos in side-by-side mode on YouTube, such as *The Last Man on Earth* ('64) with Vincent Price

***VLC Media Player* has an anaglyph mode (to display a side-by-side format (on local disc) as an anaglyph)**

I have converted some 2D videos myself, using tools I've described previously - and you can convert on the fly as well. I've shown two tools in previous presentations, to accomplish that. At least four have been developed, three of which have been marketed.

In addition, some or most 3D Blu-ray players have an option to convert 2D DVDs and BDs to 3D on the fly – but they generally convert to side-by-side format. If you want an anaglyphic display, you would then have to pass the signal through another converter. I showed one such apparatus several years ago, which is no longer manufactured, though you can occasionally find it on eBay.

Low Vision and Assistive Technology*

Handheld Electronic Magnifiers affordable to many LV patients

eyoyousa.com

koolertron.com

humanware.com

irie-at.com

Future Call Picture Phone - available on Amazon - An example of a phone for Low Vision patients, with not only large print, but the ability to put photos into the speed dial directory, & an emergency button. Several models. Amplification, Hearing aid compatible. It's marketed for Low Vision patients & senior citizens.

Echo Frames – Smart Audio glasses with Alexa amazon.com

Letting the advantages of Amazon Alexa accompanyyou as you walk around, including all the sensory information you can get by voice, and all the motor activity you can accomplish by voice, such as turning on lights, voice calling & even having it read much of your Kindle library to you. Polarized sunglass lens, UV400 protection, blue-light filtering, Rx-ready. You still need your phone nearby, as it connects through Bluetooth.

(Note that having a strong electromagnetic field next to the skull for an extended time can potentially be harmful.)

There are other options for smart glasses, each with different functions

***Seeing AI*, an app which I have mentioned over the last several years. reads text, recognizes paper money from many countries, tells you what is in the room around you, recognizes colors, estimates the age of people – even works w/ faces. Some indoor navigation on iOS 14ff. No charge for the app, but of course there is one limitation: there are more Android users than iPhone users world-wide, & it works only with iOS.**

***Envision AI*, also just called the Envision app, has similar function, and available for both iOS and Android. Free since July, Reads text in over 60 languages. Content can be edited and exported. Scene descriptions. Reads handwritten text in some languages, detects color, scans barcodes. Finds objects around you. You can teach it to recognize familiar faces.**

The app, which is free, can be used alone, & it's pretty useful itself, but you can pair it with their glasses, which can identify what you are seeing

letsenvision.com

It has a Feature called *Call an Ally* – you can designate people - they will see YOUR view, what you are seeing, so if the patient cannot see or visually process what he or she is seeing, the ally can identify it as an "Envisioner."

***Iris Vision for LV* – Wearable Low Vision Glasses irisvision.com**

Magnifies, isolates small areas of text, almost like a sophisticated typoscope, Can function as a bioptic, has Optical Character Recognition (OCR), built in, & it has reverse telescope capabilities - it can expand the periphery for an RP patient. It works with Voice control.

***Lazarillo Accessible GPS* (iOS, Android Free)**

An app for Navigation, that is designed for those with visual impairments, & it is made for walking, as opposed to many GPS apps that are primarily designed for driving. It gets input from various sources, and it works indoors in many places. It has access to the layouts of quite a few museums & hospitals, for example, so it can tell you how to get around within a building or a campus. It will find accessible routes to a destination, if they are available.

***Be My Eyes* (iOS, Android)**

Maintains network of volunteers around the world; the app connects the user in a live videochat with a volunteer, to identify things & help them get around. Available in about 180 languages. Any adult can offer to volunteer in any language in which he/she is fluent. You would get calls only during daylight hours in your time zone.

***WeWalk* – *Smartmap* (iOS, Android Fee-based, 14-day trial)**

Another Navigation app – which will help getting around, assisting with those who have difficulty with visual navigation, and also sensitive to those who need accessible navigation. It will TELL you, for example, when to get off the bus. For iOS and Android, but it does have a fee associated with it. Especially for someone with more profound vision loss, for a few hundred dollars more, it integrates with a remarkable smart cane that has won awards - it has a sensor built in, and will vibrate when it encounters an obstacle (but not when they're close to the ground, so you still have to use it as a cane for anything below the waist). The WeWalk Cane is valuable to someone with profound vision loss, but the average Low Vision patient can get much use from the app itself, even without the cane.

Not specifically intended for LV use, *RayNeo X2* Augmented Reality Glasses introduced at CES by TCL, projects microLED displays hovering in front of the eyes, capable of GPS navigation, auto-translation, messaging and phone-call notification. The headsets can also be used for photography and videography. Projected to be available within the year.

Lumus also highlighted a light-weight spectacle with the latest AR capabilities built-in, but unlike most AR models, is discreet enough that it could be mistaken for an ordinary spectacle frame, so it doesn't stand out when used in real-world situations.

Both have an option for Rx lenses

In terms of Assistive Technology for other disabilities, note that as of 10/22, OTC Hearing Aids have received FDA approval for sale to those with perceived mild-to-moderate hearing loss. Concerns are similar to those relating to the sale of OTC reading spectacles.

Systemic Health / Practice Management

airestech.com

Several brands of low-rad headphones: Kinden, Aircom, DefenderShield

WT2 Edge/W3 Translator Deluxe (Translation Earbuds) timekettle.co

***NorbSMILE* "Sunlike" Full-Spectrum LED norblighting.com**

Power Stations for backup, in case of power failure:

allweishop.com

jackery.com

powkeypower.com

grecell.com

bluettipower.com