BOAF/EASO presentation

Case study 1:

Mild traumatic brain injury

William Fox-Pitt
Mild traumatic brain injury

This gentleman came off a horse, during an “Event” in France

- Fox-Pitt was placed in an induced coma for 2 weeks after falling at the World Young Horse Championships in Lion-D'Angers on 17 October.
- He was treated in France before returning to England.
- Fox-Pitt is GB’s most successful rider with 20 major championship medals.
- His horse Reinstated was unharmed in the incident in Western France.
• Fox-Pitt, who is based at Sturminster Newton in Dorset, won Britain's top event - the Mitsubishi Motors Badminton Horse Trials in 2015

• During a stellar career, he has collected 20 major championship medals, including three Olympic team podium finishes and six European team gold medals as a lynchpin of Great Britain's eventing team.

• He is widely viewed as the pivotal figure in Great Britain's eventing team medal bid at the Rio Olympics next summer, where he is expected to ride his 2015 Badminton champion Chilli Morning.
Presenting symptoms

• Score 46
Assessment report

• Head position – upright
• Marked head turn to his left
• Shoulders level
• Limitation of left eye movement to his left – left VI th nerve palsy?,
• Left esotropia
• Convergence – difficulty with convergence, slow to respond and NPC variable
• Pursuit tracking smooth, however as eyes turn, there is an eye “jump” as he switches eyes as his eyes move to the left – alternating fixation
• Saccades x axis - accurate – using monoc fixation
• Saccades y axis - accurate – using monoc fixation
• Saccades z axis – difficulty switching attention from far to near and back again
• Unaided VA R 6/5, L6/6
• Refraction R plano, Add +1.25
• L plano. Add+0.75
• To assist the eyes working together needs approximately 3 PD base out e/e Distance and Near to give some level of binocular function
Static coherence and motion coherence thresholds within normal limits indicating “normal” magno and parvo processing!!
Muscle balance

Howell at distance 18 eso

Maddox rod at near

5eso  9eso  13eso

3eso  12eso  17eso

6eso  11eso  11eso
Visual fields – Humphrey FDT

Some reduced sensitivity in left field of both eyes
Visual fields campimetry

- Full awareness of white (magno) field, Reduced detailed (parvo) fields, mild spirals on level 2 fields
- Enlarged and displaced blind spots indicating problems at C1, C2
Hospital fields from ophthalmologist in France
VO star

Demonstrating excess convergence of LE and “stress at near”
Hess plots from ophthalmologist in France
Eye tracking assessed by Mr Patch software

Initially measured with head in primary position

- Each dot represents a point where the eye had to fixate for the brain to obtain meaning from what the eye was seeing
- Numerous fixation spots, demonstrating the difficulty he was experiencing trying to work out what he was seeing
- Lots of confusion in attempting to read and slow pace
- Marked difference between eye positions both laterally and vertically
Bob looked down the street.
A man was riding a gray pony.
“Five pennies a ride,” said the man.
Bob got five pennies from his mother.
He went for a ride down the street.
Then Bob came back on the pony.
“Stay on the pony,” said the man.
He took Bob’s picture on the pony.
Bob gave his mother the picture.

Fixation analysis

<table>
<thead>
<tr>
<th></th>
<th>Total number of fixation</th>
<th>Duration (sec)</th>
<th>Span of Recognition</th>
<th>Fixs/100Words</th>
<th>Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>183</td>
<td>0.16</td>
<td>0.23</td>
<td>0.33</td>
<td>300</td>
</tr>
<tr>
<td>Right</td>
<td>181</td>
<td>0.17</td>
<td>0.26</td>
<td>0.34</td>
<td>297</td>
</tr>
</tbody>
</table>

Sample text analysis

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading time (sec)</td>
<td>76</td>
</tr>
<tr>
<td>Number of words</td>
<td>61</td>
</tr>
<tr>
<td>Words per minute</td>
<td>47</td>
</tr>
</tbody>
</table>
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
With extreme head turn to his left (a position he has adopted to reduce visual confusion)

(this picture was taken and copied from an interview by the BBC at Xmas on his website)

We re measured his eye tracking see next slide
Just by this head turn
Reading speed improved from 47 to 154 wpm!

Jane had a new white kitten. She took the kitten out to play. Then two big black dogs ran by. The little kitten was afraid of dogs. Up a tree went the little kitten. Jane called and called to her kitten. The kitten did not come down to Jane. Mother put some milk under the tree. The kitten came down for the milk.

<table>
<thead>
<tr>
<th>Fixation analysis</th>
<th>Total number of fixation</th>
<th>Duration (sec) Mean</th>
<th>Std. Dev.</th>
<th>Span of Recognition</th>
<th>Fixes/100Words</th>
<th>Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>41</td>
<td>0.10</td>
<td>0.15</td>
<td>1.54</td>
<td>65</td>
<td>1</td>
</tr>
<tr>
<td>Right</td>
<td>60</td>
<td>0.12</td>
<td>0.17</td>
<td>1.05</td>
<td>95</td>
<td>1</td>
</tr>
</tbody>
</table>

Sample text analysis
- Reading time (sec) 24
- Number of words 63
- Words per minute 154
With an amazing change in saccades and left eye “out of the way”
Considerations for VT program set up

• Background brain injury problem leading to inward eye turn of LE and limited movement of LE to turn out and up – (muscle/neurological problem). Some field loss to left side. He has developed a head turn to reduce visual confusion by “effectively” blocking LE input by putting nose in the way.

• The left eye is over converging affecting space and time organisation, giving him double vision

Goals we want to achieve
• Recovery of eye movements of LE
• Reduce over convergence of the eyes
• Improved ability to organise and co-ordinate the eyes
• Remove diplopia
• Improved fields
• Improve spatial awareness and organisation
• Improve balance
• Recover visual field loss

Ultimate Goal
• Allow him to compete at Rio!
Whilst waiting for therapy, he was given plano lenses with binasal strips

- Later, as therapy progressed, the nasal strip was removed from the right dominant eye. Later removed altogether

- Bi nasals proved very successful in reducing visual confusion

- First 4 sessions of VT set up to see impact of therapy
Session 1, 18th Jan, 2016

- Px comments/observations
- Translid Binocular Interactor TBI
- Binocularity/nascentisation
- Syntonic filters Theta followed by Mu delta
- Campimetry
- VO star
- Cross crawl organisation of oculomotor system and brain integration
- Brain buttons organisation of oculomotor system and brain integration
- Bar rotator (rods with coloured lights), start looking at one of the lights nearest centre. Start monocularly with LE. After each circuit, get him to look at next colour out until gets to edge. Repeat with RE and then again with LE. If not too tired repeat with rotator in opposite direction. To stimulate and drive eye muscles
- Monoc walking back and forth to hart chart to drive accommodation and assist balance awareness

Patients Progress:
William was well this morning. He has just enjoyed a holiday in Barbados. He has been wearing the spectacles with the occluded centres. They improve his vision and when he takes them off this improvement holds for about 5 seconds.

TBI – 6 minutes:
Not done today since William had a couple of seizures following his accident.

Binocularity – 3 minutes:
William was seeing both red and green. The green was clearer and slightly higher and further away. The red was fuzzy and nearer and lower. By the end of the session he was seeing 8 circles in total.

Syntonic 1 – Theta:
William saw a bright circle with the same colour going along the sides of the syntonizer. The edge of the circle was very clear. Later the side stripes went across the moon and then went into the black. This was more apparent on the left hand side. Sometimes William saw 2 circles and the left one was clearer and more definite. The circles remained as double for about 1 minute. They doubled again and the right hand one was nearer and not as clear whilst the left hand was further and brighter. When William consciously blinked his left eye the circle became one momentarily.

Syntonic 2 – Mu Delta:
The lights were double for a lot of the time and there were 10 things coming out of the light. This became single for a short time and then doubled again. When it doubled again the right hand one was not as clear and it was more forward and down. There was more of a gap between the 2 circles than there was with the first syntonics session. If William moves his head slightly the circles become single. He feels that he is using his right eye more than his left. The circles spread apart by about three quarters of an inch. There were strobos coming from the light with the left hand one being much more clear. The left hand circle moves in and out. The circles were double for most of the session but they sometimes became one.

Monocular Walking to Hart Chart:
William mistook a few of the letters when he was reading them as he walked backwards and forwards from the chart using his good right eye although he did not notice this. He reported that when Geoff asked him to do this before he had some difficulty in saying the letters at all. When he used his weaker left eye he was surprised that he could see as clearly as he did and he managed to walk backwards and forwards right across the room whilst reading the letters.

Campimetry:
Right – 119%+ / 56% / 17%
Left - 119%+ /17% / 3%

Van Orden Star:
The chart shows over conversion and a low convergence point.

Cross Crawl:
William was able to complete this activity easily. He will continue to do this activity on a daily basis.

Brain Buttons:
When William was following a target horizontally he saw double when the target was on the left. His left eye also had a tendency to try and close. When working vertically it was a little difficult for him to hold his head still. Convergence was easier than divergence.
Why Theta?

Two aspects to consider

1) Acquired Left constrab - typically alpha delta, mu delta, however this is a brain injury problem so alpha inappropriate

2) Some vertical anomaly so would typically treated with pi Omega

3) Brain injury problem – typically treat with omega upsilon, mu Upsilon, however this is a con strab problem so omega upsilon inappropriate

Theta is a motor stimulant to drive divergence, but not so “full on” as alpha

Filters will be changed later to address other issues
Session 2

• Px comments/observations
• TBI
• Binocularity/nascentisation
• Syntonic filters Theta followed by Mu delta
• vertical rotator with red lens in front of one eye, looking at red picture, repeat 2 circuits in both directions for both eyes To stimulate and drive eye muscles monocularly in a binocular world)
• sitting facing marsden ball – start monocularly gently swing ball laterally (side to side) and then towards and away from him. To stimulate and drive eye muscles
• Monoc reading thru reading specs with + / - 0.50 flipper to drive accommodation

Therapist: Loraine Shayler

Patients Progress:
William was well this afternoon. He had been suffering from the double vision which has been apparent since his accident but there was no apparent change.

Binocularity – 3 minutes:
William was seeing orange with one eye and more of a white colour with the other. The white image is clearer.

Sytonics 1 – Theta – 10 minutes:
This was a yellowy white and single to start with slightly blemished by the lines from the side that go across the circle. The line from the right hand side appears to go over the circle and the left hand side never does. The image that comes in from the right doubles. The entire light then doubled and the right hand image was dirty sort of grey colour, and the left hand one was clear. The image changed quite frequently between one and two circles.

Sytonics 2 – Mu Delta – 10 minutes:
At first there was a clear green circle. Later it doubled and when it returned to one it was right hand one always disappeared and then later it was the left hand one. The stripes were still apparent and there were 10 of them for most of the session. Sometimes it doubled and then continued to merge back into one circle.

Elephant Rotator – using red lens.
When William was working with his good right eye there were no problems with any part of the target going in either direction. When working with the weaker eye he found that the target doubled to the left hand side of the rotation going in an anti-clockwise direction and when he was working in a clockwise direction it doubled at the top as well as to the left hand side.

Bar Rotator – working Monocularly:
William did not find any discomfort when working with his good eye. When working in a clockwise direction the second bar appeared to be stretching his eye but the inner and outer bars did not. When William worked in an anti-clockwise direction his eye did not feel uncomfortable.

Marsden Ball – Monocularly:
William found it easy to watch the ball when working with his good eye. When the target was moving from side to side and William was using his weaker eye the ball always doubled to the left hand side. When the ball was moving in and out from him there was no double vision at all.

Accommodative Monocularity – 0.50 – 6 minutes:
William was unable to read anything with a small but well-spaced print with either side of the flipper. When moving on to a larger but still well-spaced print he did not fare any better. When William changed to a very large print he was able to read a little. One side of the flipper was much more difficult to use. After a little practise with the very large print he was able to proceed with a slightly smaller print.
Session 3

- Px comments/observations
- TBI
- Binocularity/nascentisation
- Syntonic filters Theta followed by Mu delta
- Vertical rotator (rods with coloured lights), start looking at lights nearest centre. Start monocularly with LE, After each circuit, get him to look at next colour out until gets to edge. Repeat with RE and then again with LE. If not too tired repeat with rotator in opposite direction.
- As above - binocularly, does he see two rods or lights. May need him to sit closer to reduce doubling To stimulate and drive rotary and binocular function of eye muscles
- “Slow” careful Walk to and from “wide split” hart chart wearing binasals – ensure head straight so that RE sees R panel and LE sees L panel, monitor and ensure straight head position
- Eyeport - lateral, horizontal and obliques - use red/blue specs so he is alternating between the eyes To stimulate and drive eye muscles

Therapist: Loraine Shayler 19th January 2016

Patients Progress:
William was well this morning.

Binocularity – 3 minutes:
William saw two circles, the left hand one was white and the right hand one was an orangy red. The right one is the extra one and is not as clear. This did not appear until a few seconds after the light was switched on.

Syntonic 1 – Theta – 10 minutes:
To start with there was just one bright pale yellow light. It then doubled and both lights were very clear. This then became one circle and when it doubled both lights were a creamy colour. Later when it doubled the light drifted out from left to right. William was able to ascertain which was the “real” light.

Syntonic 2 – Mu Delta – 10 minutes:
The lights doubled and became single again quite frequently. It was a little more difficult to tell which circle was the “real” one.

Vertical Rotator:
First monocularly with either eye and then binocularly, if doubling when binocular try sitting nearer. The rotations were all easy when William was using his better right eye. When he was using his left eye monocularly it appeared to be more comfortable than it had been yesterday. There was less doubling apparent when the rotator was moving in an anti-clockwise direction. The doubling was more apparent when the targets were to the left, it was mostly single when they were to the right. When William wore the specs with the centres masked the target was still doubling. There was insufficient room for William to sit any closer to the unit.

Slow Walk to Split Hart Chart wearing Binasal Occluders. – Head should be straight: Once William had understood what was required of him he was able to complete all 3 levels of this activity with ease.

Eyeport – Lateral, Horizontal and Oblique using R/B specs:
When the lights were moving horizontally William found that they were easy to watch with the exception of the light to the extreme right which was outside the scope of the R/B specs. When they were moving vertically he experienced the effect of the lights moving in a zig-zag way. When the unit was in the oblique positions it was much more difficult for him to see the lights to the left both in the upper and lower quadrants. When converging and diverging William was aware of a V effect. He saw 2 units for part of the time.
Session 4

- Px comments/observations
- TBI
- Binocularity/nascentisation
- Syntonic filters Theta followed by Mu delta
- Polarised Quoits – to help re-integrate binocular function
- Brock string in straight ahead position, later we will start to use in different directions
- Campimetry
- VO star
- Space board

Patients Progress:
William was feeling well this afternoon.

Binocularity – 3 minutes:
William saw 2 lights one white & one orange. The white was a much clearer colour than the orange.

Syntonics 1 – Theta – 10 minutes:
William saw one colour to start with this was a yellowy light which was very clear, after a while this changed to 2 lights for a short time with the second light at a 4 o’clock position. Then back to 1 light which was white, then back to 2 overlapping to start then separating, Then back to 1.

Syntonics 2 – Mu Delta – 10 minutes:
William saw only one light throughout this 10 minutes which was a pale green. He also noticed that the lights up the side of the sytoniser stay up the sides and did not cross today.

Stereo Quoits:
William was able to see the circle getting larger and further away when moving it to the right and smaller and closer when moving to the left.

Brock String:
William was aware of the “2” strings for some of the time. He was not able to maintain the affect for very long.

Campimetry:
Right Eye – 119%/+48%/5%
Left Eye – 119%+/15%/3%

Van Orden Star:
There was some improvement from yesterday see the graph.

Space Board:
See Graph
Campimetry – fields expanding, Blinds spots reducing and centering
and VO star improving with better centering
Session 5

• Px comments/observations
• TBI
• Binocularity/nascentisation
• Syntonic filters Theta followed by Mu delta
• Halloween pictures stationary – can he get depth – if yes rotate, can he maintain depth in all directions - does he get any doubling – repeat opposite direction
• Marsden ball – binocular - px sitting observing ball moving lateral, in and out , and rotate,- can he keep single in all positions
• Wide “split” hart chart far near rock so he is switching attention from far R to near to far L to near etc

Patients Progress:
William was feeling well today. He has noticed that when he is looking straight ahead of him in front of his nose his vision is clear, when he looks into the distance everything is also clear. When he looks at an intermediate distance everything is fuzzy.

Binocularity – 3 minutes:
When William is seeing two circles the yellow is clear and bright and the right is down a little and fuzzier.

Syntonic 1 – Theta – 10 minutes:
William saw a single circle for a greater time than he has done previously today. When it doubled there was one clear light and one a bit messier. When it went back to one again this was more fuzzy at first and then it cleared. Initially it was the one with the lines across it.

Syntonic 2 – Mu Delta – 10 minutes:
At first the circle was a clear, bright green. It doubled once but quickly changed back to one.

Marsden Ball – Sitting:
William found that any time the ball was to the left he saw double whilst when it was to the right he saw singly. When the ball moved obliquely to the upper left he saw singly but only once. The second time he repeated this movement it was double again.

Gravity Awareness Procedure:
When William was lying on the floor with his eyes closed he felt comfortable and was aware of every part of his body touching the floor with the same pressure. When he first looked towards his feet his back was a little uncomfortable but this sensation was not the same when he repeated the movement. No other loss of awareness occured with any movement of the eyes whilst they were closed except for one occasion when he felt as is his body might have been going to feel slightly tilted to the right but it did not actually happen.

Halloween Pictures – Stationary:
William was only able to see some 3D effect in the witch and bat picture and not in the cat and pumpkin picture. He could maintain the 3D effect when the picture was rotated but only on the right hand side and the top and bottom of the rotations. He saw single or a mess when it was to the left.

Wide Hart Chart:
The chart was more widely spaced today and at first William became very confused. After several false starts he managed level one accurately, with level two he corrected himself when he made a mistake. The response to level three was slower. William could not be sure that he was using his right and left eye independently because he had forgotten to bring his specs with the opaque centres.

Hart Chart near/far rock:
William first worked monocularly using his right eye. Once he understood what was required of him he made some errors but he almost always noticed that he had done so and corrected himself. When he then worked using his left eye it was much easier and there were no errors. William looked next at the large Hart chart with both eyes open and he could read the first and last letters of each line but the middle of the chart was jumbled with a second letter shadowing each one.
Session 6 ideas for development of program

- Binocularity
- Syntonics
- Double marsden ball

- One high on ceiling, other lower down - get him to lay on floor face up under balls, in a position where both can be seen,

- Get him to look at each ball in turn, will probably see two in both cases, now get him to look at the top ball(s) but be aware of the lower ball(s), whilst he is looking at the top one, slowly lower the lower ball to see if you can find a place where he sees one lower ball, gently rotate head whilst keeping eyes fixated on top ball and, at same time, being aware of lower ball, trying to keep lower ball single. If can manage this, gently lower the ball a bit repeat, raise the ball repeat, etc.

  This is to teach him to use an adaptive technique to obtain binocular alignment

- Can also try rocking head backwards and forwards, or sideways tilts

- Stefans antigravity activity - ask about areas of pressure – try syntonic filters theta, D and S to see if experiences differences in pressure points

- VMSS

- Local shift looking straight ahead px hold wand moves from side to centre, record or photo position

- Ambient shift px looks across room sees two wands – moves wand(s) until the centre between them looks in front of nose, record or photo position

- Consideration - To see if we can get him in with his saddle, and arrange situation where he can sit on saddle for some activities such as VMSS above, VO star, eye tracking, etc, marsden ball following, perhaps with him sitting to the side as the ball swings towards and away from him. (Not proceeded with in the practice)

- Also work with long Brock string in similar manner with string going out across the room in different angles that he has to align on
Syntonic filter change

- William has already identified some improvement with lateral eye movements, so now the vertical element needs to be dealt with.

- In view of this filters changed to Pi Omega / Mu Upsilon as recommended by Stefan Collier in SON1 course for vertical muscle problems.
Session 6

- Therapist: Loraine Shayler 21st October 2016

Patients Progress:
- William was well this afternoon.

- Binocularity – 3 minutes:
  - William was seeing one cream colour circle. Later he saw a red circle in the front of the cream one and then it switched from single to double and back several times.

- Syntonics 1 – Pi Omega – 10 minutes:
  - The blue colour has much paler blue edge. This is clearly one circle. Sometimes for a split second it looks as if it is going to form two circles showing a slight overlapping.

- Syntonics 2 – Mu Upsilon – 10 minutes:
  - This colour is single and is making William feel very relaxed. It isn’t too bright.

- Accommodative Monocularity – 6 minutes:
  - William was wearing the +1.50 reading glasses. William found it difficult to read with the 0.50 flippers using his left eye even though he was wearing the reading specs but he persevered. It was just a little easier when he used his right eye.

- Bagolini Activity: to look at spot light thru a pair of oblique bagolini lenses whilst looking at a pen torch in different angles of gaze, whenever doubling occurs, get him to look at a supplementary Woolf wand behind the pen torch, until the bagolini lines “lineup” and them to transfer attention to bagolini whilst trying to keep them aligned
  - William managed to see one cross in the centre of the light whilst looking at a woolf wand further away.
• Session 7 Therapist:  Loraine Shayler 26\textsuperscript{th} January 2016

• Patients Progress:

• William was well this morning. For the first time yesterday as William was being driven to Sheffield for a consultation he felt as if he would be able to drive because the sides of the road were straight instead of being crooked. The white line on the motorway however did tend to come across the front of the car from time to time.

• Binocularity – 3 minutes:

• At first William saw a creamy light alone and then a second wobbly red one appeared.

• Syntonics 1 – Pi Omega – 10 minutes:

• This was a clear pale blue light. William began to complete the eye exercises within the syntonizer. He found that these were comfortable and that they began to be easier as he did them subsequently.

• Syntonics 2 – Mu Upsilon – 10 minutes:

• This was also a clear and single circle. The eye exercises were equally easy with these filters.

• Eyeport:

• William found that there was less separation on the left hand side when the unit was placed in an opaque position. Also when the movements were horizontal or vertical there was less doubling and when there were 2 circles they were much nearer together than they had been previously. When diverging and converging William found that there was more doubling when he was not wearing the red/blue anaglyph specs than there was when he wore them. When diverging and converging whilst wearing the blue lens on the left eye the red circle was going off to the left.

• Hart Chart – large and small:

• William first worked with his left eye. He mistook several letters at the beginning of the chart which he did not notice but by the end of the chart he realised when he had read incorrectly and corrected himself. It was a much easier process when he worked with his right eye.
Patients Progress:

William was feeling good this afternoon.

Binocularity – 3 minutes:

To start with William saw a creamy white light with a pink to the right slightly down a bit. Then to one light which was red, then back to 2, then to 1 again but this time with a creamy white light.

Syntonics 1 – Pi Omega – 10 minutes:

There was one light blue throughout this 10 minutes but sometimes it was cleaner than others.

Syntonics 2 – Mu Upsilon – 10 minutes:

This was an easy and relaxed procedure.

Stereo Quoits:

William was able to do this active to each side once with no problem but if you tried for a second time on the left he would see both circles straight away, on the right was still ok to do the activity.

Brock String:

William found this activity harder to do today, with one bead after a while he was able to see "2" strings coming out of the bead but only one going in. When a second bead was brought in he would see 2 beads to start with then after I told him to just concentrate on this bead he was able to see just one bead but only the "2" strings coming out of it. He also found it difficult to switch from one bead to the other.

Stereo Hearts:

William was not able to do the single heart without seeing three hearts but the one in the middle was getting closer to him. With the double hearts William could see that the small heart was in front of the large heart but I was unable to move from side to side.

Vision Builder - Tennis:

William was able to see the ball going from side to side but he was unable to move the bats in time to hit the ball.

Worth 4 Dots:

With this activity William found it difficult to retain after a little while.

Sequencing:

William found this activity difficult to do. He was saying it quicker than he was moving his arms.
Variation on Marsden Ball

• Marsden balls to swing to the side in line with his shoulder and then away from him to each side

• Then gradually moving balls further away from mid line

• To keep his head still and just follow balls with his eyes

• This was developed in view of his needing to be able to turn his head in any direction during horse riding without getting spatial confusion
Patients Progress:

William was well this morning.

Binocularity – 3 minutes:

Then light stayed single for the entire session.

Syntonics 1 – Pi Omega – 10 minutes:

The light stayed stable for the entire session. The eye exercises were easy.

Syntonics 2 – Mu Upsilon – 10 minutes:

The light was again stable. William still needs to be reminded which arm goes with which leg when he is walking backwards.

Gravity Awareness:

William was asked to lay prone on the floor and then to move his legs slightly apart. He said that he felt as if they were equidistant from each other but when he looked down with his head held up a little he saw that the right leg was slightly further away than the left. He tried to rectify this and then looked again and saw that he had made an improvement but there was still a small discrepancy. He repeated the activity with his arms with the same result. Next William repeated the entire exercise whilst wearing the “S” goggles. The distances apart were much more accurate with these.

Marsden Ball:

William first sat on a chair and the ball was swung to the left of him, he was required to watch the ball without moving his head. To his surprise and delight the ball was only seen as single. He repeated the activity with the ball swinging to his right which was easier. The entire activity was then repeated whilst William was lying prone on the floor with good results.

Woolf Wand for Centration:

William was asked to move the wand from the side and to stop moving it when he thought it was in front of his nose. When he stopped the wand it was almost completely in front of his nose and this was repeated when moving the wand from the other side.

Accommodative Monocularity – 100 – 6 minutes:

William first started reading with the 0.50 flipper and was delighted to find that he could read with each side equally easily. He proceeded with the 1.00 flipper and although one side was easier to read with he read equally well with either eye.
Patients Progress:

William was well this afternoon although he was feeling tired this afternoon.

Binocularity – 3 minutes:

This was a creamy colour which stayed the same all of the time.

Syntonics 1 – Pi Omega – 10 minutes:

This was an easy and relaxed procedure. The eye exercises were again comfortable. There was a single pale blue light.

Syntonics 2 – Mu Upsilon – 10 minutes:

There was a single pale green light.

Stereo Quoits:

William first worked looking through the quoits and then looking at the quoits.

Infinity Walk:

William managed to read all of the letters except one when he was working from the right fairly easily although he found that the central point was always easier to see the letters quickly and when he was at the extreme ends of the infinity sign it sometimes took a second for him to focus clearly on the letter as well as to be aware of the obstacles in the centre of the walk. When walking from the left there were a few small balance issues but nothing major. He felt as if he were having to use his left eye more in this direction.

Phonetic Focus – Level One:

William was about to read the words but did find that he lost his place when going do the small chart.

Stereo Skipping Rope:

William was able to make out some of the pictures but not all of them to start with.

Lora’s Numbers - Binocularly:

William found that this was an easy process.

Accommodative Monocularity 1.00 – 6 minutes:

William tried reading a small print today and found it difficult to read with the one flipper so changed to the 0.50 flipper which he found a little easier, he found that the minus side of the flipper was harder to read, he also found reading with his right eye harder and on the minus side of the flipper could not make out any of the words.
Patients Progress:
William was well this morning.

TBI – 2 minutes:
William was happy to do this despite the fact that he had had a couple of seizures after his accident.

Binocularity – 3 minutes:
William saw just one creamy colour for the entire session.

Syntonics 1 – Pi Omega – 10 minutes:
This was an easy and relaxed procedure. This was one pale blue colour.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was one pale green light which made William feel tired as it apparently always does.

Campimetry:
Right – 119%+ / 64% / 7%
Left – 119%+ / 70% / up to 5%

Van Orden Star: See graph.
Mid way thru therapy 28.01.16 Optom review

• Marked improvement in binocular reading performance
After 10 sessions of VT

Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.

<table>
<thead>
<tr>
<th>Fixation analysis</th>
<th>Total number of fixation</th>
<th>Duration (sec)</th>
<th>Span of Recognition</th>
<th>Fixs/100Words</th>
<th>Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Left</td>
<td>87</td>
<td>0.11</td>
<td>0.70</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>91</td>
<td>0.11</td>
<td>0.67</td>
<td>149</td>
</tr>
</tbody>
</table>

Sample text analysis

- Reading time (sec): 23
- Number of words: 61
- Words per minute: 153
Both eyes

Bob looked down the street.
A man was riding a gray pony.
“Five pennies a ride,” said the man.
Bob got five pennies from his mother.
He went for a ride down the street.
Then Bob came back on the pony.
“Stay on the pony,” said the man.
He took Bob’s picture on the pony.
Bob gave his mother the picture.
Right eye

Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
SESSION 12 Therapist: Loraine Shayler  28th January 2016

Patients Progress:
William was feeling well this afternoon. He had enjoyed lunch at the Priory today. William has noticed that since his accident he has been sneezing for no reason.

TBI – 2 minutes:
William saw several colours and flashing lights.

Binocularity – 3 minutes:
This stayed a creamy yellow colour for the entire session.

Syntonics 1 – Pi Omega - 10 minutes:
This was a single blue colour for the entire session.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was one green light again. William appeared to be more tired today than he has been previously.

Accommodative Monocularity and Binocularity - 1.00 – 6 minutes:
William could read well with the above flipper using either the right or left eye. He then worked binocularly which he found to be easier. William will work with the flippers at home over the weekend.
SESSION 13  1st February 2016 Therapist – Loraine Shayler

Patients Progress:
William was well this morning. He managed very well at home at the weekend when his wife left him alone for the first time since his accident. William feels that his vision is improving a little. William felt that he worked well with the 1.00 flipper which he took home with him.

TBI – 3 minutes: This was an easy and relaxed procedure.

Binocularity – 3 minutes: This was one pale creamy colour for the entire session.

Syntonics 1 – Pi Omega – 10 minutes: This was an easy and relaxed procedure.

Syntonics 2 – Mu Upsilon – 10 minutes: This was also an easy and relaxed procedure. The eye exercises were comfortable within the syntonizer.

Vertical Rotator:
The unit doubled for a lot of the time and not just to the left hand side. Using inner and outer targets made no difference to the doubling.

Long Brock String:
William found it difficult to see 2 strings at all today even when he was wearing the red/green anaglyph specs. Sometimes he could see 2 strings but they were not equally as clear and he sometimes saw them as white or blue. There was a lot of doubling of the bead he was looking at too.

Split Hart Chart:
William was wearing the specs with the left eye partially blocked at the centre. He completed levels one and two with only 1 error but at first he was unable to work on level 3 because the entire section of the top right hand part of the chart suddenly became 8 letters long. Once he had sorted out the first line the other lines were easier to work with but not as easy as the first 2 levels of the activity.

Yoked Prism Cross Arm Walking:
William managed fairly well with the walking when the lenses were base down but he found it much more difficult when the lenses were base up.
SESSION 14 1st February 2016 Therapist: Loraine Shayler

Patients Progress:

William was well this afternoon.

TBI – 3 minutes: The lights appeared to be flashing a little more evenly today. It was slightly brighter on the left and a little more dull in the corner to the right but these differences were less apparent than previously.

Binocularity – 3 minutes: William saw a creamy colour.

Syntonics 1 – Pi Omega – 10 minutes: This was a single blue light again.

Syntonics 2 – Mu Upsilon – 10 minutes: This was a single green light.

Presbyopia Chart – divergence and convergence:

William found it difficult to converge using the presbyopia chart but when he worried with the dinosaur card he was able to see 3 googly eyes, make a smiley face which then became 3 smiley faces and he could make first a chevron and then a cross. When diverging it was more difficult but by moving the card in and out towards him whilst looking at an object in the distance he was able to make some progress.

Yoked Prism Cross Arm Walking with lateral prisms:

William performed well when the prisms were to the right but he lost his balance a couple of times when the prisms were to the left.

Accommodative Binocularity – 1.00 – 6 minutes:

At first William did not think he could manage to use the flipper whilst reading a slightly smaller print but he persevered moving his head slightly nearer to the book and made some good progress.

Stereo Hearts:

William was able to see the 3D effect in the double heart picture when looking straight ahead and he could maintain this effect when he turned his head slightly to the left but not when looking even very slightly to the right.

Marsden Balls:

William found that he could only see 1 ball when it was swung to his right and also for some of the time when it was sung to his left but only when the ball was swinging quickly, once it moved more slowly to the left he saw double, for most of the time when the ball was circled in front of him he saw a single object but it tended to double at about 11 O’clock.
SESSION 15 2\textsuperscript{nd} February 2016

Patients Progress:
William was well this morning.

TBI – 4 minutes:
William is now seeing less colours, he saw bright yellow, white, blue and pink. The colour seen in his left eye was clear and bright and the left was darker.

Binocularity – 3 minutes: This was just one cream light as yesterday.

Syntonics 1 – Pi Omega – 10 minutes: This was an easy and relaxed procedure. There was one pale blue light.
Syntonics 2 – Mu Upsilon – 10 minutes: There was one pale green light. When William looks straight at the light it is single but if he turns his head slightly to the right it doubles.

Eyeport:
When William was working horizontally the lights to the left half of the unit were double. When working vertically there was a little doubling at the centre of the unit which William could control if he tried and a couple of lights at the top also doubled. When working obliquely with the unit to the right there was some doubling but there was less doubling apparent when the top of the unit was to the left.

Infinity Walk:
William was working with a metronome today. There was an improvement in performance today and William did not mistake any of the letters.

Bunt Ball:
William could see both sets of the red and green stripes on the tube. He found it very difficult to keep his head still and he also had some trouble in trying to bunt the ball slowly.

Breathing:
William found it difficult to hold his breath for a count of 4 at first but this improved during the session. He managed to breath in, hold his breath and breathe out all to a count of 5. William will continue with this activity at home working towards a count of 10 which should then be completed 10 times daily. William also practised the 15 second breathing technique.

Yoked Prism Cross Arm Walking:
William worked with the prisms first down then up and also with the prisms to the right and left. This appeared to be slightly easier for him today.

Brain Buttons:
When William is completing these exercises at home. He is finding that he can complete all of the eye movements but that it feels as if it is more of an effort when he is working to the left.
Patients Progress: William was feeling well this afternoon.

TBI – 4 minutes: William saw flashing lights of cream and yellow with a red light as well in his right eye.

Binocularity – 3 minutes: William saw one light which was a creamy colour.

Syntonics 1 – Pi Omega – 10 minutes: William saw one light which was a blue colour.

Syntonics 2 – Mu Upsilon – 10 minutes: William saw one pale green light. He is still having some problems in co-ordination when walking backwards.

Stereo Quoits: William could see the rope circle get large and further away when moved to the right and small and closer when moved to the left.

Brock String: William has problems with this but he did notice a slight change in this activity.

Van Orden Star: There was a slight improvement. See graph.

Dinosaur Card: William has made some improvements with the convergence on this activity.

Look Ready Touch Back
William found that the red on his left was double but it didn’t affect him being able to touch the button in the periphery whilst looking at a central button on the unit. After a little practise William was able to do all the colours without a problem.
V O Star
SESSION 18  4th February 2016 Therapist: Geoff Shayler

Patients Progress:
Ophthalmologist seen yesterday – encouraging reports – will see again in 3 months

TBI – 4 minutes:
As this morning brightness between eyes more balanced

Binocularity – 3 minutes:
r/o -w – sl dip white to Le, Red and back to single – red / sl cream to left – staying single-

Sytonics 1 – Pi Omega – 10 minutes:
Single light reflections R shows some cream, L normal, top and bottom equal. Parallel bars level, reflections stronger on the right, colour light not quite balanced over whole light – after image colour grey

Sytonics 2 – Mu Upsilon – 10 minutes:
One circle - he feels more relaxed with this colour – after image dark grey

Very Long Brock String: worked with 20 foot brock string. He is being provided with a longer version of this that be used in the stable or on horse back

Stereo Quoits: worked with quoits both at near and far. As William progresses with this then we started him moving the quoits in different direction whilst maintaining the binocular stereo effect of the quoits, still some difficulty with this to his left
Patients Progress:
William was well this morning. He has been working with some activities at home successfully. He felt well on Saturday when he was very busy. On Sunday he did not see as clearly but this may have been because he had worked so hard on the previous day. His vision seems to be ok today. He feels that when his vision is not good it is only slightly noticeable now.

TBI – 4 minutes:
There was a little green light to the right eye but this was otherwise the same.

Binocularity – 3 minutes:
This was back to being one colour.

Syntonics 1 – Pi Omega – 10 minutes:
This was an easy and relaxed procedure with one clear blue light. The eye exercises were comfortable within the sytonizer.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was also an easy and relaxed procedure.

Van Orden Star:
The lines are more evenly drawn now but the graph indicated that William is still over converging.

Campimetry:
Right – 119%+ / 89% / up to 20%
Left – 119%+ / 67% / 21%

Spaceboard:
The spaceboard results show a continuing improvement.
See scans
Patients Progress:
William was well this afternoon. His therapy assessment with Geoff Shayler indicated a continuing improvement.

TBI – 4 minutes:
As previously.

Binocularity – 3 minutes:
William saw just one creamy light.

Syntonics 1 – Pi Omega – 10 minutes:
This was a single pale blue light.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was one pale green light. William walked backwards with integration and ease.

Phonetic Focus:
William found that this was a little easier today. He tried both reading the letter and then adding it to the word and also reading the rest of the word and adding it to the letter to see if either was easier but he found that both were equally difficult.

Eyeport:
There is a slight improvement in the doubling effect when William is working to the left. When the unit is in an oblique position the doubling is not normally apparent when the lights are going down the unit but they are when the lights are moving up.

Accommodative Binocularity – 1.00:
William can now read normal size print with the flippers fairly well. He will continue to work with these at home.

Yoked Prism Walk:
William worked today with the 15 degree prisms. He kept his balance fairly well but he found that his feet were having to work hard to do so. William also noticed that it was easier to walk backwards than forwards because he was not having to think so much about the movement.
William has made fine progress, but in view of his need for perfect vision ASAP, we have agreed for him to continue in VT for a further 10 sessions however, we are reducing the number of sessions / week
SESSION 22 11th February 2016 Therapist: Loraine Shayler

Patients Progress:
William was well today.

TBI – 5 minutes: This was an easy and relaxed procedure.

Binocularity – 3 minutes: This was the usual yellowy, creamy light with no double vision today.

Syntonics 1 – Pi Omega – 10 minutes: This was an easy and relaxed procedure. There was no doubling.

Syntonics 2 – Mu Upsilon – 10 minutes: This was also an easy and relaxed procedure. Afterwards, William could walk backwards and forwards with integration and ease.

Eyeport with Bagolini Lenses:
William was able to see the cross although it was not in the centre of the light. The lights doubled more at far and converging was easier than diverging. When converging the lights became single more quickly than when diverging.

Yoked 15D Prism Walk:
This is becoming a little easier although William is still noticing how hard his feet have to work to keep his balance.

Vision Builder – Tennis:
William finds this activity to be challenging although he performed a little better today. He feels that the problem is more with his reaction with the mouse.

Split Hart Chart with large central X:
William found that this activity was much easier today than it been previously.
Patients Progress:
William had a very relaxing holiday and spent a lot of time doing his activities. Suddenly yesterday his vision improved by about 20% and this improvement appears to be the same this morning. William is finding that working with the letters in the arena whilst on horseback is a slower process but much easier.

TBI – 5 minutes: The lights felt quite bright but both eyes appeared to have an equal amount of light.
Binocularity – 3 minutes: This was one quite clear creamy white type of colour.
Syntonics 1 – Pi Omega – 10 minutes: This was one quite clear bright colour. This was an easy and relaxed procedure. The eye exercises within the syntonizer were easy and William felt that they were very beneficial.
Syntonics 2 – Mu Upsilon – 10 minutes: This was also an easy and relaxed procedure with one clear colour. William could walk backwards with integration and ease.

Yoked Prism Walk:
This process is becoming easier although William feels as if he is working hard to keep his balance especially when the lenses are to the left. Today when they were to the right and up it took a few seconds longer to process the movements.

Stereo Quoits:
To start with William found it difficult to diverge but this improved during the session. Although the depth and change of size were not obvious at the beginning of the session this had greatly improved after some practise.

Phonetic Focus:
William completed this activity without using his finger as a marker on the small hand held chart. He lost his place a couple of times but has made an excellent improvement since the onset of the therapy.

Vision Builder:
Saccades: 91%
Randot Duction Base In: 14
Randot Duction – Base Out: 176
Tennis: William is still finding this activity a little awkward because the mouse does not seem to respond quickly enough for him when he is using his right hand but he is making an improvement.
SESSION 24 29th February 2016 Therapist: Loraine Shayler

Patients Progress:
William is feeling well today. The vision improvement that he noticed last week has held although there has been no further improvement. William is continuing to do some jumps successfully. He is still noticing that he can see much more easily.

TBI – 5 minutes: This was very even on both sides and there was no longer a blue area on the right. Both sides appeared to be identical.
Binocularity – 3 minutes: There was a creamy off white colour in the circle.
Syntonics 1 -Pi Omega – 10 minutes: This was one single blue circle today.
Syntonics 2 – Mu Upsilon – 10 minutes: This was a single colour. William could walk backwards with integration and ease.

Eyeport:
William found that when the lights were moving horizontally the ones to the left were doubled. When he was working vertically the lights were single. When the lights were to the top or bottom left they were no longer doubling although William found that it was quite an effort when the lights were to the left bottom. Divergence and convergence when not using the baggolini lenses doubled much less although doubling occurred much more quickly when diverging.

Baggolini Activity:
William was using the baggolini lenses with the Eyeport in divergence and convergence mode. The lights doubled very quickly when converging and even more quickly when diverging.

Yoked Prism Walk:
William was encouraged to look at a Hart chart rather than at the base on the board when completing these exercises. He found that it was a little easier with the lenses either up or down. When the prisms were to the left his balance had improved but when the prisms were to the right it had become more difficult which is what happened last week.

Bunt Ball:
William was asked to stand slightly to the left of the ball and keep his head pointing straight ahead whilst using his eyes to the left to watch and bunt the ball. He found this difficult and tended to try and point his head in that direction also. It was a little less difficult when he stood to the right of the ball. William has been given this activity to work with at home.
Patients Progress: William was well this morning.

TBI – 6 minutes: Both sides appeared to be even.

Binocularity – 3 minutes: This was the usual creamy colour which was clear and nice and round.

Syntonics 1 – Pi Omega – 10 minutes: This was a clear pale blue. This was also an easy and relaxed procedure.

Syntonics 2 – Mu Upsilon – 10 minutes: This was a bright pale green which was one single circle. William could walk backwards with integration and ease.

Stereo Quoits:
William made some good progress when moving to the left both when he was looking at the unit and when he was looking through it but he found it much more difficult today to move the circle to the right to any distance although he did make some progress during the session.

Split Hart Chart with central X:
William is making some progress with this however he is still finding that work with the lower half of the chart is easier with the top right being the most difficult. He notices that looking up is still quite difficult and he does need to look up to ride correctly.

Stereo Goggles:
William was given some neurasthenic goggles to use at home with a pen torch and the eye pursuit activities. This can also be done when he is on a horse.

Brock String:
William was given a replacement string. He is now able to work with the string without wearing the anaglyph specs and so he has also returned these.
Patients Progress:
William was well this morning. He has been working with his eye exercises at home. He feels that when trying to bunt the ball to the side whilst keeping his head pointed straight is becoming a little easier. He is finding that reading the infinity chart whilst on a horse is becoming a lot easier because he is doing the activity more slowly. William was also working with a Brock String whilst sitting on a horse in a stationary position. The horse jumping continues to progress.

TBI – 6 minutes:
This was an even light on both sides.

Binocularity – 3 minutes:
This was the usual creamy colour.

Syntonics 1 – Pi Omega – 10 minutes:
This was a single blue colour with no doubling.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was an easy and relaxed procedure.

Campimetry:
Right: 119%+ / 107% / 79%
Left: 119%+ / 115% / 70%

Van Orden Star:
The graph is demonstrating better convergence on the right.
Patients Progress:
William was well this morning. He has been given the all clear from his consultant in France to continue with his riding. He also passed all of his tests as fit. He feels that his vision is continuing to gently improve although there has not been a noticeable huge improvement.

TBI – 6 minutes: This was even and did not particularly seem to contain a lot of colours.
Binocularity – 3 minutes: This was the usual cream colour and completely even.
Syntonics 1 – Pi Omega – 10 minutes:
This was an easy and relaxed procedure. The eye exercises seem to be very even now.
Syntonics 2 – Mu Upsilon – 10 minutes:
This was also an easy and relaxed procedure. There was no after colour. William walked backwards with integration and ease.

Yoked Prism Walk:
William is now finding that he can work well with the prisms base up, base down and base right easily. He just feels that he needs to step more heavily with his left foot when the lenses are base left.

Stereo Pictures – Double Hearts:
William can converge very well but he finds it extremely difficult to make any progress when diverging.
Skipping Rope Stereo Pictures:
William could see the depth in the pictures when they were behind the balloons but not when they were in front of the balloons.

Vision Builder:
William is gradually noticing an improvement with the tennis activity although he still finds it a little frustrating.

Randot Duction – Base In – 10
Randot Duction – Base Out - 188
Campimetry 14.03.16
Patients Progress:
William is feeling that he can suddenly see. He is no longer experiencing double vision at all and he is able to take jumps well now too. There is still some slight stiffness when looking to the left. William is also finding that he can look up well now although it takes just a little effort.

TBI – 6 minutes: As usual.
Binocularity – 3 minutes: As before.
Syntonics 1 – Pi Omega – 10 minutes: This was an easy and relaxed procedure.
Syntonics 2 – Mu Upsilon – 10 minutes: This was an easy and relaxed procedure. William could walk backwards with integration and ease.

Eyeport: William found that there was no longer any doubling when the Eyeport lights were to the left. When diverging and converging there was also no doubling. This is a huge improvement from previously. He is not yet seeing the X effect of the lights.

Stereo Skipping Rope: William could very easily and accurately see the 3D effect in the pictures today.

Yoked Prism Walk: This activity has become much easier for William. He just mistook one step when the prisms were to the left.

Chicken Walk: William started to work with this activity today using the 10 degree prisms. He used first base up and then base down. Although it was apparent from his feet that he was having to work hard to keep his balance he did not wobble.

Curious Caterpillar: William practised this activity in the practice and he will continue to work with it at home.

Accommodative Binocularity – 1.50: William has been working with the 1.00 flippers at home both monocularly and binocularly. He has been given a pair of 1.50 flippers to continue working with at home and should now only need to work binocularly with them.

Syntonac Filter: William no longer needs to work with these at home.

Neurasthenic Goggles; William is continuing to work with these at home.
Patients Progress:
William was well today. He feels that his vision is working perfectly today although he is still noticing that a few things with his brain i.e. remembering people’s names is taking a little long to recover.

TBI – 6 minutes:
As before. Universally bright.

Binocularity – 3 minutes:
As before.

Syntonics 1 – Pi Omega – 10 minutes:
This was an easy and relaxed procedure. There was no after colour.

Syntonics 2 – Mu Upsilon – 10 minutes:
This was also an easy and relaxed procedure. William could walk backwards with integration and ease when prompted to do so.

Eyeport with Bagolini Lenses:
William was only able to see the cross whilst wearing the Bagolini lenses some of the time. He finds divergence more difficult although extreme convergence is also difficult. He has been advised to do a little more work with the Brock String at home, both the short string and the long one used whilst he is sitting on his horse.

Stereo Quoits:
To be purchased and sent to William for home therapy.

Campimetry:
Right: 119%+ / 100% / 67%
Left: 119%+ / 119% / 86%
Final post vt check
21/3/16

- TBI symptoms score reduced from 46 to 15!!
- In just 2 months
This test monitors eye movements whilst tracking a “ball” moving across the computer screen.
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.

<table>
<thead>
<tr>
<th>Fixation analysis</th>
<th>Total number of fixation</th>
<th>Duration (sec)</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Span of Recognition</th>
<th>Fixs/100Words</th>
<th>Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>75</td>
<td>0.10</td>
<td>0.12</td>
<td></td>
<td>0.81</td>
<td>123</td>
<td>1</td>
</tr>
<tr>
<td>Right</td>
<td>77</td>
<td>0.09</td>
<td>0.11</td>
<td></td>
<td>0.79</td>
<td>126</td>
<td>0</td>
</tr>
</tbody>
</table>

Sample text analysis

<table>
<thead>
<tr>
<th>Reading time (sec)</th>
<th>Number of words</th>
<th>Words per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>61</td>
<td>197</td>
</tr>
</tbody>
</table>

197wpm!
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
Post therapy threshold fields normal
I month post VT check

Distance Maddox
1 month post therapy 25.04.16

Near Maddox
1 month post therapy 25.04.16
• Henson field plot normal

• Fusional reserves (measured with prism bar)

Distance  >20/20- base out, -5/3 base in
Near       >20/20- base out, -10/5 base in
And what a change in his lateral pursuit eye movement control...!!

From this at Initial assessment 29.12.15

To this at 1 month post therapy 25.04.16
Bob looked down the street.
A man was riding a gray pony.
“Five pennies a ride,” said the man.
Bob got five pennies from his mother.
He went for a ride down the street.
Then Bob came back on the pony.
“Stay on the pony,” said the man.
He took Bob’s picture on the pony.
Bob gave his mother the picture.

Fixation analysis

<table>
<thead>
<tr>
<th></th>
<th>Total number of fixation</th>
<th>Duration (sec)</th>
<th>Span of Recognition</th>
<th>Fixes/100Words</th>
<th>Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>65</td>
<td>0.10</td>
<td>0.13</td>
<td>107</td>
<td>1</td>
</tr>
<tr>
<td>Right</td>
<td>64</td>
<td>0.10</td>
<td>0.12</td>
<td>105</td>
<td>3</td>
</tr>
</tbody>
</table>

Sample text analysis

<table>
<thead>
<tr>
<th></th>
<th>Reading time (sec)</th>
<th>Number of words</th>
<th>Words per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
<td>61</td>
<td>217</td>
</tr>
</tbody>
</table>

Version 2.4.5.0
© All rights reserved. Mr Patch 2015

File Name: C:sers\Owner\Desktop\MrPatchData\2016-04-25-09-33-48-us58\18
And his reading performance

Reading speed changed from 47wpm to 217 wpm
Fixations / 100 words changed from ~300 to ~106
Span of recognition increased from 0.33 to 0.95
Reading time reduced from 76 to 16 seconds
Bob looked down the street. A man was riding a gray pony. “Five pennies a ride,” said the man. Bob got five pennies from his mother. He went for a ride down the street. Then Bob came back on the pony. “Stay on the pony,” said the man. He took Bob’s picture on the pony. Bob gave his mother the picture.
And his eye tracking whilst reading

What an outstanding improvement, with a totally objective test

Initial assessment 29.12.15

1 month post therapy 25.04.16
And head posture – pictures from his own website

**Before** therapy (BBC interview at Xmas)

**After** therapy CNN interview

To

An amazing recovery
Fox-Pitt selected for GB team at Olympics in Rio after head injury! 6th July 2016

Primary Goal achieved – now it is down to William!