



Scaffolding and Foundations Noted through Just Look Retinoscopy KISS 2025

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Scaffolding

a **temporary** structure on the outside of a building, made usually of wooden planks and metal poles, used by workers while building, repairing, or cleaning the building


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Scaffolding versus Foundation

- 
- Scaffolding is a framework for building (a developing child or patient recovering from a TBI)
 - Scaffolding should never be a “substitute” for foundation, but it often becomes such in development
 - “It’s good enough” turns the scaffolding into the foundation
 - Scaffolding is what developing babies use to move on from survival reflexes

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Bubba

- 
- When the scaffolding leading to foundations is sufficient, life is easier but that means disruptions, interruptions, and diversions have likely been experienced along the way and they have been met head on with attention, focus, and determination to make changes.
 - Attention, focus, determination, exploring to satisfy curiosity are actions that can be observed in Just Look Retinoscopy

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Bubba

- When the scaffolding is not sufficient, the child has not been able to navigate the disruptions, interruptions, and diversions along the way and thus are not prepared to meet ensuing interruptions
- This is where we often see “substitute performances” as described by Skeffington, i.e., the scaffolding becomes the foundation

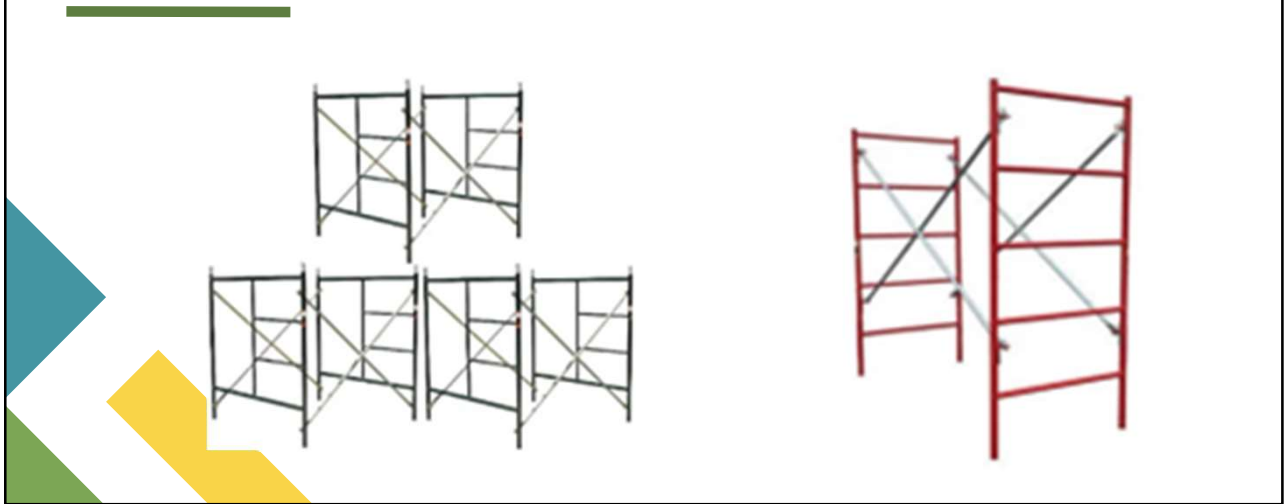
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Scaffolding – the Beginning



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Through Development, It Becomes More Complex – Many Variations



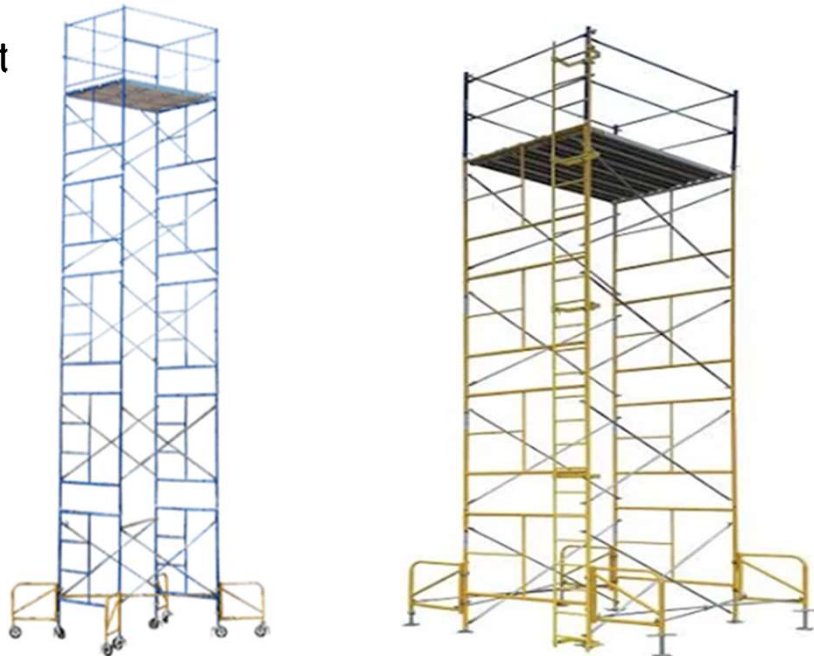
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Through Development, Some Variations are Unnerving



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And Some are Just
Complex



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Complex

Although they are not
stable long-term
foundations,
Scaffolding is often
used as such



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Sturdy, but Still Not Foundational

Scaffolding is meant
to be replaced by
foundations



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Foundation(s)

- But when patterns become “foundational,” the actions of the individual become stable, thus becoming more difficult to redirect when disruptions occur or emerge inadequately to meet the expectation of the task
- This is a common story in head injury – the patient continues trying to use their previous patterns of action toward engagement which no longer works.
- Foundations also become prevalent in guiding the course of development

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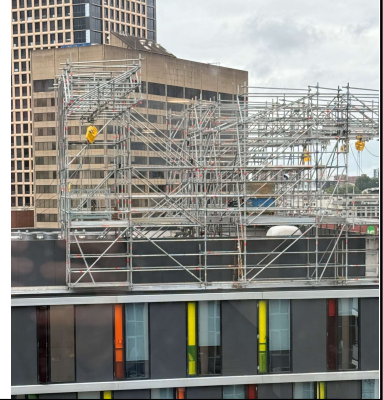
Foundation



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Foundation(s)

- At this time, it becomes so difficult to redirect toward a resourceful way of engaging that might be more efficient because the foundation is so strong and well-founded



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The Result

- When your engagement is disrupted, your reference point is redirected to a point closer to yourself and it becomes difficult to reach out into your surroundings and nurture your outward engagements.




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The Result

- 
- **“Vision is not separate and isolable...” Arnold Gesell**
 - If a disruption causes us to establish a reference point closer to ourselves, vision is not a separate entity isolated from the individual, their actions, and engagements
 - We redirect the scaffolding based upon responses to past actions and engagements
 - Just Look Retinoscopy will then show us a predisposition for attention and focus on objects and activities closer to the patient

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The Result

- 
- **“Vision is not separate and isolable...” Arnold Gesell**
 - Developing children may just let everything go without attention (abandon the task) and this will also show in Just Look Retinoscopy as a release toward with motion

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The Result

- Whether this intrusion was large or small, the trajectory of overall development will be redirected, and overall development is likely slowed and altered.
- In any instance, Just Look Retinoscopy will show responses in attention and focus and their link to overall development
- Always consider HOW this observation will carry over into all aspects of life – school, sports, job, etc.


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Foundation(s)

- When these actions toward engagement become “foundational,” they become difficult to redirect when additional desires and requirements are introduced
- When we delay identification and intervention, any storm can turn into a “**doubtstorm**,” i.e., a time of self-doubt which further limits redirection of developmental trajectory (from Max Lucado), i.e., patients begin to doubt their abilities
- Actions of indecision can be observed in Just Look Retinoscopy – what is the quality of their LOOKING?


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The Result

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- A significant part of our responsibility is to be aware of HOW the developing child reaches to engage in the task and what that might signify as they return to life as a whole
 - Just Look Retinoscopy is a primary means of raising our attention and awareness of HOW the child is progressing in readiness and meeting expectations

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Bubba

- 
- ALL retinoscopic reflexes will be variable in early development as the developing child become aware of their new surroundings
 - As they begin to LOOK and engage in the target, task, or activity, this variability begins to sort out into defined forming patterns - scaffolding
 - As they use this scaffolding regularly, they become defined formed patterns (foundations) which we call diagnoses

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Dorothy Corkville Briggs

- “Every child has an inner timetable for growth - a pattern unique to him.... Growth is not steady, forward, upward progression. It is instead a switchback trail; three steps forward, two back, one around the bushes, and a few simply standing, before another forward leap.”
- Colorado Early Childhood Social & Emotional Interdisciplinary Core Knowledge & Credential: A guide to professional development & pathway to quality assurance 2010 * Colorado Office of Professional Development


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Development

- “When intervention is delayed, it takes four times as long to intervene in fourth grade as it does in kindergarten because of brain development and because of the increase in content for students to learn as they grow older.”
 - National Institute for Child Health and Human Development (a division of NIH)
- Similarly, when development is disrupted, and patients attempt to use their previously learned patterns, their own redirection and restoration are delayed and more difficult in responding to intervention

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Development

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- When this disruption occurs in early development, it is potentially a much greater issue unless early identification and intervention are introduced to redirect and restore the scaffolding and foundations of development

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What Does This Have to Do With
Just Look Retinoscopy?



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Gesell

- “It is enough to say that the evidence now available strongly indicates that **the brightening and the dulling of the retinal reflex are directly correlated with the activity of the higher nerve centers in the visual system.**”
 - Arnold Gesell - Vision Its Development in Infant and Child p 184
- Bubba – and these “higher nerve centers” are in the brain which the **individual** uses for reaching out into their surroundings and the world.

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Gesell – Vision p 184 Bubba’s Take

- We must get beyond the notion that the eyes are mere receptors and onward to the concept that a more important role for eyes and vision is a **reaching** aspect that has unlimited potential for initiating, exploring, instigating, leading, and influencing action.

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Just Look Retinoscopy

- With Just Look Retinoscopy, we are assessing the action(s) toward Engagement –
 - what it takes – action to engagement,
 - how they respond,
 - the effort required,
 - and much more.
- Just Look Retinoscopy is simple in procedure but complex in observations of the processes of Engagement.

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Just Look Retinoscopy

- Just Look Retinoscopy is simple in procedure but complex in observing the processes of Engagement.
- What I want to emphasize with Just Look Retinoscopy is the observation of the child's strategy of **entering the task**, the child's strategy of **engaging in the task**, and the child's strategy of **exiting the task**.

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Just Look Retinoscopy

- Therefore, with Just Look Retinoscopy, you must begin looking **before** the task is presented, **throughout** the task, and as the child **leaves** the task to move to another – much more than determining a singular datapoint
- These are **Entrance, Engagement, and Exit Strategies** used by the patient

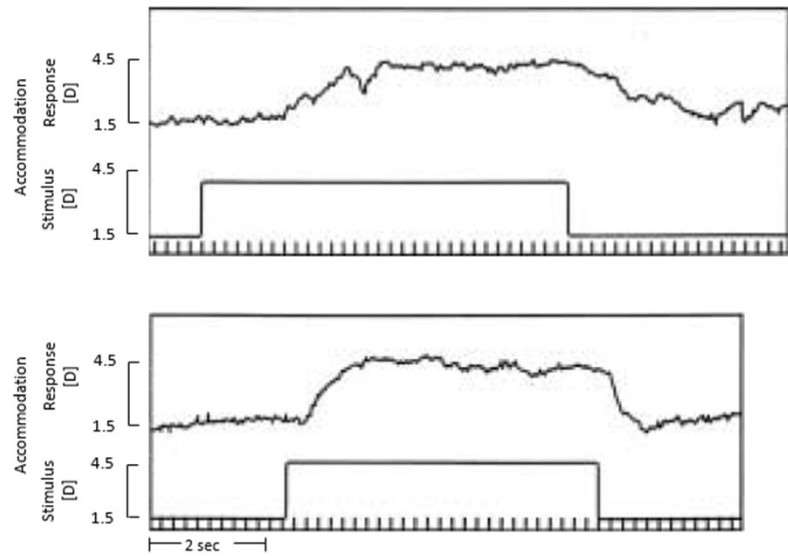
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Refraction

- “Raw data may be the same between children, but they may have marked differences between what is seen or even at two different times for the same child.” Paraphrase of Susan Barry, *Coming to Our Senses*, Basic Books, Hatchette Book Group
- Bubba’s Take - How has the child **improvised their actions toward engagement** through the combined environmental stimulation and individual efforts toward engagement? Changed their scaffolding?
- “I planned my whole life around not driving a car.”
 - Sue Barry – *Fixing My Gaze*

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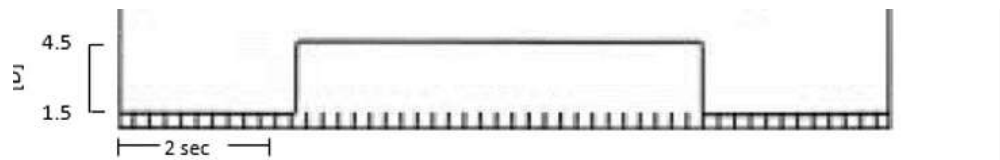
Changes in response to accommodation with the same child before and after vision therapy



Ciuffreda KJ. The scientific basis for and efficacy of optometric vision therapy in non-strabismic accommodative and vergence disorders. *Optometry* 2002;73:735-62

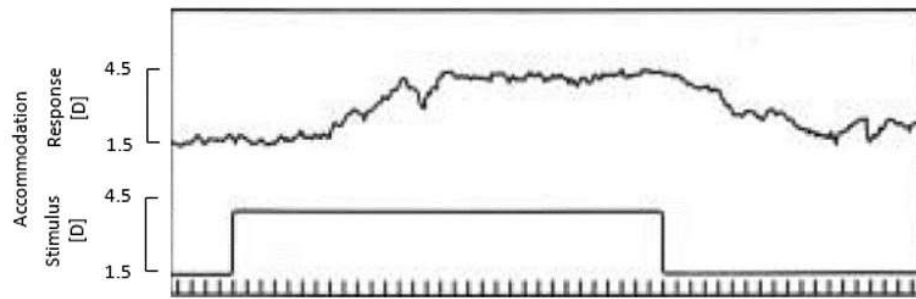
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The Test



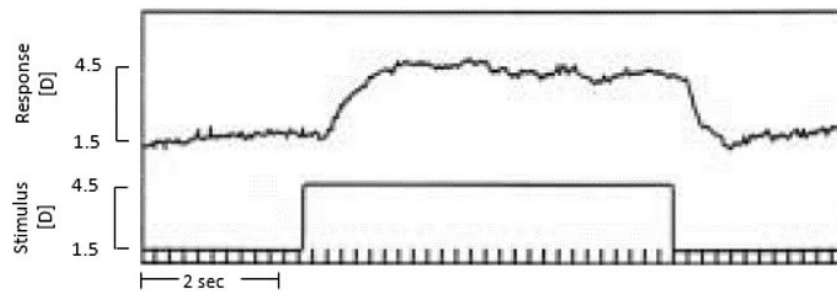
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Before VT



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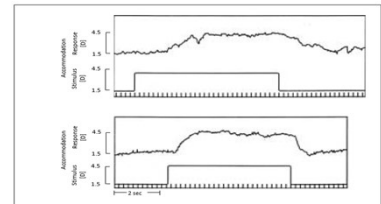
After VT



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Ciuffreda

- In each instance, the child can read a standard sized letter, but in which instance do they show the most efficiency when tasked to enter, engage, and exit the task?
- This is such a magnificent demonstration of differences in response to vision therapy and observations that can be made with Just Look Retinoscopy
- **But what if this represented two different kids sitting beside each other in a classroom?**

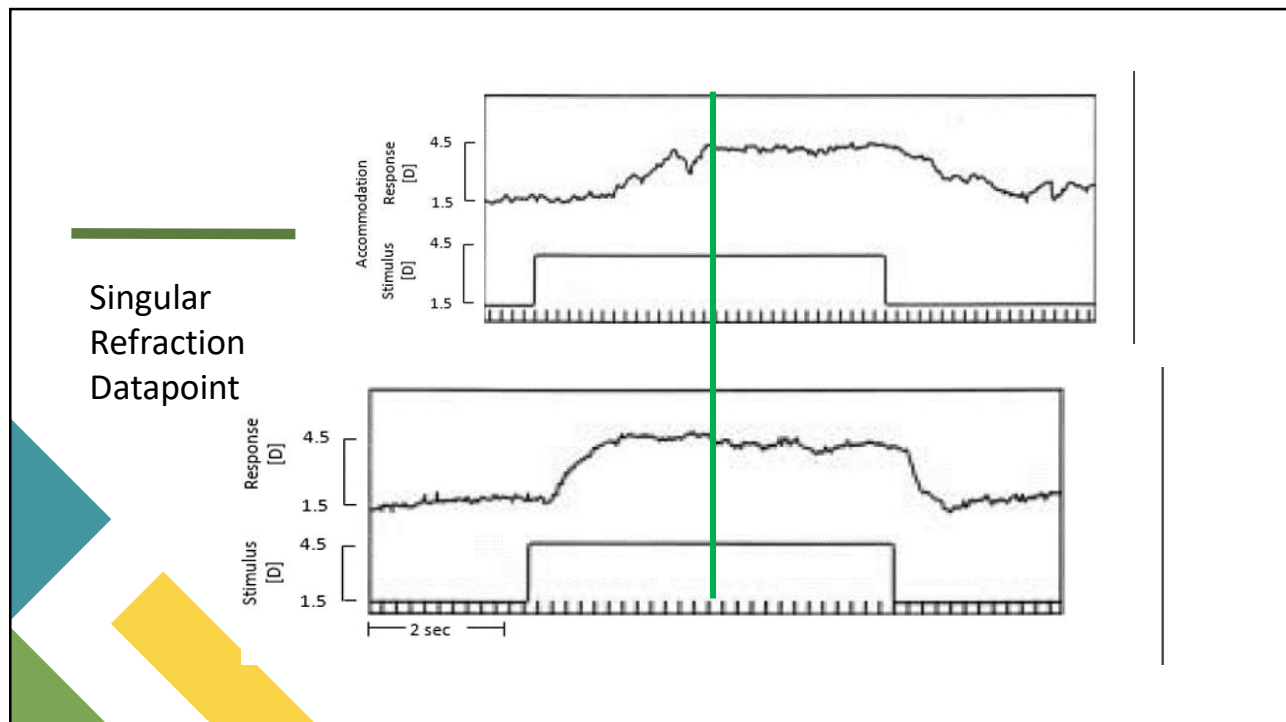


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The Retinoscope

- I find many optometrists are afraid of the retinoscope.
- They are comfortable with auto-refraction for determining refraction often without a patient subjective response to finalize the prescription from this single datapoint.

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The Retinoscope

- If that is all you want from using a retinoscope, then you are just as well using an autorefractor.
- HOWEVER, if you want more regarding a child's development, patient interaction with the task presented, and information projecting vision development into the future, using a retinoscope beyond refraction is a great tool – Just Look!

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Using a Retinoscope

- When using a retinoscope for refraction, we are manipulating external distance with lenses
- With Just Look Retinoscopy, we are using lenses to change the manner in which the patient can alter the looking process.
- **I am not looking for "good reflexes monocularly"**
- Observe their patterns and the trajectory of engagement as they begin the process and continue to observe all stages of their engagement until the task is completed.

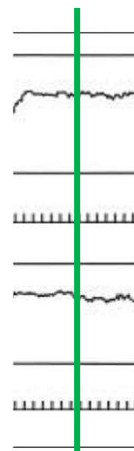
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Results from Refraction – Limited

This is a singular refractive datapoint

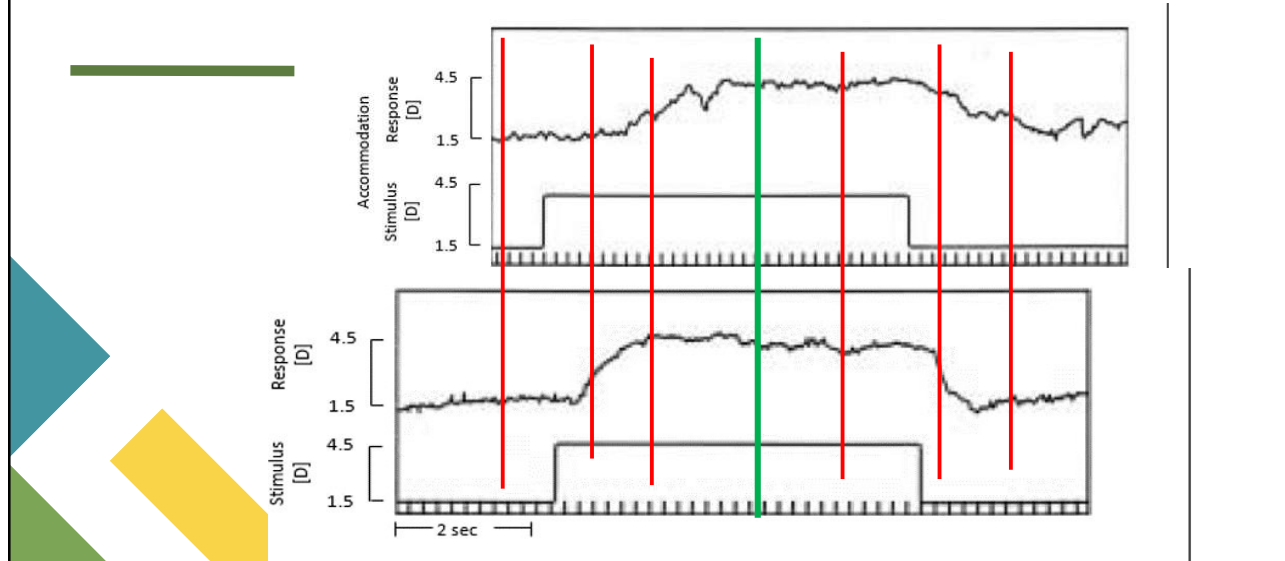
The things I want are eliminated

Do not settle for this



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This is What I Want

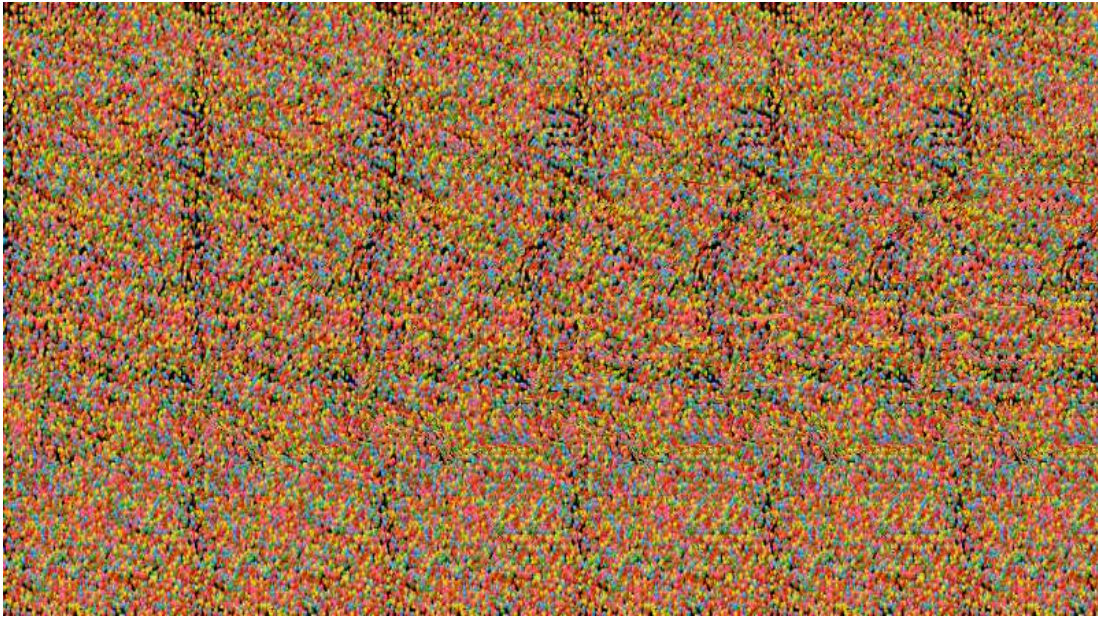


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Entrance, Engagement, and Exit Strategies

- I want to know the scaffolding by which the patient begins looking, what they show as they engage, and the process they use in exiting the task or activity
- This is so much more important than a singular refractive datapoint

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Len Press Blog – Just Listen, October 2022

- “You can gain a feel for “Just Look” by viewing [Bubba’s PowerPoint](#) on the topic. But what I want to emphasize here is that the crux of the process is to be non-judgmental. To be observant.”



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Len Press Blog – Just Listen, October 2022

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- “Before you interpose anything, look for what the quality, brightness, and speed of the reflex is telling you about engagement. And the word **‘just’** is a crucial modifier because it requires that quiet your mind about all the pre-suppositions about what you expect to find and focus instead on what is actually happening.”

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Visual Reach and Just Look Retinoscopy



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Visual Reach with Just Look Retinoscopy

- Even though the patient may complete the reach with their hand in a reasonably efficient manner, the patient who:
 - 1) does not make a full visual reach
 - 2) does not sustain it sufficiently without increase in inefficient variations and effort,
 - 3) **will require more effort** as the length or complexity of the task is increased.
- Just Look!

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Gesell and Retinoscopy

- “In the Yale research it was found that the returning light in the young retina **varied significantly in relation to identifiable moments of the visual act.**”
- “The variations were manifested in the motion, the direction, the speed, the brightness and sometimes the color of the retinal reflex.”

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Gesell and Retinoscopy

- “Characteristically **an increase of brightness in the reflex occurs at the moment when the infant identifies an object of interest.**”
 - Gesell, A, Infant Vision, Scientific American 1950
- Bubba – the reflex characteristically and temporarily decreases in brightness as the child **searches** to identify and brightens when **identification** is made – darker when trying to link neurons and brightening when connections are made

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Just Look Retinoscopy

- **There are a lot of moving parts in the visual processes that can be observed in Just Look Retinoscopy.**
 - How they come together to form patterns of engagement is reflected what we see in our observations and measurements
 - These patterns of engagement emerge through past choices of actions which have formed default patterns or habits of engagement.

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Just Look Retinoscopy

- “When these patterns are not sufficient, the developing child may avoid or may develop “substitute habits” or patterns for engagement.” Skeffington
- The scaffolding becomes the foundation

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Just Look Retinoscopy Measurement, Milestone, or Observer

- A sign above a scale read: “This scale can only give you a numerical reflection of your relationship with gravity. That. Is. It! It cannot measure beauty, talent, purpose, possibility, strength, comedy, love, or character.”
- This is the difference between using a retinoscope for a single datapoint versus using it to observe behavior during a reach toward engagement –
- **Entrance Strategy, Engagement Strategy, and Exit Strategy**

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Just Look Retinoscopy Measurement, Milestone, or Observer

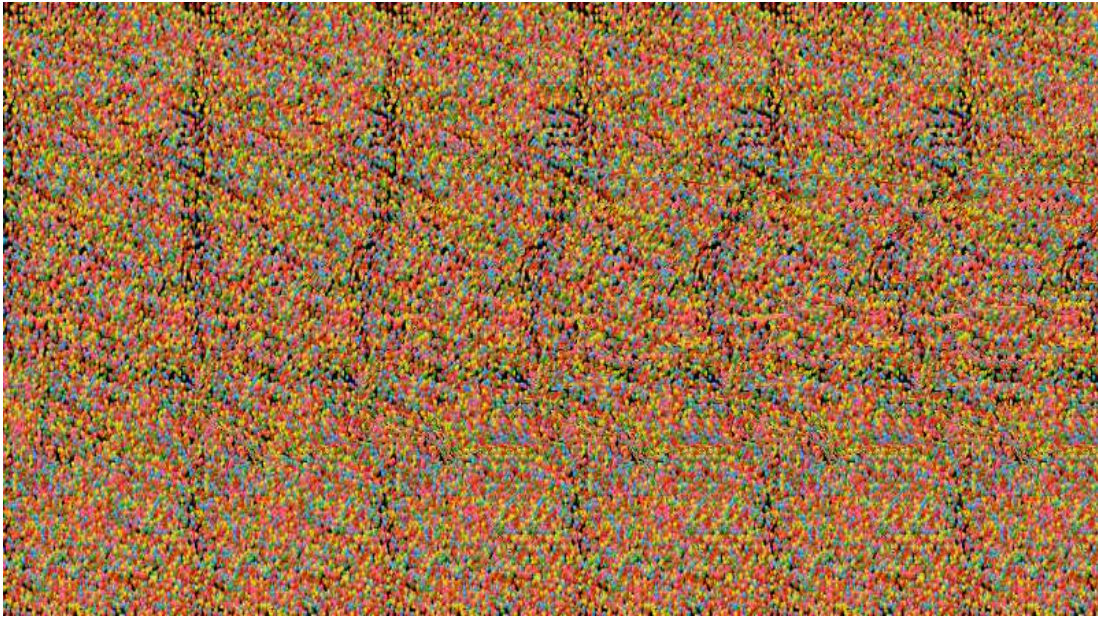
- When, How, What, When, How Much, How long, Let go, When, How, What, etc. cycles throughout life
- The patient's choices produce changes in the scaffolding allowing the child to both grow and limit behavior and development at the same time.
- When we Just Look for more than singular refraction, we limit our understanding of HOW the patient is entering, engaging, and exiting the task or activity

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The "Brain" and Just Look Retinoscopy

- "... the brain's networks are always in a state of potentiation for action, precisely because it is impossible to predict what they will be required to do at any given time. Therefore, it is unlikely that the brain can ever be at true rest."
- **Potentiation of motor sub-networks for motor control but not working memory: Interaction of dACC and SMA revealed by resting-state directed functional connectivity. *PLOS ONE*, 2017**
- This is the case for the many modulations observed in the retinoscopic reflex through Just Look Retinoscopy

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Just Look Retinoscopy

- Was attention and focus equal in all meridians and between eyes (motion, brightness, and color)?
- If these are not equal, engagement in the task will be more difficult leading to depletion of effort and energy
- Observe the **ENTRANCE STRATEGY, ENGAGEMENT STRATEGY, and EXIT STRATEGY**

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Basis for Just Look Retinoscopy

- Consider all aspects of the visual processes to be a continuum that links LOOKING, ATTENDING, FOCUSING, IDENTIFYING, ENGAGING, and RELEASING
- All part of this wonderful process - VISION


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Summary

- We have all been trained in a limited manner with a retinoscope – to determine a singular datapoint
- Take it to another level! Just Look Retinoscopy is more than a datapoint!


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Summary

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- Think of Just Look Retinoscopy as a view of the continuum from Entrance through Engagement to Exit
 - Observe the quality of HOW they approach any task presented and how smooth this transition appears
 - Observe where the patient might be in their developmental process, i.e., their ability to engage
 - Are they able to self-regulate at an age-appropriate level
 - When the patient is in a specific stage of development, it will show in retinoscopy if one will Just Look!


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Summary

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- “Just Look Retinoscopy - the continuous observation over several seconds that allows us to develop a mental video of the changes in the reflexes. This allows us to determine if there are possible times where the reflex moves toward better engagement or away from engagement with the task or activity presented.”
 - Glen T Steele, OD FOVDR FAAO


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Summary

- 
- Open your mind in a quiet manner to observe the patterns that are present but don't take the initial pattern as the only pattern.
 - What happens when you probe deeper and ask questions that require the patient to reach in greater depth?

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Summary

- 
- Observe as the patient uses their **default scaffolding** to engage in the task or activity presented
 - What happens to the reflex as you ask them to **reach** with looking, listening, feeling, sniffing, tasting, or thinking?
 - May be as simple as asking to reach for another target, the next letter, a stereo target, listening for a sound, etc.

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Summary

- This is what Just Look Retinoscopy is all about observing **The Entrance Strategy, Engagement Strategy, and Exit Strategy**

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Questions

- Does it have to be a light stimulus for the actions of vision to begin engagement?
- How are changes in the patterns of scaffolding and observations in Just Look Retinoscopy linked, i.e., instantaneous brightness changes in the reflex as the patient directs action toward engagement?

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Thank you!

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