


What Does the Retinoscope Tell You?

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The Retinoscope


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What does the retinoscope tell you?

It really doesn't TELL you anything!

YOU determine **HOW** the child is engaging in the task through your **observations** while using a retinoscope which will guide patient management

With the broader process of Looking while examining, Just Look Retinoscopy allows you to focus forward and determine **WHERE** you want the patient to go



The Retinoscope


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Refraction tells you where the patient has been

If you are using a retinoscope to "tell you something," you can more likely get that information with an autorefractor

"... And **those** who look only to the **past** or present are certain to miss the **future**." John F. Kennedy

There is so much more there if we just take the time to LOOK




The Retinoscope

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The key issues in Just Look Retinoscopy are not the retinoscopic refractive numbers, but the observations of distinctive patterns and cycles of action while using the retinoscope.

One can observe the Cycles of Action from stimulus to curiosity to action to engagement and release for the next (ad)venture.

Look-Attend-Focus-Identify-Engage-Release




"The Child is born with visual hunger" Arnold Gesell

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Developing babies are rarely at a loss for engagement(s) – they are always looking

They begin communication long before they can talk and much of early communication is through the processes of LOOKING

Where are they looking, at what, for how long, modulations, and when do they let go

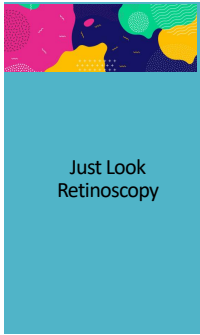


"The Child is born with visual hunger" Arnold Gesell

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These cycles are repeated throughout a developing child's time awake –

and when they stop engaging (looking), they go to sleep.

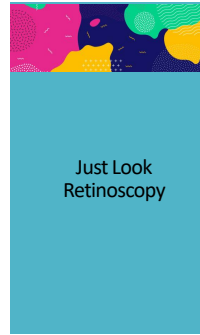


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One may be able to get some of the information through observation and some testing.

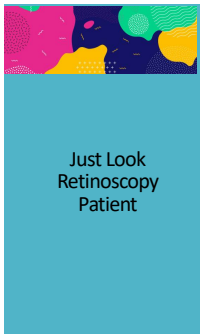
Adding Just Look Retinoscopy gives one a direct look at patient function and HOW they are going about the process of ENGAGING in the world about them.

Just Look Retinoscopy is a means of gaining a significant amount of information regarding patient function and efficiency in a short time frame.



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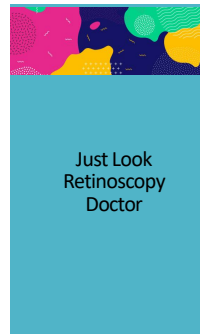
Just Look Retinoscopy is a means of observing the cycles of engagement – stimulus action – engagement – release for the next (ad)venture throughout the time observed.



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The goal is to assess HOW the patient goes about:

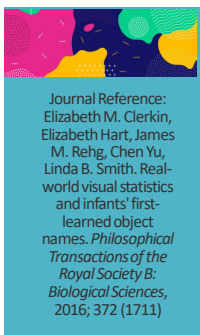
- Responding to the curious stimuli (regardless of origin),
- Initiating action to satisfy this curiosity,
- Pattern(s) of engagement with the stimulus
- Pattern(s) of sustaining or release
- Moving on to the next (ad)venture



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How do WE go about:

- Observing importance to them through engagement
- Observing their manipulation with the object
- Observing their sustainability throughout the activity
- Observing the ease of release for the next (ad)venture



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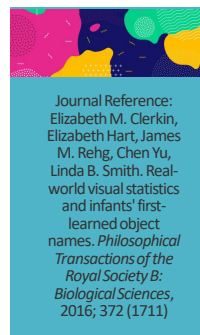
Journal Reference: Elizabeth M. Clerkin, Elizabeth Hart, James M. Rehg, Chen Yu, Linda B. Smith. Real-world visual statistics and infants' first-learned object names. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 2016; 372 (1711)

"Summary: Psychologists have shown that a baby's most likely first words are based upon their **visual experience**, laying the foundation for a new theory of infant language learning."

"Difficulty learning words could stem from visual processing problems," Smith added.

"Children who are late talkers have slow or age-delayed visual processing skills for objects, for example.

Children with autism have object-processing problems as well."




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Journal Reference: Elizabeth M. Clerkin, Elizabeth Hart, James M. Rehg, Chen Yu, Linda B. Smith. Real-world visual statistics and infants' first-learned object names. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 2016; 372 (1711)

"Taking account of the visual brings a whole new dimension of word-learning into view," she added.

"If all you ever worry about is the word side of word-learning, you may be missing half the problem: visual cues that aid language learning."

Bubba - Using Just Look Retinoscopy, one can assess the QUALITY of response and engagement leading to "word-learning" if we Just Look.



Three quotes from: Janis Intoy, Michele Rucci. **Finely tuned eye movements enhance visual acuity.** *Nature Communications*, 2020; 11 (1)

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“Unlike a stationary camera that takes a fixed photograph of the world, human eyes are constantly moving, taking in new pieces of a visual scene and continually changing the visual input to the retina.”
 “.that fixational eye movements are key contributors to 20/20 vision. In fact, even though humans are not aware of making them, these eye movements are finely controlled and can allow people to read at least two lines further on the Snellen eye chart versus when eye movements are absent or impaired.”



Three quotes from: Janis Intoy, Michele Rucci. **Finely tuned eye movements enhance visual acuity.** *Nature Communications*, 2020; 11 (1)

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“If eye movements and the properties of the eye are interrelated in this way, then therapies involving eye movements may be helpful in these cases.”
 Bubba - Using Just Look Retinoscopy, one can assess the **QUALITY** of response and engagement of eye movements if we Just Look.
 Not only are the eyes pointing at the target but where are they really looking!!



Bubba’s Take Through Just Look Retinoscopy

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Modulations throughout the visual processes are always present as the patient moves to engage and understand the task before them. When the range of modulation is greater than expected and remains that way, this is an indication that the patient has trouble directing attention to the task and “focusing.” When the range of modulation decreases as engagement begins, this is an indication that the patient can focus, but may have difficulty sustaining.



Bubba’s Take Through Just Look Retinoscopy

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When the modulations decrease immediately and are sustained, this is an indication of rapid attention, focus, and identification leading to appropriate engagement (according to the patient’s understanding of the task). These observations demonstrate the integrity of the looking part of visual engagement **What you “see” is determined by the integrity of how you LOOK** with Just Look Retinoscopy



What you “see” is determined by the integrity of how you LOOK

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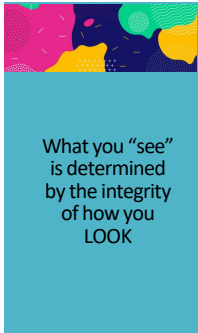
A stimulus may originate internally or externally, but the **quality** of “seeing” is dependent upon how well you have developed the foundation(s) of looking, attending, focusing, identifying, and engaging.
 If you want to “see” well, learn to look well.



What you “see” is determined by the integrity of how you LOOK

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It sounds easy, but how do developing kids know that when left to developing their own patterns and habits
 Even so, seeing is not the origin. Looking is the origin, and that origin begins with curiosity
 If one is not curious, there is less motivation to begin the action part of looking and if you don’t look, you don’t “see”

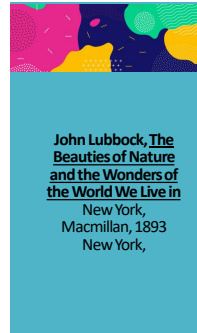


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Just Look Retinoscopy provides a wealth of information regarding the status and quality of the LOOKING process from initial stimulus all the way through to "seeing."

The goal of management should be to augment the LOOKING process as this leads to enriched "seeing."

What you "see" is determined by the integrity of how you LOOK

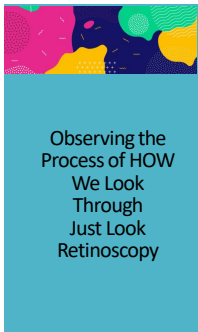


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"What we do see depends mainly on what we look for. ...

In the same field the farmer will notice the crop, the geologists the fossils, botanists the flowers, artists the colouring, sportsmen the cover for the game.

Though we may all look at the same things, it does not all follow that we should see them."

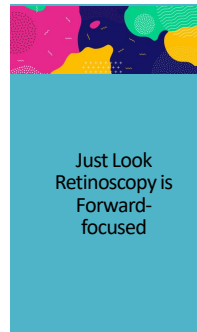


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The way the developing infant engages the looking process today prepares them for HOW they will engage in the ever-expanding stages of visual engagement tomorrow

Just Look Retinoscopy provides information regarding process and purpose versus refraction.

Just Look Retinoscopy is **qualitative**, not quantitative – **forward focused, not static**

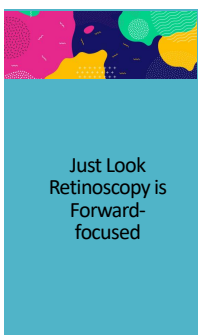


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The goal of any procedure is to find ways to help the patient redirect their behavior - even when they do not know it is related to use of vision.

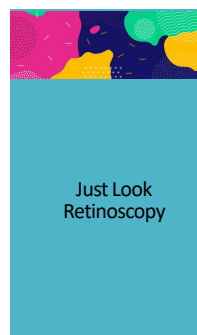
If our goal is just to measure, we are looking in the past - not ahead to making things easier in the future.

- Measure – tech can do this
- Assess and provide direction – doctor responsibility here



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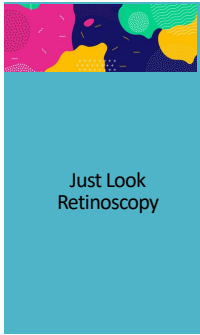
When a doctor looks only at refraction, they are using a technician mentality. This can be obtained using an auto-refractor. Just Look is a forward-thinking activity - moving ahead – using current patterns to become aware of the potential for change as the patient goes on through life.



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The process of looking ahead does involve seeing where they have come from, but not stopping at that point in time. Look ahead.

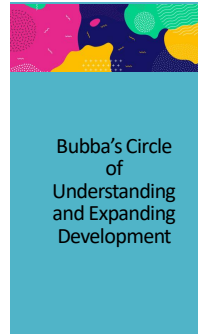
- What is their potential? How far can they go that their current situation might not allow if only addressed at the refractive level?
- What current activities or manner of going about the activities limits them in looking ahead?
- What resources are available to help them move ahead?



Just Look Retinoscopy

- Just Look Retinoscopy is a means of assessing HOW the patient is going about LOOKING out into their world
- Active - Going full bore into the Vast Unknown of the Circle of Understanding
 - Passive - Barely stepping a toe into the Vast Unknown
 - Modulates easily back and forth from Comfort Zone into the Unknown and back to the Comfort Zone

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Bubba's Circle of Understanding and Expanding Development

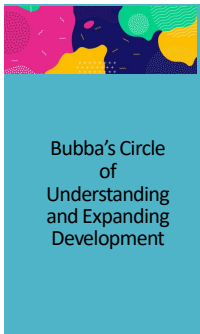
Involvement in activities beyond their Circle of Understanding - LOOK, ATTEND, FOCUS, IDENTIFY and ENGAGE

Development must always be considered as an ongoing and expanding process

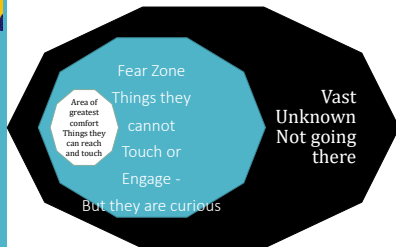
Vision must emerge as the leader

As our Circle of Understanding moves beyond that which we can touch, vision takes on a higher priority as the child moves through each stage

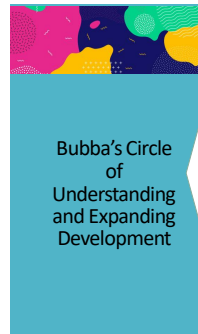
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Bubba's Circle of Understanding and Expanding Development



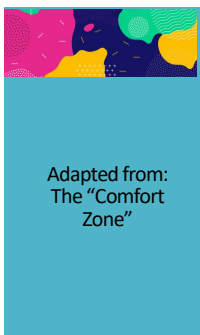
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Bubba's Circle of Understanding and Expanding Development



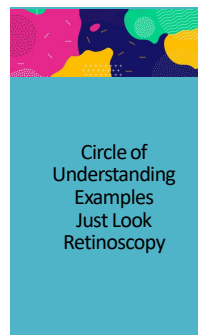
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Adapted from: The "Comfort Zone"



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Circle of Understanding Examples Just Look Retinoscopy

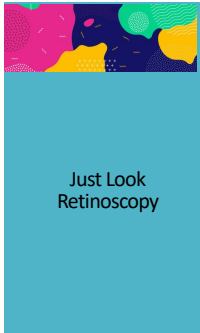
As you move inside and outside the Circle of Understanding, what if you observe:

- +1.00 inside Circle of Understanding but +4.00 after crossing outside the Circle
- +1.50 inside Circle of Understanding but -1.00 after crossing outside the circle

Both have different areas in which they have not sorted out

The second one is much more reluctant to venture into that area of unknown

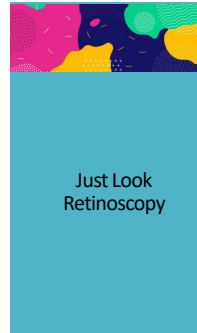
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Just Look Retinoscopy is a means of assessing HOW the patient interacts with their world – moving through their Circle of Understanding

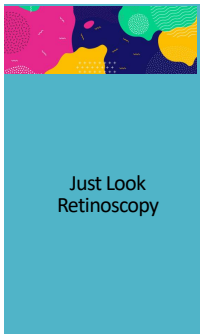
- Active - Look and GO – action to engagement
- Look and Investigate – slower to act
- Passive - Look but little movement to act



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Just Look Retinoscopy is a means of assessing WHERE the patient is LOOKING

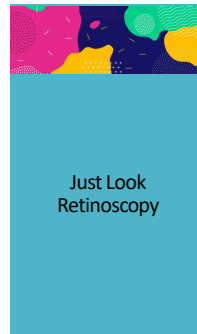
- Active – Look quickly and begin reaching
- Look and attend
- Passive – Slower to Look and difficulty holding fixation and attention



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Just Look Retinoscopy is a means of assessing the patient's **ability to sustain and ATTEND** to the task presented

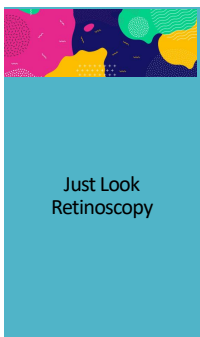
- Expected - Looks, attends, and sustains while holding fixation
- Overactive – Short bursts of attention and engagement when task is presented
- Passive – Looks but little effort to attend and engage when task is presented
- From an external perspective, all pointed eyes but each shows a different purposeful engagement



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Just Look Retinoscopy is a means of assessing IF they are able to **IDENTIFY** the target or task

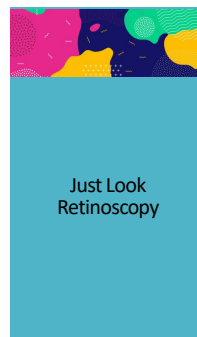
- Monitor the kind of modulations – large (searching) or small (refining)
- Determine if the action of identification results in engagement or avoidance



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Just Look Retinoscopy is a means of assessing the patient's ability to **ENGAGE** in the task/target

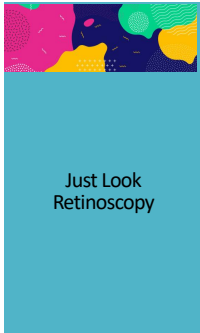
- Active - Quick looks and blows into the unknown
- Refining modulations and holds attention with sustained looking
- Reaches visually for target and actively engages in activity
- Passive -very comfortable in their own cocoon – little movement into the unknown



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Just Look Retinoscopy is a means of assessing the **STABILITY** of how the patient is LOOKING and ENGAGING

- Observe modulations – searching or refining
Just Look Retinoscopy is a means of assessing the **QUALITY** of how the patient is engaging in the task/target
- Observe modulations – searching or refining



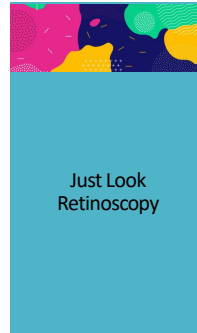
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Just Look Retinoscopy is a means of assessing the **PLASTICITY** within their visual engagement

Facility - positive or negative easier?

Positive response – easier to come to attention and focus easily handles minus phase

Negative response – difficulty with sustaining and often let's go – may not handle either phase

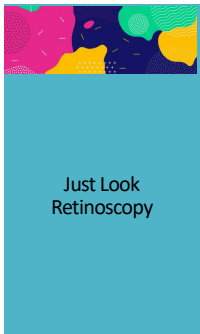


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Just Look Retinoscopy is a means of determining how the patient **ENGAGES** in the task presented

- Sustains with refining modulations consistent with task – getting it

- Looks away and back – larger modulations – not getting it



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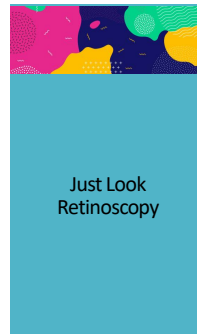
Just Look Retinoscopy is a means of assessing **POTENTIAL for change**

- Response with low plus decreases number and amplitude of modulations

- Response with low plus reflex brightens significantly

- Less motion indicating better attention with less effort

- Or the opposite – low plus lenses show a pattern of interference



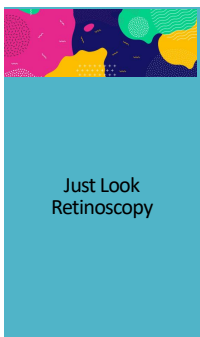
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Just Look Retinoscopy is a means of assessing **HOW** the change was made

- Increased Efficiency in **attention, focus, identification** and engagement

- Increased ability to **sustain** attention, focus, identification, and engagement

- Increase in **brightness** with decrease in **motion**

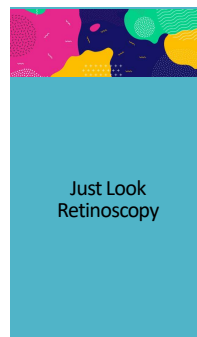


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Moves from overactive toward engagement or from passive towards engagement

- A greater change toward expected is a sign that lenses alone may be most efficient.

- No change toward expected indicates we should explore other options for management.

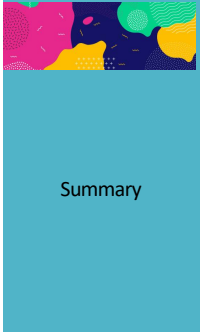


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Calm or Chaos – Looking or Searching –

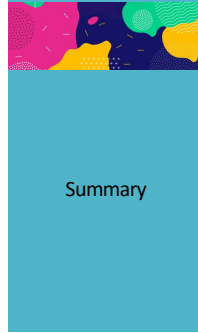
Engaged or Disengaged – with Ease or Effort
ALL can be determined by observation of distinctive patterns during Just Look Retinoscopy

The doctor's responsibility is to assess how the patient got to where they now are, determine potential, and initiate a management plan to for redirection and/or restoration.



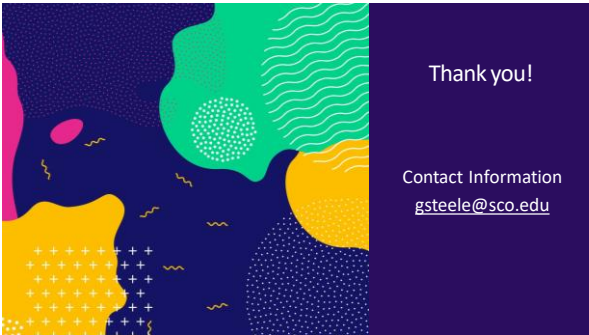
What does a retinoscope tell you?
It really doesn't TELL you anything.
YOU determine HOW the child is engaging
through your observations while using a
retinoscope which guides you in patient
management.

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refractive numbers, but the observations of
distinctive patterns of action while using the
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One can observe the process from stimulus
to curiosity to action to engagement to
release for the next (ad)venture
Just Look!

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