

## The Visual Pyramid



**Primary Eye Care Centre**

(306) 693-8584

### Primary Eye Care...

**P** rimary Eye Care provides comprehensive optometric examination including thorough assessment of Visual Integrity, Visual Efficiency and Visual Information Processing.

Our doctors work closely with Educators, Educational Psychologists, Resource Teachers, Occupational Therapists and Speech Pathologists to provide the highest level of diagnostic and treatment services for those with Learning Related Vision Problems.

If you would like more information about our services, please call (306) 693-8584, 9:00 a.m. to 5:00 p.m., Monday through Friday.



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## The Visual Pyramid

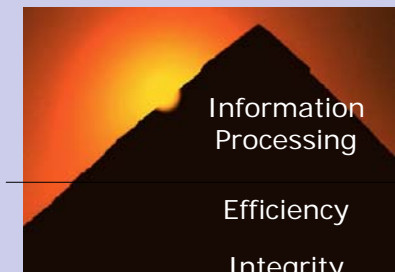
It is often assumed 'eye examinations', regardless of provider and circumstance, will always detect any and all vision and eye conditions that may be present. This assumption is mistaken.

'Eye examinations' do have mandates. Providers do have special interests.

The complexity and subtlety of 'Eye Examination' can be illustrated by reference to "The Visual Pyramid".

Although Vision is extremely complex, it can be broken into 3 functional components:

- Visual Integrity
- Visual Efficiency
- Visual Information Processing



The Visual Pyramid consists of 3 functional components

## Visual Integrity...

**V**isual Integrity includes factors impacting clear sight, namely eye health, refraction and visual acuity. It is the foundation of the Visual Pyramid and also the foundation of vision and eye examination. For residents up to age 18 years, Medicare in Saskatchewan pays for what is known as 'a Refraction', which essentially tests Visual Integrity. With few exceptions, all Eye Examinations in Saskatchewan include Visual Integrity testing, treatment and referral when required. Visual Integrity testing that includes refraction and health assessment is adequate for 85% of patients and no further investigation is required or necessary.

## Visual Efficiency...

**V**isual efficiency involves how the eyes move and interact with one another as a team. It includes Accommodation (or focusing), Ocular Motility (or eye tracking) and Binocular Vision (or eye teaming). This component often requires specialized investigation and treatment. With few exceptions, Medicare in Saskatchewan does NOT pay for thorough Visual Efficiency assessment or treatment. As a result, many Eye Examinations in Saskatchewan do NOT routinely include comprehensive non-refractive assessment of Visual Efficiency.

## Visual Information Processing...

**V**isual Information Processing involves visual perception which can be defined as the capacity to interpret or give meaning to what is seen. The definition includes recognition, insight, and interpretation at the higher levels of the central nervous system of what is seen by the eye. In other words, is what is seen by the eye being properly interpreted by the vision centres in the brain. This vast functional area can be further subdivided into various subsets such as Visual Spatial, Visual Motor Integration and Visual Analysis.

Visual Information Processing also requires specialized investigation and treatment. In most cases, Medicare in Saskatchewan does NOT pay for thorough Visual Information Processing assessment and treatment. Similarly, many Eye Examinations in Saskatchewan do NOT routinely include comprehensive non-refractive assessment of Visual Information Processing.



The Visual Pyramid consists of Visual Integrity, Visual Efficiency and Visual Information Processing

## The Point...

**T**he point of these distinctions are very important because Visual Efficiency and Visual Information Processing deficiencies are present in about 15% of the population and can have a clinically significant impact on reading performance. This is why detecting and treating these deficiencies is critical in young people during the period when they are learning to read.

This does not understate the value of Visual Integrity Examination. After all, it is the foundation of the Visual Pyramid. However, it also illustrates how easily some eye problems can be overlooked in a Visual Integrity Examination.

This explains how an eye problem can be suspected by a parent or teacher BUT the vision report from the provider says 'their eyes are fine'. A more accurate description would be 'their Visual Integrity was fine'. If thorough Visual Efficiency and Visual Information Processing tests were not performed, these problems, of course, will not be detected. It is as simple as that.

A Medical Eye Examination looks for eye disease. A Refractive Eye Examination is a test for the need for glasses. However, reading and learning problems often involve healthy eyes and the Non-Refractive components of the Visual Pyramid—Visual Efficiency and Visual Information Processing.