Optic Nerve Compression
How to monitor, and When to act
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Vision Loss in Fibrous Dysplasia

• Who is at Risk?
  • People with bony skull involvement
    • McCune Albright Syndrome

• Why?
Fibrous Dysplasia

Normal

axial

oblique reformat

coronal through optic canal
Doesn’t the optic nerve get compressed by the sphenoid bone?

- Most patients with sphenoid bone involvement have normal optic nerve function DESPITE the appearance of going through a tight canal.
- Hence prophylactic decompression is NOT recommended.
- But regular eye examinations ARE recommended.
What Happens in an Eye Examination?

• Standard eye exam concentrating on optic nerve function:
  • Check Vision (acuity), pupils, eye movements, front of eye
  • Side vision testing – Humphrey Visual Field
  • Color vision testing
  • Contrast vision testing
  • Look at the optic nerve head appearance
  • Optical coherence tomography – measure retinal nerve fiber layer (RNFL)
Visual Acuity (ETDRS chart)
Humphrey Visual Field
Ishihara Color Plates
Contrast Vision
Optic Nerve Head Appearance
Optical Coherence Tomography (OCT)
What can I expect?

Despite bony appearance on imaging most people with skull involvement have no visual problem from optic nerve compression.

Avoid prophylactic optic nerve decompression surgery.
But!

• Growth hormone excess
  • Keep hormones as normal as possible with the help of an endocrinologist

• Aneurysmal Bone cyst causing sudden compression
  • See an ophthalmologist for a sudden change in vision as soon as possible
What should I do?

- Annual exams – consider seeing a neuro-ophthalmologist if available
- Usual course is no significant effect on the optic nerve’s function (control growth hormone if abnormal)