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**Use of Axial Length Measurement**

- Axial Length
- Axial Length
- Axial Length
- Axial Length
- Axial Length

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**Axial Length 10 Year Old Female**

- Axial Length
- Axial Length
- Axial Length
- Axial Length
- Axial Length

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**When is treatment considered successful?**

- Axial Length
- Axial Length
- Axial Length
- Axial Length
- Axial Length

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**Summary: Children at Risk for Developing Myopia**

- Children at risk for developing myopia
- Children at risk for developing myopia
- Children at risk for developing myopia
- Children at risk for developing myopia
- Children at risk for developing myopia
- Children at risk for developing myopia
- Children at risk for developing myopia

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**Vision Threatening Conditions and Myopia?**

- Axial Length
- Axial Length
- Axial Length
- Axial Length
- Axial Length

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**Myopia Control Treatment options**

- Multifocal
- Contact lens
- Spectacles
- Ortho K
- Pharmacological agents

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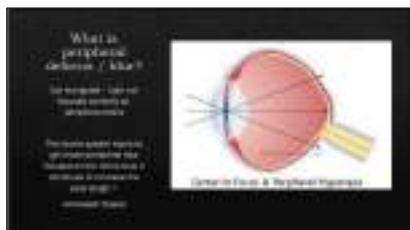
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**Orthokeratology**  
The theory behind the mechanism is that peripheral blur leads to decreased axial elongation.

- Orthokeratology (ortho-k) is a temporary method of vision correction using rigid contact lenses.
- Ortho-k lenses are designed to temporarily reshape the cornea while the patient sleeps.
- Ortho-k lenses work by creating a peripheral blur that leads to a temporary flattening of the cornea.
- Corneal flattening reduces axial elongation, which is the primary cause of myopia.

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**Orthokeratology - Ideal Candidates**

- Refractive error (myopia, hyperopia, astigmatism)
- Stable refraction
- Age 18 or older
- Good tear production
- No corneal disease
- No other eye disease

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**Orthokeratology - Treatment Protocol**

1. Initial Exam
2. Ortho-k Lenses
3. Adaptation
4. Follow-up

Wearing a proper ortho-k lens.

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**Follow Up Exam**

- V.U.
- I.U.
- R.U.
- M. (visual) in distance & N. (near)
- P. (peripheral)
- C.U.

**October 2021**

DATE	TIME	LOCATION	STATUS	REMARKS
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**1 DAY Follow Up**

1. Initial Exam
2. Ortho-k Lenses
3. Adaptation
4. Follow-up

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**Routine Follow Up**

1. Initial Exam
2. Ortho-k Lenses
3. Adaptation
4. Follow-up

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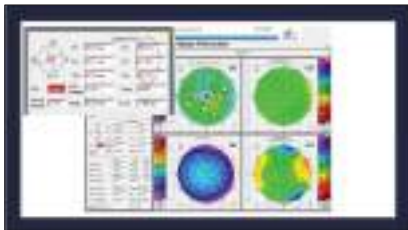
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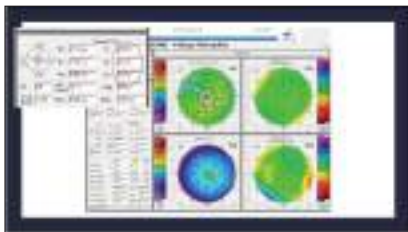
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**Soft Multifocal Research**  
 (After old multifocal)

- 2015 - 2016
- 2017 - 2018
- 2019 - 2020
- 2021 - 2022

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**Case Example**

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**13 year old male**

- History: normal development
- PE: 128/80/100, 150, 40/100/100
- Physical examination: normal
- Laboratory: normal
- Imaging: normal
- Pathology: normal

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**Tx Options?**

- Observation
- Leukotriene
- Antibiotics

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**13 year old**

- History: normal development
- PE: 128/80/100, 150, 40/100/100
- Physical examination: normal
- Laboratory: normal
- Imaging: normal
- Pathology: normal

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**Patient Case**

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Daughter of IGO staff member  
no family history of myopia

Year	Age	Myopia
November 2004	4.0	None (0.00 D sphere)
January 2005	5.0	None (0.00 D sphere)
August 2005	5.7	-0.50 D sphere

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Discussion with parent

Ortho K?

Atropine?

Daughter of IGO staff member  
no family history of myopia

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Low-Dose Atropine

- 1. FDA approved (2022) (0.01%, 0.02%, 0.05%)
- 2. Woke up going into the clinic
- 3. Followed myopia trials
  - HOA study suggest 0.01% atropine
  - COMET2 suggest 0.05% atropine

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Not FDA approved for myopia treatment

Off label use

Atropine use

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Atropine Use for Myopia Control

- **Indications:** Myopia with Evidence of Rapidization
  - 1. Age 6-18
  - 2. Progressive myopia
  - 3. Myopia > (2.0-3.0) D
  - 4. Myopia > (3.0) D with astigmatism
  - 5. Astigmatism
  - 6. Refractive Error
- **Contraindications:** Contraindications to atropine use
  - Allergic reactions to atropine
  - Glaucoma
  - Hyperthermia
  - Severe ulcerative keratitis
  - Acute angle closure glaucoma
  - Myasthenia gravis
  - Use of anticholinergics
  - Inability to understand instructions for use

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Starting of Atropine Myopia Control ATOM Studies

Consist Multi-center research:

- 0.01% 87% reduction
- 0.02% 75% reduction
- 0.05% 67% reduction
- 0.1% 56% reduction

Response 40% is atropine treated group

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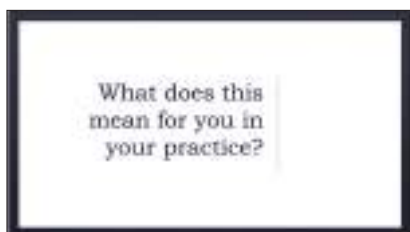
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### What about children less than 5 years of age?

They eat food

Different medications for things that are available to other patients

How big will be the effect of the dose relative to younger children

97

### Age Summary

**0 to 18 months**

- 1800-2500
- 8-12 months
- 1-2 years
- Higher to lower to 4 weeks after 2 years of age

**1 to 2 years**

- 1000-1500
- 2-4 years
- 1-2 years

**2 to 5 years**

- 1000-1500
- 2-4 years

98

## SUMMARY

99

### Communication

- Share in the same
- Use the same language
- Use the same
- Use the same
- Use the same

100

### Patient adherence to prescribed treatment is critical to success

- 4-10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%

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### Data Collection Summary

- 100%
- 100%
- 100%
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- 100%

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**Summary Thoughts**  
OKTHO K

- OKTHO K
- OKTHO K
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- OKTHO K

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**Summary Thoughts**  
Atropine Use

- Atropine use
- Atropine use
- Atropine use
- Atropine use
- Atropine use
- Atropine use
- Atropine use

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**New Ideas**

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**Ortho K + Atropine**

Scientific Evidence of Efficacy

- Ortho K + Atropine
- Ortho K + Atropine
- Ortho K + Atropine
- Ortho K + Atropine
- Ortho K + Atropine
- Ortho K + Atropine
- Ortho K + Atropine

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**Combined Myopia Management**

Combined Myopia Management

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**Spectacle Myopia Control**

Not yet available in US

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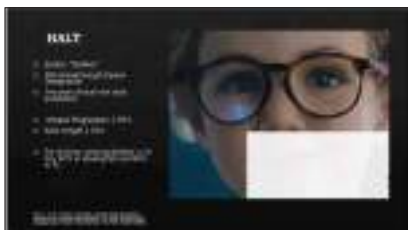
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