

IPAD and Tablet Use in Young Children...Adverse Effects

Margaret F Ronis, OD
3635 Boul. De Sources
Dollard des Ormeaux, QC H9B 2K4
CANADA
514 683-8448
margaret.ronis@gmail.com

Observations of today's world

- Companies are marketing software for babies and toddlers.
- Parents are modeling screen behavior to their children.
- Parents are using IPADs (and cell phones) as babysitters.
- I have been getting referrals from pediatricians for toddlers who are rubbing their eyes, blinking and complaining of headaches and/or have red eyes.
- It is rare to find young kids who don't use these devices.
- There is evidence of IPAD addiction. (1)
- Mindfulness, empathy and people skills are not developing.
- There have been myopia studies on raising animals in closed boxes (2) and the effects of extended near work(3)
- We have seen increases in myopia in older children who have to use IPADs for school and homework.

Exam Findings Aug 30, 2017

- MEM: OD +3.00-2.50x10
OS +3.00-4.00x170
- Refraction: OD +2.50-2.50x10 VA 20/30
OS +2.50-4.00x170 20/40+
- Maddox Rod Phoria: Horizontal 0
Vertical 0
- Ocular health: normal Rx was prescribed as above
- Advised to cut out Tablet use for now. Her response was, “so will you play with me, Mommy?”
- The mother told me that she knew not to expose her toddler to television before age 2, but no one told her not to let her toddler use a cell phone or IPAD before 2!

Progress Exam November 7, 2017

- Wearing glasses full time. No tablet for 3 weeks, and then very limited supervised use.
- OD +2.50-2.50x10 VA cc 20/20 Lighthouse
OS +2.50-4.00x170 20/40+ cards
Near VA 20/30 Goodlite Box Stick
- Stereoacuity: Animals 3/3, Wirt 5/9
- EOMs: full with no head movement
- Recommendations: Frost Lens (tape) of OD 1 hr per day and do prescribed activities. Will return in 2 to 3 months.

Tristan

- First Eye Exam: August 30, 2017
- Hx: He had just turned 3 years old. He was using an IPAD 1 hour per evening at home, possibly more during the day with the babysitter. Mom is a pediatrician. At one point she suspected “pseudo-strabismus.”
- No family history of Amblyopia or Strabismus
- VA sc OD 20/400 (very unhappy to cover OS)
OS 20/20 OU 20/40 Lighthouse
Near 20/30 Goodlite box Stick
- Stereoacuity : Animals 0/3
- Ocular health: Normal

Further Info

- EOMs: full with head movement
- Hirschberg, Red Reflex: equal
- MEM: OD +4.50
OS +1.50
- Refraction: OD +3.50 VA 20/60
OS +1.50 20/40
- Mother was in shock
- Rx was prescribed as above, told to return in 2 months for follow-up and possible cycloplegia if VAs don't improve
- Advised to cut out tablet use for now
- No guarantee was given for 20/20, but told he would achieve better acuity and better binocularity with Rx, VT

Follow-up on Tristan

- Mother took him to Dr K, chief of ophthalmology at the Montreal Children's Hospital 2 weeks later for a 2nd opinion. At least he said, "Dr Ronis is a good optometrist but we have different philosophies." (Big change)
- They came back with a new Rx for him: OD +4.00, OS plano and recommendation to patch OS 2 hrs in the morning and 2 hrs in the afternoon. (Dr K used to patch 24/7)
- Dr K said he could GUARANTEE he would get Tristan to 20/20, faster with this method.
- Mom saw me while waiting in the waiting room to change the lenses, asked when should she come back to see me, also said she was taking him to Ste Justine Hospital (the other pediatric hospital in Montreal for 3rd opinion.)

Frustration

- I told mom she has to decide which approach she wants to take...she is the parent.
- But if she wants me to do VT, she has to stick with my Rx. Don't know if I will see him again.

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- Kids sit in the waiting room watching videos on smart phones or tablets before their eye exams, sometimes very close to the eyes.
- This influences their exam findings negatively.
- I was so exasperated that I made up a sheet of activities for kids to do at home instead of IPAD!

Vision Development Activities for Young Children

- 1) Crawl (play “doggie”): Roll a ball on the floor and have the child crawl after it.
- 2) Log rolling: The child should roll lengthwise on the ground in both directions. Place a toy or object on either side so that they can roll toward (ex) “teddy” and then roll toward “kitty.”
- 3) Peek-a-boo from behind: Sit your child on your lap, back to you. Make “coo-coo” from 1 side and then the other side, alternating.
- 4) Angels in the snow (on sand, on the floor, on grass, etc): Lay child on his/her back, legs together and arms by his/her sides. Open and close arms (overhead) and open and close legs. Then try to do both arms and legs at the same time.
- 5) Jumping: Your child jumps on both feet, right foot, left foot. If necessary your child should hold onto you or the back of a chair. Jump over a line or mark on the floor.
- 6) Dry land “swimming:” Moving arms and legs while on back, on stomach.
- 7) Ball rolling: Sit on the floor across from your child and roll a ball back and forth between you. This can be done in a circle with more than 2 people.

- 8) Balloon Catch: Toss a balloon back and forth and keep it in the air. This can be done between 2 people or solo.
 - 9) Bubble popping: Blow bubbles and have your child pop them, alternating hands.
 - 10) "Basketball:" Have your child throw objects into a container, starting close and moving farther and farther back from it. (ex: sock balls into a laundry basket, toys or blocks into a box...)
 - 11) "Bowling:" Your child should roll a big ball into a container, gradually getting farther away (ex: a box on its side, waste basket...) You can have him/her roll smaller and smaller balls.
 - 12) With very young children: Alternate which side you sit on when you play or feed your child. Alternate which way they lay in the crib.
- Etc) Hand-eye activities: mazes, dot-to-dots, colouring, string beads, stack blocks, puzzles...Foot-eye activities: walk on a line, kick a ball...

Sources

- (1) “It’s ‘digital heroin’: How screens turn kids into psychotic junkies” New York Post 8/27/16
- (2) Animal Models of Myopia: A Review
MH Edwards, June 1966, Acta Ophthalmologia
- (3) Axial Elongation Associated with Biochemical Factors During Nearwork
Ghosh, Collins, Read, Davis, Chatterjee, 2014
Optometric Vision Science, 91;322-329

CALL TO ARMS

- How can we as a profession get the word out that tablet use should not be for kids under 5?
- How can we get older kids to use devices less/take breaks?
- Can we make a stand on this?
- HELP!

- Thank you