

Double Trouble:

Refractive Amblyopia in
Identical Twins

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First Exams Nov 1, 2007

5 ½ year old identical twin girls referred by another
OD for treatment for Refractive Amblyopia. Both
girls go to Kindergarten. Ocular Health Normal

	O (1 st twin)	P (2 nd twin)
VA OD	20/200	20/70
sc OS	20/25-	20/25
Wirt Stereo	0/3	2/3 (200 sec)
Cover Test	ortho	ortho
NPC	3 /4 inch OD out	3 /4 inch OD out
EOMs	Full and smooth	Full and smooth
MEM	OD+4.00 OS +2.00	OD +4.00 +2.50

	O	P
Rx/VAcc	OD+3.50 20/100 OS+0.75 20/30	+3.00 20/60 +1.25 20/25+

Follow-up 1 month later Dec 4, 2007

VA cc	OD 20/60 OS 20/20	20/60 20/20
Wirt Stereo	3/3 (100 sec)	3/3 (100 sec)
NPC	2/ 3 inch OD out	3/ 4inch OD out
MEM	OD +5.00 OS +0.75	OD +4.75 +1.25

Recommendation: Use frosted tape OS center to
nasal 1-2 hrs /day. Do hand-eye activities

▶ Additional Testing Jan 15, 2008

	O	P
▶ Keystone Esophoria		Orthophoria
▶ Wirt Stereo	4/9 (140 sec)	9/9 (40sec)
▶ Groffman Tracing	2 incorrect	2 incorrect
▶ Davis Visual Scan	21/20	13/20
▶ DEM Vertical	93 sec	115 sec
▶ Horizontal	Lost	Lost
▶ Recommendation: Office-Based Home- Implemented Vision Therapy 6-8 monthly sessions to start, with daily activities		

•Some of the Assigned VT Activities

- ▶ Bilateral :Jumps, Cross-knee Tap, Bilateral Chalkboard Lines, Angels, Ball Tap and Catch, Jumping Jacks, Pointer in Straw
- ▶ Monocular: Chalkboard Tracing, Ball Rotations Thumb Rotations, Spiral Mazes, Connecting Dots, Groffman Tracings, Letter Search, other activities with patch about 1 hour per day
- ▶ Binocular Hand-Eye: Flashlight Rotations, Bunt Ball, "Baseball"
- ▶ Accom: Near/Far Rock (Patterns, Objects, Letters)
- ▶ Perceptual: Back Tap, Tic Tac Toe with 2 boards

Jan22, 2009 Both girls were seen by my associate

- ▶ ? Schedule mistake or other reason (mother ill)
- ▶ Had stopped all VT activities

	O	P
▶ New RX	OD+3.00	+3.00
	OS +1.00	+1.00
▶ February 11, 2009 Exams		
▶ VAcc	OD 20/50	20/80
	OS 20/20	20/20
▶ Wirt Stereo	9/9 (40 sec)	5/9 (100 sec)
▶ NPC	3 /4 inch	3 /4 inch
▶ MEM	OD +4.50	+5.00
	OS +1.50	+1.25

- ▶ Recommendation to continue home OD activities, 1 hr per day. Add "Basketball," Pop Bubbles, Bean Bag Toss (monocular) and pointer in straw (binocular)

- ▶ Seen in July and October, 2009

	O	P
▶ VAcc	OD 20/30-	20/30-
	OS 20/20	20/20
▶ Wirt Stereo	9/9	9/9
▶ NPC	2 /3 inch	2 /3 Inch
▶ MEM	OD +4.00	+4.00
	OS +1.50	+1.75

- ▶ No change in Rx
- ▶ Recommend visual activities 3x per week
- ▶ Results of exams remain the same January, May, November, 2010

- ▶ March 9, 2011 Almost 9 years old
- ▶ No complaints, very happy with vision and VA

	O	P
▶ VA cc	OD 20/30-	20/30-
	OS 20/20	20/20
▶ Wirt Stereo	8/9	8/9
	(+1.25 OD 9/9)	(+1.25 OD 9/9)
▶ NPC	3 /4 inch	3 /4 inch
▶ MEM	OD +4.75	+4.75
	OS +1.50	+1.75
▶ Rx	OD +3.00	+3.00
	OS +1.00	+1.25

Add +1.00 OD only +1.00 OD only (progressives)

- ▶ Progress Exams April 27, 2011 9 years old
- ▶ Both girls reported that reading is easier with the new glasses

	O	P
▶ VA cc OD 20/30-		20/30+
OS 20/20		20/20
▶ Wirt Stereo 9/9		9/9
▶ NPC 2 /3 inch		2 /3 inch
▶ MEM OD +4.00		+4.00
OS +2.25		+2.50
▶ Continue Rx: OD +3.00		+3.00
OS +1.00		+1.25
Add OD only +1.00		+1.00

- ▶ Complete Exams and Progress Exams:
Nov 1, 2011; Apr 24, 2012; Oct 30, 2012
findings stable

- ▶ Exam June 26, 2013 11 years old. Both girls no Cx

	O	P
▶ VA cc OD 20/30-		20/30
OS 20/20		20/20
▶ Wirt Stereo 8/9		9/9
▶ NPC 2 /3 inch		1 /2 inch
▶ MEM OD +6.00		+5.00
OS +2.50		+2.25
▶ New Rx: OD +3.00		+3.00
OS +1.00		+1.00
Add OD +2.00		+2.00
OS +1.00		+1.00

- ▶ Last Exam: July 21, 2016 , age 14
- ▶ Both girls said they see well and read well cc

	O	P
▶ VA cc OD 20/30-		20/40+
OS 20/20		20/20
▶ Wirt stereo 9/9		9/9
▶ NPC 2/ 3 inch		2 /3 inch
▶ MEM OD +6.00		+6.00
OS +2.25		+2.25

Final Rx: July 21, 2016

	O	P
▶ OD +3.00-0.50x155		+3.00-0.50x170
OS +1.00		+1.00
▶ Add OD +2.00		+1.50
OS +1.00		+1.00
▶ Va cc OD 20/30		20/30
OS 20/20		20/20

Take home ideas

- ▶ Don't feel like a failure if you can't get an amblyopic eye to VA 20/20.
- ▶ Identical twins often have identical or nearly identical vision problems (sometimes mirror image).
- ▶ Try Monocular or unequal Adds to get equal accommodation.
- ▶ Office-Based Home-Implemented Vision Therapy can work.

Thank you!