INTERMITTENT EXOTROPIA OF THE DIVERGENCE EXCESS TYPE

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FINANCIAL DISCLOSURE

- FINANCIAL OWNERSHIP/INTERESTS IN **COMPUTER ORTHOPTER, VTS 4, HTS**
- CONSULTANT FOR **MAGIC LEAP**
- CONSULTANT FOR **ALCON**
- BOARD OF DIRECTORS OF **TREEHOUSE**
- CONSULTANT FOR **VTI – NATURAL VUE LENSES**
- CONSULTANT FOR **EYENOVIA**

2

THANKS TO IMPORTANT MENTORS IN MY EARLY CAREER FOR DEVELOPING MY UNDERSTANDING OF INTERMITTENT EXOTOPIA

- NAT FLAX
- MARTY BIRNBAUM
- (FRED BROCK)
- ALLAN COHEN
- ARNOLD SHERMAN
- MICKEY WEINSTEIN

3

DUANE'S TERMINOLOGY (SPATIAL)

1- DIVERGENCE EXCESS (D>N)

2- BASIC EXO DEVIATION (D=N)

3- CONVERGENCE INSUFFICIENCY (D< N)

4

EXO DEVIATIONS

- FREQUENCY (TEMPORAL)
  - 1. CONSTANT VS. INTERMITTENT
  - 2. PERIODIC VS. NON-PERIODIC
- SENSORIAL FINDINGS
  - DEGREE OF BINOCULAR COOPERATION

5

INTERMITTENT EXOTROPIA OF THE DIVERGENCE EXCESS

- WALL EYE
- OCCASIONAL EXOTROPIA
- NEUROPATHIC EXOTROPIA
- HYPERKINESIS OF DIVERGENCE
- EXOTROPIC OF INATTENTION
- INTERMITTENT EXOTROPIA

6

CHARACTERISTICS OF DIVERGENCE EXCESS

- MARKED EXO DEVIATION AT DISTANCE
- NORMAL NEAR PHORIA FINDING
- NORMAL FUSIONAL CONVERGENCE; REDUCED FUSIONAL DIVERGENCE
- INTERMITTENT WITH GOOD V.A. IN EACH EYE
- GOOD STEREOPSIS
- ARC AND PANORAMIC VIEWING DURING DEVIATION

7

TYPES OF DE X(T)

- SIMULATED (60%) – OCCLUSION INCREASES DISTANCE DEVIATION SLIGHTLY AND NEAR SIGNIFICIANTLY MAKING THE PATIENT LOOK LIKE A BASIC EXO. ACA IS REDUCED???
- TRUE (40%) –OCCLUSION DOES NOT EFFECT THE DEVIATION. NORMAL OBJECTIVE ACA

8

BASIC AND DIVERGENCE EXCESS TYPE OF INTERMITTENT EXOTROPIA

- BASIC EXOTROPIA - DISTANCE AND NEAR DEVIATION ARE SIMILAR
- DIVERGENCE EXCESS TYPE EXOTROPIA - DEVIATION IS LARGER AT DISTANCE THAN NEAR
- BOTH DEVIATIONS HAVE SIMILAR SENSORY MOTOR FINDINGS AND MAY BE THOUGHT OF AS PART OF THE SAME SYNDROME

9

PROGRESSION OF X(T)

- X(T) BEGINS WITHIN THE FIRST 18 MOS OF LIFE
- VON NOORDEN FOLLOWED 51 X(T)S - 75% SHOWED PROGRESSION, 9% DID NOT CHANGE, AND 16% SHOWED IMPROVEMENT
- HILES FOLLOWED 48 X(T)- 39 SHOWED NO CHANGE OVER TIME, 12 ACTUALLY IMPROVED , ONLY 8 WORSENED WITH TIME

10

COMPLAINTS OF DE

- EYE DRIFTS OUT ESPECIALLY WHILE TALKING
- EYE DRIFTS MORE WHEN FATIGUED, ILL, OR DAYDREAMING
- PATIENT USUALLY UNAWARE OF DEVIATION

11

COMPLAINTS OF DE (CON'T)

- GENETIC HISTORY COMMON
- ONSET BY 18 MOS. (MAY WORSEN AT 6 YRS. OF AGE)
- MINIMAL ASTHENOPIC COMPLAINTS
- CLOSES EYES IN BRIGHT SUNLIGHT

12

SENSORY FINDINGS OF DE

- ARC WHEN DEVIATED WITH PANORAMIC VIEWING
- NRC WHEN STRAIGHT
- BI-TEMPORAL HEMI-RETINAL SUPPRESSION
- NORMAL STEREOPSIS
- SUPPRESSION WITH SIMULTANEOUS PERCEPTION STIMULI
- NON SUPPRESSION OF EITHER FOVEA DURING DEVIATION

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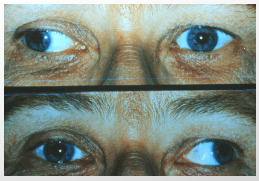
CLASSIC ALTERNATION

- NOTE ALTERNATION
- NOTE ELEVATION AT THE END OF THE DEVIATION
- LOOKS ALMOST LIKE A BELL'S PHENOMENA



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MOTOR FINDINGS OF DE

- AVERAGE DEVIATION AT DISTANCE (29 PRISM DIOPTERS)
- AVERAGE DEVIATION AT NEAR (9 PRISM DIOPTERS)
- HIGH ACA USING DISTANCE-NEAR FINDINGS (14:1) (29-9+15/2.5)
- DEVIATION INCREASES WHEN LOOKING FROM 20 TO 200 FEET

15

AN INTERMITTENT EXOTROPE WITH STRAIGHT EYES

- NOTE BINOCULARITY WITH EXCESSIVE EFFORT
- FRONTAL MUSCLE CONTRACTION

16

DEVIATION IS INTERMITTENT

- NOTE RELAXATION OF CONVERGENCE
- LARGE EXOTROPIA
- RELAXATION OF THE FRONTALIS MUSCLE

17

EXCELLENT CONVERGENCE

- ELIMINATION OF EXOTROPIA WITH NEAR TARGET
- CONVERGENCE TO THE NOSE

18

V SYNDROME EXOTROPIA

- NOTE IN UPGAZE AN INCREASE IN THE ANGLE OF DEVIATION
- V SYNDROME
- OVER ACTION OF THE INFERIOR OBLIQUE

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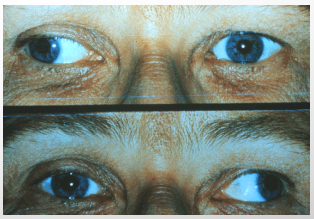
EXOTROPES RARELY ARE AMBLYOPIC

- CLASSIC ALTERNATING EXOTROPIA
- VERY COSMETICALLY NOTICEABLE



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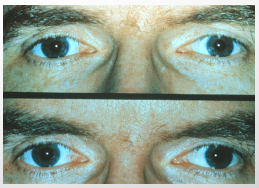
90% OF EXOTROPES ARE INTERMITTENT

- MOST EXOTROPES ARE INTERMITTENT
- BINOCULAR IN TOP PICTURE
- EXOTROPIA IN BOTTOM PICTURE



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ETIOLOGY OF X(T)

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ETIOLOGY OF DE

- ANATOMICAL
- MECHANICAL
- ACTIVE DIVERGENCE
- ACA RATIO
- NEAR POINT STRESS
- PHYLOGENIC
- HEMI-RETINAL THEORY
- GENETIC ANOMALY

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ANATOMICAL & MECHANICAL THEORY OF DE

- BASED ON ADHESIONS OR IMPROPER INSERTIONS
- NOT BONE OUT SURGICALLY (NO EVIDENCE) MUSCLES ARE 100 TIMES STRONGER THAN NEEDED TO MOVE THE EYEBALL APPROPRIATELY
- CAN NOT ACCOUNT FOR EXTRA-OCULAR TRANSPOSITIONS

24

ACTIVE DIVERGENCE THEORY OF DE

- DUANE'S ORIGINAL THEORY
- SUPPORTED BY ELECTROMYOGRAPHIC RECORDINGS OF THE LR
  - LR INCREASES FIRING RATE DURING DIVERGENCE
  - MR DOESN'T DECREASE FIRING RATE DURING DIVERGENCE
- JAMPOLSKY FEELS THAT THE FIRING OF THE LR IS RELATED TO A RELAXATION OF CONVERGENCE

25

ACA AND NEAR POINT STRESS THEORY OF DE

- ACCOMMODATION IS THE CAUSE
- NEAR POINT STRESS: SPREAD OF NEAR DIVERGENCE TO DISTANCE TO OVERCOME A NEAR ESOPHORIA (ASSUMES HIGH ACA)
- CANNOT EXPLAIN FINDINGS WITH OCCLUSION, SURGICAL RESULTS, DEVIATION DIFFERENCE AT 20 AND 200 FEET
- GRADIENT ACA MEASURES

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PHYLOGENIC THEORY OF DE

- BASED ON OBSERVATION THAT THERE IS A PHYLOGENIC MOVEMENT OF THE VISUAL AXIS FROM LATERAL TO FRONTAL POSITION
- DIVERGENCE IS A RESULT OF DECEBRALIZATION
- FRONTAL POSITION IS NOT RELATED TO PHYOLOGY BUT TO PREDATION

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HUMAN-CHAMELEON MODEL

- DIVERGENCE FOR PANORAMIC VIEWING (INCREASE IN MOTION DETECTION)
- ALIGNMENT DURING ATTENTION OR CONDITIONS OF STEREOPSIS
- ARC FOR RUDIMENTARY STEREOPSIS, AVOIDANCE OF DIPLOPIA, AND TO RESTORE B.V.

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FUNCTIONING SUPERIOR TO NORMAL BINOCULAR VISION

- DIVERGENCE WHEN BENEFICIAL TO OBTAIN PANORAMIC VIEWING FOR MOTION DETECTION
- ALIGNMENT FOR BINOCULARITY AND STEREOPSIS
- FOUND IN GREAT ATHELETES

29

X(T) MAKES THEM GREAT BASEBALL PLAYERS

- PANORAMIC VIEWING WHEN INDICATED
- EXTENSION OF THE FIELD OF VIEW
- STEREOPSIS WHEN BENEFICIAL
- DON'T BREAK THE SYSTEM

30

RICKY HENDERSEN

ONE OF THE BEST BASEBALL STEALERS OF ALL TIME

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RICKEY HENDERSON

Left Exotropia

LXT

Right Exotropia

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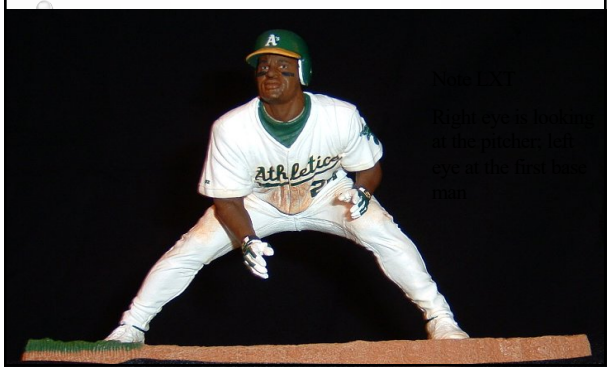
HENDERSON ON BASE READY TO STEAL A BASE



Note LXT
Right eye is looking at the pitcher; left eye at the first base man

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MIGUEL CABRERA'S ANOTHER GREAT BASEBALL PLAYER KNOWN FOR STEALING BASES

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MIGUEL CABRERA'S ALTERNATING X(T)

ALIGNED

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PANORAMIC VIEWING IMPROVES STEALING BASE PERFORMANCE

- MIGUEL **CABRERA'S .... STEALS BASES AT A 71% RATE, AND DRIVES IN A RUN EVERY 5 TIMES AT BAT**

36

STEVE NASH OF THE SUN'S EYE IS OUT AS HE DRIBBLES

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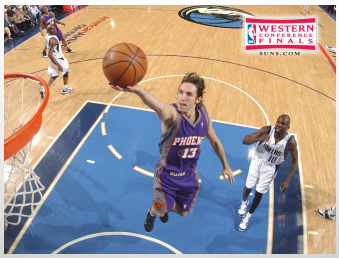
BUT WHEN SCORES HIS EYES ARE ALIGNED FOR THE BASKET



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CHARACTERISTICS OF SENSORY FUSION DURING ALIGNMENT

- NORMAL STEREOPSIS AT NV
- REDUCED STEREOPSIS AT DV
- NORMAL CONVERGENCE AMPLITUDES
- SUPPRESSION OF TEMPORAL PHYSIOLOGICAL DIPLOPIA
- SUPPRESSION OF 1ST DEGREE TARGETS

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SENSORY ADAPTATIONS DURING DEVIATIONS

- SUPPRESSION
- DIPLOPIA
- ARC
- PANORAMIC VIEWING

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SUPPRESSION

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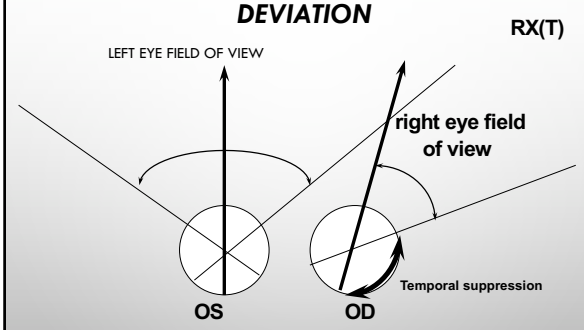
TEMPORAL SUPPRESSION DURING DEVIATION



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ARC IN X(T)

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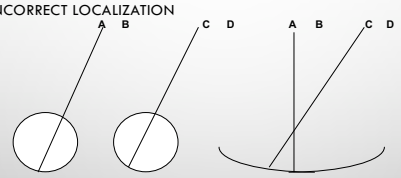
NRC COULD NOT WORK

- CONFUSION
- INCORRECT LOCALIZATION



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ARC IS TEST DEPENDENT

- MOST ARC RESPONSES WITH AFTERIMAGES
- LEAST NUMBER OF ARC WITH BAGOLINI
- COOPER AND FELDMAN - NON-SUPPRESSION OF THE FOVEA AND HARC IN THE NASAL RETINA
- COOPER AND RECORD - HARC ACROSS THE ENTIRE RETINA

45

ARC

- OPPOSITE TO ESOTROPIA
- MOST COMMON WITH UNNATURAL TESTS
- MOTOR THEORY DOES NOT EXPLAIN INSTANTANEOUS CHANGES OF ARC TO NRC

46

ARC WITH AI TESTING

- NRC WHEN STRAIGHT
- TESTING INITIATES ALIGNMENT
- HARC DURING DEVIATION
- NO CORRESPONDENCE (UNCONNECTED VISUAL SPACE)
- ALTERNATING SUPPRESSION

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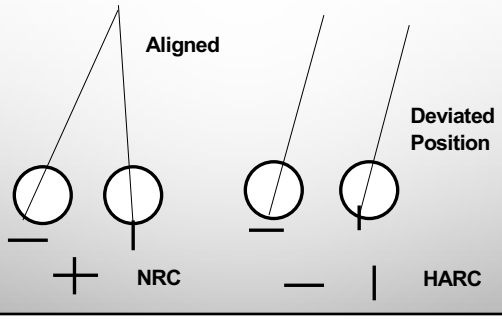
AFTER IMAGE TESTING- DUAL CORRESPONDENCE



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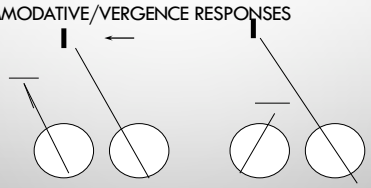
MORGANS THEORY OF ARC

- CHANGE IN EGOCENTRIC LOCALIZATION WITH VERSION MEDIATED RESPONSES
- NO CHANGE IN EGOCENTRIC LOCALIZATION WITH ACCOMMODATIVE/VERGENCE RESPONSES



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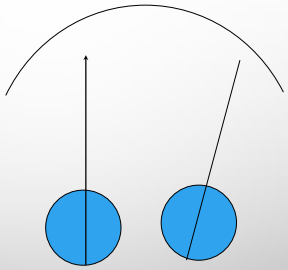
POSSIBLE ADVANTAGE OF PANORAMIC VIEWING

- EXTEND FIELD OF VIEW AND THE MOTION DETECTION SYSTEM
- SEE OFF TO THE SIDE
- GOOD FOR SURVIVAL



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POSSIBLE ADVANTAGES OF ARC

- TO AVOID DIPLOPIA AND/OR CONFUSION
- TO PROVIDE ABNORMAL STEREOSCOPIC VISION
- TO CALCULATE THE AMOUNT OF MOVEMENT NEEDED TO RESTORE BINOCULARITY
- TO IDENTIFY STIMULUS CONDITIONS TO RESTORE BINOCULARITY -I.E. STEREOPSIS

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ACA RATIOS

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CURRENT OPTOMETRIC AND OPHTHALMOLOGICAL LITERATURE ACCEPT A HIGH ACA RATIO.

- CALCULATIONS BASED ON DISTANCE NEAR FINDINGS
- BY DEFINITION ABSOLUTE CONVERGENCE FROM DISTANCE TO NEAR IS LARGE

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THEREFORE, USING DV AND NV FINDINGS THE ACA MUST BE AT LEAST10/1.

- ASSUME DISTANCE DEVIATION IS 10$^{\Delta}$
- ASSUME NEAR DEVIATION IS 0 $^{\Delta}$
- RELATIVE CONVERGENCE = 10 $^{\Delta}$ -0 $^{\Delta}$ OR 10 $^{\Delta}$
- DISTANCE TO NEAR CONVERGENCE =15 $^{\Delta}$
- TOTAL CONVERGENCE = 10 + 15 = 25 $^{\Delta}$
- CONV/ACC DEMAND = 25 $^{\Delta}$ /2.5D = 10/1

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HIGH ACAS CANNOT EXPLAIN:

- RESULTS FROM OCCLUSION
- INCREASES IN THE DEVIATION WHEN VIEWING CHANGES FROM 20 TO 200 FT.
- ESO FIXATION DISPARITY
- RELATIVELY FEW COMPLAINTS OF BLUR UPON FUSING
- RETURN OF THE DEVIATION AFTER SURGICAL ORTHOPHORIA

55

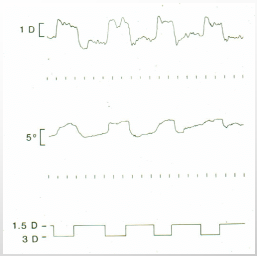
GRADIENT ACA RATIO FINDINGS:

- GRADIENT ACAS HAVE BEEN FOUND TO BE NORMAL IN DE
- VONNOORDEN REPORTED AN ACA = 4.5, VARYING FROM 3.3 TO 9/1
- MOORE REPORTED AN ACA OF 6/1

56

RESPONSE ACA RATIO

- TOP TRACING IS ACCOMMODATION
- BOTTOM TRACING IS ACCOMMODATION
- INFRA-RED OPTOMETRER AND INFRA-RED EYE MOVEMENT MONITOR
- RESPONSE ACA



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ALL GRADIENT ACAS INCLUDING THE OBJ. RESPONSE ACA WERE WNL; THE X=5.9

- COOPER ET AL MEASURED GRADIENT ACAS USING AN INFRA-RED OPTOMETER AND AN INFRA-RED EYE MOVEMENT SYSTEM
- ALL MEASUREMENTS WERE OBJECTIVE
- OBJECTIVE ACAS ARE USUALLY HIGHER THAN GRADIENT ACAS

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TREATMENT

59

CURRENT METHODS FOR TREATMENT X(T)

- SURGERY FOR ORTHOPHORIA
- SURGERY FOR ESOPHORIA
- ORTHOPTICS FOR FUSIONAL AMPLITUDE
- VISION TRAINING FOR STRESS RELATED X(T)
- VT FOR COOPER-CHAMELEON MODEL

60

POOLED DATA OF RX OF X(T)

- MINUS LENS 28% (N=215)
- PRISM RX 28% (N=201)
- OCCLUSION 37%
- SURGERY 46%
- ORTHOPTICS 59%

61

WHAT IS YOUR GOAL:

- COSMETIC
- IMPROVED STEREOPSIS
- REDUCTION OF ASTHENOPIA
- IMPROVEMENT OF VISUAL FUNCTION

62

SURGERY FOR ORTHOPHORIZATION

- 40-60% HAVE LONG TERM SUCCESS
- DRIVE TO RECREATE INITIAL DEVIATION

63

SURGERY TO CREATE A MODERATE ESO

- 80% SUCCESS
- CANNOT PREDICTABLY CREATE THE ESO
- CONSECUTIVE ESOTROPIA

64

EARLY SURGERY VS. LATE SURGERY

- 15% CHANCE OF CREATING A CONSECUTIVE ESOTROPIA
- LOSS OF STEREOPSIS AND AMBLYOPIA

65

SURGERY BASED ON POST OCCLUSION, ACA RATIO, AND MAXIMUM DISTANCE VIEWING

- KUSHNER CONFIRMED COOPER ET ALS FINDINGS
  - MOST TRUE AND SIMULATED DE HAVE NORMAL ACA RATIOS
  - THOSE WHO DID HAVE HIGH ACA LANDED UP WITH A CONSECUTIVE ESOTROPIA FOLLOWING SURGERY
- 80% SUCCESS RATE IF OPERATE ON MAXIMUM ANGLE DETERMINED BY 200 M VIEWING AND 1 HR. OCCLUSION

66

OCCLUSION THERAPY

- FLYNN NOTED THAT AMBLYOPIA THERAPY (I.E. PATCHING) RESULTED IN THE ELIMINATION OF THE STRABISMUS IN SOME AND IMPROVEMENT IN FUSION IN OTHERS - 58% IMPROVED
- FREEDMAN & ISENBERG: PART TIME OCCLUSION - 30% IMPROVED
- COOPER & LEYMAN- 30% IMPROVEMENT
- CHUTTER, IACOBUCCI, AND HENDERSON REPORT ABOUT 50% SUCCESS; SOME GET WORSE

67

OVER MINUS THERAPY

- GOODACRE - 66% BECAME PHORIC
- CALTRIDER & JAMPOLSKY - 68% IMPROVED
- RUTSTEIN ET AL. SHOWED THAT MINUS LENS THERAPY DOES NOT INCREASE MYOPIA

68

PRISMATIC CORRECTION

- VERONNEAU TROUTMAN - 50% SOME IMPROVEMENT WITH 50% BEING SIGNIFICANT
- MOORE FOUND NO EFFECT WITH PRISM IN ELIMINATING AN EXOTROPIA

69

CONVENTIONAL VT

- DAUM'S STUDY
  - 33% WERE CURED
  - SHORT PERIOD OF THERAPY
- LUDLAM
  - 52% COMPLETE SUCCESS
  - 40% PARTIAL SUCCESS
- SANFLIPPO & CHALHANE
  - 78% SUCCESS
  - 5 YEAR FOLLOW-UP MOST REMAINED ST

70

CONVENTIONAL VT (CON'T)

- CHRYSSANTHOU
  - 78% SUCCESS
- COOPER & LEYMAN
  - HAD MORE SUCCESS WITH VT AS COMPARED TO PATCHING AND SURGERY

71

SKEFFINGTON MODEL

- STRESS INDUCED
- NON COMPENSATED DIVERGENCE TO AN ESO DEVIATION INDUCED BY STRESS AT NEAR
- SUGGESTS A HIGH ACA MODEL
- INCOMPATIBLE WITH EARLY ONSET (X=18 MOS.) GENETIC ANOMALY
- INCONSISTENT WITH MOST CLINICAL DATA, HARC, PANORAMIC VIEWING, DEVIATION DEPENDENT ON STIMULUS TYPE (STEREO)

72

BROCK-FLAX MODEL

- ONLY STUDY WAS PERFORMED BY GOLDRICH
  - 28 DE X(T)
  - 71% CURED
  - 11% GOOD
  - 14% FAIR
- WHAT WERE THEY BEFORE THERAPY?

73

PROTOCOL FOR TREATMENT OF X(T) OF DE TYPE

- PATHOLOGICAL DIPLOPIA
  - START WITH RED LENS IN DARKENED ROOM
  - FIRST DECREASE THE DENSITY OF THE FILTER, THEN INCREASE THE ILLUMINATION OF THE ROOM
- TEACH BINOCULAR ALIGNMENT IN THE ABSENCE OF STEREOSCOPIC CUES
  - FADE OUT STEREOSCOPIC DETAIL
  - PATIENTS MUST MAINTAIN ALIGNMENT IN THE ABSENCE OF STEREOSCOPIC CUES
  - FADING TECHNIQUE

74

STEPS FOR EXOTROPIA THERAPY BY AGE

- IMMATURE CHILD
  - ALTERNATE OCCLUDE FOR 4-6 HRS FOR 2 MOS. (70% GET BETTER, 13% GET WORSE)
  - OVER MINUS RX (APPROXIMATELY 75% GET BETTER)
  - PRISM RX (IF THE ABOVE FAILED)
  - TV TRAINER FOR ANTI-SUPPRESSION

75

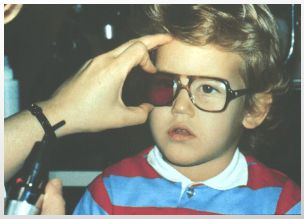
STEPS FOR EXOTROPIA THERAPY BY AGE

- MATURE PATIENT
  - RED LENS THERAPY FOR DIPLOPIA AWARENESS
  - TRIAL OF PATCHING, RED LENS, AND/OR PRISM
  - VT START AT NEAR WITH LARGE, PERIPHERAL STEREO TARGETS; MOVE TO DISTANCE FIRST DEGREE TARGETS; HARDEST TASK = CHEIROSCOPIC TRACINGS

76

DIPLOPIA AWARENESS

- START IN A DARKENED ROOM
- START AT NEAR
- PLACE A DARK RED LENS OVER THE FIXATING EYE
- USE A BRIGHT MUSCLE LIGHT
- OCCLUDE AN EYE TO ILLICIT A DEVIATION
- OSCILLATE THE LIGHT TO ELIMINATE A SUPPRESSION



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DIPLOPIA AWARENESS

- MOVE THE LIGHT FROM NEAR TO FAR
- INCREASE THE ROOM ILLUMINATION
- DECREASE THE DARKNESS OF THE RED LENS
- DIM THE FIXATION LIGHT
- LOOK FOR DIPLOPIA
- GOAL - SPONTANEOUS DIPLOPIA

78

DIPLOPIA AWARENESS

- MUST BE DONE AT THE BEGINNING OF THERAPY
- MUST NOT TRAIN CONVERGENCE
- MAY BE AUGMENTED WITH VERTICAL PRISM THERAPY TO ELICIT DIPLOPIA, CHEIROSCOPIC TRACING, AUTO VERGENCE WITH FIRST DEGREE TARGETS, RETINAL RIVALRY IN THE DEVIATED POSITION

79

DIPLOPIA AWARENESS

- PROVIDES A FEEDBACK MECHANISM
- LETS THE PATIENT KNOW WHEN THEIR EYE DEVIATES
- PROVIDES A STIMULUS TO INITIATE FUSION
- DOES NOT ELIMINATE THE DEVIATION
- BROCK-FLAX MODEL DECREASES PERCENTAGE OF TIME DEVIATION OCCURS AND STIMULATES SLOW FUSIONAL RESPONSE

80

AWARENESS OF DEVIATION

- MUST MAKE X(T) AWARE OF THE DEVIATION AND PROVIDE A SIGNAL FOR RE-ALIGNMENT
- POSTURAL AWARENESS
- BIO-FEEDBACK
- DIPLOPIA AWARENESS

81

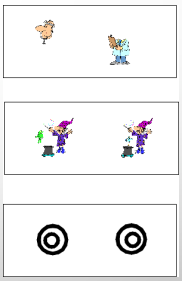
OPERANT CONDITIONING FADING TECHNIQUE

- START AT NEAR WHERE THEY ARE BINOCULAR
- START LARGE, STEREO TARGETS
- FADE OUT STEREO TO FLAT FUSION TO SIM PERCEP
- FADE OUT SIZE LARGE TO SMALL
- MOVE FROM NEAR TO DISTANCE

82

PROTOCOL FOR TREATMENT OF X(T) OF DE TYPE: (CON'T)

- WORK FROM NEAR TO FAR
- STEREO TO FIRST DEGREE FUSION
- LARGE TARGET TO SMALLER TARGET
- IN SPACE TO INSTRUMENT



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NEED TO OBTAIN ALIGNMENT IN THE ABSENCE OF CUES

- POSTURAL ALIGNMENT
  - CHEIROSCOPIC TRACING, VERTICAL PRISM, AUTO VERGENCE WITH FIRST DEGREE TARGET
- OTHER EXAMPLES
  - SPIRANGLE AND CLOWN TOGETHER
  - BROCK POSTURE BOARD
  - BU SERIES (LUSTER)

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TO ASSIST YOU DO NOT BE SCARED TO USE:

- PATCHING
- MINUS LENSES
- PRISMS
- DIPLOPIA AWARENESS
- SURGERY

85

ACCORDING TO VOD NOORDEN:

- THE REAL SUCCESS WITH EITHER SURGERY OR VT IS PROBABLY LESS THAN 12% SINCE IN BOTH CASES THESE PATIENTS TEND TO DEVIATE WHILE FIXATING 200 FT., A DISTANCE RARELY MEASURED CLINICALLY.

86

WHAT IS YOUR GOAL:(REPEAT)

- COSMETIC
- IMPROVED STEREOPSIS
- REDUCTION OF ASTHENOPIA
- IMPROVEMENT OF VISUAL FUNCTION

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