The background of the slide features a blurred vision screening chart with various letters and numbers. A pair of orange-rimmed glasses is positioned on the right side of the chart, with the lenses overlapping some of the letters. The overall color scheme is light blue and white.

# Vision Screening Guidelines for the School Nurse

August 2014

Vision Screening Guidelines



# Objectives

- Discuss the purpose and evaluation of any screening program
- State the purpose of vision screening in the school
- Identify the recommended vision screening procedures and equipment
- Explain the importance of follow up and tracking of vision referrals





# Purpose of A Screening Program

To identify or detect....

1. Commonly occurring diseases/entities/health problems or conditions in order to facilitate...
2. Early intervention that will be...
3. Significantly beneficial to the client...

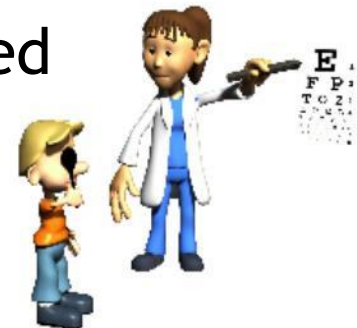
Proctor, 2005





# Characteristics of Screening Programs

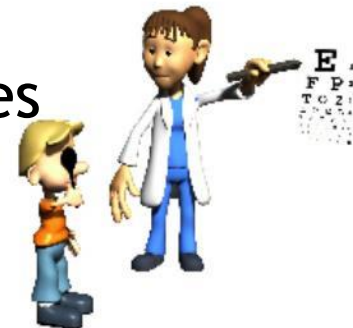
- Brief or limited evaluation of a group of individuals presumed to be normal
- Results must be communicated
- Follow-up on referrals for those “at risk” key component of screening
- Follow-up continued until problem is resolved





# Referral Process

- Parents
  - Notify by phone/visit any student who meets the referral criteria following the screening and the rescreening
    - Parental understanding
    - Elicit need for additional resources/assistance
    - Provide information on community resources





# Referral Results

- Follow with written referral communicating results of the screening
  - Request written report with results/recommendations
- Contact parent periodically and provide assistance as needed
- Track referrals made
- Notify classroom teacher





# Evaluation of Screening Program

To determine the effectiveness of any screening program, careful evaluation of the planning, implementation, referral process, and referral outcomes must be completed with each screening.

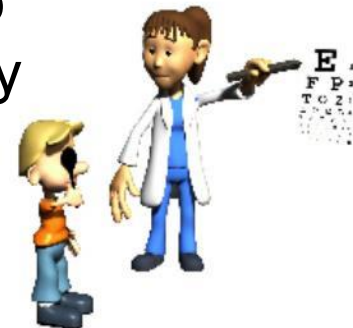




# Evaluation

Evaluate in terms of:

- Validity—ability to identify those who have condition
- Reliability—consistency of results
- Yield—number of persons identified
- Cost—personnel and equipment
- Acceptance—informed parents agree to value
- Follow up—communicating results to parents who respond with appropriate actions to get necessary diagnosis and treatment if indicated







# Vision Screening Guidelines





# Purpose and Objective of A Vision Screening Program

- Ability to see impacts on student's ability to learn
  - Estimated 80% of learning occurs through visual senses
  - Influences student's performance and adjustment in school, society, as well as overall health and behavior





# Purpose and Objective of A Vision Screening Program

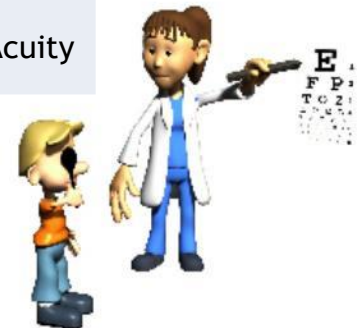
- Identify children with possible visual defects at earliest possible stage allowing time to refer for diagnosis and treatment
- Earlier identification results in improved outcomes





# Screening Program Schedule

Grade	Screen	Type of Screening
All students new to district	Recommended	Age Appropriate
K	Recommended	Near & Distance Acuity, Random Dot E
1 <sup>st</sup>	Recommended	Near & Distance Acuity, Random Dot E
2 <sup>nd</sup>	Recommended	Near & Distance Acuity, Random Dot E
3 <sup>rd</sup>	Recommended	Near & Distance Acuity, Random Dot E
Every other year after 3 <sup>rd</sup> grade	Recommended as time permits	Near & Distance Acuity





# Visual Acuity

- Visual acuity refers to the sharpness of one's eyesight. Acuity is reported in a fraction.
  - Numerator - distance from the subject to the chart
  - Denominator - size of the symbol the person can see at 20 feet
  - Example - 20/40, at 20 feet the eye sees at a 20 foot distance what a normal eye sees at 40 feet





# Childhood Vision Disorders

Condition	Negative Impact	Intervention
Myopia	Blurry distance vision Poor school performance	Glasses Contact Lenses
Hyperopia	Blurry near vision Eye strain Difficulty reading Poor school performance	Glasses Contact Lenses
Astigmatism	Blur at distance and near Eye strain	Glasses Contact Lenses





# Myopia



- The most common of the refractive errors. Formerly called “nearsightedness”. Unable to see clearly at distance.





# Hyperopia

- A refractive error in which the light rays from an incoming visual image have not converged by the time they reach the retina. Formerly called “farsightedness”. Near vision is blurry.







# Strabismus



- A manifest deviation of one or both eyes from the visual axis of the other so they are not simultaneously directed to the same object. Also referred to as heterotropia, or tropia.





# Amblyopia

- An ocular condition in an otherwise healthy eye, in which there is an abnormality of cortical response in the occipital lobe of the brain due to insufficient or inadequate stimulation of the fovea, neural pathway, and cortex that may result in unilateral vision loss if untreated.





# Amblyopia

Good eye

Amblyopic eye

H V N T C

Z H Γ C





# Distance Visual Acuity Screening

- Purpose

- Screen for clearness of vision when looking in the distance
- Detect
  - Myopia (nearsightedness)
  - Amblyopia (weakness of sight, lazy eye)
  - Astigmatism (blurred vision)





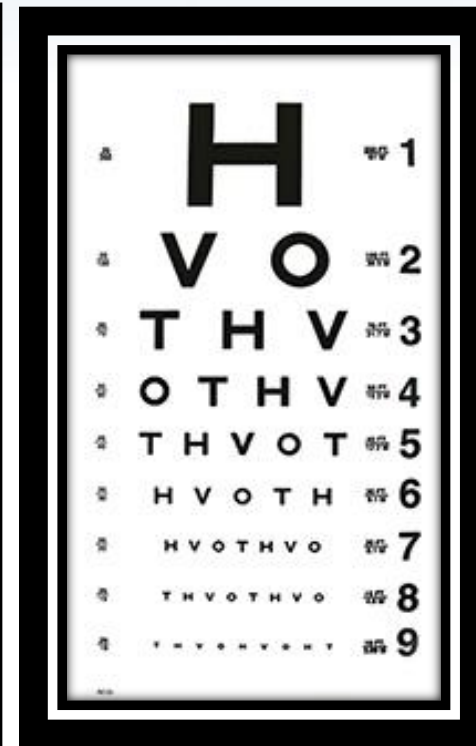
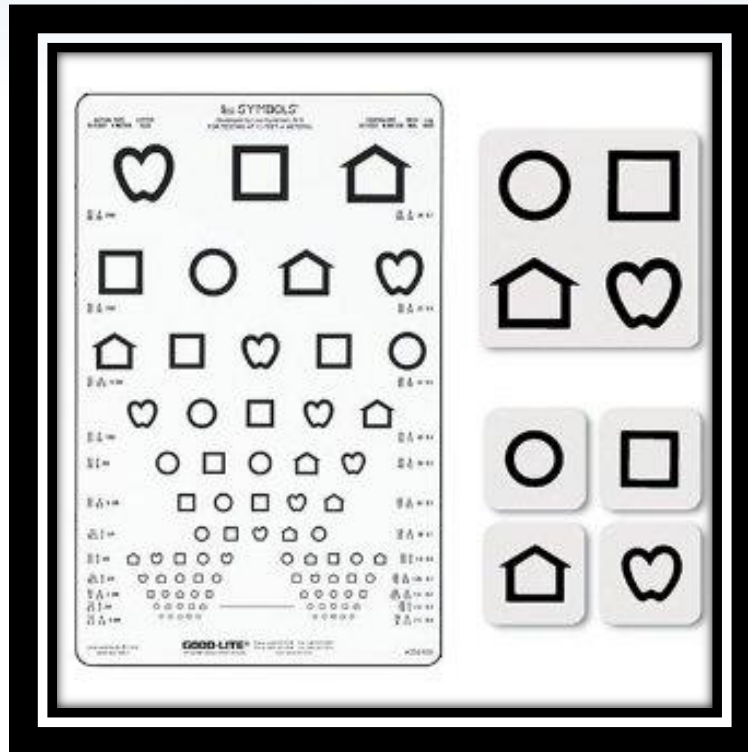
# Distance Visual Acuity Screening

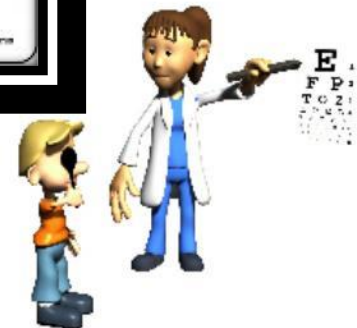
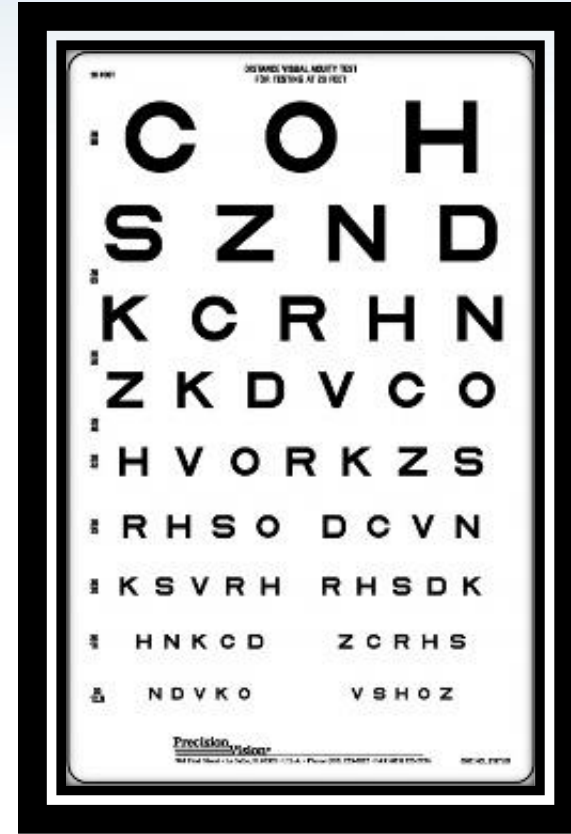
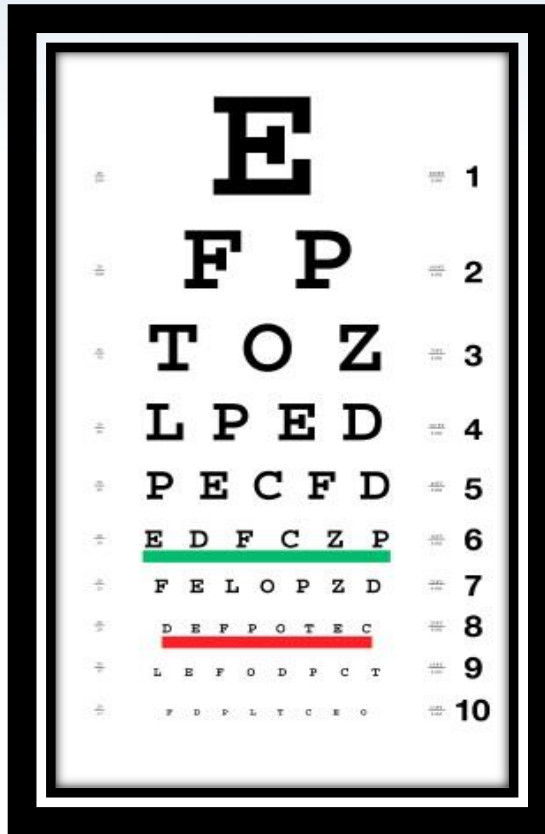
- Equipment
  - Distance chart for 10 or 20 feet (should include 20/25 line)
    - Choose according to student's developmental level
    - HOTV, Snellen, Sloan, Tumbling E, LEA Symbol, Lighthouse
  - Occluder (e.g., paper cup, paper patch, palm of hand with tissue)
  - Antibacterial wipes





# Examples of Vision Charts







# Distance Visual Acuity Screening

- Location

- Quiet with no distractions
- Well lit and free from glare

- Suggestions

- Room 5 feet longer than distance for screening tool
- Minimum of 8-10 feet between stations if multiple stations







# Distance Visual Acuity Screening

- Setup

- Chart at student's eye level

- May be seated or standing

- Mark off a 10-20 feet distance with tape

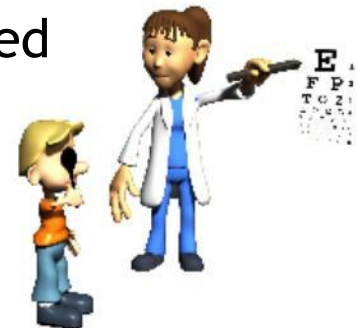
- Position heels or back legs of chair on tape
    - Eyes should be in direct line above tape





# Distance Visual Acuity Screening

- Procedure
  - Orient student to the screening
  - Demonstrate use of occluder
  - Ask if student wears glasses. If yes, screening should be done with glasses on (be sure to mark the form)
  - Watch carefully that student is not peeking, tilting head, squinting or leaning head or torso forward
  - Begin by screening right eye with left eye occluded
  - Instruct to keep both eyes open and read the selected letter or line of letters with the uncovered eye.
  - Begin at 20/50 line and move down to 20/20 line





# Distance Visual Acuity Screening (cont.)

- Procedure (cont.)
  - Move upward if student unable to read 20/50 line
  - Do not use marking device as pointer to avoid leaving distracting marks on chart
  - Student must identify or match one more than half of the letters/symbols on a line
  - Record results including the line number for the last line read correctly with each eye
  - Repeat procedure for left eye
  - If student is unsuccessful, he or she should be rescreened within 14-21 days





# Distance Visual Acuity Referral Criteria

A failed screening followed by a failed rescreening should be referred for further evaluation

Grade	Criteria
Kindergarten	Each eye must see at least the 20/40 line.
1 <sup>st</sup> - 12 <sup>th</sup> grade	Each eye must see at least the 20/30 line.





# Distance Visual Acuity Referral Criteria - Important Exception

Refer if there is a two-line difference

One Eye	Other Eye	Results
20/20	20/20	Pass
20/25	20/25	Pass
20/30	20/30	Pass
20/20	20/25	Pass
20/20	20/30	Refer - 2 line difference





# Near Visual Acuity Screening

- Purpose
  - Screen for near visual acuity
  - Detect excessive hyperopia (farsightedness)
- Equipment
  - Near vision chart chosen according to student's developmental level (should include 20/25 line)
  - Occluder (e.g., paper cup, paper patch, palm of hand with tissue)
  - Antibacterial wipes





# Near Visual Acuity Screening

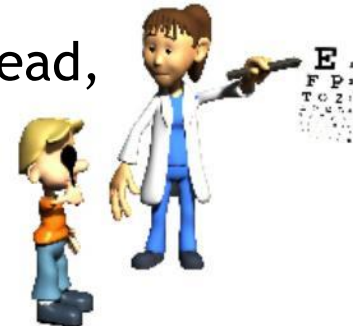
- Location
  - Quiet and no distractions
  - Well lit and free from glare
  - Suggest--minimum of 8-10” between stations if multiple stations





# Near Visual Acuity Screening

- Procedure
  - Orient student to the screening
  - Demonstrate use of occluder
  - Ask if student wears glasses. If yes, screening should be done with glasses on (be sure to mark the form)
  - Watch carefully that student is not peeking, tilting head, squinting or leaning head or torso forward

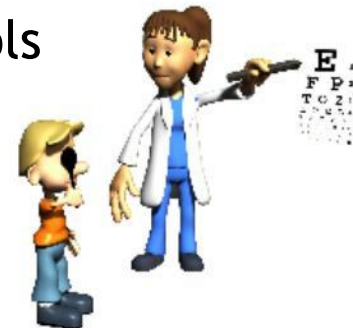






# Near Visual Acuity Screening

- Procedure (cont.)
  - Begin by screening right eye with left eye occluded
  - Instruct to keep both eyes open and read the selected letter or line of letters with the uncovered eye.
  - Begin at 20/50 line and move down to 20/20 line
  - Ask the student to name or read the letter or symbols on each line as directed.





# Near Visual Acuity Screening

- Procedure (cont.)
  - Move upward if student unable to read 20/50 line
  - Do not use marking device as pointer to avoid leaving distracting marks on chart
  - Student must identify or match one more than half of the letters/symbols on a line





# Near Visual Acuity

- Procedure (cont.)
  - Record results including the line number for the last line read correctly with each eye
  - Repeat procedure for left eye
  - If student is unsuccessful, he or she should be rescreened within 14-21 days





# Near Visual Acuity Referral Criteria

A failed screening followed by a failed rescreening should be referred for further evaluation

Grade	Criteria
Kindergarten	Each eye must see at least the 20/40 line.
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# Near Visual Acuity Referral Criteria - Important Exception

Refer if there is a two-line difference

One Eye	Other Eye	Results
20/20	20/20	Pass
20/25	20/25	Pass
20/30	20/30	Pass
20/20	20/25	Pass
20/20	20/30	Refer - 2 line difference





# Binocularity/Stereoscopic Vision Screening

- What is Binocular Vision
  - Includes ocular alignment and stereo acuity
  - Screening determines how well eyes function together





# Binocularity/Stereoscopic Vision Screening

- Purpose of Screening
  - to determine if student has adequate binocularity
- Equipment
  - Random Dot (RDE) Stereotest Kit
  - Antibacterial wipes





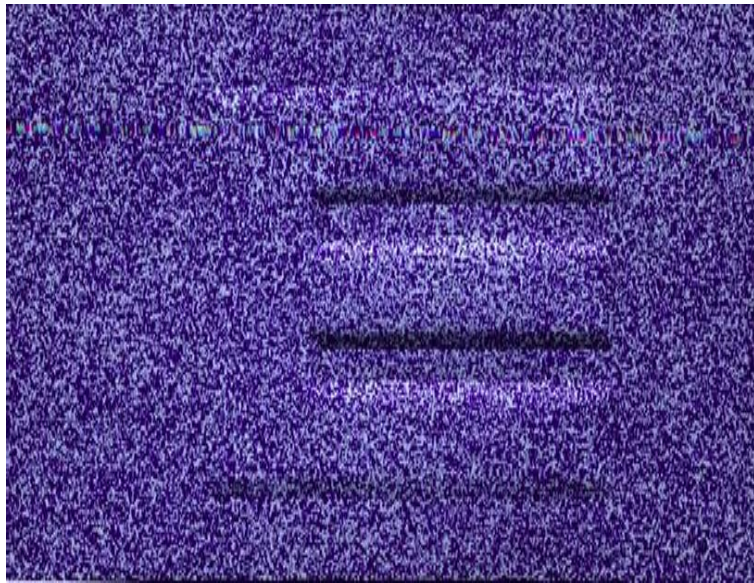
# Random Dot E Kit Equipment







# Random Dot E



**Model E Slide**

- Constructed of cardboard with a large raised, embossed “E”
- Used only for training purposes as it is easy for the student to see





# Random Dot E



**Raised/Recessed E Slide**

- Presents an array of dots that appear to be randomly oriented.
- When viewed through polarized glasses, an E appears in the test plate if the student has normal binocular vision.
- Used for screening purposes only





# Random Dot E

With the glasses in place, children with good alignment and normal binocular vision will be able to see the stereo “E” in 3-dimensions.





# Random Dot E



**Stereo Blank Slide**

- Presents a random array of dots. No “E” appears even with the polarized glasses in place.
- Used for training purposes





# Random Dot E



**Stereo Blank Slide**

- Is also used for screening purposes when paired with the Raised/Recessed E Slide





# Random Dot E

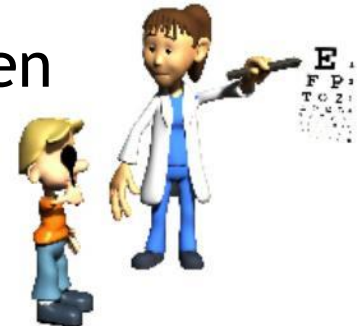
- Location and Setup
  - Make sure that the test distance between the student and the cards is carefully measured at 40 inches.
  - Make sure that there is bright room lighting.





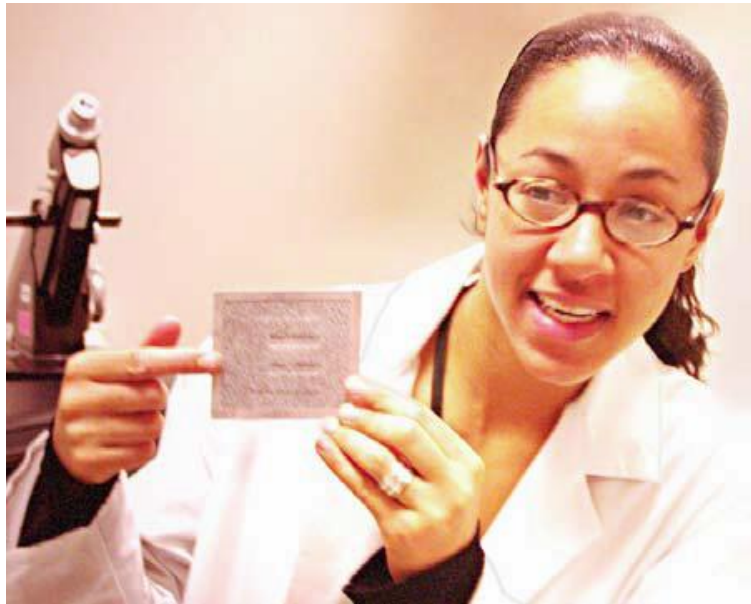
# Random Dot E

- Procedure
  - Have student put on stereo glasses.
  - If the student wears glasses, the stereo glasses should be placed over the student's own glasses. (Indicate on form)
  - Be sure the student keeps head straight when viewing slides





# Random Dot E



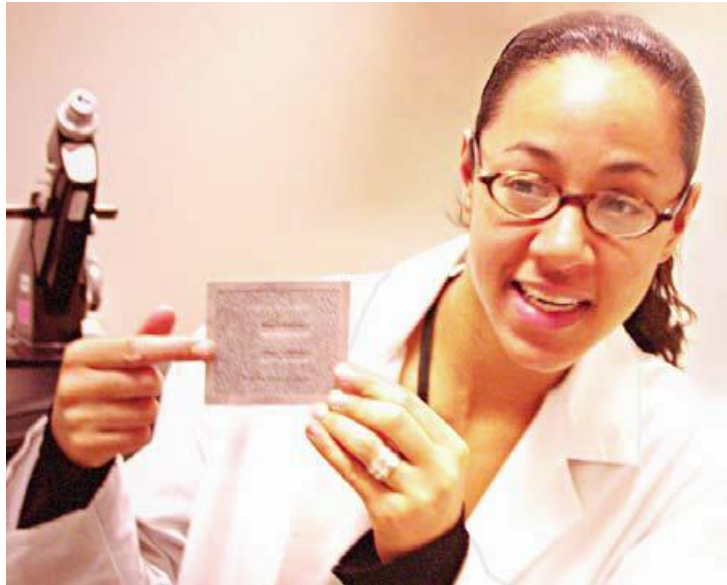
- Hold model E *demonstration plate* at a distance of a 40 inches in front of student.







# Random Dot E

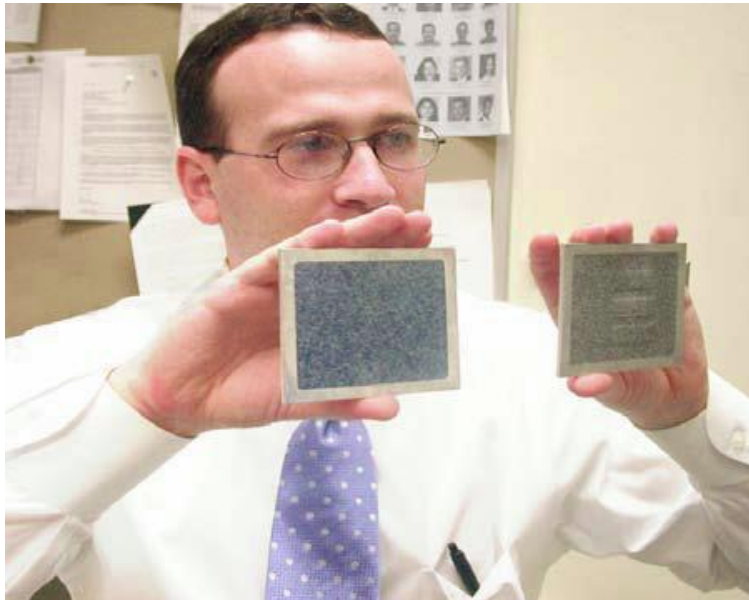


- Point to the “E” and say to the student, “Tell me what you see.”





# Random Dot E



- Pick up the blank test plate and hold it next to the *demonstration plate*.
- Ask the student to point to the plate with the raised, embossed “E”.





# Random Dot E

- Shuffle the plates behind your back and repeat the procedure 4 more times, holding the plates side by side or above and below each other. Vary the position.





# Random Dot E

- Replace the Model E slide with the Raised/Recessed Stereo slide when you determine that the student understands the procedure
- Repeat the procedure
- Student passes the stereo screening if he/she correctly identifies the location of the stereo E on at least 4 of the 5 presentations.





# Random Dot E

- Be careful to hold the stereo test plate with the E upright. Tilting the top of the stereo test plate may be helpful.
- It takes a few seconds to see the stereo “E”, --- encourage the student to “keep looking”.
- You can tell the student that the “E” is hiding and that they need to look hard to find it.





# Random Dot E

- Do not let the student see the plates without the stereo glasses.
- The student should be referred if he or she refuses to wear the glasses, even after watching another student being screened.





# Random Dot E Screening Results

- Let the parents know the results of the screening, include type of screening and date. The eye care professional wants to know the screening methods.





# Re-Screening Guidelines

- Indicated for any student failing any part of the initial screening (distance, near or binocularity)
- Eliminates students who failed initial screening due to factors such as fatigue, illness, anxiety, misunderstanding or distractions







# Re-Screening Guidelines

- Should be done within 14-21 days after initial screening
- Rescreening procedures are the same as initial screening procedure





# Referral

- Indicated if student fails any portion of the rescreening
- Notify parent/guardian in person or by phone prior to sending written referral





# Referral

- Written referral should be sent to the parent/guardian within one week after the rescreening
- Important to notify classroom teach if referral sent so that classroom accommodations can be implemented





# Follow-Up and Tracking Guidelines

- **Most important component of any screening**
- Tracking system
  - Assures students referred receive appropriate treatment/services
- Follow-up with phone call if no information about the referral received after 3-4 weeks





# Follow-Up and Tracking Guidelines

- Continue to contact parent/guardian periodically until notified of disposition of referral
- Important for nurse to be familiar with community resources for those needing financial assistance
- Document all aspects of process in health record





For additional information, resources,  
and sample forms, go to:

[School Health](#)  
[Vision Screening Guidelines](#)

