

Eye Transfer Communication

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The Eye Transfer (ETRAN) Board is a communication device intended for use by persons with limited body movement and speech who retain good control over eye movements. It is often used in the Intensive Care Unit with alert patients, or on the hospital floor. The ETRAN board is similar in concept to a pointing board; the only difference is that the user is pointing with eyes instead of fingers. Pointing to one box means one selection. The task of the user is to “Point” with direct eye gaze to a particular symbol, picture, word, or letter on the board. The task of the person receiving the message (the Receiver) then becomes decoding the direction of the gaze and understanding the message produced by the User.

To construct an ETRAN, the only materials needed are a piece of plexiglass and a thick dark marker (an 18” by 23” piece of clear thick plastic is perfect). The following pages illustrate various completed products and give you an idea of how to construct your own ETRAN board.

An important consideration in the design of the ETRAN board is that the Receiver must have a clear and, to the extent possible, unambiguous view of the Sender’s direction of gaze. That is the reason the ETRAN board is constructed of clear plastic or plexiglass. The board may be made with a small rectangle cut out of its center so that the Sender and Receiver can establish eye contact and lock eyes in one common place before the Sender eye points; that way, the Receiver will have a clear idea of which direction the Sender is looking. A fixation point should be placed in the middle of the board if the internal rectangle is not removed. The board must be positioned between the Receiver and Sender with the center of the board (the fixation point) at eye level for both partners. It is quite important to have the ETRAN rigidly mounted in an upright position or held very still. For comfortable viewing of all messages on the ETRAN, the Sender should be positioned about 18 inches from the board.

The Receiver must write down and/or verbally indicate when he/she has received a letter from the Sender. The Sender must have a way of confirming that the Receiver got the correct letter, that the Receiver made a mistake, or that the pair must start the message process over again. It is often difficult for the Receiver to remember more than 4 letters....so write it down and show the received letters to the Sender for confirmation.

If the ETRAN board only has a few words or phrases (Figure 1), then a single eye motion will direct the Receiver to a complete message. If the ETRAN board consists of several clusters of letters or words (Figure 2), then 2 eye movements will be necessary for each selection. The Sender first selects the target cluster or area by looking at it (look at the top right hand corner for the letter F). The Sender then selects the target letter by looking either up and right, up and left,

down and right, or down and left, depending on where the target letter lies in the cluster. For example, if the Sender is using the ETRAN board in Figure 2, and wants to start spelling the word JOKE, he first will look in the upper middle area of the board (Receiver will verify the selected cluster), and then he will look in the bottom right hand corner of the board (for the bottom right hand letter: J). The Receiver will interpret this “code” and write down J.

While this form of communication is slow, it is very effective. A Sender can say anything, as long as you have a Receiver who is willing to take the time.

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