

VISUAL EXAMINATION
IN
SIGN LANGUAGE

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In the scope of optometry's role as a primary care profession vast degrees of technical knowledge and testing has been gathered to care for today's patients. With these modern skills in optometry, all would be defeating if unable to communicate results and care for proper patient treatment.

A significant portion of our population has had this for-granted ability hindered or lost, referring to the deaf patient.

The challenge for optometry lies not only in the area of improving communication with deaf patients but in preparing to deal efficiently with a group whose visual deficiencies are considerably greater than those of the normal population. If there is to be improvement in the evaluation and care of visual problems of these patients, optometrist must:

1. Acquire a fuller understanding of the effects of the hearing handicap, deafness.
2. Develop or modify techniques as needed for the deaf.
3. Improve the level of communication between them and their deaf and hearing impaired patients.

Understanding Deafness

All professional disciplines agree that although deafness is a consequence of disease, injury or genetic fault, it is not a disease; it is a disorder of a functional nature. Deafness (anacusis) is the term for severe, or complete loss of auditory sensitivity. The term is considered appropriate for adults if the hearing-threshold for speech is 93 db or worse and for children, (educational purposes) at 70 db or worse.

Significant degrees and development of deafness are the:

1. The adventitiously deaf: Those born with normal hearing but whose sense of hearing later becomes seriously impaired because of injury or illness.
2. The congenitally deaf: Those deaf at birth.
3. The prevocationally deaf: Those who could not hear and understand speech and had lost (or never had) that ability prior to 19 years of age.
4. The hard of hearing: Those whom the sense of hearing, although defective, is functional with or without a hearing aid.

For optometric purposes a deaf patient is one whose hearing loss is chronically of such character that, even with available amplification devices, he or she cannot hear and understand ordinary conversation sufficiently to permit optometric diagnostic and treatment services at their highest level.⁷

Deaf persons usually experience their disability most keenly when they interact with persons who can hear. Communication is awkward. The deaf person has difficulty understanding because he or she cannot hear and the hearing person has difficulty because the deaf person's speech may be flawed or absent. The result is frequently mutual withdrawal. Society generally treats deaf persons with barely disguised hostility or patient condescension. The first due to the frustrated communication and the latter to the deaf person's appearance of intellectual deficit. Yet for a deaf person to make a successful adjustment, vocationally and socially, it is necessary for him or her to have higher than average intelligence. Our culture has become heavily audio-dependent, placing deaf people at a severe disadvantage.

Statistically, more than 13.3 million people are hearing impaired, of which 1.8 million are deaf, of which more than 400,000 are considered provocationally deaf. (See table of States)⁷

In the deaf, the sense of sight is crucial to education and communication. Every effort should be made to identify and treat those that are deaf, especially children, with visual defects. Previous studies¹⁻⁶ on the visual status of deaf children have consistently found a much higher rate of eye defects as compared to hearing children. Table 1 summarizes these reports showing ocular defects in from 38 to 60% of deaf children.⁵

TABLE 1: Vision studies with the deaf, 1933-1971.

Study	% Defects	Standards
Burdge, 1933, Cincinnati Oral School for the Deaf ¹	40%	Received glasses from oculist
Braly, 1937, New Jersey School Trenton, New Jersey ²	38% of 422	Failed 20/20 Snellen; higher in congenital vs. adventitiously deaf
Stockwell, 1950, Pennsylvania School for the Deaf ³	46% of 960 over 10 yrs. old	Needed glasses: only slightly higher in congenitally deaf
Suchman, 1967, Hearing and Speech Center, Gallaudet ⁴	58% of 104 elementary age	Failed 20/20 or other anomalies
Lawson and Myklebust, 1970 ⁵	54% of 80	"Visual abnormalities"
Luhr and Dayton, 1971, St. Mary's School for the Deaf, Buffalo, New York ⁶	60% of 237	"Serious eye problems"

None of the previous studies involved optometric screening using the Modified Clinical Technique (M. C. T.) nor presented results in a manner to help in comparison to hearing children. In 1974 Pollard and Neumaier published the results of a modified M. C. T. (see Table 2 for standards used) screening at the California School for the Deaf.

Test	Problem Conditions - Criteria	
Retinoscopy	Farsightedness	Over + 2.25D
	Nearsightedness	Over -0.75D
	Astigmatism	Over 1.25D
	Anisometropia	Over 1.25D
Cover Test	Strabismus	any
	Esophoria	over 4 Δ
	Exophoria	over 7Δ at distance
		over 11Δ at near
	Hyperphoria	over 1Δ
Amblyopia	20/40 or worse, over 1 Snellen line difference	
Ophthalmoscopy	Pathology	any pathology eg. cataract heterochromia, fundus lesion etc.
Color Vision	Red-Green	any defect, mild, medium, strong
Visual acuity	Possible Amblyopia Borderline Refractive errors	20/40 or worse

The results (Table 3) show 33% of the deaf population had significant visual defects. Refractive error is present in one of every four, and coordination problems in one of every fourteen students.

<u>Vision Defect</u>	<u>Number</u>	<u>Percent</u>
Refractive Error Only	93	18.2
Refractive Error and Eye Coordination Problem	26	4.7
Refractive Error and Eye Pathology	12	2.4
Refractive Error, Eye Coordination, and Pathology	2	0.4
Eye Coordination Only	17	3.3
Eye Coordination and Eye Pathology	2	0.4
Eye Pathology Only	19	3.7
None, Normal Vision	342	66.9
Totals	511	100%

Table 4 allows comparison of the deaf students with hearing students from the Orinda Study using similar screening techniques.

	<u>Hearing</u>	<u>Deaf</u>
	<u>Orinda Criteria</u>	<u>Present Criteria</u>
Nearsightedness	5-15%	(3.2-10%)*
Farsightedness	6%	(3%)*
Astigmatism	3%	(1.4%)*
Anisometropia	3.4%	(1.4%)*
Eye Coordination (all)	8%	
Strabismus	4.8%	
Amblyopia	1.2%	
Eye Disease (no color vision)	2%	
Color Vision only	8%	
		13.3%
		8.0%
		7.3%
		5.9%
		8.9%
		4.9%
		1.8%
		3.6%
		5.6%
		boys only

*The present criteria indicate a 36%, 50%, 57%, and 60% reduction in the prevalence of nearsightedness, farsightedness, astigmatism and anisometropia, respectively, as compared with the original Orinda Criteria.⁷

Many causes have been determined to cause deafness include meningitis, rubella, erythroblastosis foetalis, "RH" factor, mumps, pertussis, influenza, and others. A cause of deafness in a special interest to optometry is Usher's syndrome, a recessive genetic condition associated with the condition of retinitis pigmentosa. The disease is also associated with obesity, dwarfism, psychosis, mental retardation, and other major neurophysiological pathology. The hearing loss affects the high tones first but it develops late in the disease, after the visual fields have narrowed. Even though no treatment is presently available, the earliest detection possible is essential to effective vocational and genetic counseling.

Developing Techniques for Examining the Deaf

Each practitioner has an uniqueness in performing a visual examination with a goal in obtaining accurate and reliable results. With years of training and vast experience it is difficult to announce a "most" correct method in obtaining these results, only suggestions may be offered. It is emphasized that an extensive examination on the deaf not have any part of the examination deleted because of the difficulty of communication.

Suggestions:

- A trial frame allows for greater doctor-patient communication.
- Tumbling E's and visual matching may speed and simplify visual acuity measurements.
- Ophthalmometry is of highest importance in objective data.
- Hand-held prisms and Jackson X-cylinders may simplify out-of-the-refractor examinations.

Optometry has a responsibility to be aware of physical and medical anomalies especially in the young. In the process of screening infants and children for visual deficiencies screening tests for hearing should be incorporated into the optometrist's scope of evaluations.

In a screening test, one starts with the assumption that hearing is probably normal and it cannot be too strongly emphasized that the main function is to detect all those

children who have normal hearing. Every child who fails to produce normal responses must be referred as soon as possible to a specialized clinic.

The "First year" Test ¹

All children should be examined within the first year of life. It is not suggested that the screening tests of hearing (or of sight) should be carried out as isolated tests, but rather that they should be incorporated, when they are indicated, within the framework of this general examination.

The normal infant is most easily tested between the 7th and 9th months, when it is a relatively simple matter to examine him with distraction techniques. The sounds used should be faint sounds but it is also important that they should be meaningful sounds. Many children at this age will pay little or no attention to the banging of a drum or the clapping of hands, but they will nearly always react briskly to the much fainter sounds which have meaning to him in their everyday activities. - the soft call of his name in his mother's voice; the squeaking of a favorite toy; the sound of his rattle; or the clinking of a spoon on a cup.

The child, seated on his mother's lap, is distracted by an observer and the test can be started as soon as he has settled down. Each ear should be tested separately from a distance of three feet or more and the examiner should stand to each side of the child, just outside his range of vision. The normal reaction of the hearing child is a brisk turning of the head

but he will often show no response at all if the sound is made immediately behind him or immediately above his head.

These simple distraction tests will certainly pick out children with severe degrees of hearing loss and will also bring to light some of the slighter degrees of partial deafness in many other children. Some children will pass through the screen at this age, it is therefore necessary to have a further check at some later stage if there are suspicions.

Languages Between the Optometrist and the Deaf Patient

Speechreading, Speech, and Written Word.

All these may be used where appropriated with limited losses. Speechreading method notes that two-thirds of the 42 sounds that make up English either look like (on the lips) some other sound, or they are simply invisible. A speech reader must grasp and internalize the sounds that are visible during that split-second they appear on the lips. If the sole source of communication is lipreading, then at the most, only 20% of the conversation is understood if the speaker is speaking naturally.

An Interpreter

The interpreter may use the method of transliteration which is the exact reproduction of words spoken using signs and spelling accompanied by a mouthing of the words, or translation by moving from one language to another, as English to sign language and the reverse.

If an interpreter is used:⁷

1. Take care not to let the third party come between him and his patient. Look at the patient while speaking... establish and maintain eye contact even though the patient will be looking at the interpreter most of the time.
2. Be constantly aware of the fact that the deaf patient attaches great significance to facial expression and

body posture. A pleasant expression may do more to establish the proper relationship than anything else.

3. Do not confide to the interpreter information withheld from the patient. The doctor should never say anything in the presence of the deaf patient which he does not want translated.

Direct communication

This method between doctor and patient uses "Total - Communication". "Total Communication" includes a range of gestures, signs, speechreading, pantomime, fingerspelling, hearing aids, speech, and the written word, individually or all, wherever appropriate.

The following pages, "Eye Examination in Sign", will hopefully supplement the optometrist in the communication with the deaf.

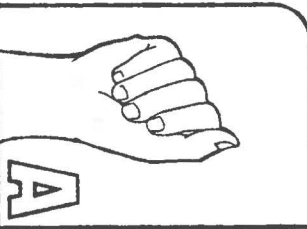
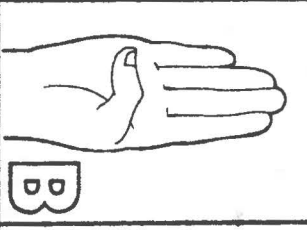
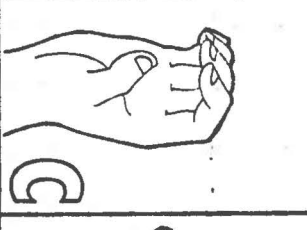
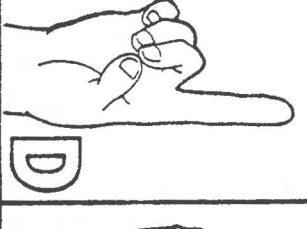
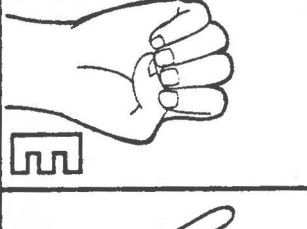

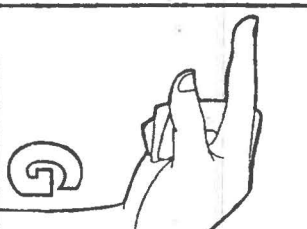
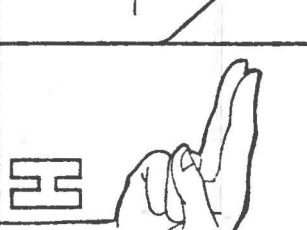
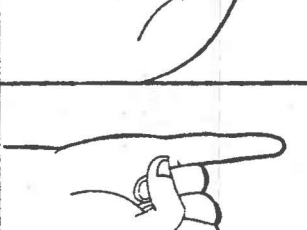
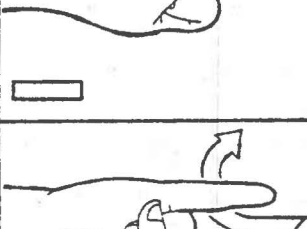
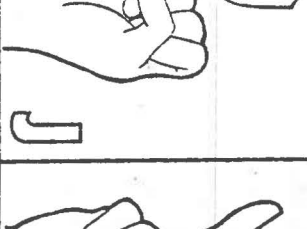
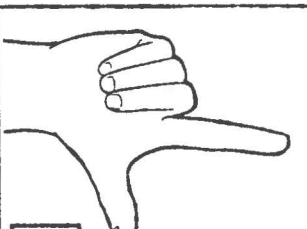

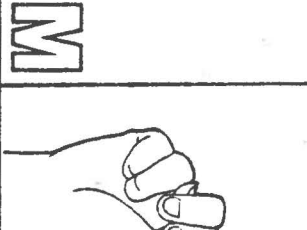
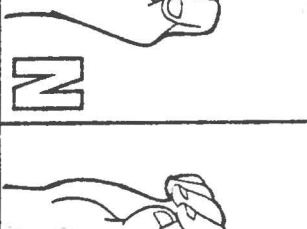



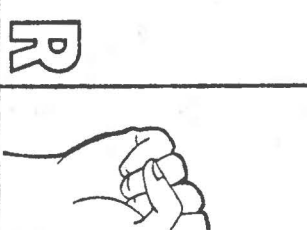

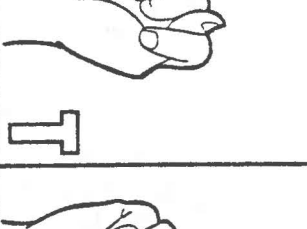
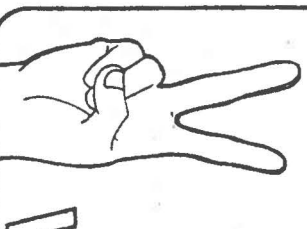


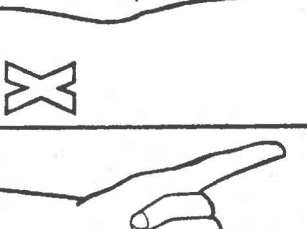

Fingerspelling- Manual Spelling⁷

The first technique in sign language that an optometrist should develop is fingerspelling. This consists of an arrangement of the fingers of one hand for each letter in the English alphabet. Any word in the English language can thus be spelled. Fingerspelling is relatively easy to learn and the skill can be maintained with a moderate amount of practice.

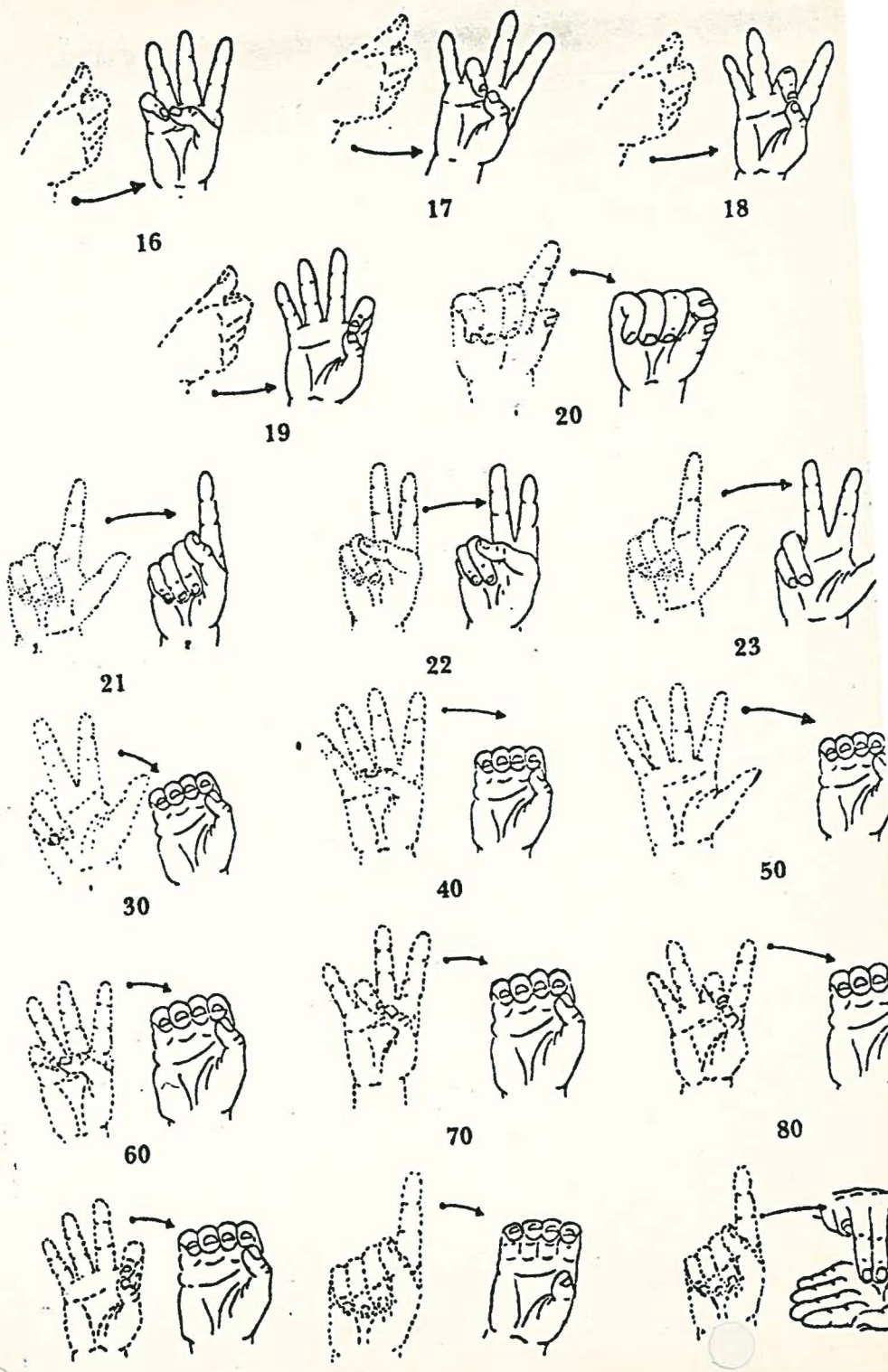
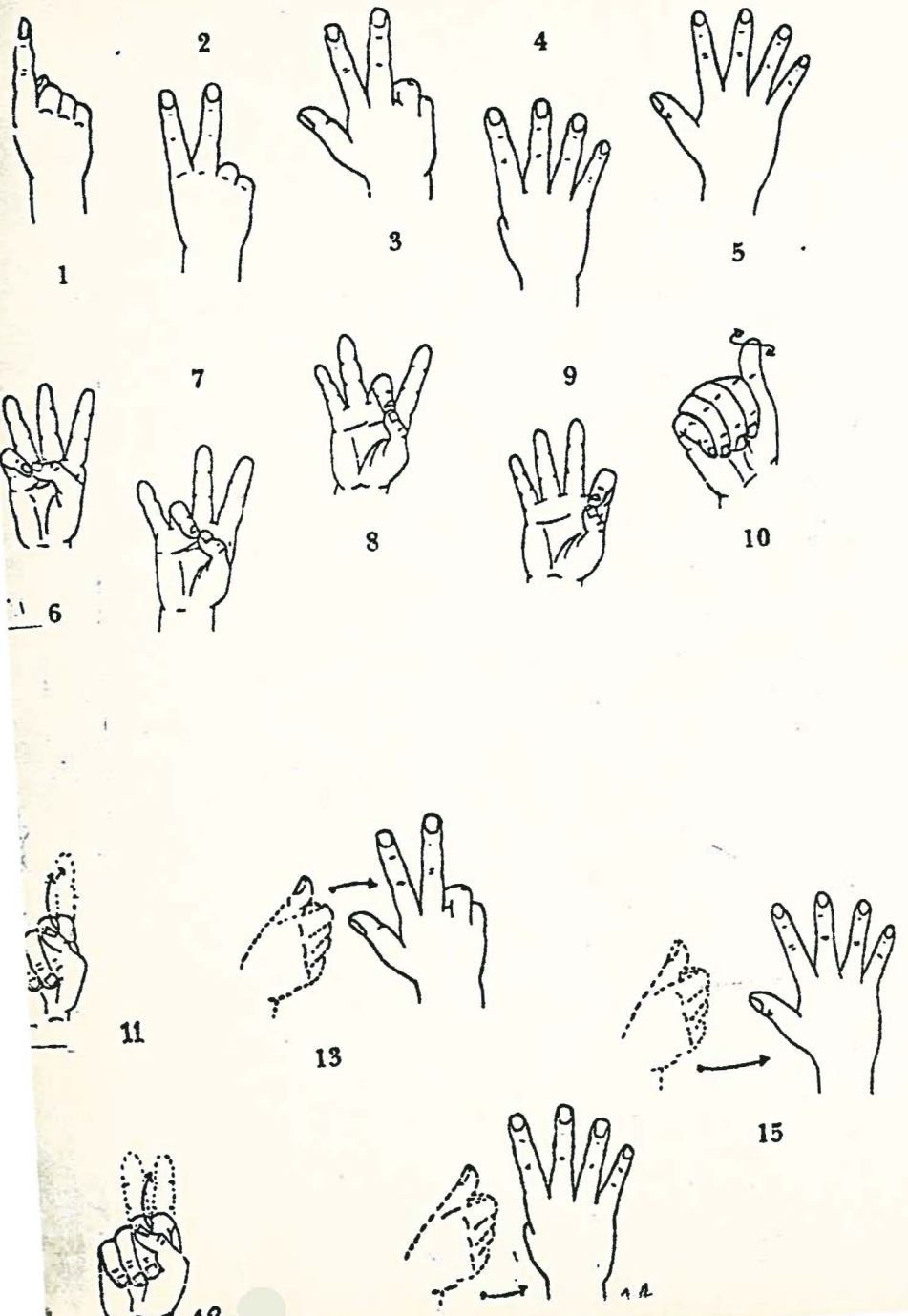
The following are "rules" for its use. The following drawings are as the person reading the letter would see them.

1. Place your right hand (or left, if you are left-handed) at the level of your lips.
2. Spell with palm of the hand facing the person you are addressing.
3. Do not use your wrist, except the slight movement required to make g, h, j, p, and q.
4. No arm movement is necessary. Do not throw your spelling at your patient.
5. Fingerspelling of the whole alphabet is not as useful as combining two letters such as am, be, on... and then moving to three-letter words and those relating specifically to vision.
6. Make an effort to spell smoothly. The deaf person reads spelling as you do writing.
7. As you spell a word, say it. Do not say letters.

the American sign language alphabet

 A	 B	 C	 D	 E	 F
 G	 H	 I	 J	 K	
 L	 M	 N	 O	 P	
 Q	 R	 S	 T	 U	
 V	 W	 X	 Y	 Z	

NUMBERS



DOs and DON'Ts for Optometrist and Staff ⁷

Do learn fingerspelling. Practice with the words you use every day in the office.

Do remember that spelling, signs, gestures, and speech-reading are pictures... they must be clearly seen to be clearly understood. Light behind your back or shining into the eyes of your patient limits/distorts communication.

Do remember that a deaf patient with his face in the phoropter cannot respond to spelling, signs, gestures unless they are made inside his viewing area.

Do not call out; "Mrs. Jones, the doctor will see you now"- if Mrs. Jones is deaf she will not respond. She will respond to the two simple signs of "Doctor ready."

Do not shout. A deaf person won't hear you, and most hard of hearing patients won't appreciate it.

Do speak the word or sentence aloud as you sign it; Many of your deaf patients rely on speechreading to aid in understanding signs, and vice versa.

Do remember not to use the terms "deaf and dumb" and "deaf mute." The word "dumb" has a disagreeable connotation; and almost no hearing impaired person, even if profoundly deaf, is mute or dumb in the sense that he lacks the power of speech.

When your patient is a young person or a child with a severe vision problem, do explain to the parent the importance of hearing and suggest referral to an ear doctor. Adult patients need the same advice.

Do re-examine all your handouts about care of; eye glasses-plastic and glass ... the importance of frame alignment; contact lens. If these are not clearly, directly written, do rewrite your instructions for your deaf patients.

If you have any doubt that you and your deaf patient are communicating about a matter critical to your examination... do ask the patient to come back with an interpreter.

If your deaf or hard of hearing patient does not understand-whether speaking, writing, fingerspelling, or signing; do not repeat; do rephrase.

With hard of hearing patients wearing hearing aids;

Do remember that a patient who wears a hearing aid in his glasses is virtually deaf when the frames are removed for eye examination.

Do give instructions and explanation to hearing aid-in-eyeglass wearer slowly and clearly before removing his glasses/hearing aid. He should understand fully what is expected of him before he is deprived of amplification of sound.

Do remember that hearing aid wearers respond better if a slow, clear explanation is made before the examination starts.

Do speak clearly, distinctly, and slowly to a hard of hearing person wearing a hearing aid, but do not speak loudly.

Do employ an amplifier when possible.

Do indicate, by coding patient's records, the type of hearing problem.

TABLE OF STATES

The National Association of the Deaf, in cooperation with the Deafness Research and Training Center at New York University, conducted (1960-1974) a National Census of the Deaf Population.³³ Although the analyzers of the data secured point out that the state estimates have "very large standard errors," we are convinced after studying the project's methodology that any error is more apt to be on the low side than the high side.

Distribution of the Hearing Impaired Population by States: United States, 1971

	a) Hearing Impaired	b) Deaf	c) Prevocationally Deaf
United States	13,362,842	1,767,046	410,522
Alabama	234,498	30,832	6,753
Alaska	20,480	2,664	553
Arizona	130,613	16,986	3,530
Arkansas	131,577	17,299	3,789
California	1,427,928	185,708	38,595
Colorado	160,902	20,926	4,349
Connecticut	179,486	20,921	5,209
Delaware	37,506	4,931	1,080
District of Columbia	49,350	6,489	1,421
Florida	472,263	62,093	13,600
Georgia	312,096	41,035	8,988
Hawaii	52,990	6,891	1,432
Idaho	52,274	6,798	1,413
Illinois	719,792	105,815	26,510
Indiana	340,011	49,985	12,522
Iowa	184,017	27,052	6,778
Kansas	143,395	21,080	5,281
Kentucky	220,203	28,952	6,342
Louisiana	247,499	32,541	7,128
Maine	58,036	6,765	1,685

	a) Hearing Impaired	b) Deaf	c) Prevocationally Deaf
Maryland	267,783	35,208	7,712
Massachusetts	335,423	39,097	9,734
Michigan	579,614	85,208	21,347
Minnesota	250,234	36,786	9,216
Mississippi	150,024	19,725	4,320
Missouri	303,982	44,688	11,196
Montana	53,706	6,566	1,364
Nebraska	96,799	14,231	3,565
Nevada	35,732	4,647	966
New Hampshire	44,408	5,177	1,288
New Jersey	423,821	49,401	12,299
New Mexico	72,753	9,462	1,966
New York	1,074,764	125,275	31,190
North Carolina	343,204	45,124	9,883
North Dakota	39,507	5,808	1,455
Ohio	694,198	102,053	25,567
Oklahoma	175,209	23,036	5,046
Oregon	154,815	20,174	4,184
Pennsylvania	694,455	80,946	20,153
Rhode Island	54,151	6,312	1,571
South Carolina	173,440	22,804	4,995
South Dakota	42,854	6,299	1,579
Tennessee	269,825	35,477	7,770
* Texas	767,887	100,961	22,113
Utah	78,626	10,225	2,126
Vermont	26,836	3,128	780
Virginia	308,692	40,587	8,890
Washington	243,036	31,608	6,568
West Virginia	119,121	15,662	3,430
Wisconsin	288,823	42,460	10,637
Wyoming	24,204	3,148	654

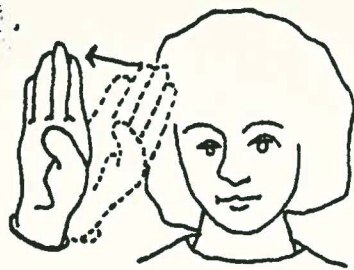
a) Defined as "having trouble hearing in one or both ears"—half of which reported difficulties in both ears.

b) Those reporting they could not hear and understand speech.

c) Those within the deaf group whose hearing was lost before age 19. . . 73.6 percent of which had suffered prelingual losses.

*In 1976, the Texas Commission for the Deaf estimated that there were then in Texas 110,961 all-ages deaf, of which 24,500 were prevocationally deaf and 12,200 prelingually deaf; the estimate for the deaf adult population 60 years and older was 28,000.

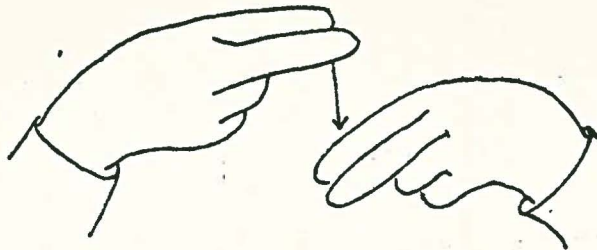
1. Ballantyne, J., Deafness, Churchill Livingstone, 3rd Edition
New York, 1977
2. Hoffman, J., Hoffman, B., Gransee, D., Fox, A., James, J.,
Schmitz, J., Sign Language for Everyone, California
State Department of Health, Joyce Motion Picture Company,
1975.
3. National Association of the Deaf, A Basic Course in Manual
Communication, Communicative Skills Program, 1973.
4. Pfetzing, D., Zawolkow, E., Gustason, G., Signing Exact
English, Modern Sign Press. 1972.
5. Pollard, G., Neumaier, R., Vision Characteristics of
Students, Am. J. Optometry & Physiol. Optics, November 1974.
6. Texas Optometric Association, Basic General Diagnostic
and Treatment Services in Sign Language, Austin, Texas, 1979
7. Texas Optometric Association, What did you say Doctor?,
Austin, Texas. 1978.
8. Uniacke, N., Wolf, T., Pond, P., Tests & Procedures I,
Health Observation and Evaluation. Laboratory Syllabus
and Cours Outline . 1978.



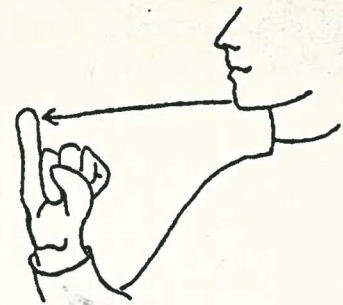
HELLO



MY

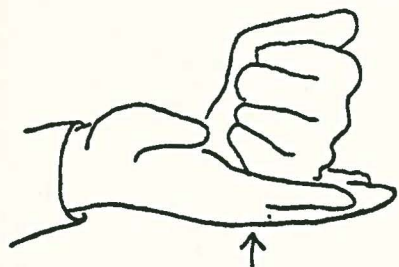


NAME



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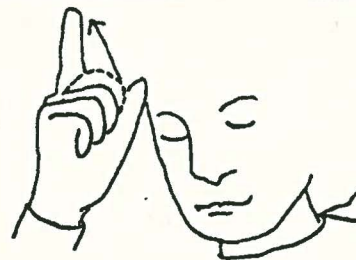
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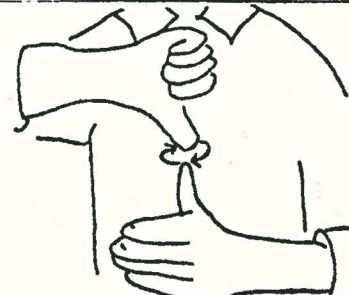
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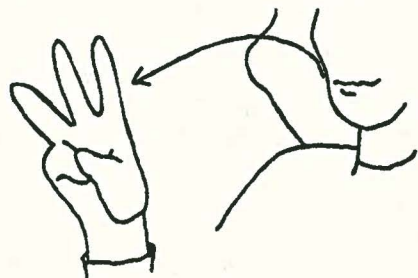
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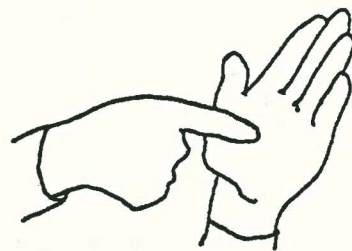
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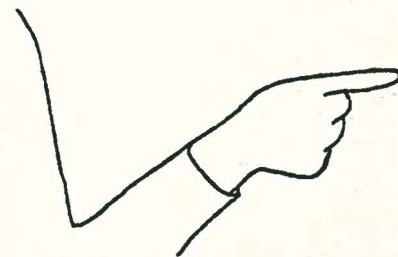
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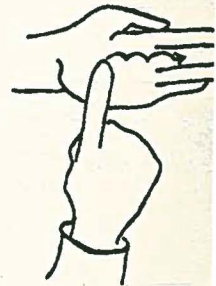
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SHOW



YOU



THESE CARDS



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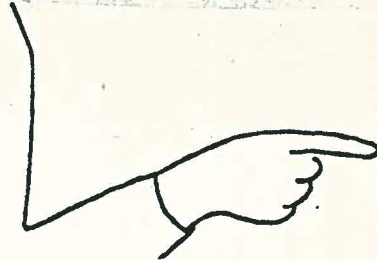
HOW



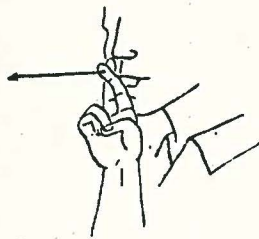
OLD



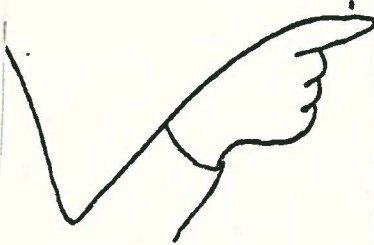
ARE



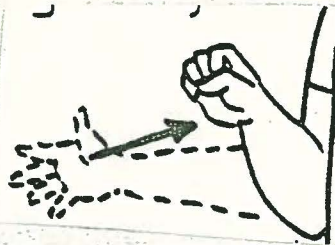
YOU



ARE



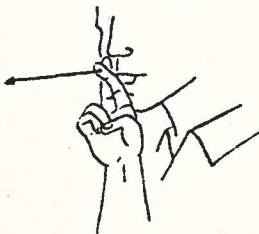
YOU



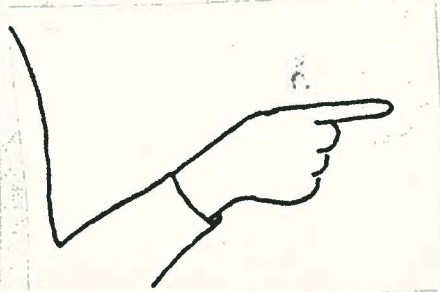
TAKING



MEDICINE



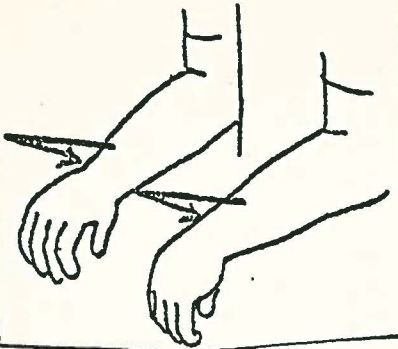
ARE



YOU



HEALTHY



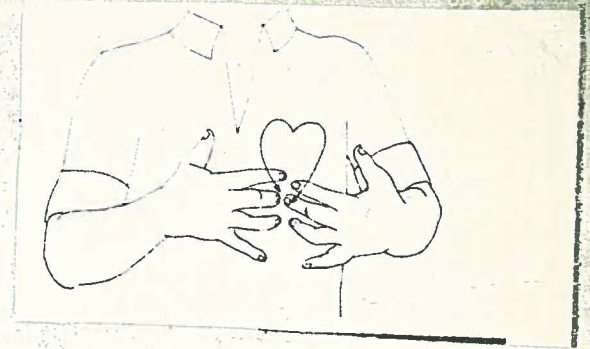
DO



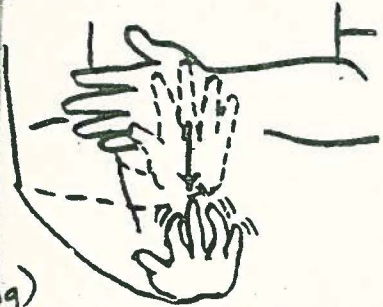
YOU



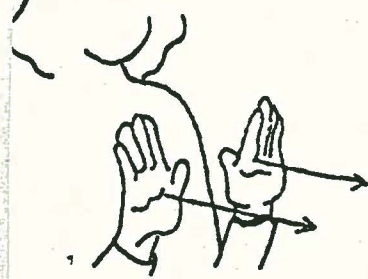
HAVE



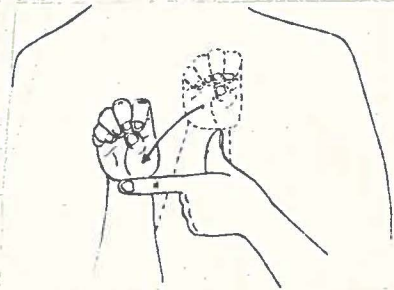
HEART



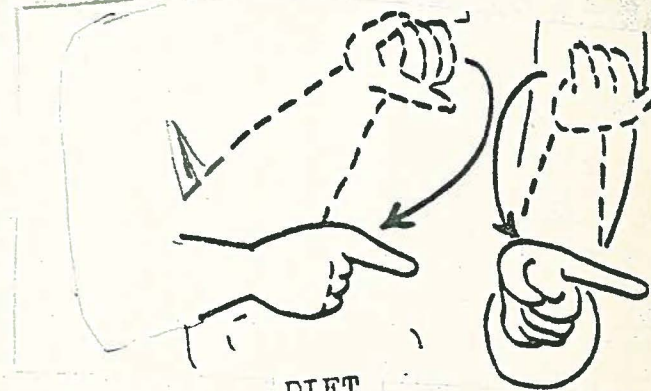
BLOOD



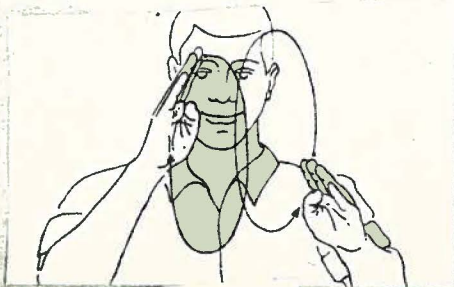
PRESSURE



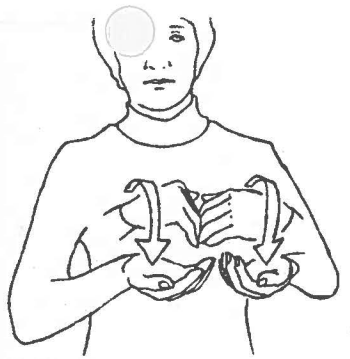
OR



DIET



PROBLEMS.



HOW



OLD

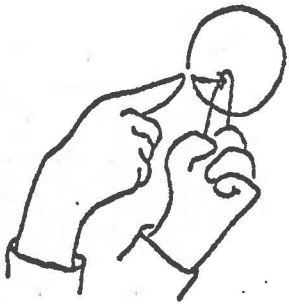


ARE

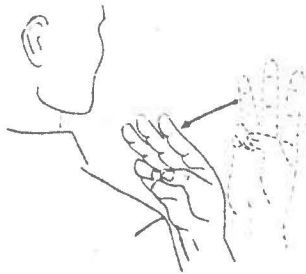


YOUR

GLASSES



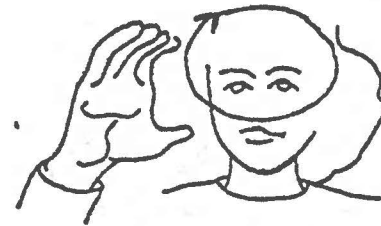
WHEN



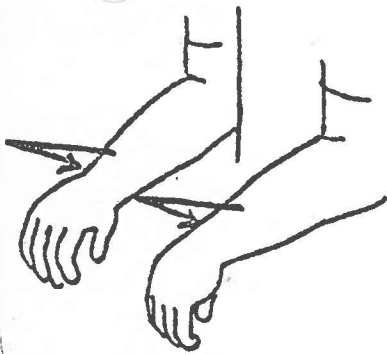
WAS



YOUR



EXAMINATION



DO



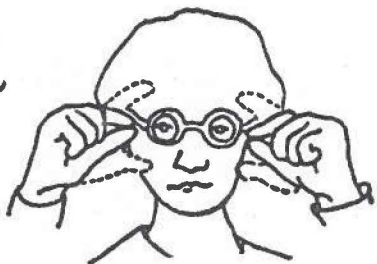
YOU



WEAR



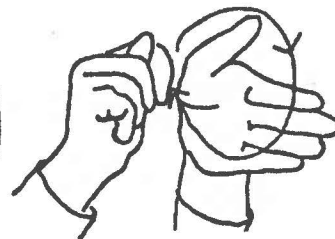
YOUR



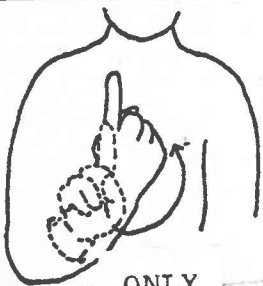
GLASSES



ALL



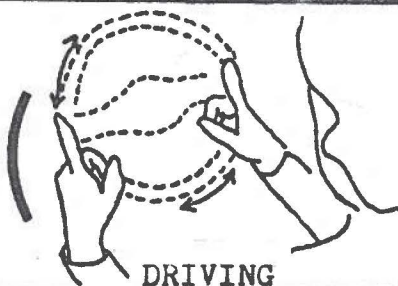
THE TIME



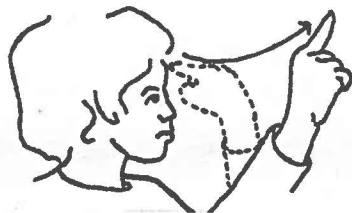
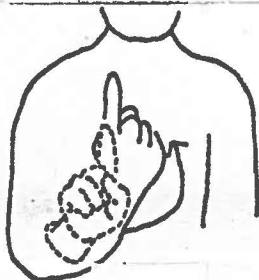
ONLY

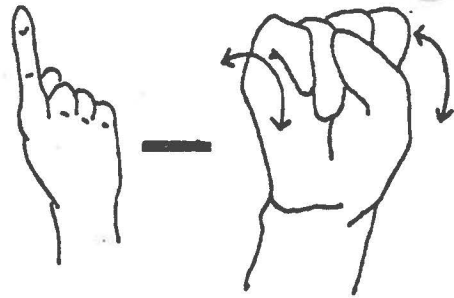


FOR

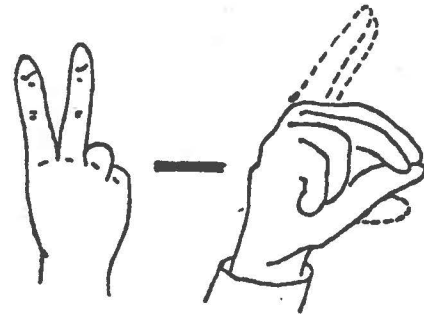


DRIVING

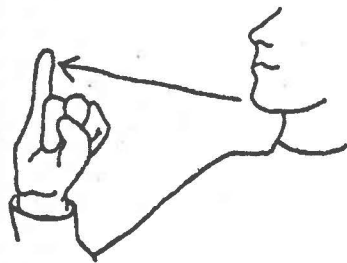




ONE—YES.



TWO—NO.



IS



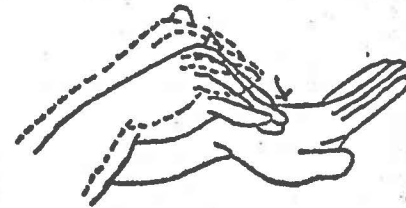
YOUR



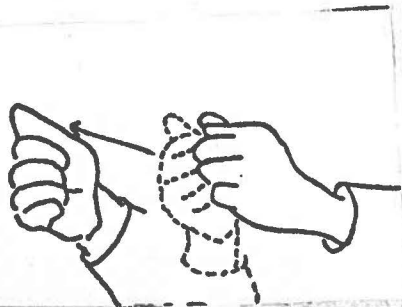
VISION



GOOD



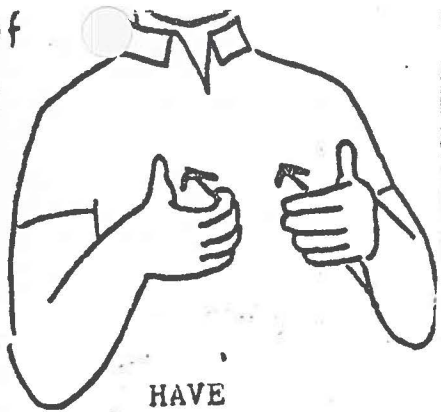
AT



FAR



READING



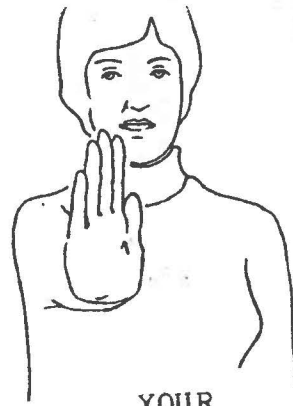
HAVE



YOU



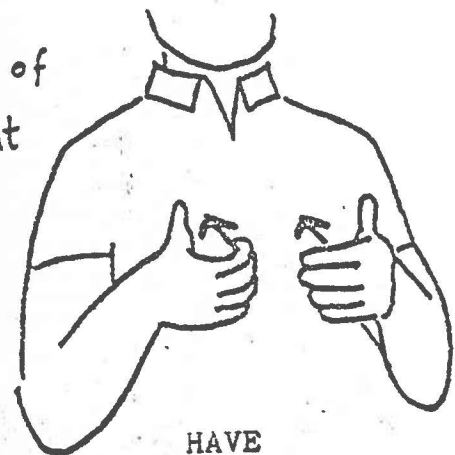
HURT



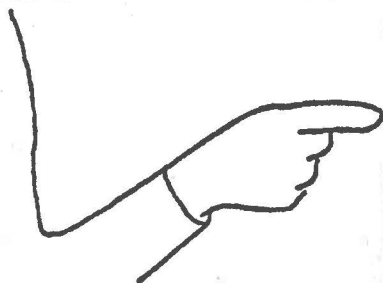
YOUR



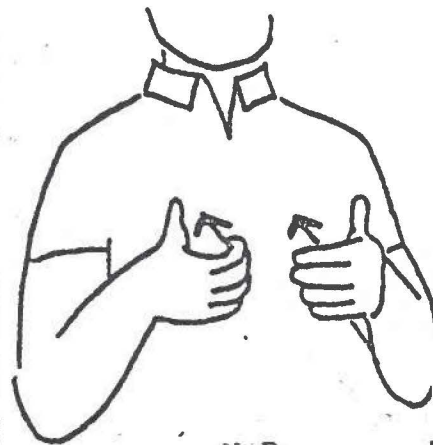
EYES



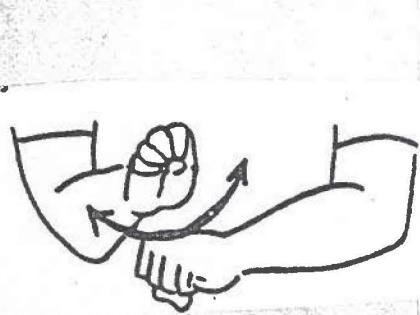
HAVE



YOU



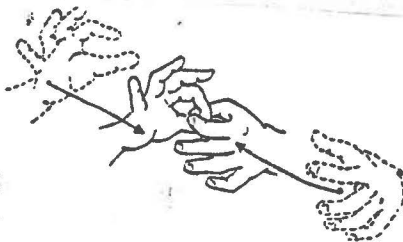
HAD



OPERATION



OF

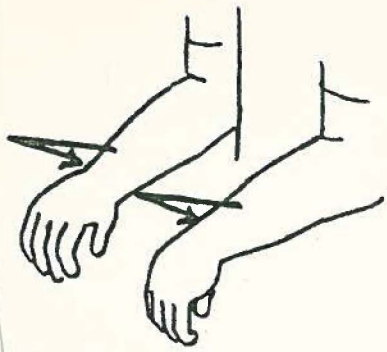


YOUR

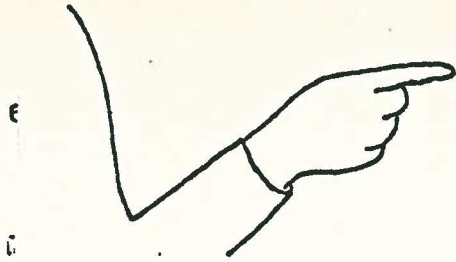


EYES.

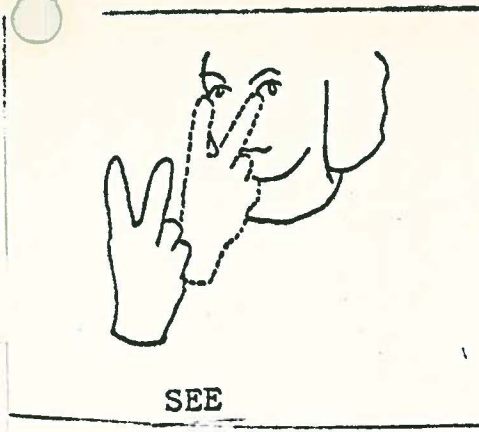




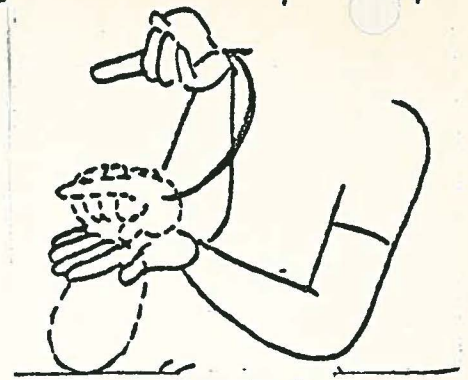
DO



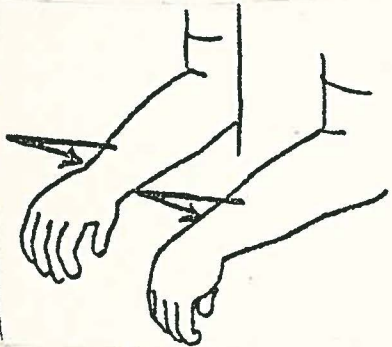
YOU



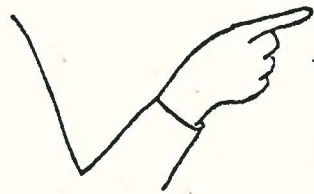
SEE



DOUBLE



DO



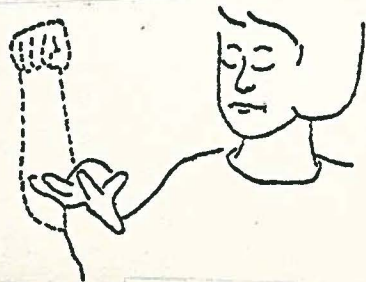
YOU



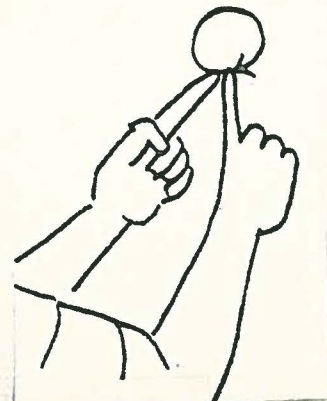
SEE



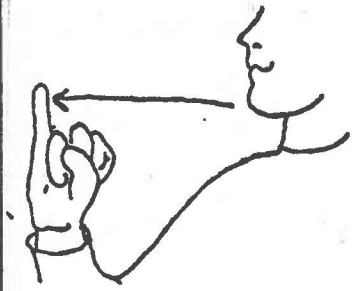
FLASHING



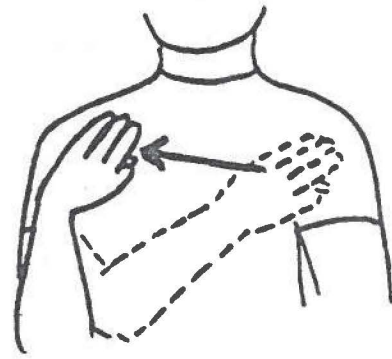
LIGHTS?



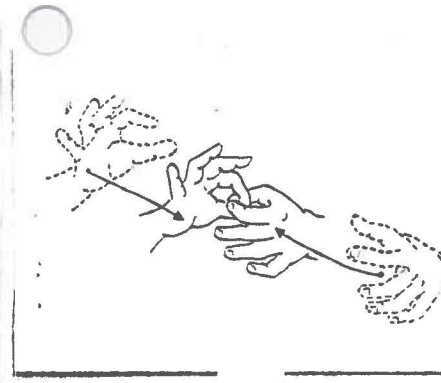
WHEN



IS



A MEMBER



OF



YOUR



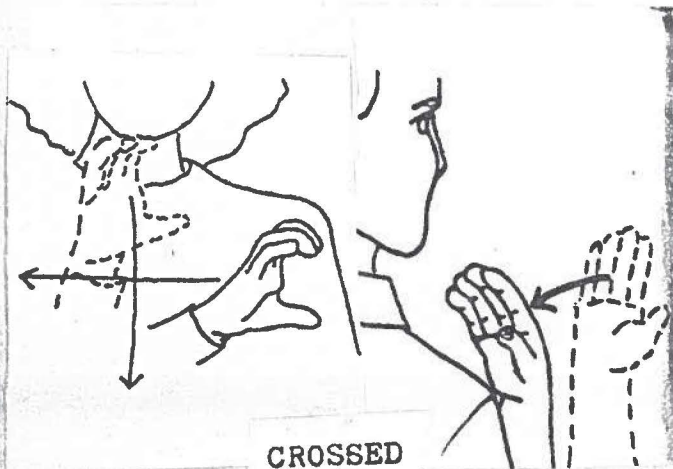
FAMILY



BLIND



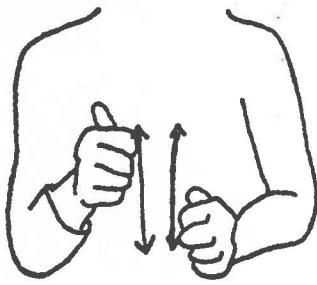
HAVE



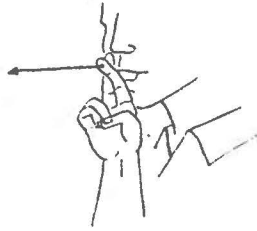
CROSSED



EYE.



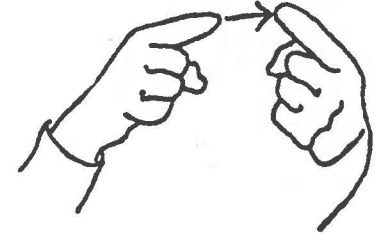
WHICH WAY



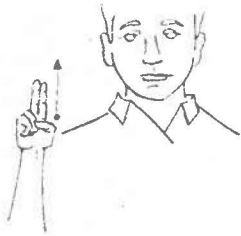
ARE



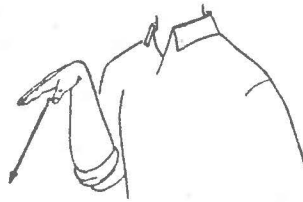
THE LETTERS



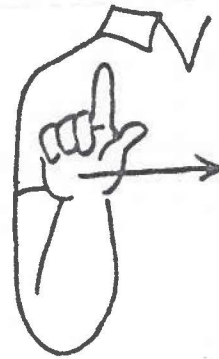
POINTING?



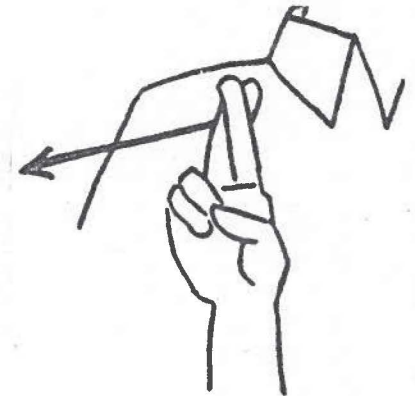
UP



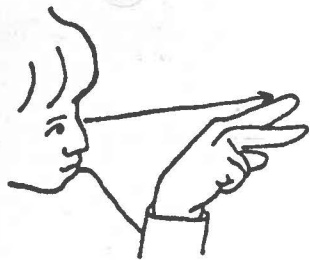
DOWN



LEFT



RIGHT



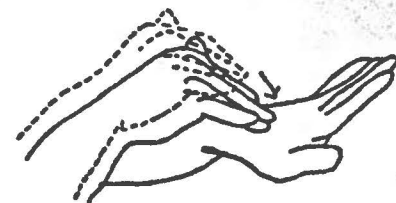
LOOK



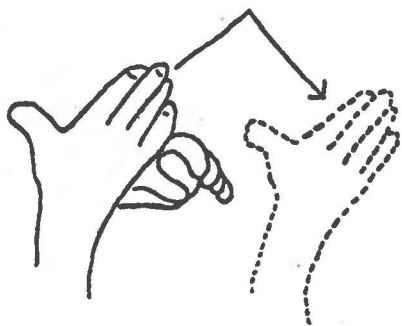
AT



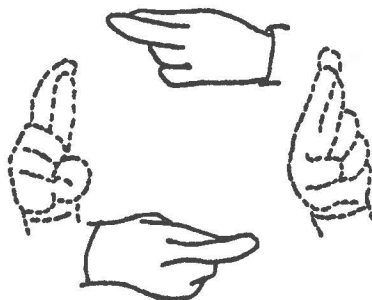
THE LIGHT



AT



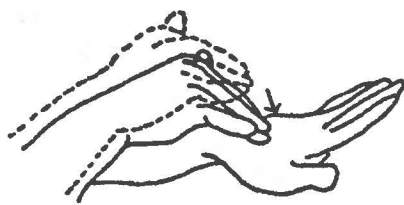
THE END



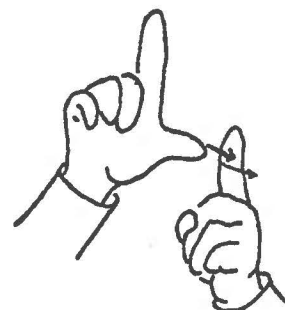
OF THE ROOM



LOOK

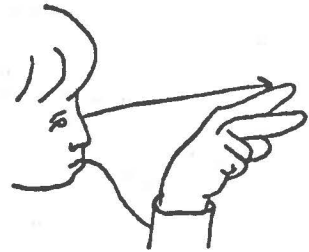


AT



THE LETTERS

3.



LOOK



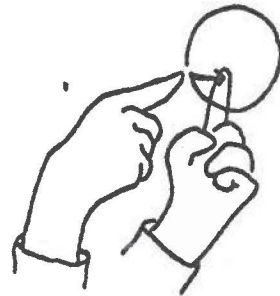
AT



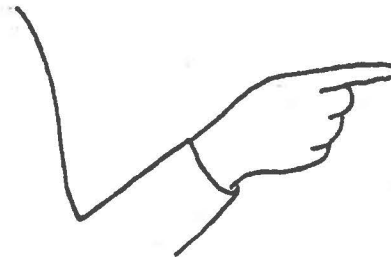
THE LETTERS



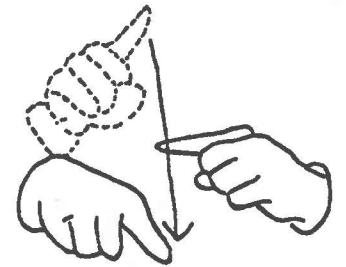
RAISE YOUR HAND



WHEN



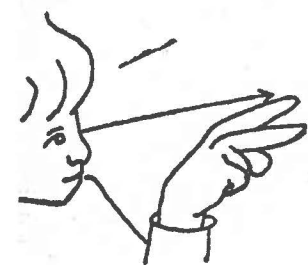
YOU



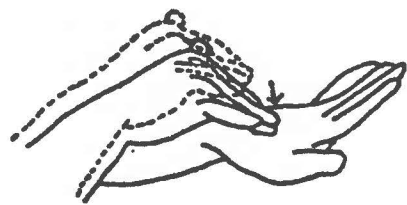
CANNOT



READ THEM.



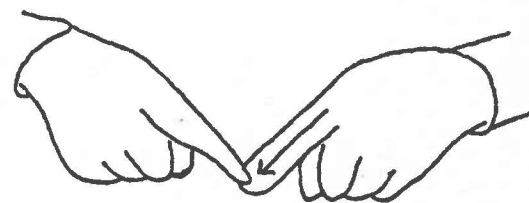
LOOK



AT



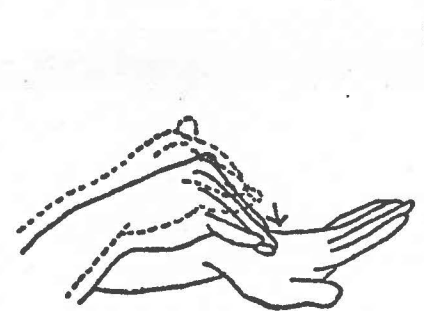
MY



FINGER.



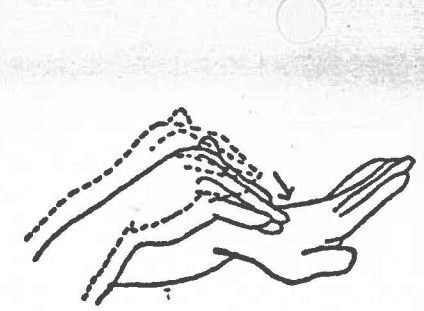
LOOK



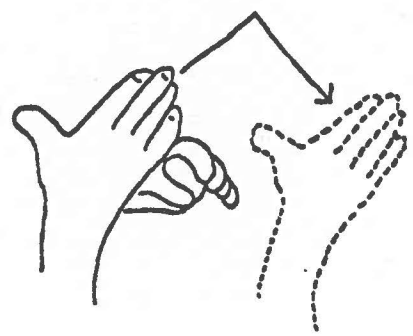
AT



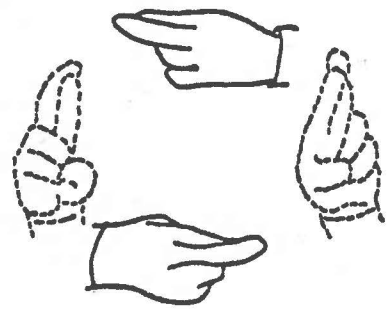
THE LIGHT



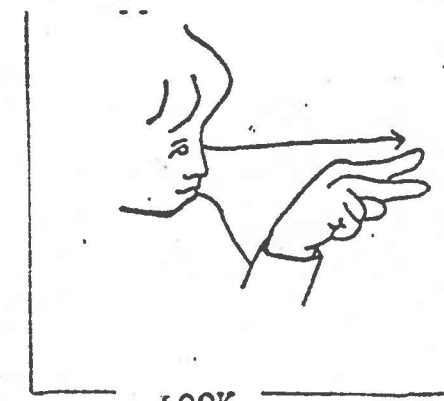
AT



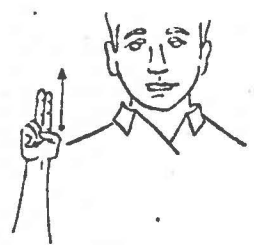
THE END



OF THE ROOM



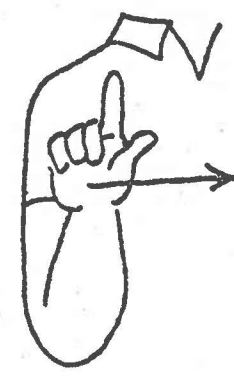
LOOK



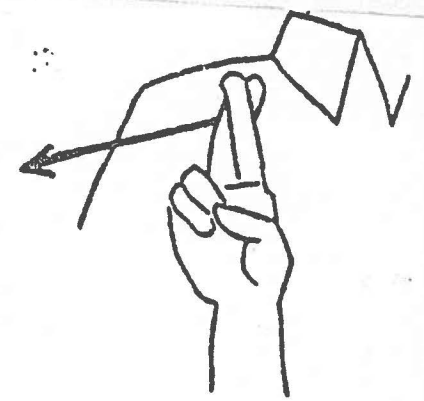
UP



DOWN



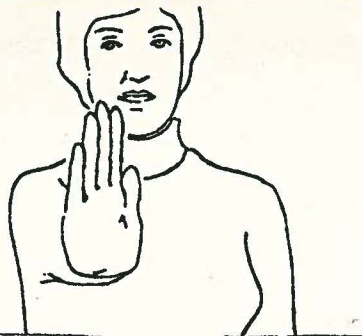
LEFT



RIGHT



PUT



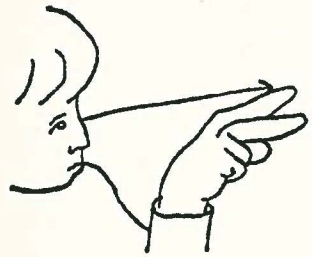
YOUR



HEAD



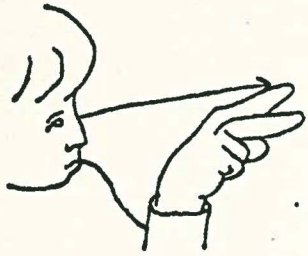
HERE.



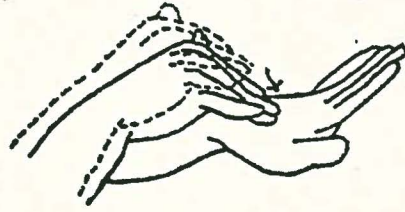
LOOK



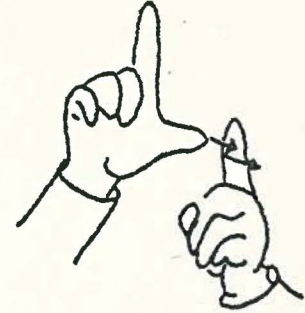
STRAIGHT



LOOK



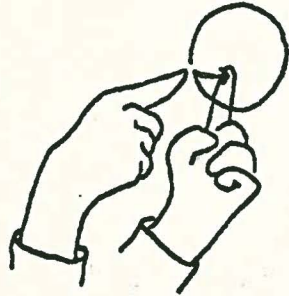
AT



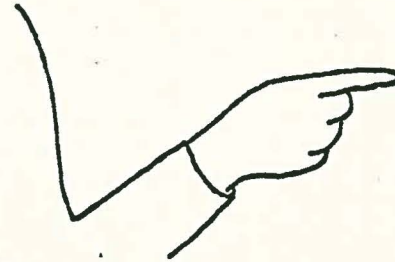
THE LETTERS



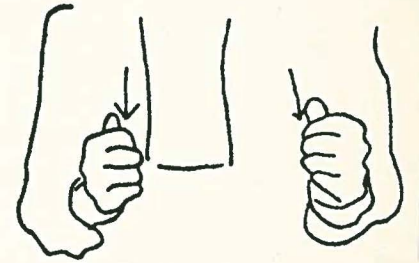
RAISE YOUR HAND



WHEN



YOU



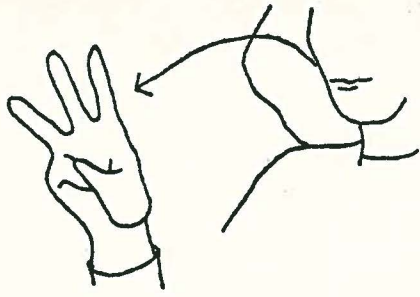
CAN



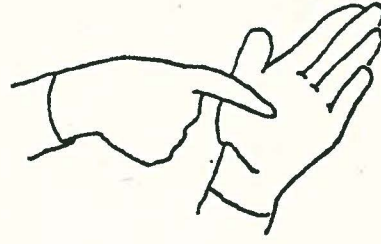
READ THEM



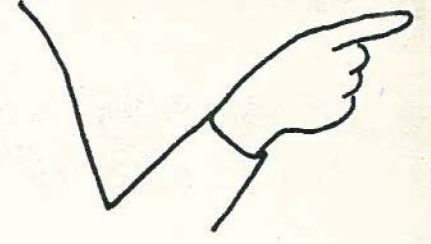
I



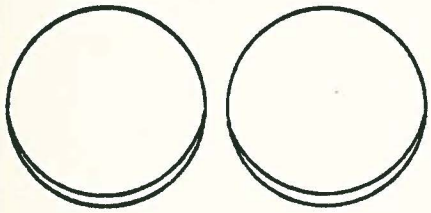
WILL



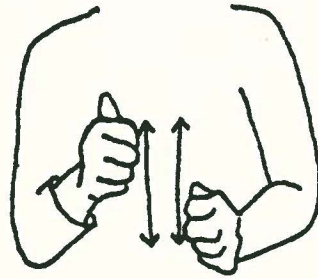
SHOW



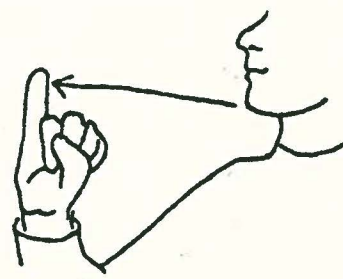
YOU



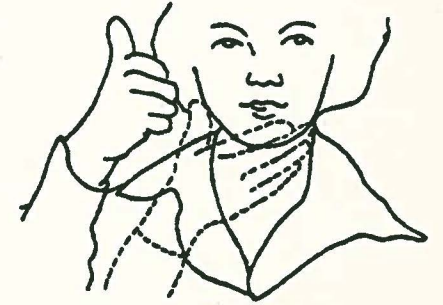
TWO LENSES:-



WHICH



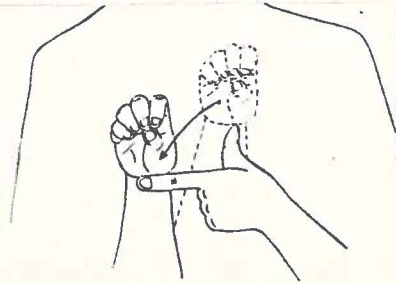
IS



BETTER



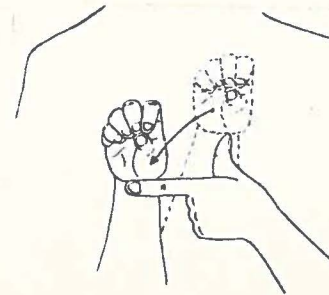
ONE



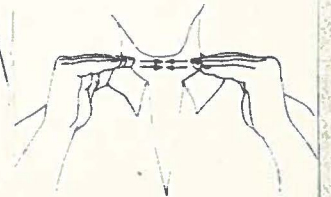
OR



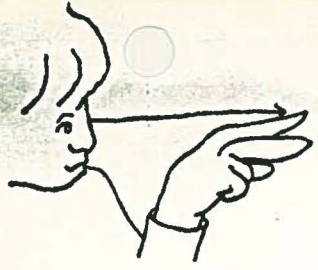
TWO



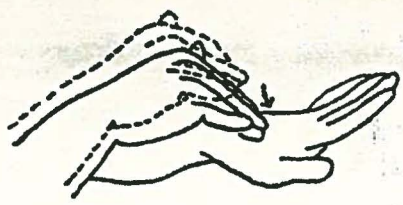
OR



SAME



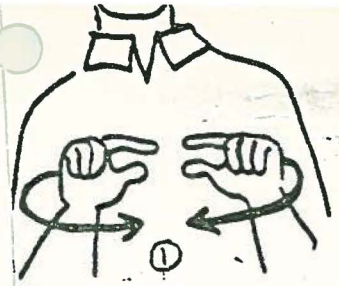
LOOK



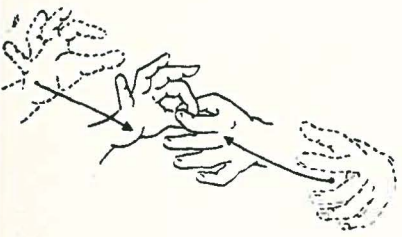
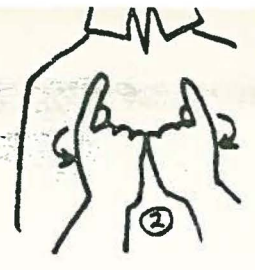
AT



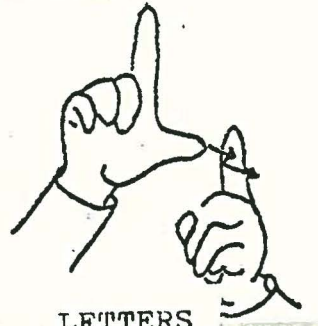
TWO



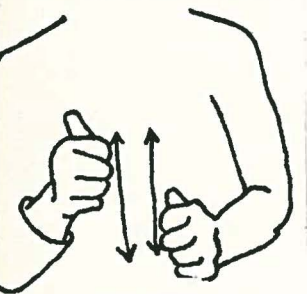
GROUPS



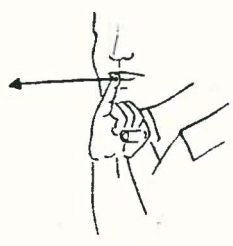
OF



LETTERS



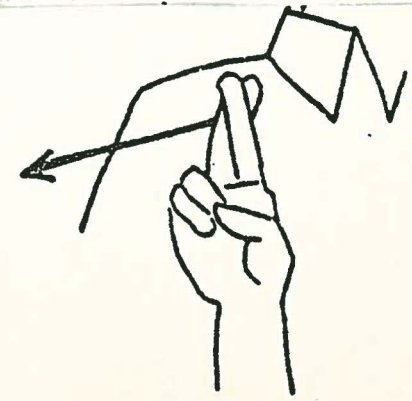
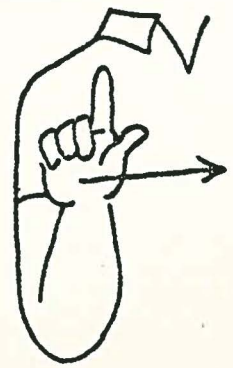
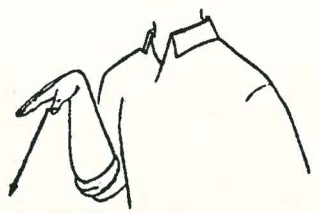
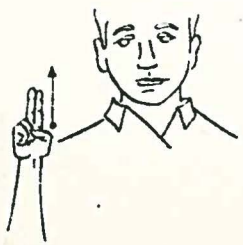
WHICH

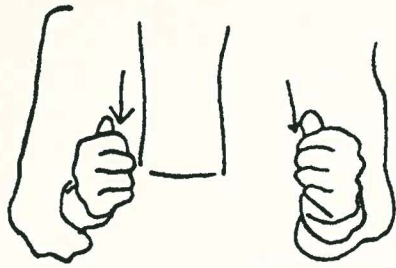


IS

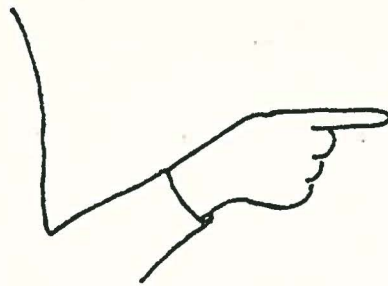


BETTER





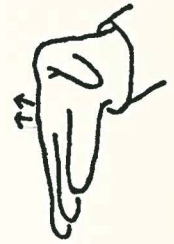
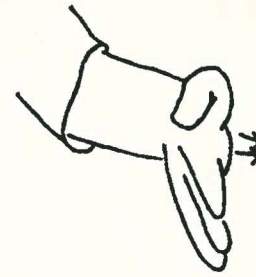
CAN



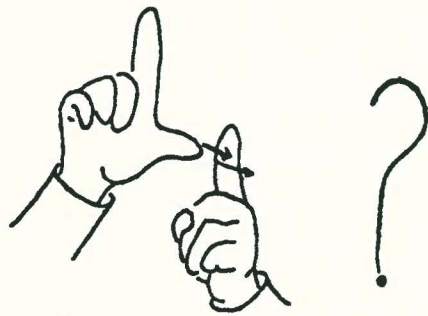
YOU



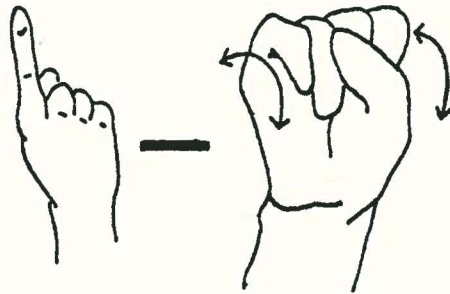
READ



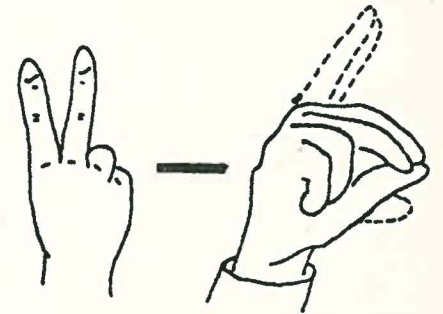
THE SMALL



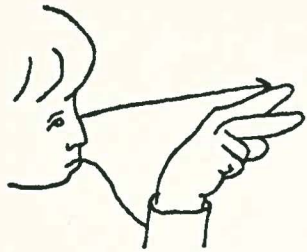
LETTERS?



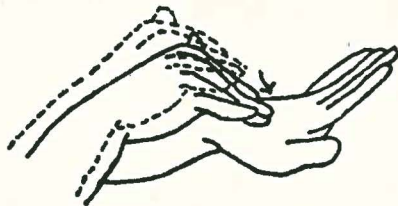
ONE-yes



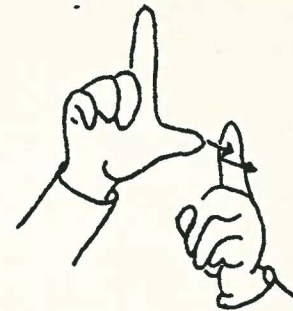
TWO-no



LOOK



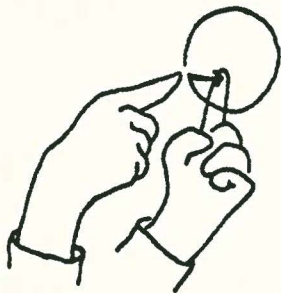
AT



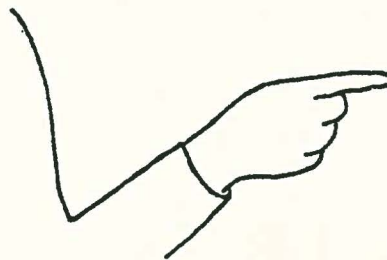
THE LETTERS



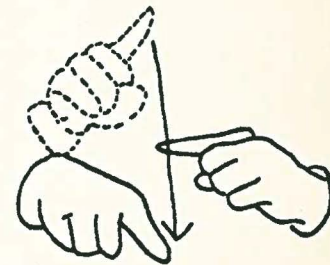
RAISE YOUR HAND



WHEN



YOU



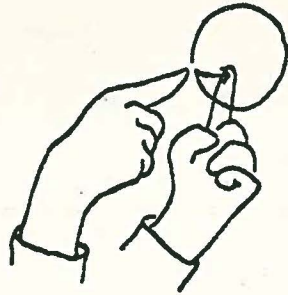
CANNOT



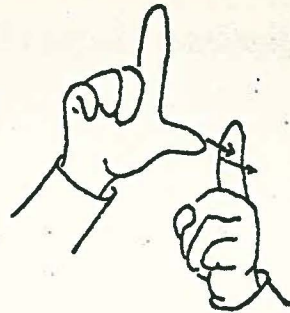
READ THEM



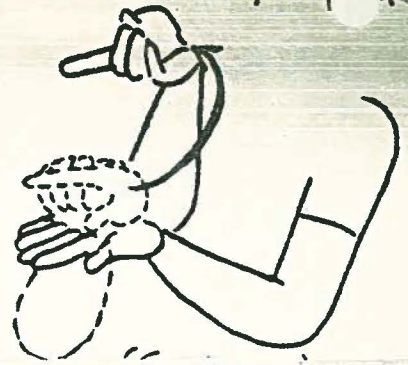
RAISE YOUR HAND



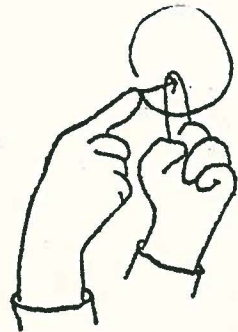
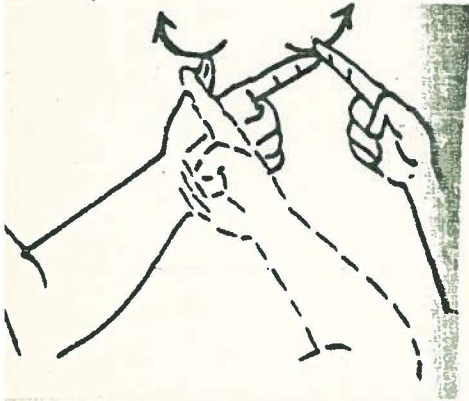
WHEN



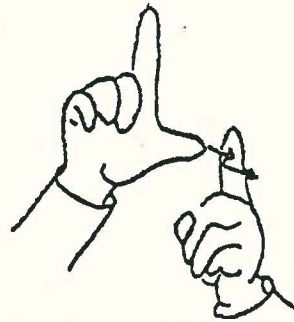
THE LETTERS



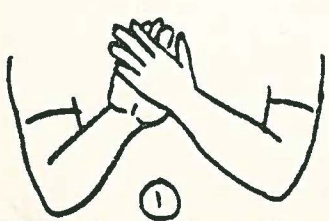
DOUBLE



WHEN



THE LETTERS



BECOME



ONE



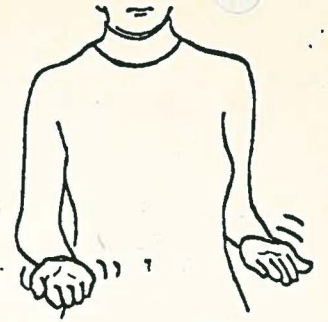
PUT



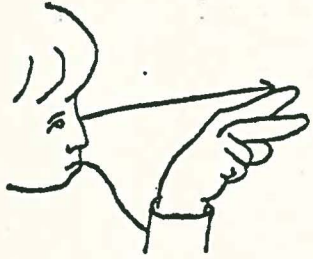
YOUR



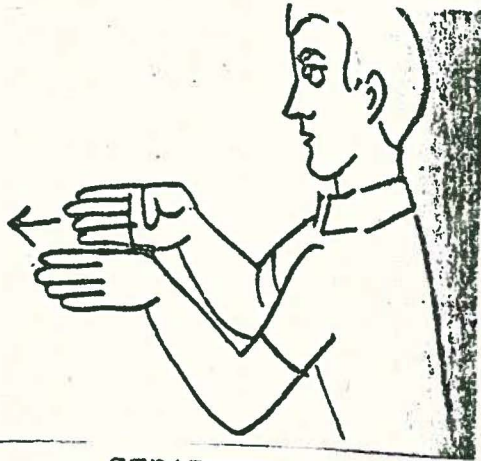
HEAD



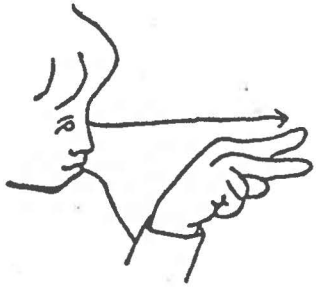
HERE.



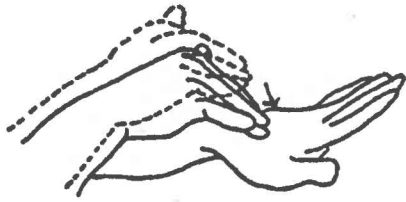
LOOK



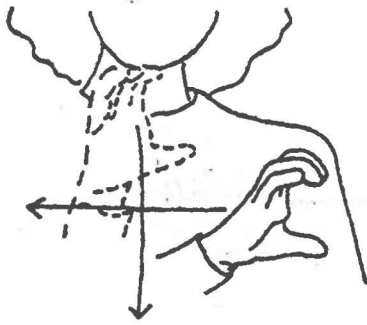
STRAIGHT



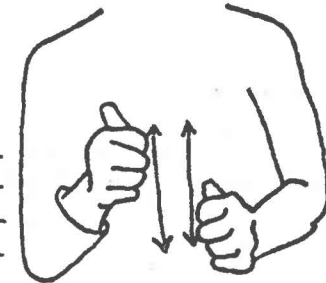
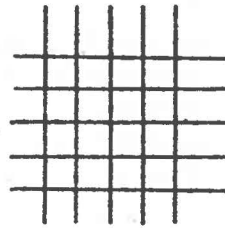
LOOK



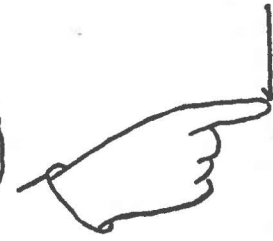
AT



THE CROSS



WHICH



LINES



ARE



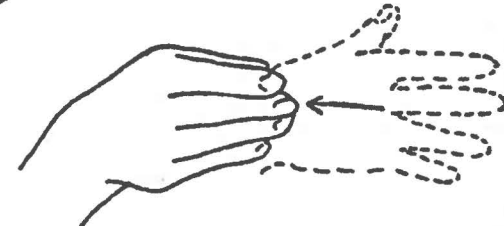
MORE



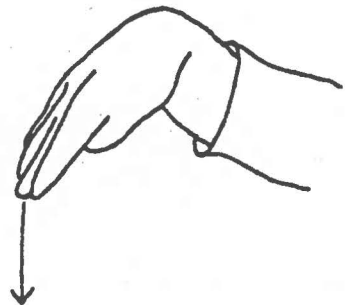
BLACK?



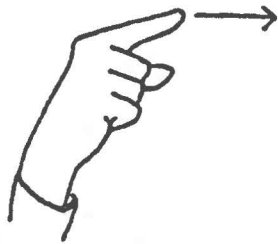
UP



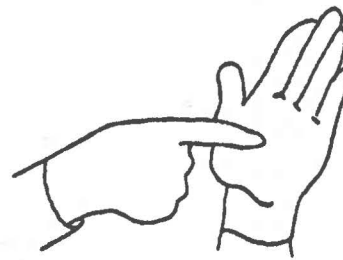
AND



DOWN?



ACROSS?



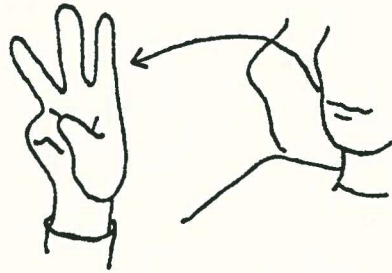
SHOW



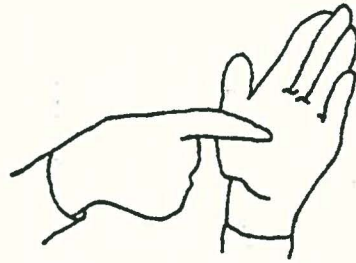
ME?



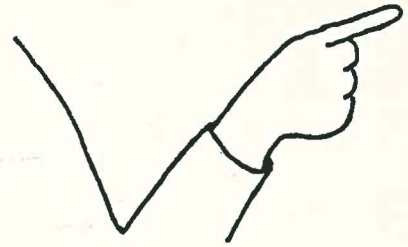
I



WILL



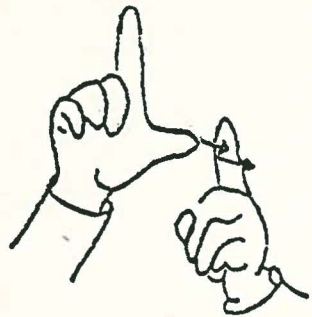
SHOW



YOU



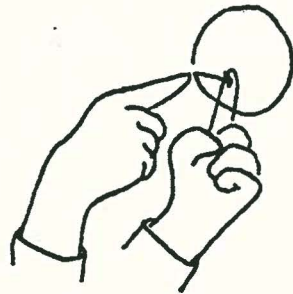
TWO



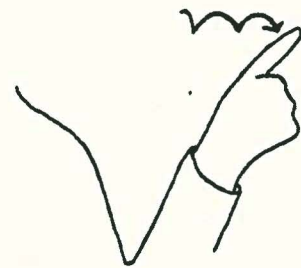
LETTERS



RAISE YOUR HAND



WHEN



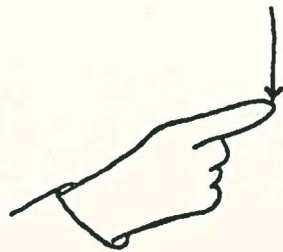
THEY



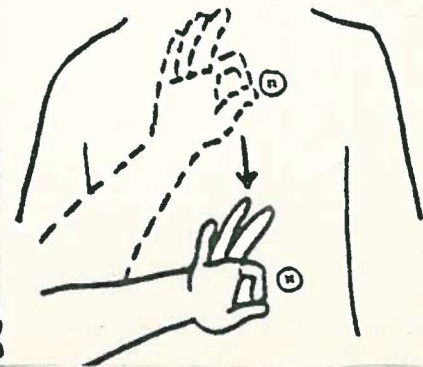
ARE



IN



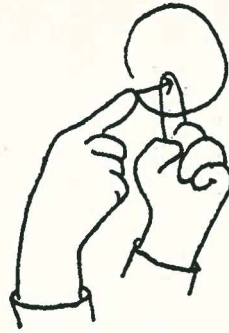
A STRAIGHT LINE



LIKE BUTTONS ON A SHIRT



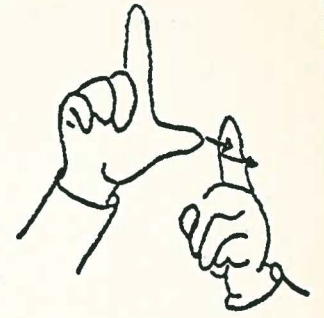
RAISE YOUR HAND



WHEN



THE TWO



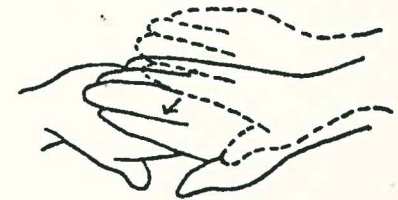
LETTERS



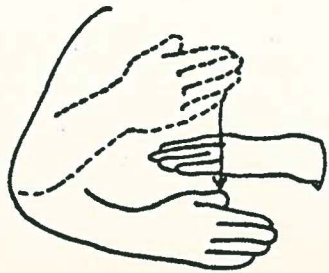
ARE



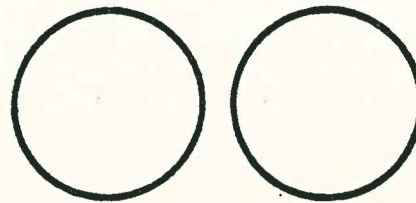
SIDE

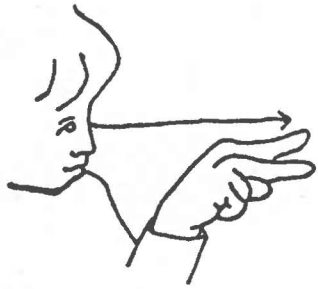


BY

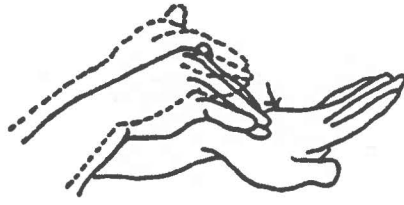


SIDE

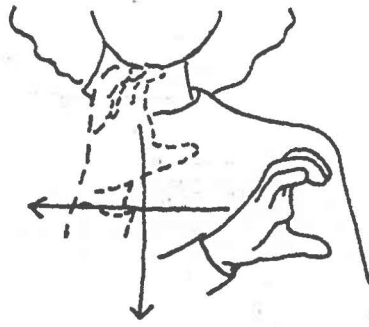




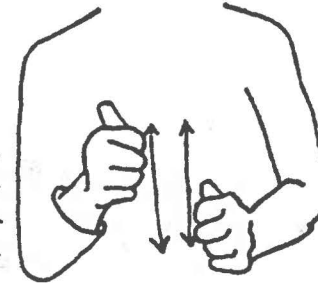
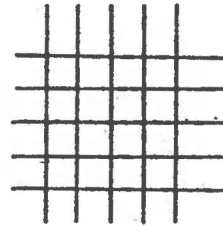
LOOK



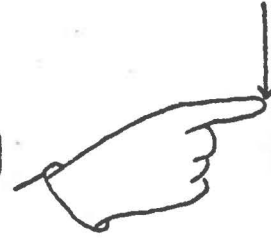
AT



THE CROSS



WHICH



LINES



ARE



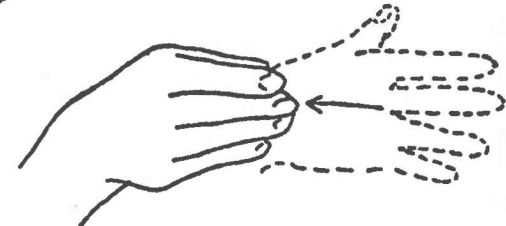
MORE



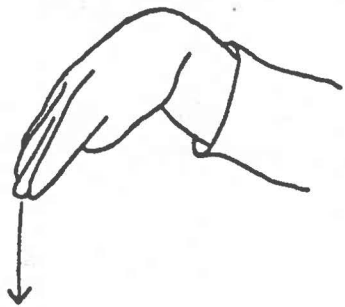
BLACK?



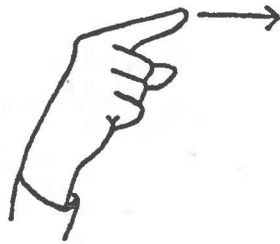
UP



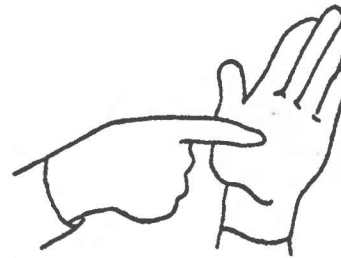
AND



DOWN?



ACROSS?



SHOW



ME?



PUT



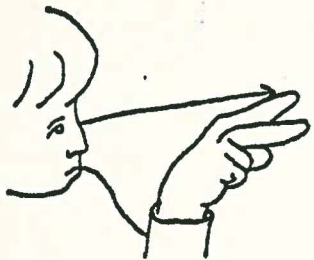
YOUR



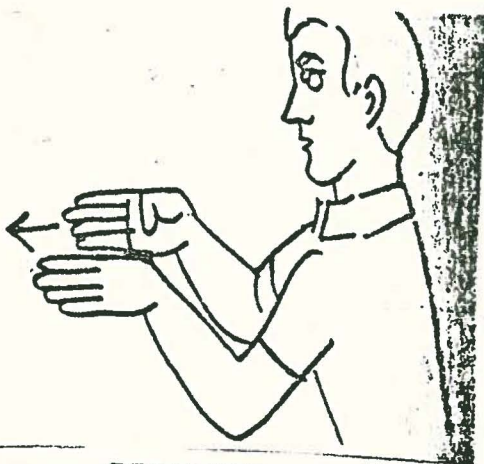
HEAD



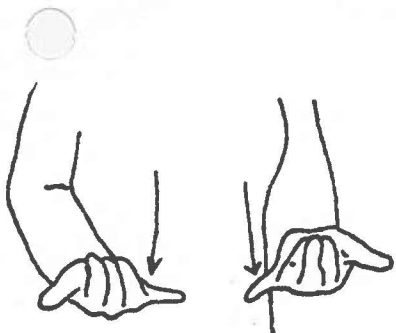
HERE.



LOOK



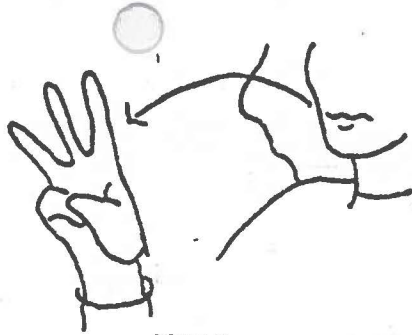
STRAIGHT



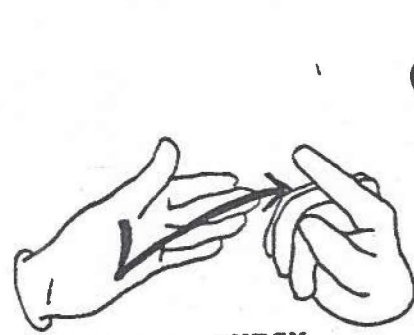
NOW



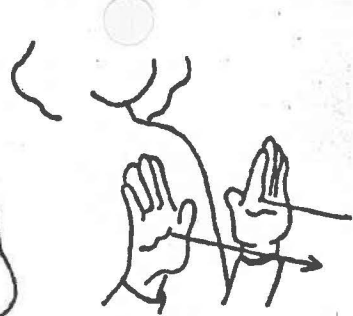
I



WILL



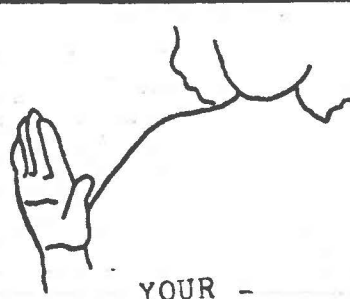
CHECK



THE PRESSURE



INSIDE



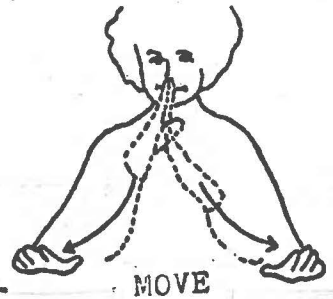
YOUR



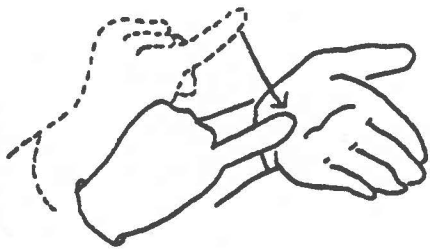
EYE



DON'T



MOVE



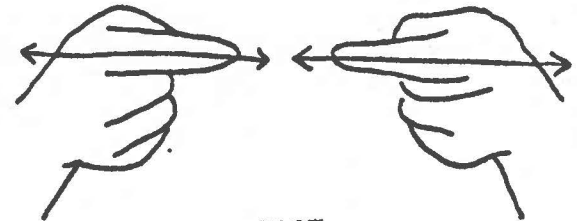
IT



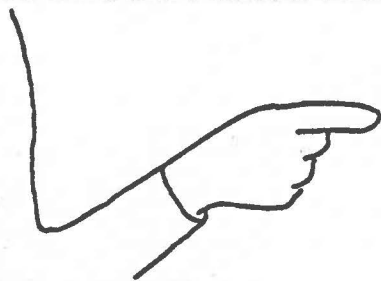
WILL



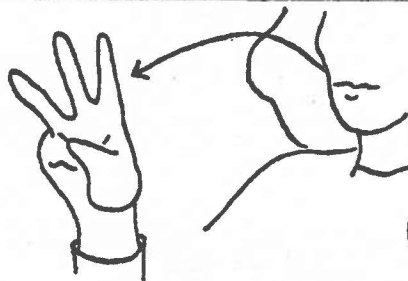
NOT



HURT



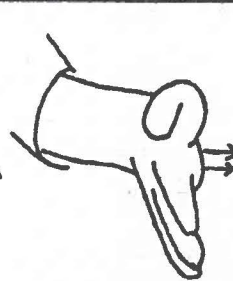
YOU



WILL



FEEL



A LITTLE



PRESSURE



PUT



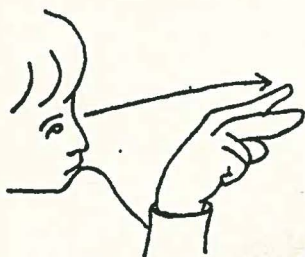
YOUR



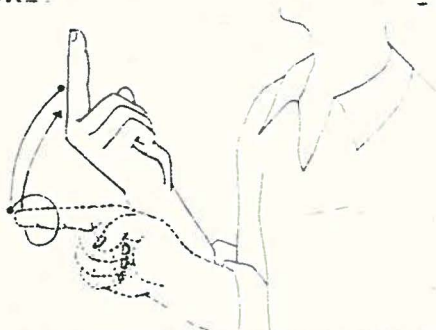
HEAD



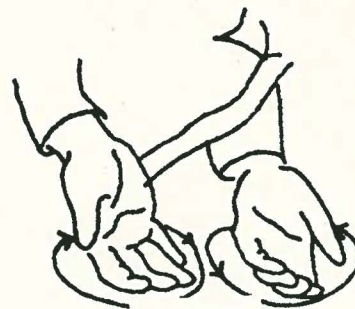
HERE.



LOOK



ONLY



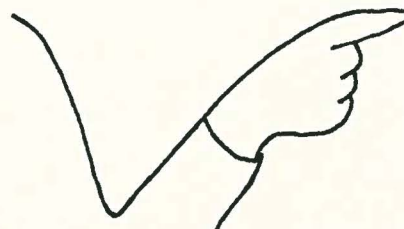
HERE



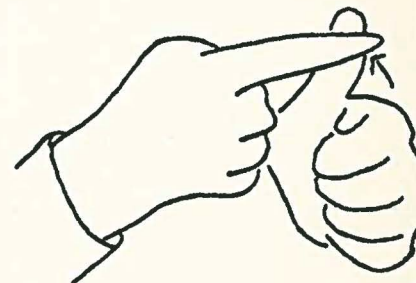
RAISE YOUR HAND



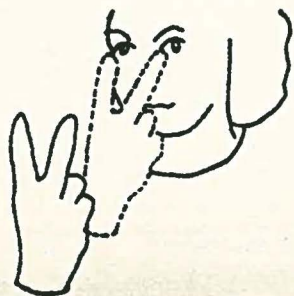
WHEN



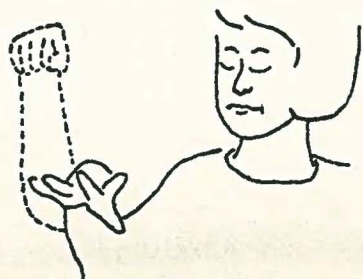
YOU



FIRST



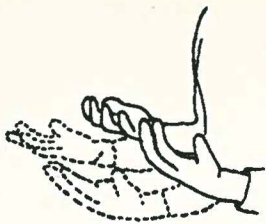
SEE



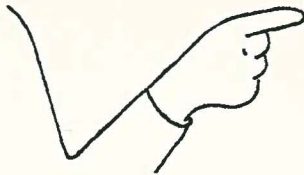
THE LIGHT



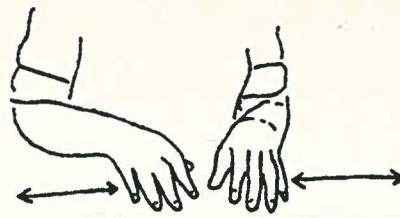
I



WANT



YOU



TO DO



SOME



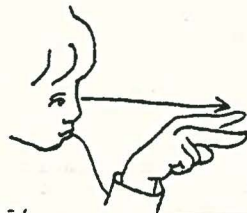
VISION



TRAINING



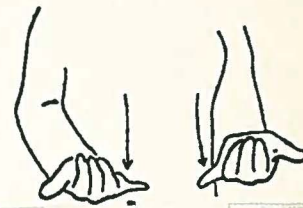
FIRST



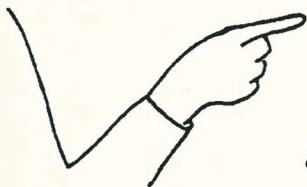
WATCH



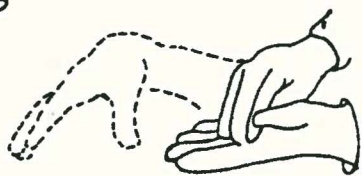
ME



NOW



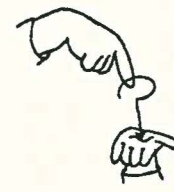
YOU



COPY



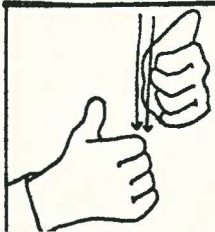
DO



THIS



EVERY DAY



EVERY



MORNING



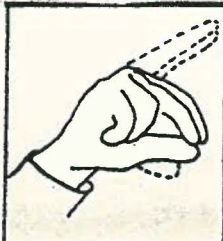
EVERY



NIGHT



GOOD



NO



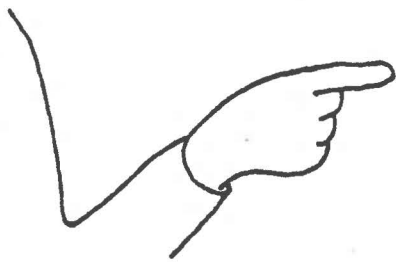
DO



IT



AGAIN



YOU



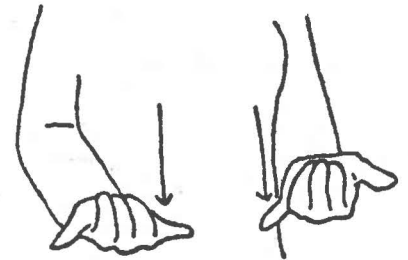
DO NOT



NEED



GLASSES



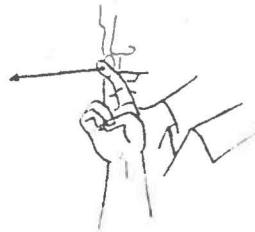
NOW



YOUR



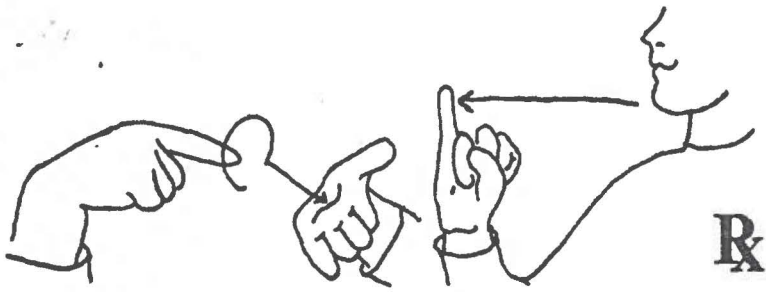
EYES



ARE



HEALTHY



THIS

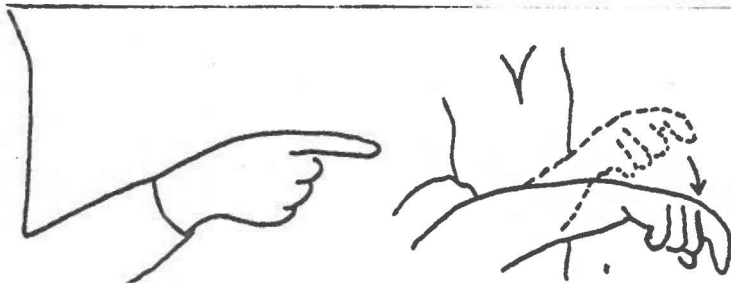
IS

THE PRESCRIPTION

FOR

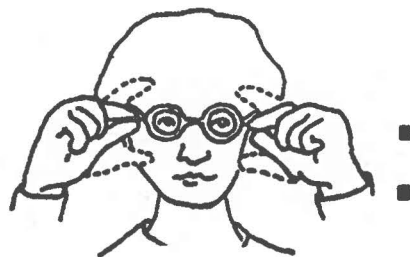
YOUR

GLASSES

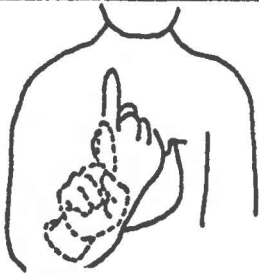
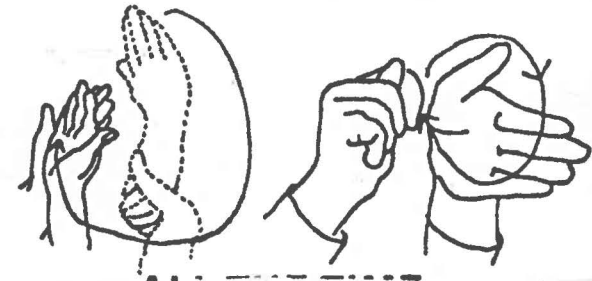


YOU

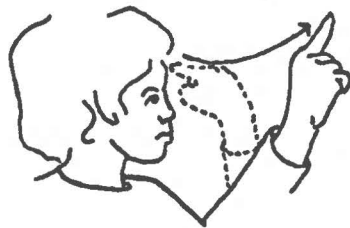
NEED



THEM



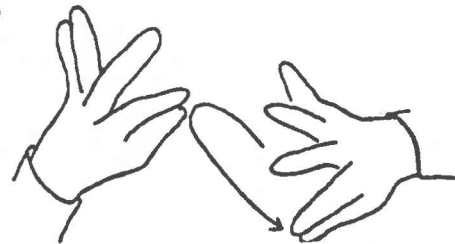
ONLY



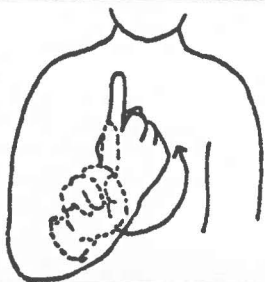
FOR



READING



SEWING



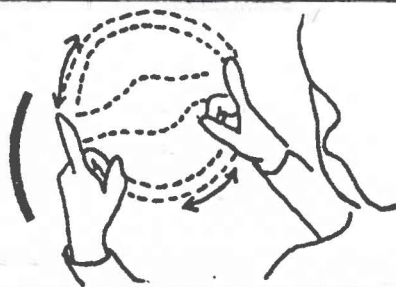
ONLY



TO SEE



FAR

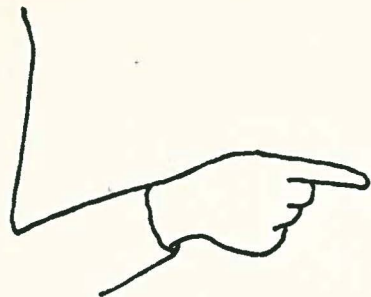


DRIVING

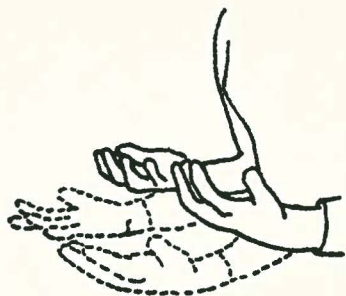


TV





DO YOU



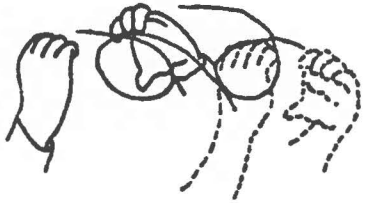
WANT



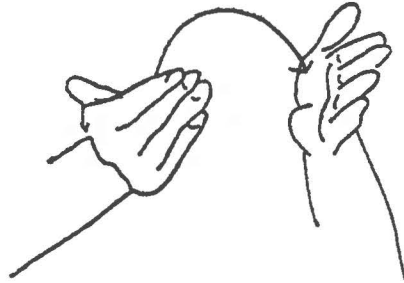
TO ASK



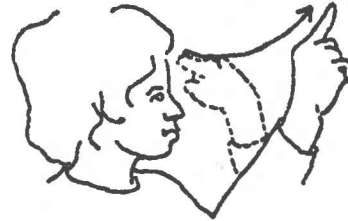
QUESTIONS?



COME



AGAIN



FOR



AN EXAMINATION



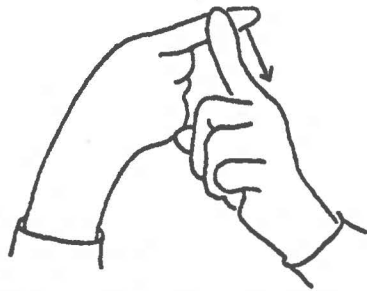
IN



DAYS



WEEKS



MONTHS



YEARS