

BRIEF APHASIA EVALUATION (MINIMUM VERBAL PERFORMANCE)

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INTRODUCTION

This test is freely offered for translation and scientific research and aims at the conceptual renewal and at the technical improvement in the topic, through a more operative and objective multi - centric approach. The Brief Aphasia Evaluation (BAE) was designed to detect the basic resources of verbal communication in the aphasic patient, so as to begin, after that, with a more complete and better organized neuropsychological or language evaluations.

BAE is part of the battery of “Neuropsychological tests abbreviated and adapted to Spanish – speakers” (http://www.ncbi.nlm.nih.gov/pubmed/15284958?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum) and has been developed and based on its own objectives, that is, independently of what has been proposed in other aphasia screening tests available in the market. The test must be administered only to people with important linguistic difficulties.¹ By means of this technique, not only is the performance on a series of tasks involving basic abilities for verbal communication explored but the patient is also cognitively stimulated. This proposal does not intend to replace the theoretical and technical perspective of the professional involved, but simply to complement it.

GENERAL INSTRUCTIONS

Due to its characteristics, BAE demands minimum environmental requirements of isolation to achieve a profitable interview. It is customarily used in ordinary rooms of public hospitals, with the only recommendation that there should not be any kind of factors, mainly related to verbal interference, which may interrupt the interaction.

All the elements within reach will be used in order to achieve a good communication, the best rapport and, consequently, the best answer from the patients. Stimulate the patients when they succeed.

If the session had to be interrupted because of fatigue or any other reason, register the time whenever you finish or start a new part of the test. Register also the number of interruptions (0,1,2...) in order to be able to compute, at the end of the answer sheet, the total time of administration.

Cover the answer sheet, as much as possible, so that the patient cannot see the correct answer or the score, including the failures and comments.

According to the function each task evaluates, the examiner must be able to dissociate the presence or absence of that specific verbal skill from other difficulties (such as sensorial, motor, attention or environmental ones) related to it, which do not conform the object of that task or that disguise the final result (see below “Complementary Interventions and Descriptions”).

The repetition of the instruction of those items dealing with three attempts, aims at: a) avoiding the feeling of failure on the part of the patient; b) helping the examiner feel sure about the real or the best performance in the item; c) seeing the learning aptitude or the viability for rehabilitation of the interviewee; and d) standardizing something that, as a matter of fact, is usually carried out by professionals. In these kinds of items, when the patients fail in their first attempt, repeat the instruction. If they fail again, offer another attempt, but this time clarify the instruction as much as possible (give any kind of help, for example, stress the part of the instruction where the failure was made) up to a maximum of three failures. *With practice, the interviewer will keep a balance between these two kinds of errors in the test administration: a) to interrupt the evaluation without having used up all the resources in order to make sure that the function does not exist, or b) continue insisting in the evaluation when the failure is evident.* (Muriel D. Lezak).

¹ BAE has not been designed to evaluate Stuttering. Likewise, Verbosity, accompanied by appropriate articulation, understanding and naming, should not be evaluated with this instrument considering that this sign is often associated with either neurological disinhibition, or with psychiatric syndromes, but not necessarily with language areas. The case of Mutism is different since this alteration can be a symptom of different aphasias.

With the comprehension tasks, the use of the word “point at” can be more convenient than similar terms (such as “look for”, “where is ...?”, etc.) due to the fact that this word is usually accompanied by the corresponding gesture, which can be taught to the patient by means of a previous example. Nevertheless, the command finally chosen will be dependent on the option that seems simpler for each patient.

Each item will be evaluated from 0 to 3 (maximum score: $72 \times 3 = 216$) according to the score indicated in the answer sheet. Throughout the test, different forms of evaluation are used, depending on what elements are taken into account:

- The kind of answer

F C FyC

- The level/quality of performance

3 2 1 0

- The number of attempts required by the person (different possibilities or numbers of trials are offered depending on the item):

three

3 2 1 0

three (subdivided)

**3 2
1 0**

two

2 1 0

one

1 0

six, but with higher score in the first three...

6 5 4 0

resulting from the option of skipping the last three

**1 0
1 0
1 0**

Independently of the global score, there are subsets of items (which are not mutually excluding from the functional point of view) that, in first place, aim at evaluating certain functions ²:

² The gathering of the different items according to certain organizational categories will be tested afterwards, by means of factor analysis.

Copying written material is not evaluated because it can be done by simple visual - spatial reproduction of the graphic images. As this function may not be strictly related to the linguistic symbols, it will be analyzed within the standards of the latest neuropsychological evaluation, as part of the constructive praxia (verbal and non - verbal).

Written and mental calculation is not evaluated either, because the planning of both tasks depends on the performance in this test and, also, because most of the aphasic patients suffer from acalculia.

In general, the explored responses were selected by taking into account the basic repertoire for verbal communication (oral or written). Therefore, it is estimated that most of the healthy and literate people of 9 years old or older, with an intact language, should obtain a score close to the maximum in each of the studied functions (with the exception, maybe, of those functions related to attention and memory).

FUNCTIONS TO BE STUDIED

SPOKEN COMPREHENSION AND EXPRESSION

a) COMPREHENSION

- 1-Auditory comprehension by looking at pictures
- 2-Auditory comprehension by looking at real objects and by interviewee-interviewer interaction

b) REPETITION

- 3-Repetition of series of words or single words
- 4-Repetition of sentences

c) NAMING

- 5-Active naming of single objects
- 6-Completion of sentences by active naming

d) SPEECH

- 7-Spontaneous speech
- 8-Saying verbal automatisms

WRITTEN COMPREHENSION AND EXPRESSION

e) READING

- 9-Visual discrimination of simple written expressions (letters, digits, and one stimulus among four options)
- 10-Reading aloud and reading comprehension (confrontation with pictures; written commands)

f) WRITING

- 11-Writing verbal automatisms
- 12-Dictation and spontaneous writing

OTHER FUNCTIONS TO BE EXPLORED WITH THE TEST

g) ATTENTION, PHONEMIC ANALYSIS AND SYNTHESIS

- 13-Phonemic synthesis (recognition of a spelled word)
- 14-Phonemic analysis (discrimination by auditory cancellation, spelling, and reversed spelling)

h) MEMORY

- 15-Delayed repetition (recall of words which have been previously said, after verbal interference)

i) PRAXIA

- 16- Orophonatory praxia (imitation of a mouth movement made by the interviewer).

OTHER OBSERVATIONS THAT ARISE FROM THE INTERVIEW AND THAT SHOULD BE TAKEN INTO CONSIDERATION FOR LATER DIAGNOSIS

Throughout the interview, the examiner will also have to pay attention to the following aspects, which conform the **COMPLEMENTARY BEHAVIORAL EVALUATION**

- 1) **GENERAL ASPECT:** Age and physical appearance, cleanliness and clothing, etc. Appropriate: 3; slightly inappropriate: 2; quiet inappropriate: 1; inappropriate: 0.

- 2) CONSCIOUSNESS/AWARENESS LEVEL: Alertness: 3; somnolence: 2; stupor: 1; coma: 0. (It is assumed that the patient must be alert in order to be able to perform the interview)
- 3) EMOTIONAL STATE: Normal: N; agitated or excited: E; inhibited, blocked or depressed: D; labile: L; aggressive or irritable: A. Certain degree of anxiety is expected during the test. When this anxiety increases and disturbs the performance, define the predominant pattern of expression in any of the other categories.
- 4) DEGREE OF CO-OPERATION: Good: 3; poor: 2; very poor: 1; absent: 0 (it is assumed that in this last case, as performance is impossible, the patient cannot be evaluated).
- 5) DISEASE AWARENESS, SENSE OF REALITY (knowledge of the problem, understanding of the situation, general orientation, etc.): Good: 3; regular: 2; bad: 1; null: 0.
- 6) RHYTHM AND INTONATION OF THE LANGUAGE: Total or severe dysprosody: 0; moderate: 1; slight: 2; normal expression or prosody: 3.
- 7) VOLUME: The patient only articulates but does not make any sound: 0; whispers: 1; hypophonic, low voice: 2; normal: 3; hyperphonic: 4.
- 8) SPEED: Slow: -1; normal: 0; fast: +1.
- 9) VOICE: Normal: N; dysphonic (hoarse, high - pitched, inspired, with unexpected or involuntary changes in pitch: D.
- 10) GESTURAL COMPREHENSION: Good: 3; regular: 2; bad: 1; null: 0.
- 11) GESTURAL EXPRESSION: Good: 3; regular: 2; bad: 1; null: 0.

Actually, most of these behaviors are very easy to evaluate because they only become obvious when they are absent or altered (what is normal usually does not attract our attention). Nevertheless they should be evaluated at the very moment of the interview.

The examiner will also compute if, during the test, the following could be observed:

COGNITIVE ALTERATIONS OR PERFORMANCE PECULIARITIES:

- 1) HEMINEGLECT OR VISUAL FIELD DEFECTS: (YES/ NO)
- 2) YES? Specify if it was RIGHT / LEFT
- 3) VISUAL AGNOSIA (YES / NO)
- 4) PERSEVERATIONS AND INTRUSIONS: none: 0, a few: 1, quite a lot: 2, many: 3.
- 5) ANOMIAS: none: 0, a few: 1, quite a lot: 2, many: 3.
- 6) PHONEMIC PARAPHASIAS: none: 0, a few: 1, quite a lot: 2, many: 3.
- 7) SEMANTIC PARAPHASIAS: none: 0, a few: 1, quite a lot: 2, many: 3.
- 8) ECHOLALIA: null: 0, a little: 1, quite a lot: 2, a lot: 3.
- 9) ALLOCENTRIC LEFT - RIGHT NOTION ALTERATION: The patient failed in items 16 "and" 41: Present/ Absent
- 10) THE PARETIC HAND IS USED TO WRITE: YES/ NO
- 11) VERBOSITY (with or without other associated alterations): Present/ Absent.

Once the BAE has been finished, the possibility of administering and computing the BASIC ORIENTATION TEST FOR APHASIC PATIENTS (space, time and person) described latter will be analyzed.

APHASIA DESCRIPTION (TENTATIVE TYPOLOGICAL DIAGNOSIS)

Independently of the research task planned for the test, whose results could be visualized in the long run, each professional will be able to immediately use the information provided by the technique in order to attempt to get a diagnosis. Although a diagnosis is always sealed by knowledge gathered to the present, not only from the international scientific perspective but also from the personal professional experience, in this work the sources of that knowledge will be differentiated from one another as much as possible. Users should afterwards integrate all the sources according to their own personal decisions or professional objectives, but the data that will be saved in the research database will ideally have to be clearly differentiated. The users will have to make clear in the database when they were guided by different parameters from the ones specified by this technique.

- If the diagnosis has been made based upon the information supplied by "other technique", both the name of the technique as well as the diagnosis obtained (with its own diagnostic categories) will be specified in columns provided for this purpose so as to be used in the future for validity studies. Incorporating more than one alternative technique in the database is not recommended, however, choosing, ideally, one supported by unbiased validity studies is encouraged.

- In order to interpret the information resulting from “this technique”, it is necessary to establish a basic code of communication that allows each user arriving at the same diagnostic categories by using the same analysis procedure. If users do not agree with the classification system or with the guidelines offered to interpret the information supplied by this technique, they will be able to specify their opinion in the suggestion options intended for this purpose.

- For exploratory purposes, the type of linguistic alteration observed in the patient will be classified in this proposal according to certain guidelines (which will be briefly described below) but having in mind that this classification is just a “qualitative appreciation” that will be considered as an additional part of the performance evaluation. In the same way wherein the quality of performance in an item of an intelligence test, a drawing in a construction test, or even the spontaneous speech in this test are classified, this evaluation will have the value of another interpretative item in the test, but with the particular characteristic of being global, that is to say, emerging from the whole production of the patient. As every other item in the test, this will be subjected to consistency studies.³

- So as not to weaken the spirit of scientific renovation present in this proposal, it is very important that a patient’s or a group of patients’ data is not forced to “fit” within a theoretical frame of preference or within an expected area of brain location⁴. In this sense, it has to be made clear that the options offered in this proposal to classify aphasia go together with the most commonly accepted way of typifying these syndromes (see Lezak p. 37), but these options or categories (for example, “Broca’s aphasia”) do not have to be confused with the area of injury informed in the anatomical or functional studies (for example, Broca’s area). The first options arise from the test performance, and represent an interpretation of language measurements. Instead, the second ones arise from the neuroimages studies, and represent an interpretation of neuroanatomical or neurofunctional measurements. Afterwards it will be determined, and this is one of the main objectives of study, if there is a significant correlation between both indicators. Although it is unquestionable that, in order to renew the theories we have to start off with the knowledge they provide, if one proceeds by sticking to them, the data of the reality will only tend to confirm them and, under this methodological bias, the knowledge will get stuck in a kind of “artificial perfection”. That is why, in this proposal, double blind designs are stimulated. From them, surely, we will be able to find patients with unexpected or new patterns of response, for example, a motor aphasia (instead of Mutism?) associated with a cerebellar lesion and, in this way, scientific knowledge may be favored.

³ *Researchers who want to carry out studies on the objectivity and reliability of the instrument, will have to abide by the guidelines of administration and interpretation indicated here for all the users. Considering the huge variability that characterizes the aphasic dysfunction in terms of recovery, it is suggested paying special attention to the inter-test times. Within this focus, it would be interesting to study the response stability, for example, in terms of the aphasia starting date. In addition, partial studies of objectivity could be made only over some parts or selected items of the test, more specifically over those which depend mostly on subjective interpretation. In this case, the researcher will have to pay attention to the recording of the spoken answers (since written answers always stay in the register) particularly when the other examiner is not present at the moment the patient expresses them. Naturally, in both cases, examiners will have to categorize the patient’s performance independently.*

⁴ *As a way of illustrating the complexity and inconsistencies that exist between the anatomical and the “cognitive- conceptual” perspectives, it may be convenient to remember that, for example, verbal “expression”, whether oral or written, can be affected by anterior or posterior brain lesions and that “naming”, mainly related to retrieval mechanisms, is affected in almost all kinds of aphasias and, therefore, it is surely shaped by the action of different processing areas. For this reason, naming by itself turns out to be little discriminatory when making a differential aphasia diagnosis. Some authors consider both fluency and retrieval problems as expression problems. From this point of view, all aphasias, except for verbal deafness or pure comprehensive aphasia, would be expression aphasias since all of them have either fluency or retrieval problems. Although it is certain that they become apparent particularly during expression, they are also acting at the level of verbal “thought” (delaying its processing or affecting its efficiency) independently of its communication. On the other hand, in nominal aphasia, in which only naming difficulties would be present, failures in this function are not so clear and consistent through the different tasks as one would expect. For example, discrepancies may be observed between naming in the spontaneous speech vs. naming by pointing at pictures (which demand different sensorial modalities and processing speeds); naming of real objects vs. naming of pictures, naming of proper nouns vs. naming of common nouns; written naming vs. oral one, etc.).*

- If a patient cannot be diagnosed with the elements offered in this proposal, the diagnostic interpretation will have to be left blank. The blank spaces will thus represent a problem to be solved within the next steps of research. In the future, if it is observed that the same blank spaces are consistently repeated for the same patterns of performance, we will surely be defining new diagnostic categories, new systems of classification or, simply completing the current ones.

- In order to classify aphasia, the examiner will mainly pay attention to the spoken production or oral interaction. This is done this way due to the fact that: a) aphasia is generally accompanied by alexia and agraphia, b) the information that is usually observed in the bibliography as regards reading and writing is pretty variable and inconsistent, especially for nominal aphasia, c) many patients often experience perceptive and motor problems (associated or not to aphasia) and, for this reason, the assessment of reading and writing can be impeded, d) in illiterate people, who cannot be evaluated in reading and writing, the aphasia will have to be classified with the elements within reach. However, it must be taken into account that, for cases of pure alexia, agraphia, or verbal deafness, the evaluation of written comprehension and expression will be essential since, in those dysfunctions, the main failures are observed in reading, writing or auditory comprehension, respectively.

-The examiner will also consider the gesture comprehension and expression, intonation preservation (prosody), global understanding of the situation (awareness of illness, sense of reality) and, in general, all the items enumerated in the complementary behavioral evaluation so as to classify as “global aphasia”, just those cases in which the patients, although alert and cooperative with the examiner, have their communication blocked. I.e. if the patients are not able to point at objects or cards, or if they do not count on an adequate comprehension and expression of the minimal “YES” and “NO” concepts, whether (they are) verbal or non - verbal, all the test items will be either severely affected or impossible to be carried out.

INTERPRETATION GUIDELINES TO CLASSIFY APHASIA TYPES

In order to interpret the pattern of performance of the aphasic patient, the abstract published by the test author in the “Revista Neurológica Argentina” (2000, volume 25, Suppl., section Neuropsychology, page 52) will be transcribed. This is done this way because, due to the brevity demanded in such communication, the information expressed in that summary is conveniently useful to the conditions of “minimum help” necessary for a program of this nature.

The guidelines are expressed in the section “Results and conclusion”.

TOWARDS A MORE AGILE AND OPERATIVE APHASIA EVALUATION

Introduction

Verbal language probably constitutes the most complex function of a neurocognitive evaluation.

Although it is modally specific, verbal language involves the functions of gnosis, praxia and memory, and both the diagnosis of the function (in healthy people) and the dysfunction (in patients) should contemplate the response graduation in addition to its qualitative characterization. The attempts made on the matter from an international scope have not turned out to be very operative in relationship with conceptual comprehension and technical accuracy.

Objectives

To develop a simplified aphasia clinical evaluation proposal.

Materials and Methods

A content analysis of different conceptual approximations and of aphasia instruments available for Spanish – speaking people- was carried out in order to stick to just those variables and empirical indicators in which there was a coincidence or consistency among the different authors.

Results and Conclusion

In order to classify aphasia, four functions are basically evaluated: repetition, comprehension, expression or fluency, and naming. Only the three transcortical aphasias and the nominal aphasia would preserve repetition. In the rest of cortical aphasias, problems in repetition and naming would appear. In the nominal aphasia, only naming would be impaired; the patient has an almost normal speech but characterized by evasiveness or uncertainty to retrieve words. From the extreme sensory aphasia with verbosity and anosognosia (probably due to lack of comprehension) to the extreme motor aphasia with a null production, we have multiple combinations. Therefore, Wernicke’s aphasia (posterior) and Broca’s aphasia (anterior) are usually taken as a reference. In

mixed aphasia there would be comprehension and expression disturbances. Wernicke's aphasia is fluent and it involves failures in: a) comprehension, b) repetition, and c) naming, so it is characterized by jargon with abundant phonemic and semantic paraphasias. Broca's aphasia would have good comprehension but failures in: a) expression (non fluent), b) repetition, and c) naming. When a patient appears to have a Wernicke's aphasia in view of his/her spontaneous language, but he/she has a good performance in comprehension specific tests, we are surely facing a case of repetition or conduction aphasia, with a profusion of phonemic paraphasias and garbled words but successful articulation efforts. When a patient apparently has a Wernicke's aphasia, but in the specific tests he/she turns out to have preserved repetition, we are surely confronted with a case of transcortical sensorial aphasia. In addition, transcortical motor aphasia would be characterized by a reduction in fluency or even mutism, but correct articulation, comprehension and naming *. Mixed transcortical aphasia would be characterized by a poor expression almost completely reduced to echolalia or to the completion of the interviewer's sentences**. In global aphasia, all the functions would be severely affected***.

There is considerable overlap among the proposed patterns as well as different levels of impairment and poor correspondence between structure and function. For that reason, it is necessary to go on investigating and improving the techniques as far as possible. From this laboratory, a screening aphasia evaluation is proposed.

*Some authors propose that transcortical motor aphasia would be that one showing preserved comprehension and repetition but having problems in fluency and/ or naming thus including in this category: an apparently Broca's aphasia with preserved repetition, a nominal aphasia with poor fluency or even different kinds of subcortical aphasias. We consider that this criterion can be convenient in order to prevent these atypical aphasias from being misdiagnosed. Nevertheless, these special cases should be indicated and described in the database.

** All mixed aphasias with preserved repetition should be included in this category.

*** If users want or need to complement or complete the data obtained from the spoken production with those obtained from the written one in order to elaborate an interpretation for their personal clinical reports, they will have to take into account the following aspects:

In Broca's aphasia, in general, a better performance is observed in reading than in writing (being the latter severely impaired); in Conduction or Repetition aphasia, a similar pattern is observed, but with a moderate impairment in writing (which is understandable from its general traits); and, in Wernicke's, an overall poor reading and writing performance is observed. In the transcorticals, a similar pattern to the Wernicke's aphasia would be observed in the sensorial and mixed ones, but not in the motor one, in which a better performance would be observed in reading than in writing. The cases of combined alexia, agraphia, or verbal deafness, as well as the cases of illiterates should also be registered as special cases (for example, "alexia/ agraphia").

GUIDELINES TO REGISTER THE DIAGNOSIS

- 1) Did you arrive to make a diagnosis with this technique **YES/ NO**
- 2) YES? Specify the diagnosis made (options): Broca: **B**; Wernicke: **W**; Repetition: **R**; Nominal: **N**; Transcortical- Sensorial: **TS**; Transcortical- Motor: **TMO**; Transcortical- Mixed: **TMI**; Verbal deafness: **VD**; Alexia: **AL**; Agraphia: **AG**; Special cases: **SPE**; No aphasia: **NO/A**.
- 3) Observations about the patient and descriptions of the special cases (optional ⁵)
- 4) Did your own interpretation guidelines and the ones offered in this test coincide? YES/ NO
- 5) NO? Write your suggestions about the interpretation guidelines (optional ⁶)

⁵ *Add the patient's data that you consider essential for a correct approximation to the study of aphasia in general, and for a better understanding of that patient's performance, in particular, as long as these don't appear as options in the standard answer sheet. Remember that, afterwards in the statistical analysis, all the patient's particular features will not be read or analyzed, mainly if presented extensively or exhaustively or following a particular way of expression for each user. For this reason, try to limit the observations to two or three key characteristics, and use preferably vocabulary shared by the international community, so that in the future, a content analysis can detect them.*

⁶ *In case of disagreement with the present interpretation guidelines, you will have to summarize, in no more than 350 words, all the suggested system of classification (the categories names and the key characteristic that differentiates one from the other). The idea is "defining" a basic procedure that can be used as help. In consequence, this should be expressed with the least variability and complexity possible and following an agile or operative classification system. Assuming that complexity and diversity already exist (and in order to notice this, it is only necessary to get in touch with the topic and with all the particular ways of focusing and evaluating it, according to different authors) you will have to aim at consistency by avoiding differences and synthesizing the essential points. Likewise, in this eventual "help" that you are proposing, avoid referring the user to some*

- 6) General suggestions for the administration (optional ⁷)
- 7) Did you make a diagnosis with other technique YES/ NO
- 8) Specify the other technique name (free)
- 9) Specify the diagnosis made with the other technique (free)

COMPLEMENTARY INTERVENTIONS AND DESCRIPTIONS

Additional resources and further interventions can be incorporated to the standard evaluation just in those cases in which the basic elements or items offered for administration are not enough to clear up diagnostic doubts. The following suggestions aim at those eventual interventions, and would have to be registered as doubts or comments in the margin, as they arise during the standard administration. It has been foreseen that they will affect the time of administration, because they are part of the natural difficulties that emerge from the patient and his/her own interaction with the examiner⁸.

Register also, as complementary information for your own professional interests, all the patient's resources for communication and other behavioral characteristics which were not foreseen as computable at first, but that can be very significant for making a diagnosis (looks, movements, latencies, pauses, strategies, changes, tremors, confabulations, stereotypes, attention lapses, etc.).

It is suggested registering and informing also in "Suggestions for administration guidelines" (see "Guidelines to register the diagnosis") about all the aggregates that are repeated with a certain frequency, because the test can be perfected and, in that occasion, those observations could be incorporated as part of the routine administration.

When using pictures or stimulus cards, and in case of severe decrease of the visual attention span, the performance of the patient can be tested by showing only the group of stimuli that is being evaluated and by hiding the previous or later ones, which may confuse the patient's perception. For example, show one line of letters instead of the two appearing in card 2, one sequence of word options instead of the three appearing in card 11, etc. in order to distinguish more clearly whether the patient preserves that verbal function beyond the associated visual or attention difficulty. The repetitions of instructions have been foreseen for these interventions, up to a certain extent, taking into account that the greater the need for modifications, the bigger the number of repetitions will be and, consequently, the lower the final score and the longer the time of administration. Nevertheless, it would be convenient, when doing these interventions, to register and report in "Patient observations" (see "Guidelines to register the diagnosis") each modification to the standard procedure.

In case of hemineglect, it should be noticed that the patient is not at advantage or disadvantage with the presentation of the stimuli on either side of his/her attention field⁹. In order to ensure that the verbal function will

specific bibliography (which might not be available at the moment of working with the technique) to complete an idea. This does not mean that the authors of the proposal would not be mentioned or that the consulted bibliography would not be referred to in order to enlarge the concepts on which the synthesis was made. It is simply intended that the user does not depend on this bibliography at the moment of consulting the help. All the users who do not agree with the present classification categories or interpretation guidelines will be able to make one single alternative proposal in their database so as to be taken into account as a suggestion for future investigations.

⁷ *Specify in no more than 100 words, the modifications you would do to the present standard answer sheet; for example, the additional interventions that you frequently use and that, in your opinion, should be considered routine indications.*

⁸ *If an aphasic individual cannot repeat a sentence, three words, or a word of three syllables, it is already obvious that he/she presents failures in repetition; however, the examiner can make him/her repeat, for instance, "tiger" or "sea" separately, in order to report afterwards in the descriptive diagnosis, the number of syllables he/she is able to repeat, and at the same time, deduce if it is possible to administer the dichotic listening test with oral answer. In this example, the aggregate takes just a few seconds, and it would be more complicated to leave it for a later occasion or evaluation, instead of asking about it right away.*

⁹ *Although the test was designed by paying special attention to the ordering of the stimuli to the left and to the right of the visual fields, if it is necessary, you can complement the standard visual presentation of the different items with additional interventions in order to get a better understanding of the clinical picture. In case of left*

be correctly evaluated, you can cover one half of the answer sheet, or attach an additional (and similar) card on the unattended side (so that the visual field is widened to guarantee that the target stimuli will be seen), or write the words (in a column) on an extra sheet, etc. The inattention should be registered even when it is not possible to determine if this inattention is due to a visual field defect. It can be very useful to complement the information that comes from different sources such as the neurological exam, the visual field testing, and the cognitive evaluation.

If you think that the patient is succeeding at random, you can repeat the instruction (as if the patient had failed) and pay attention to his/her attitude, besides the answer, to make sure that the response is being thought about.

When translating the test, pay attention to the demands of the different tasks (repetition, naming, etc.). Observe the requirements related to phonemes, graphemes, length, complexity, etc. for each word in Spanish (or English), and make a list of the words in your mother tongue which fit those requirements. Have your graph designer make a card equivalent to the original one after coming to an agreement with him/her about the most appropriate pictures for those words. Translate those words again into Spanish (or if you can not, into English) and send us an e - mail so that we can analyze and incorporate them to the program. We will be doing that whenever possible.

brain injuries (the most frequent ones in cases of aphasia) with an associated hemineglect or hemianopsia, the examiner can, for example, choose as additional stimuli to the standard presentation, those stimuli which appear to the left half of the visual field or, in case of wanting to corroborate the dysfunction, to the contralateral side of the injury.

ORIENTATION TEST FOR APHASIC PATIENTS

This test can be administered once the interviewer knows the patient's basic communication resources and according to his/her possibilities. For this evaluation it is required from the patient to differentiate the concepts of YES and NO, expressed either with gestures or verbally. It is also required that the patient's relatives or caregivers contribute with reliable data. If this last possibility does not exist, only the time and space orientation subtests will be administered over a total of five possible right answers. Before starting the administration of the test, ask a relative or a caregiver all the necessary patient's personal data, and have the written options ready (one correct and two incorrect ones) for each item. When asking the patient about information on relatives or close friends, never offer more than three correct names as written options (five options altogether) and pay special attention to the use of unknown names as distractors. When written options are offered, the examiner has to rotate the order of presentation of the correct answer, throughout the successive attempts or trials. If the patient perseveres and does not realize about his/her own mistakes (throughout the successive attempts) any information obtained under these circumstances will be doubtful. The examiner has to be able to differentiate, as much as possible, whether the failure lies in orientation or in communication. If the patients fail in the spontaneous retrieval (even when formulating the question in the simplest way) offer them the options orally (one word at a time and without continuing with the next one until they give a YES - NO answer, for example, Where are we? ... What's this? Is it a school? ... Is it your house? Is it a hospital? ...). If they fail again, show them the three written options so that they could point at the correct one (Which one do you think it is?...) and wait for some time according to the patient latencies or aptitudes for reading. If they fail or cannot read, read the three options yourself in a loud voice. Do it one at a time, by pointing at each written option while you are reading it and by waiting for the patient's answer before going on to the next one. If you have some doubts regarding random guessing, you can ask the patient again about the items in doubt by offering just the two doubtful options. Register the performance in ORIENTATION in the following way: Assign one point for each correct answer (maximum score 12). Independently of the communication efforts and the required trials, only the most precise answer will be considered (the one that is interpreted as "definite" according to the patient's attitude). Register also the global performance (for all the items) in COMMUNICATION in the following way: Assign 3 points if, in general, the patients gave spontaneously the correct answer after the orally formulated question; 2 points if they did it by recognition, that is to say, after the options were presented either auditory "or" visually; 1 point if auditory "and" visual stimulations were required simultaneously in order to recognize the answer; and 0 if communication was not possible. When assigning 2 points, specify whether the recognition was visual (V) or auditory (A). For further information or for more certainty about the patients' true orientation, you can ask them for more information (for example, their educational level, the floor where they are, the day of the week, etc.). The communication modality used by the patients can be complementarily taken into account in order to make the final aphasia diagnosis.

1) Age: How old are you?, Are you . . . years old?

2 -4) Birth date (year, month, day): When is your birthday?, What day? (if he/she does not answer, offer some options), What month? (idem), What year (or when were you born)? (idem).

5 -6) Place of residence (consider a more general place and a more specific one) Where do you live?, Do you live in the city of . . .? Do you live in . . . neighborhood/ district / street?)

7) Who do you live with? (Offer up to three names), What are your relatives' names?, Do you live with . . .?

8-9) Evaluation place (type and name, preferably): Where are we? Are we in . . .? The name of the hospital is . . .?

10 -12) Date (year, month, day): What year / month / day is it?, Is it . . .?

Score: Personal orientation: 0-7. Time and space orientation: 0-5. Total score in orientation: 0-12. Total score in communication: 0-3. Did the patients score 2 points in communication (i.e. they used just one type of recognition)? Specify the type of recognition used: Auditory or Visual: A-V.

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