

雑誌

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#### IV. 研究成果の刊行物・別刷

# 高次脳機能障害の 理解と支援の充実をめざして

2008  
年版

こんな方はいませんか？  
病気をしてから、事故にあってから

間違えた時の  
修正や計画の  
変更ができない。

新しいことが  
覚えられない。

気が散りやすい。  
同じミスを繰り返す。

遂行機能障害？

記憶障害？

注意障害？

感情や欲求の  
コントロールが  
しにくい。  
やる気が出ない。



計画を立てられ  
ない。  
効率的に家事や  
仕事を進められ  
ない。

社会的行動障害？

遂行機能障害？

同時に2つ以上の  
ことに気配りで  
きない。

少し前の出来事や  
約束を思い出せ  
ない。

- ・話せない、読めない、  
書けない。話が理解でき  
ない。(失語症)
- ・片側の物を見落とす。  
(半側空間無視)
- ・外出先や家の中で  
迷子になる。
- ・声かけをしないと動けない。
- ・ひとつの物事にこだわる等。

注意障害？

記憶障害？

もしかしたら **高次脳機能障害** かもしれません

上記の症状でお困りのことがありましたらお電話下さい。

高次脳機能障害専用電話相談

月～金 9時～12時 12時45分～16時 (祝日および年末年始を除く)

電話 **03-3200-0077** 東京都心身障害者福祉センター



東京都立中部総合精神保健福祉センター

思春期・青年期

精神科総合高次脳機能障害/器質性精神障害通所リハビリテーションプログラム

## ユース CODY プロジェクト

Youth Cognitive Dysfunction Psychiatric Rehabilitation Program

東京都

3<sup>rd</sup> wave

「トライワークプロジェクト」、「ユースプロジェクト」に続く

第3のプロジェクトが平成19年12月、始動しました

### 1. 高次脳機能障害とは

頭部外傷や脳炎などによる脳の損傷や、低酸素脳症などの後遺症として、記憶や注意の障害、失語症、遂行機能障害、社会的行動障害などの高次の脳機能に関連する様々な認知障害が出現することがあります。これを我が国では高次脳機能障害と呼んでいます。高次脳機能障害は精神医学的には、器質性精神障害 (ICD-10 F04, 06, 07) に分類されます。

高次脳機能障害の診断は、主要症状として①脳の器質的病変の原因となる事故による受傷や疾病の発症の事実が確認されている。②現在、日常生活または社会生活に制約があり、その主たる原因が記憶障害、注意障害、遂行機能障害、社会的行動障害などの認知障害であることが必須で、加えて検査所見として MRI、CT、脳波などにより認知障害の原因と考えられる脳の器質的病変の存在が確認されていることが必要です。受傷または発症以前から有する症状、先天性疾患、周産期における脳損傷、発達障害、進行性疾患を原因とするものは除外されます。

高次脳機能障害の主な症状は、多い症状から順に①注意障害、②失語症、③記憶障害、④半側空間無視、⑤行動と情緒の障害、⑥遂行機能障害、⑦失行症、⑧地誌的障害、⑨失認症、⑩半側身体失認があります (平成11年都調査)。

現在、高次脳機能障害のリハビリテーションは、身体的医療リハビリテーションとして医療機関や福祉施設を中心に行われていますが、注意障害、行動や情緒の障害、遂行機能障害などによる社会的行動障害や適応障害に対しては、高次脳機能障害の障害特性に対応した精神科リハビリテーションが有効です。

### 2. ユース CODY (コーディネー) プロジェクトとは

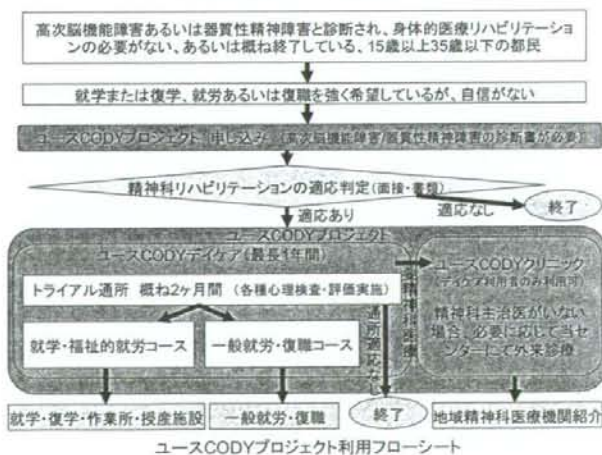
15歳以上35歳以下の都内在住の思春期・青年期の高次脳機能障害の方を対象とした精神科総合リハビリテーションプログラムです。ユース CODY プロジェクトは、復学や進学、就労や復職を希望しているが自信がない、試したがうまくいかなかった方に対して、精神科デイケアおよび精神科外来診療の両面から支援を行います。

#### ユース CODY デイケア

週4日、午前9時から午後4時までの精神科デイケアです。面接及び書類から当センターでの精神科リハビリテーションの適応があると承認された方について、まず各種心理検査や評価を目的とした概ね2ヶ月間のトライアル通所を行います。トライアル通所は、原則として「就学・福祉的就労コース」に参加して行います。この期間に以後の通所適応の検討と、リハビリテーション目標の検討を行います。通所によりリハビリテーション効果が望めると判断された方は、その

Check! CODY 名付けの由来

高次脳機能障害の英語表現の一つとして用いられている Cognitive Dysfunction からつけました





## 障害認定と支援サービス

後遺症の程度により、障害者と認定されると、次のような支援サービスを受けられる場合があります。

- ・障害基礎年金、障害厚生年金等の受給
- ・障害者のための手当の受給
- ・医療費の助成
- ・交通機関利用料金の割引
- ・各種公共施設利用料金の割引
- ・通所による機能回復訓練
- ・外出のための移動支援
- ・就労に関する相談支援 など

注：障害認定の手続きや、受けられるサービスは、地域や後遺症によって異なります。

## 脳の損傷と障害者手帳制度

様々な支援制度を利用するにあたって、障害者手帳があると便利です。特に障害者雇用を目指す場合は、下記のいずれかの手帳所持が条件になります。

手帳取得の手続きや、基準はそれぞれ異なります。

### ●身体障害者手帳

手足のまひや言語、視野の障害がある時

### ●愛の手帳（療育手帳）

発達期以前（18才未満）の受傷の場合

### ●精神障害者保健福祉手帳

記憶や注意機能、社会的行動上の障害がある時

注：医師の診断書があれば利用できるサービスもあります。

## 働くことを目指す人が相談できる機関

退院後の生活に関して相談したい

- \* 区市町村障害所管課
- \* // 保健福祉センター
- \* // 地域活動支援センター
- \* // 障害者センター

名称は地域によって異なります。

「高次脳機能障害がある」といって窓口をたずねてみましょう。

職業生活を目指して具体的に準備を始めたい

- \* 区市町村障害者就労支援センター
- \* 障害者就業・生活支援センター
- \* 就労移行支援事業
- \* 就労継続支援事業（A型・B型）

名称は地域によって異なります。

「また仕事をしたい」と、見学や相談をしてみましょう。

新しい仕事につくためのスキルを身に付けたい

- \* 東京しごと財団心身障害者職能開発センター
- \* 東京障害者職業能力開発校

障害者求人情報、障害者雇用制度を知りたい

- \* 公共職業安定所（ハローワーク）
- 都内に17箇所あります。専門援助部門をたずねましょう。

脳損傷後の自分の職業能力を見極めたい

- \* 東京障害者職業センター
- \* 東京都心身障害者福祉センター

東京都心身障害者福祉センターのホームページから、パンフレット「高次脳機能障害の理解と支援の充実を目指して」をダウンロードすることができます。

<http://www.fukushihoken.metro.tokyo.jp/shinsho/index.html>

（厚生労働科学研究費で作成しました。）

## 脳に損傷を受けた人が再び働くために

高次脳機能障害と就労

東京都心身障害者福祉センター  
（高次脳機能障害者支援拠点機関）

高次脳機能障害者就労支援機関連絡会



# 高次脳機能障害の 制度活用の手引き



三重県身体障害者総合福祉センター

GUIDE TO SUPPORT FOR PERSONS  
WITH  
HIGHER BRAIN DYSFUNCTION I

Editor  
TAKEHISA USHIYAMA



NATIONAL REHABILITATION CENTER  
FOR PERSONS WITH DISABILITIES  
JAPAN

(WHO COLLABORATING CENTRE)

December, 2006



The National Rehabilitation Center for Persons with Disabilities was designated as the WHO Collaborating Centre for Disability Prevention and Rehabilitation in 1995.

Terms of Reference are:

- 1 To undertake research and development of medical rehabilitation for persons with disabilities(PWDs), and to disseminate information on the use of such technology through education and training of WHO fellows and other professional staff.
- 2 To develop training programme of self-management skill in collaboration with PWDs, and to disseminate it to relevant professionals through education and training.
- 3 To undertake studies of community-based rehabilitation(CBR), primary health care, and other social support systems for PWDs.
- 4 To undertake research and development of affordable assistive technologies in collaboration with PWDs.
- 5 To prepare manuals for education and training of professionals in health, medical and welfare services for PWDs.
- 6 To support organization of conference and/or seminars on rehabilitation of PWDs.

National Rehabilitation Center for Persons with Disabilities  
WHO Collaborating Centre for Disability Prevention and Rehabilitation

Rehabilitation Manual 19

Guide to Support for Persons with Higher Brain Dysfunction I

December 26, 2006

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## PREFACE

The purpose of this manual is to serve as a guide for professionals involved in the diagnosis and rehabilitation of higher brain dysfunction and for government official, patients and their families to understand and overcome the disabilities related to higher brain dysfunction. In particular, this manual focuses on people with restrictions in their daily and social lives, major causes of which are cognitive impairments, such as memory impairment, attention impairment, executive dysfunction and social behavioral disorders, from an administrative viewpoint.

Some people with traumatic brain injury or cerebrovascular diseases show abnormal behaviors, and they experience being unaware of their brain impairment, or they do not understand the impairment through clinical events. Not only are they bewildered, but also their families and colleagues are baffled by such events. In some cases, people with mild impairments are considered unable to work for such reasons as unpunctuality and inability to complete their responsibilities. Their impairments in communicative abilities and interpersonal skills will further develop into various impairments in social life. This manual describes basic methods for solving such problems and how to provide training. Since the results of training are closely connected with the consequence of rehabilitation, training plays a major role in the life course of people with higher brain dysfunction. The editor greatly appreciates the author of this manual, who was involved in the five-year model project for supporting persons with higher brain dysfunctions conducted by Ministry of Health, Labor and Welfare for five years between fiscal 2001 and 2005 as the project supervisor, and other parties involved in the project, for their tremendous efforts. In addition, I sincerely hope that this manual will contribute to the independent living and employment of people with higher brain dysfunction, and look forward to their achievements.

T. USHIYAMA



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## Introduction

Category "b164" of the International Classification of Functioning, Disability and Health, developed by the World Health Organization (WHO), defines "higher-level cognitive functions." For those people whose higher-level cognitive functions are damaged due to acquired disorders, such as traumatic brain injury and cerebrovascular damage, use of appropriate support services has not been clearly positioned over a long period in the health and welfare administration of Japan.

In Japan, persons with disabilities have been divided into three groups: those with physical disabilities, mental disabilities and intellectually disabilities, and different frameworks of welfare for the handicapped have been operated under different laws. In the late 1990s, people with impairments in higher-level cognitive functions due to disorders, such as traumatic brain injury, cerebrovascular disease and so on, and their families started to make complaints that they would not be covered by any of the frameworks.

To appropriately respond to these complaints, the Ministry of Health, Labor and Welfare of Japan launched a "five-year model project for supporting persons with higher brain dysfunctions" in fiscal 2001 as a 5-year plan, clearly defined these impairments as organic mental disorders, and formulated operational diagnostic criteria to distinguish them from endogenous psychosis and neuro-generative disorders. In addition, the ministry developed a medical training program and support program for social rehabilitation that serve as standard programs in Japan. Furthermore, the ministry recommended measures to build support networks that take into account the geographical conditions and social resources by prefectures to meet varied local circumstances. The core of this recommendation is the local support base organization in each prefecture and support coordinators deployed at these bases.

The model project for supporting persons with higher brain dysfunctions was ended in fiscal 2005. The project was then succeeded by a higher brain dysfunction support promotion project as part of a local life support project, in accordance with the enactment of Service and Support for Persons with Disabilities Act, to become a general project conducted throughout Japan. In the midst of a growing momentum among local governments for implementing support measures for such impairments, this document was prepared as a manual that helps local governments to smoothly implement standard support services for people with higher brain dysfunctions.



## **Chapter 1.**

### **Guidelines for Diagnostic Criteria of Higher Brain Dysfunction**

It is considered necessary to provide persons having higher brain dysfunction with appropriate medical rehabilitation, training for daily living, support for employment and schooling in the light of characteristics of the disorder. Diagnostic criteria of higher brain dysfunction have been formulated from an administrative viewpoint in order to open the door to provide services.

The purpose of these guidelines is to help doctors correctly adopt the diagnostic criteria of higher brain dysfunction formulated in a higher brain dysfunction support model project when they write the diagnostic name or disorder name of higher brain dysfunction in medical certificates required for claiming medical remunerations or applying for physically disabled persons' certificate.

Section I, Descriptions of Major Symptoms, of the guidelines explains major cognitive impairments, which are included in the diagnostic criteria, and indicates neuropsychological testing used in diagnosis.

There are various causative disorders of higher brain dysfunction. Section II, MRI Findings after Traumatic Brain Injury, provides a detailed description of diagnostic imaging in the chronic phase of traumatic brain injury. In particular, in cases where diffuse axonal injury is the cause of higher brain dysfunction, it may become difficult to obtain findings only through diagnostic imaging as time elapses. The section indicates points of diagnosis in order to increase diagnostic accuracy including those cases. In addition, the section also mentions the relation between higher brain dysfunction and diagnostic imaging findings.

Section III, Higher Brain Dysfunction and ICD 10 (Mental and Behavioral Impairments of ICD 10: the International Statistical Classification of Diseases and Related Health Problems, 10th Revision [F00 - F99]), describes classifications that apply for convenience when asked to indicate ICD 10 classes to receive the medical certificate of mental disability. The section also organizes disorders that fall under the diagnostic criteria of higher brain dysfunction and those not falling under the criteria in accordance with the ICD 10 classifications in order to deepen understanding of the diagnostic criteria.

### **Diagnostic Criteria of Higher Brain Dysfunction**

The term "higher brain dysfunction" indicates cognitive impairments in general caused by brain injury as an academic term, and includes memory problem, attention problem, executive dysfunction and social behavioral disorder as well as aphasia, apraxia and agnosia, which are so-called focal symptoms.

Meanwhile, as a result of carefully analyzing data on persons with brain damage that

have been accumulated in the higher brain dysfunction support model project, which was commenced in fiscal 2001, it has been found that there is a group of persons having difficulty adapting themselves to daily life and social life mainly due to cognitive impairments, such as memory problem, attention problem, executive dysfunction and social behavioral disorders. An urgent requirement is to study methods for diagnosis, rehabilitation and living support which have not been established, for these disorders. Given these circumstances, it is appropriate to administratively name those cognitive impairments that this group have as "higher brain dysfunction" and those having the dysfunction as "persons with higher brain dysfunction" from the viewpoint of promoting measures to support these persons. The following are the diagnostic criteria for this dysfunction.

#### Diagnostic Criteria

##### I. Major symptoms

1. The fact that the person is affected by an injury caused by an accident or disorder leading to an organic lesion of the brain should be confirmed.
2. The person has difficulties in daily life or social life, and the major cause of the difficulties is a cognitive impairment, such as a memory problem, attention problem, executive dysfunction or social behavioral disorder.

##### II. Examination findings

The presence of an organic lesion of the brain regarded as the cause of a cognitive impairment should be confirmed through MRI, CT or electroencephalography, or it is confirmed in a medical certificate that there has been an organic lesion of the brain.

##### III. Excluded items

1. Persons having symptoms that can be classified as physical impairments by the law of Japan among cognitive impairments due to organic lesions of the brain, but having none of the major symptoms above (1-2) are excluded.
2. Symptoms and examination findings that the person already had before being affected by an injury or disorder are excluded at the stage of diagnosis.
3. Persons whose congenital disorder or perinatal brain damage, developmental impairment or progressive disorder is the cause are excluded.

##### IV. Diagnosis

1. If a case meets all the above criteria, I to III, it is diagnosed as higher brain dysfunction.
2. Diagnosis of higher brain dysfunction must be performed after the acute stage of the brain injury is passed.
3. The doctor may refer to findings of neuropsychological tests.

If a case meets diagnostic criteria I and III while the presence of an organic lesion of the brain is not confirmed in examination findings indicated in II, the patient may still be diagnosed as a person with higher brain dysfunction through careful evaluation.

It is appropriate to review these diagnostic criteria referring the new evidences of the corresponding fields on a timely basis given development of medicine and healthcare in I Descriptions of Major Symptoms



## I Descriptions of Major Symptoms

### 1. Memory problem

Anterograde and retrograde amnesia is observed. If the case does not show global intellectual dysfunction and attention problem, it is a typical amnesic syndrome.

① Anterograde amnesia: This is what is called a post-injury learning disability. The patient is unable to remember new information or a new episode after he/she is injured or develops a causative disorder, and memory of any event that occurs after the onset of amnesia is not retained. Measures to evaluate the memory problem include Wechsler memory scale, paired verbal association learning task (e.g., Miyake method), word list learning task (e.g., Rey auditory verbal learning test) and visual learning task (e.g., Rey-Osterrieth complex figure test, Benton visual retention test).

② Retrograde amnesia: Loss of memory before the patient is injured or develops a symptom. In particular, memory of episodes or experiences is strongly impaired. Evaluation is performed based on the reproduction of information on autobiographic memory. However, since the patient tends to confabulate, it is necessary to ask other relevant persons whether the patient can't remember the episodes or experiences before injury to conduct examination repeatedly. If the second response is the same as the first response, the doctor regards it as correct to assess the validity of the patient's responses.

Mild: Recent memory or complicated memory is partially retained. The patient shows impairment such may associate an item with a semantically irrelevant item in a highly difficult test.

Medium: Old memory and experimentally acquired knowledge are retained.  
Recent new memory and memory of complicated events are lost.

Severe: Global amnesia, which includes anterograde and retrograde amnesia.  
Most memory is lost.

In addition, confabulation and disorientation are observed. Confabulation is a phenomenon in which an event that the patient has not experienced is retrospectively. In many cases, a confabulated scenario frequently changes. Embarrassment confabulations are confabulations that occur to infill a temporary loss of memory or the resultant embarrassment in spontaneous conversations. Embarrassment confabulations are induced through questions by the examiner, and their scenarios are based on fabricated events.



## 2. Attention problem

### ① Generalized attention impairment

Concentration difficulty/distraction: The patient has difficulty in concentrating on a certain stimulus, and is prone to diverting his/her attention to another stimulus. Useful evaluation measures include cancellation and detection test, Stroop test and mental control task.

Difficulty in retaining/maintaining attention: The patient of lighter attention problem has difficulty retaining attention for a long time. Task performance is lowered as time advances. When given a task, the patient is able to perform it in the beginning, but unable to sustain his/her concentration more than 15 minutes. Useful examination methods include continuous performance test and cancellation task.

### ② Unilateral spatial neglect

The patient shows unilateral neglect behaviors including overlooking a stimulus in the space opposite of the damaged part of the brain. This is not to be confused with homonymous hemianopsia. Neglect of the left space is often observed in patients with damage in the right hemisphere (parietal lobe damage in particular) of his/her brain. Measures evaluation tests to detect symptoms of unilateral spatial neglect include line bisection, line section cancellation and painting replication. Patients with left homonymous hemianopsia cannot see unilateral visual field of both eyes and cannot see an object present on one side unless they move their eyes. If the patient has only homonymous hemianopsia, he/she is able to see one side by turning his/her eyes toward the blind side, and does not show unilateral neglect.

Mild: Although the patient does not show consistent neglect in examination, neglect is observed in daily living behaviors as well as in brief presentation. When given concurrent stimulation on both sides, the patient overlooks the opposite side of the lesion, that is, shows extinction on one side.

Medium: Although the patient always shows neglect, he/she is able to see the neglect side if urged to pay attention to it.

Severe: The patient's body faces the lesion side, and he/she is unable to see the neglected side even if urged to pay attention to it.

## 3. Executive dysfunction

① Impairment in planning an action that meets the purpose: It is the impairment in setting a purpose for an action or planning an action. Since the patient has impairment in setting a purpose for an action or planning an action, the result of the action is left to chance, or the action is impulsively due to autonomic or preservative

manner of reaction to a stimulus. The patient starts an action before setting a goal. Because the patient is unable to set a clear goal, he/she may have difficulty starting an action, and it may lead to an action that is also regarded as lack of motivation or spontaneity. Since the patient has the ability to execute the action, he/she is able to continue the activity if given an instruction in a stepwise manner.

② Impairment in executing an action that meets the purpose: It is the impairment in controlling his/her action by monitoring it. Since the patient has impairment in the process of formulating a basic policy for managing an activity, sustaining attention and objectively observing himself/herself and the surroundings, the patient immediately acts without analyzing options and makes a similar choice even if the action fails. To appropriately get involved with the surroundings, the patient needs to correct his/her action by himself/herself. As this ability is affected, the patient takes a socially inappropriate action. Assessment methods for executive dysfunction include BADS (behavioral assessment of dysexecutive syndrome).

#### **4. Social behavioral disorder**

① Decreased willingness/spontaneity: The patient does few spontaneous activities, and leads an idle life such as staying in bed all day not because of motor impairment.

② Personality disorder : As irritation starts, it gradually escalates to an excessively emotional reaction or aggressive action. Once it occurs, the patient is unable to control this action. The patient will not accept his/her disorder and obstinately refuses to receive training. He/she suddenly becomes excited and blusters in a loud voice. The patient shows anti-social behavior, such as violence or sexual activity to nurses.

③ Difficulty in interpersonal relationships: Social skills are considered to be a function of subordinate to cognitive ability and linguistic ability. Degradation of social skills in patients with higher brain dysfunction includes sudden diversion of conversational topics, excessively intimate and disinhibiting remarks and approaches, recitation of remarks by the other party, literalistic thinking, difficulty in recognizing subjects of cynical/satirical/abstract instructions, and difficulty in generating various conversational topics. The examiner evaluates the frequency, quality and achievement of social interaction through interviews.

④ Dependent behaviors: The patient shows degradation and regression of personality functioning after the brain is damaged. In many cases, the patient also shows decreased spontaneity. As a result, the patient leads a dependent life.

⑤ Perseveration: In solving various daily living problems, the patient is unable to address new problems as a result of executive dysfunction although he/she can manage to solve problems as long as procedures are firmly established and he/she habitually behaves according to the procedures. In such cases, the patient with higher brain dysfunction develops impairment in recognition or in changing his/her behavior, and the past behavior reappears (is sustained) and the patient persists in such behaviors.

## II MRI Findings after Traumatic Brain Injury

### 1. MRI findings that are often observed as characteristic organic lesions in the chronic phase

#### i) Change after cerebral contusion or intracranial hematoma

Findings of local or diffuse necrosis or infarction, findings of cerebral atrophy, etc. that show T1 low signal or T2 high signal

Note: often observed on the tip or base of the frontal lobe or the temporal lobe

#### ii) Findings after diffuse (widespread) brain injury (including diffuse axonal injury)

Findings of ventricular expansion or diffuse cerebral atrophy, callosal atrophy, brain-stem damage, brain-stem atrophy, etc.

Note: Injury and gliding contusion of the deep white matter, corpus callosum, basal nucleus or dorsal upper brain stem are regarded as characteristic findings of diffuse (widespread) axonal injury. If hemorrhagic lesion occurs in these sites in the acute phase, it may remain in the form of T1 low signal or T2 high signal in the chronic phase. However, it may apply only to edematous lesion (T1 equal signal, T2 high signal) in the acute phase. In such a case, no anomaly is observed or only atrophy of the same site may remain in the chronic phase.

#### iii) Others

Findings of subdural hygroma or external hydrocephalus on one side or both sides may be observed.

### 2. MRI findings regarded as related to higher brain dysfunction

#### i) Deep white matter injury findings

#### ii) Ventricular expansion

Especially, expansion of the inferior horn of the lateral ventricle or of the third ventricle