Chapter 1: The Brain and Cognition

I. INTRODUCTION TO CHAPTER 1

This chapter focuses on a **person's brain** and **their cognitive abilities**.

This is the first of five chapters in Volume I of the three-volume Cognitive Abilities and Intervention Strategies (CAIS) Manual: *Asking Why with the CAIS: A* ***Guide to Supporting a Person*** *and* ***Their Cognitive Abilities***.

The **five chapters** along with the **CAIS Handouts** in Volume I provide **background information** useful for understanding concepts and issues addressed in the ***CAIS Questions to Ask*** and ***CAIS Intervention Strategies*** presented in Volume II, the ***CAIS Educational Series*** curriculum in Volume III, and the CAIS **Online Course** "*Beyond Behavior: The Cognitive Abilities and Intervention Strategies (CAIS)*". All of these, including the online course are described at the end of this chapter under the heading "Additional Resources".

On Website: This chapter and all of the resources noted above, including the entire **three-volume manual** and the **online course** are available on the **Improving MI Practices** (IMP) website at **https://www.improvingmipractices.org**

This **Chapter 1** ("The Brain and Cognition") directly relates to **Module I** ("The Brain and Cognition") of the **online course** and **Session 1** ("Understanding the Brain and Cognition") of the ***CAIS Educational Series***. Chapter 1 goes into **more depth** and provides **additional tips** and **content** that can help you better **understand** and more easily **apply** the information in **Module I**, in **Session 1**, and in the ***CAIS*** *Questions to Ask* and *CAIS Intervention Strategies*.

In this chapter and manual are **anecdotes** (in boxes) and **examples** to illustrate particular intervention or support strategies and specific, often misunderstood aspects of the effects of brain and cognitive changes on a person's behavior, or their ability to understand and interact with their surroundings, communicate, or perform a task. The anecdotes and examples are drawn from the experience of this author over many years. The term "**assistant**" is used in this manual (and in these anecdotes and examples) to refer generically to anyone who is in a role of advising, supporting, consulting, or directly helping a person in some way.

Topics (and headings) in Chapter 1:

Topics in this Chapter

A primary topic of this chapter is the brain and how it affects cognitive abilities. It looks at the effects of changes in a person's brain on their cognitive abilities. It explains the rationale for focusing on **cognitive abilities** when trying to understand and help or relate to a person.

This chapter identifies specific parts of the brain and some of the cognitive abilities associated with each part. It also describes what happens to those cognitive abilities when there are changes in the part of the brain those cognitive abilities are associated with.

It describes the effects of these changes in the brain and cognitive abilities on a person's emotions and behavior, their ability to perform tasks, and their ability to interact with their environment and other people. It explains why changes in the brain and cognitive abilities are usually the cause of distress, distressing situations, and behavior that creates distress, rather than stubbornness, manipulation, "meanness", "orneriness", or simply seeking attention.

The value of focusing on cognitive abilities rather than primarily behavior or emotions for intervention and support is discussed and emphasized.

Finally, it identifies **four factors** (person, environment, communication, task and daily routines) that are key to understanding a person's cognitive abilities, emotions, and behavior, and to planning intervention or support strategies. It introduces the ***Cognitive Abilities and Intervention Strategies (CAIS): Questions to Ask*** and the ***CAIS Intervention Strategies*** as a focus of this entire three-volume manual.

This chapter shows how addressing a person's cognitive abilities can help this person more easily perform tasks, understand and interact with their environment and other people, feel comfortable and competent, and help you and this person avoid stress and feel relaxed during your time together.

Goal

The **goal** of this **manual** and the **CAIS** is to help you interact more easily with a person and to help this person feel comfortable and competent, by understanding and addressing this person's **cognitive abilities**, even as those cognitive abilities change over time. The CAIS suggests ways you can support a person's cognitive needs and strengths, which in turn can nurture this person's quality of life, and increase their ability to think, communicate, perform tasks, and interact with their surroundings. The goal is to reduce frustration, distress, and distressing situations for this person and for you, and help you and this person enjoy your time together.

The focus of this Chapter 1 is the brain. Each of the other four chapters focus on cognitive abilities, the environment, your communication with a person, and the task and daily routines, respectively. **Chapters 2-5** in fact, discuss each of the **four factors** that play a major role in understanding a person and identifying ways to support them as you relate to them.

II. BRAIN CHANGES: CAUSES AND EFFECTS

Let's Imagine

Let's imagine a football player making a spectacular catch, a child swinging on a swing, a parent cooking supper, a teacher explaining a concept, a surgeon performing an operation, an artist embroidering a design, a movie viewer with tears streaming, a toddler learning to walk, a day dreamer looking off into the distance.

What do all of these scenes and people have in common? These are all scenes of the brain and body together pursuing the hard task of using, nurturing, and growing cognitive abilities, that is, those abilities that allow us to **think**, **understand**, **contemplate**, **imagine**, and **interact with the world** around us.

Our Unique and Changing Brain; Our Unique and Changing Cognitive Abilities

From conception and throughout each of our lives until death, the brain and its set of cognitive abilities are **unique** to **each of us**. We each have a pattern of cognitive abilities that are easy for us and those that are more difficult for us. Regardless of the pattern, our brain and its cognitive abilities continue to **grow** and **change** throughout our lifetime. It is this imagination, ability to **analyze**, the ability to understand and respond to our surroundings, and **coordination** between the **brain** and the **body** that allow each of us to enjoy our lives and surroundings, do tasks, communicate with each other, and to feel comfortable and competent.

This growth and change in the brain and cognitive abilities continues even if there are events in our lives that make that growth and change take an unusual turn resulting in a brain and pattern of cognitive abilities that look quite different from those of many of the people around us. These unusual turns might change the profile or pattern of those cognitive abilities we do easily and those that are harder to perform. These cognitive abilities continue to be unique and dynamic, however, even when changes are subtle and not easy to notice.

Causes and Effects of Brain Changes

Changes in a person's brain can occur as a result of growth and development throughout this person's life from conception throughout adulthood until death. They can also occur as an intellectual or developmental difference/disorder, mental illness, a head injury, use of brain altering substances, dementia (or major neurocognitive disorder), strokes, or other factors that can affect a person's brain and their cognitive abilities.

Changes in cognitive abilities that result from brain changes can **enhance** a person's pleasure and their ability to understand their environment and abstract concepts. For example, brain changes and resulting cognitive changes can allow a person to learn to eat with a spoon or to read or to make decisions about their future.

Changes in cognitive abilities resulting from brain changes can also cause a person to have **difficulty** performing a task, to feel upset, to be especially sensitive to the behavior of others, or to engage in behavior that might be distressing (to themselves or others). For example, changes in the brain and cognition can cause a person to have difficulty using a spoon, speaking, or understanding language. Such changes can cause a person frustration with a variety of needs and desires they can't easily meet. They can cause a person to misinterpret someone else's behavior and then respond to the behavior in a way that's upsetting.

In this manual (and **this chapter**) many examples we use illustrate major changes in the brain that cause changes in cognitive abilities. **We all**, however, experience in everyday life the changes in the brain and cognitive abilities described, though in varying degrees. Also, changes in cognitive abilities can in fact cause changes in the brain (often subtle) through, for example, systematic and repeated use of specific cognitive abilities or through specialized cognitive training. While there is this **complex interaction** between brain changes and cognitive changes, we will consider primarily the more obvious effects of brain changes on cognitive abilities and the many implications for intervention that can enhance the ability of a person's brain and cognitive abilities to **adapt** to those changes.

Effects of Someone Else's Behavior

Changes in the brain and cognition can make someone else's behavior (for example, **your behavior**) feel distressing to a person with cognitive changes, regardless of the cause of the changes. It is very easy for our behavior to **unintentionally** cause distress for another person who has a pattern of cognitive strengths and needs that is different from our own. Since we each have our own unique set of cognitive strengths and needs, this unintentional distress is actually quite **common**! We see this when there is conflict or irritation among our own family members or with coworkers. This behavior could include our words, movements, and actions. We might, for example, talk or move too quickly or jump too frequently from one topic to the next in our conversation, causing the other person to feel uncomfortable, annoyed, anxious, or distressed.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**24** about do's to remember
#**27** about touch
#**26** about how to recognize a person's emotions (including nonverbal evidence)
#**25** about how to recognize and respond to pain, needs, and distress

Causes and Effects of Changes in Cognitive Abilities

Though brain changes and cognitive changes can affect each other, our focus here is on the **changes** in a person's **brain** that **cause changes** in this person's **cognitive abilities**.

Brain changes result in changes in specific **cognitive needs** and **strengths** which change the way a person feels and perceives their surroundings, situations, and other events. As some cognitive abilities become weaker, some might improve for a variety of reasons, including the need to compensate for the emerging cognitive needs. When this pattern of cognitive strengths and needs shifts and evolves, cognitive needs can become more apparent.

Because we each have our own unique set of cognitive abilities, we each also have **emotions** and **behavior** resulting from our cognitive strengths and needs that tend to be unique to each of us, especially with regard to **timing**, **triggers**, and **circumstance**. Though many factors, including changes in the brain can directly affect emotions and behavior, our **cognitive abilities** are frequently a **fundamental** factor.

For example, if your brain is slow to wake up in the morning and you don't feel "sharp" and "alert" cognitively for an hour or so, you may feel irritable and may shout at someone who asks you to make a decision or to do a challenging task in the morning. Or if you have trouble sensing which direction is north, south, east, or west, you may become irritable when someone insists on giving you directions that use words such as "north" and "south" instead of landmarks.

Our focus here:

- Changes in Brain → Changes in Cognitive Abilities (in Cognitive Strengths and Needs) → Changes in Emotions and Behavior

Effects of a Situation on Brain Functioning

In general, when a person has a brain that is highly **unusual** (for whatever reason), their brain may be more **susceptible** to subtle conditions **within** their **body** and from their **environment** outside their body (including, for example, the physical space, the social or general emotional tone, and moods and behavior of other people) that affect the brain's ability to function well. This can be **unpredictable** unless careful attention is paid to such conditions and how they tend to affect this particular person.

Conditions - such as fatigue, the flu, clutter or commotion in the environment, stress, a night of poor sleep, pain - can all contribute to day to day **fluctuations** and unpredictable performance of a person's brain and their cognitive abilities. This is true whether or not this person is living with a disorder such as Dementia with Lewy Bodies that usually has a fluctuating cognitive, emotional, and behavioral course.

So the switch from good days to bad days and back to good days becomes more frequent, as does within-day fluctuations and moment-to-moment switches in cognitive abilities and therefore emotions. A person can become irritated or angry all of a sudden as their cognitive abilities shift, their stamina wears thin, or the straw breaks the proverbial camel's back emotionally.

See more about this below under the heading "Distress: Behavior and Emotions" and also under the subheading "**Common Triggers/Causes of Distress**".

III. DISTRESS: BEHAVIOR AND EMOTIONS

Since a person's behavior is what we see most easily and quickly, we often assume behavior should be the focus of intervention strategies that reduce stress and distress.

This manual of three volumes focuses on **cognitive abilities** rather than primarily on behavior.

It raises and addresses the question:
WHY FOCUS ON COGNITIVE ABILITIES INSTEAD OF BEHAVIOR?

There are many reasons, including:

- Addressing behavior or emotion directly can be very helpful. Addressing cognitive abilities adds **another** approach to **intervention** that can also be helpful.
- There are **advantages** to addressing cognitive abilities. Addressing cognitive abilities is likely to be one of the most **effective** and **practical** approaches to intervention.
- A change in cognitive abilities is one of the most **common causes** of confusion, stress, distress, and the need for intervention. Addressing the cause is often more **efficient**.
- Behavior is often an expression of distress that results from confusion and feeling overwhelmed. It is important as a **window** into a person's cognitive abilities and can make the search for the cause of the distress easier. Using the behavior as a window but focusing on the cognitive strengths and needs creates **steps** to intervention planning that are more **apparent**.
- It may be more **effective** and **compassionate** to focus on cognitive abilities, rather than primarily on behavior. Behavior as a coping strategy is discussed below. It is often more compassionate to address the need for this person's coping strategy, rather than simply removing their coping strategy.

The **advantages** of addressing cognitive abilities rather than primarily behavior is discussed below and in more depth toward the end of this chapter under the heading "How to Help: Intervention and Support" and more specifically in that section under the subheading "2. Address Cognitive Abilities Rather Than Primarily Behavior".

Cognitive Causes of Distress

Changes in the brain and cognition can lead to a person engaging in **behavior** that reflects distress or is distressing to themselves or to others because this person perceives and processes information differently.

For **example**, they may withdraw, swear, strike out, or resist eating some food or resist washing their hands. Or they may pick at their skin or bang their head. This person is most likely engaging in behavior that is distressing NOT because they are being stubborn, mean, manipulative, or "just asking for attention", but because their brain is having **difficulty processing information** in a way that feels **comfortable** to them. They may feel confused or anxious, or find they need to act a certain way to help themselves feel more comfortable. They may find it very difficult to process information in a way that is comfortable to you or others, as well.

This means it is not the behavior that needs to be "fixed" or addressed, it is the ability to process information that needs to be "fixed" or addressed, when that is what is causing the behavior.

A person's **behavio**r is often a **coping strategy** for various emotions, as well as for cognitive challenges. We all have ways of compensating for our weaker cognitive abilities or relying on our cognitive strengths. Some of those compensating or coping strategies might be annoying or distressing to others. For example, some of us may **talk** or **sing** or **hum** to ourselves, **fiddle** with an object, **pace**, or use **music** with a beat to **help** us **think** more clearly when we are reading, relaxing, trying to solve a problem, or doing a task that needs a particular kind of concentration. That fiddling, music, pacing, or **murmuring** might be annoying to someone else. Some coping strategies are more extreme.

Some are more distressing because of the **social context**.

Anecdote #1

An older man living with frontal lobe and other brain changes was sitting in a room with people who were not his family. He began taking his **clothes off**. An assistant quickly rushed to prevent him from taking off his clothes.

About this anecdote: There may have been many **reasons** for this person's attempts to remove his clothing in this spot at this time. For example, he may have been **hot** or his clothes may have been **uncomfortable** against his skin due to increased sensitivity to touch. He may not have recognized or considered the **context** of his behavior, that is, that he was in a public space where such behavior can be embarrassing, upsetting, or threatening to others. In this case, the assistant recognized this person's behavior as a possible **coping strategy** or a strategy this person was using to address a need or desire he had. The assistant prevented him from taking his clothes off in public, but also tried to figure out the **reason** for his desire or need to remove his clothing, and then to **address** it.

We talk more in this chapter (and especially in Chapters 2 and 4) about **distressing behavior** and interventions that address **physical discomfort** (for example, turning on a fan if this person is hot) and **sensitivity to touch** (for example, helping this person move to a private place where he can remove his clothes and change into more comfortable clothes).

Some coping strategies are **not** easily **recognizable**.

Anecdote #2

A woman living with mental health challenges was refusing to leave the **upstairs** of her house. She did not respond to many of the interventions that were often tried in such situations. Finally, someone wondered if her refusal to come down the stairs might suggest difficulty with a cognitive ability, such as difficulty with accurately perceiving the steepness or depth of the stairs. (An evaluation of her vision had indicated that her eyesight was adequate.) When a bright color that highlighted the edge of each stair step was applied, this woman began to use the stairs to leave the upstairs of her house.

Anecdote #3

A young man living with mental health challenges said he wanted to apply for jobs. He was provided with a **computer** and instruction in using it. He seemed to be able to understand and use the computer. However, he did not apply for jobs and did not use the computer. Instead, he lay on his couch and said he would apply for jobs soon. Many interventions often tried in these situations did not appear to work. Someone then suggested he apply for jobs using paper and pen instead of a computer. He then began to apply for jobs.

About these anecdotes: In both of these anecdotes, the key to helping each person was to recognize the role of cognitive abilities in their situation. In the first anecdote, this woman had a **perceptual** difficulty in using the stairs, rather than anxiety or an unwillingness to leave the house. In the second anecdote, this man had difficulty **perceiving** the screen and became fatigued after a brief amount of time on the computer that required close reading coupled with cognitive processing of the meaning of the words and expectations of the form. When the forms were on

paper, he could manage the processing of the words since he wasn't required to expend energy on the perceptual aspects of reading the screen. The paper method reduced his **fatigue**. Both this man and woman used coping strategies to address their difficulties, such as withdrawing from the situation and avoiding the part of the situation that was tiring or challenging to them.

Anecdote #4

A man who lived with advanced dementia sat at the table eating his lunch. As he slowly ate he very gradually **moved** his **plate** to his **right**. When an assistant came along and moved it back in front of him, he slowly over time moved it to his right again.

About this anecdote: This man could see objects more easily when they were in the right part of his visual field. We talk later in this chapter about the effects of changes in the parietal lobe and changes in a person's ability to see or notice objects in various parts of their visual field. This is an example of this person's coping strategy or **compensation** for the changes in his brain and in his visual field. This person was clearly **not aware** of his own coping strategy, but it was nevertheless effective for him. The assistant did not recognize the movement of the plate to the right as a coping strategy and so unintentionally made the eating task more difficult for this person by returning the plate to a spot in front of him. Once the assistant understood this person's behavior, the assistant began to use his coping strategy as an **intervention strategy** when interacting with this person or helping him with other tasks. For example, the assistant began approaching this person from his right and handing him objects from his right side.

Some coping strategies are quite **creative**.

Anecdote #5

A man living with brain changes in the frontal lobe had difficulty **making decisions** quickly or when he felt he was put on the spot. When he went to a restaurant with his wife, he would choose a restaurant that was familiar to him and that he had a menu for at home. He would review the menu at home and choose the items he wanted. Then he would write those items on the palm of his **hand**, so that when he was in the restaurant, he could hold the open **menu** in his hands and discreetly read his hand when he told the server what he wanted to order.

About this anecdote: We talk about the frontal lobe later in this chapter. This is an example of a person's clever coping strategy or compensation for his reduced ability to make decisions in public. He saved himself embarrassment and saved time when ordering his meal.

Suggestion regarding Coping Strategies

The examples and comments above lead us to a rule of thumb regarding behavior, whether or not it is distressing. That "rule" or suggestion is "Do not remove a **coping strategy** (that is, **behavior**) unless absolutely necessary, and not until you have **replaced** it with **another** coping strategy or **removed** the **need** for the coping strategy." This includes removing the need for distressing behavior or removing the cause of such behavior.

Th CAIS Questions and Interventions, this three-volume manual, and the online course all give you ideas of how to **recognize** compensation and **coping strategies** and how to prevent or respond to distressing behavior. They also give ideas of how to **support** this person's own **compensation** and **coping strategies** and their cognitive strengths and needs.

FOR MORE INFORMATION SEE:

- The section with the subheading "**More Tips About How the Brain Relates to Cognitive Abilities and Behavior**" near the end of Chapter 2 for an illustration and further discussion regarding coping strategies and comments about some of the nuances regarding the brain and cognitive abilities.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**24** with "Do's to remember"
#**2** about basic assumptions regarding cognitive change and behavior
#**41** about responding to acute distress,
#**40** about addressing behavior
#**42** about planning intervention strategies for a distressing situation
#**17** about exploring the cause of change in behavior
#**1** about basic assumptions regarding interventions that focus on cognitive abilities
#**20** and #**37** about Dementia with Lewy Bodies

Address Cognitive Abilities to Address Distress

When you try to identify and support a person's cognitive abilities, you will likely be **effective** in addressing their emotions and behavior as well. This is because you will have a better understanding of **why** a person is **feeling** or **acting** a certain way.

You can use **interventions specific** to this person and to this situation that address the specific **causes**. Trying to change a person's behavior without understanding the causes (their cognitive abilities) can be frustrating, inefficient, and emotionally challenging for both this person and you.

By addressing cognitive abilities, you can **avoid** some of the **trial and error** in your support strategies and also **prevent distressing situations** from occurring in the first place.

As cognitive abilities continue to change over time, you can modify the interventions.

As noted earlier, the **advantages** of addressing cognitive abilities rather than primarily behavior is discussed in more depth toward the end of this chapter under the heading "How to Help: Intervention and Support" and more specifically in that section under the subheading "2. Address Cognitive Abilities Rather Than Primarily Behavior".

Common Triggers/Causes of Distress

We have been describing distress that results from changes in cognitive abilities.

The brain's susceptibility to physical and emotional internal triggers and to environmental triggers was mentioned above under the subheading "Effects of a Situation on Brain Functioning". These triggers can cause disruption in the brain's ability to function well.

These triggers affect **all brains**, but an **unusual brain** is particularly **susceptible** to such triggers.

Some emotional and physical triggers or causes of distress are momentary if they are addressed quickly and effectively.

Listed here are some common triggers or causes of cognitive change, distress, distressing situations, and behavior that creates distress. Some of these are causes that can be relatively easy to address or "fix".

There is more about these in the remaining chapters and volumes.

Some triggers of momentary changes in cognitive abilities, emotions, and behavior:

a. **Pain** with or without movement
b. **Medications**, herbal or vitamin supplements, certain foods or drinks (type, amount, timing, etc.) (This includes even common over the counter medications for unrelated conditions.)
c. **Hypersensitivity** to touch, sound, smell, taste, and visual stimuli, such as light
d. **Temperature** fluctuations in the air, water, and inside this person's body (possibly due to the body's reduced ability to control its own temperature)
e. **Sensory changes** with age or otherwise (hearing, vision, touch, smell, taste)
f. An **unmet need** or desire
g. Feeling **overwhelmed**
h. Feeling **alone**, frightened, worried, or **anxious**
i. Feeling **sad**
j. Remembering or reliving physical, emotional, or sexual discomfort, pain, or **trauma** from the past or that is currently occurring
k. **Confusing cues**
l. A need for more i**nformation** or repeated information
m. **Not knowing** what to do next

n. Something in the **environment** (e.g., change, something interpreted as scary or aggressive, too much noise or visual stimulation, unfamiliar people or objects)
o. **Stress**
p. **Fatigue**
q. **Hunger** (or perhaps high or low **glucose** levels in the blood)
r. Needing to use the **toilet**, feeling **discomfort** in the abdomen, or **constipation**
s. **Dehydration**
t. **Infections**, especially Urinary Tract Infections (UTIs) in older adults

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**27** about touch
#**26** about how to recognize a person's emotions (including nonverbal evidence)
#**25** about how to recognize and respond to pain, needs, and distress
#**17** about treatable triggers and exploring the cause of change in behavior

Emotional Causes of Distress

For most of us, **emotions** are more easily **remembered** (consciously or not) than events or facts. When a person experiences strong emotions their effect can last for a very long time and be easily relived or triggered.

Some interactions, tasks, or environments can unexpectedly trigger emotional distress for a person, especially if this person has in their remote past or recently experienced (or is currently experiencing) an **emotional**, **physical**, or **sexual** encounter that was **uncomfortable**, **painful**, or **traumatic**. Situations that involve, for example, removing clothing or being touched or someone else having control over this person can easily cause significant distress. Being in a room similar to where such encounters happened to this person can also cause distress.

It is important to stop an interaction or task, or help this person leave the room if this is the case. Watch and listen closely to this person so you can notice how they seem to be feeling or responding to your words, movements, and actions. Moving slowly, gently, and with respect and compassion is important. This will be mentioned in other chapters as well.

IV. COGNITIVE ABILITIES: THINKING, KNOWING, DOING, INTERACTING

Cognitive Abilities

Cognitive abilities are a person's ability to think, including their ability to understand what they see or hear, to remember, to make decisions, to figure out how to do things, to imagine, among many other functions.

Chapter 2 goes into detail about specific cognitive abilities. This Chapter 1 gives some details under the heading "Parts of the Brain and Cognitive Abilities".

Everyone, healthy or not, has their own unique pattern of cognitive abilities, their own profile of cognitive skills they do well, and those they don't do so well; their own profile of cognitive strengths and weaknesses. This means each person has their own set of cognitive needs.

Most of the time we are not conscious of our cognitive abilities or what our cognitive strengths and needs are. In fact, **most** of our **thinking** is **not conscious** at all. So we each know very little about our own cognitive abilities.

It also means various factors will likely cause changes in a person's cognitive strengths and needs over time. These changes can enhance some cognitive abilities and weaken others. We mentioned earlier that as some cognitive abilities become weaker, some might improve for a variety of reasons, including the need to compensate for the emerging cognitive needs. When this pattern of cognitive strengths and needs shifts and evolves, cognitive needs often become more obvious and recognizable.

Individualizing to a Specific Person and Time

Since we each have our own unique pattern of cognitive strengths and needs from the time we were born, whether or not we have an unusual brain or have experienced a disorder, it is especially important to learn how to identify specific cognitive abilities in a particular person.

Even though a particular brain disorder creates in general a set of changes in cognitive abilities, there is much **variation** among individuals who live with the same brain disorder or diagnosis. So focusing on an **individual's unique** pattern of cognitive abilities (both **strengths** and **needs**) is necessary **regardless** of the **brain disorder** or **diagnosis** a person is living with, including traumatic brain injury (TBI), dementia (such as Alzheimer's Disease or Dementia with Lewy Bodies), mental illness (such as schizophrenia or obsessive compulsive disorder) or an intellectual or developmental difference (such as autism, attention deficit disorder, or Down syndrome).

Understanding specific cognitive strengths and needs and creating **intervention** or support **strategies** that are **individualized** to a **particular person** is an effective way to help this person feel comfortable, communicate, and perform a task.

As this person changes over time, as we all do, it is especially important to individualize your support strategies to this person at this moment. As you relate to this person try to recognize and **adapt to changes** in the pattern of this person's cognitive strengths and needs over time.

These concepts and the ***Cognitive Abilities and Intervention Strategies (CAIS) Questions to Ask*** and ***CAIS Intervention Strategies*** are designed to help you **individualize** your understanding of a person's cognitive abilities, as well as your intervention planning, to a specific **person**, a specific **situation**, and to **changes over time**.

The CAIS (that is, the *CAIS Questions to Ask* and *Intervention Strategies*) identifies a particular person's cognitive strengths and needs (their cognitive abilities) and suggests ways to adapt the environment, your communication, and tasks to address (support) this person's specific cognitive strengths and needs.

In this manual, "**the CAIS**" refers to both the ***CAIS Questions to Ask*** and the ***CAIS Intervention Strategies*** together.

FOR MORE INFORMATION IN THIS MANUAL ABOUT THE CAIS:

- The **CAIS** Questions and Intervention Strategies are presented in **Volume II** along with an introduction and instructions.
- **Chapters 2-5** in this Volume I focus on each of the four parts of the CAIS.
- **Chapters 3** and **4** and the complete **instructions** in Volume II discuss in detail how the CAIS is individualized.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**8** about the brain and cognitive abilities described in Chapter 1
#**3** that identifies some of the many cognitive abilities
#**4** about understanding cognitive abilities
#**5** about how to recognize evidence of a person's specific cognitive abilities

Dementia (Speaking of change over time . . .)

When a person lives with a brain disorder like an irreversible dementia (or major neurocognitive disorder), their cognitive abilities change significantly over time. These changes are specific to the particular type of dementia and to the specific areas of the brain affected. We will devote some attention to dementia since it has aspects that can make all brain changes more understandable and since it affects so many people.

Dementia is a **gradual decline** in a person's ability to think, including the ability to remember and understand, due to **brain changes** that **gradually spread across the brain**. The brain changes are severe enough to affect this person's ability to communicate and to perform tasks.

As a person's set of cognitive strengths and weaknesses change, this person develops cognitive needs they didn't have before. While most cognitive abilities in dementia decline, at least in ways that we easily notice, some (for example, some music and art skills, or cognitive strengths that need to compensate for new cognitive needs) may improve. These improvements can be subtle and difficult to sustain over time. It is important to be alert to these improvements and to nurture them and rely on them as cognitive strengths.

Each part of the **brain** is **associated** with **specific cognitive abilities**. As the brain changes spread across the brain, specific cognitive abilities become weaker. As each new part of the brain changes, new cognitive abilities become weaker. This results in a person going through stages of dementia.

Even as the brain changes spread to **new parts** of the brain, the brain changes increase in the parts that have already been affected, so the **cognitive abilities** associated with those parts already affected **keep getting weaker** and weaker, as **new** cognitive abilities **begin** to **change**.

There are more than 100 different disorders that cause dementia.

By far the most common cause of irreversible dementia is **Alzheimer's Disease**. Other causes of dementia include:

- Dementia with Lewy Bodies (where there are abnormalities called Lewy Bodies within the brain cells)
- Frontotemporal dementia (where the frontal and temporal lobes of the brain are especially affected)
- Vascular related dementia (where there are strokes or changes in blood supply to the brain)

In each disorder that causes irreversible dementia, the brain changes affect parts of the brain in a different order. This results in each disorder having a different progression of cognitive and behavioral changes, so the dementia caused by each disorder looks different over time.

When the cognitive change or difference is not dementia, and is due to a disorder such as a stroke, traumatic brain injury (TBI), Down syndrome, or a psychiatric illness, then the brain changes may not spread as much to other parts of the brain, but may stay more confined to certain areas. In such disorders, the cognitive abilities may improve, decline, or stay the same over time. The areas affected depend upon the specific disorder.

Since a person with any brain disorder, including dementia, has their own unique set of cognitive strengths and needs at any given time, it is important to look closely at this particular person to discover what their strengths and needs might be, and how they might change in ways unique to this person over time and day to day.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**19** about Alzheimer's Disease
#**20** and **#37** about Dementia with Lewy Bodies
#**21** and #**38** about Frontotemporal Dementia
#**7** about changes in the brain and Dementia
#**8** about the brain and cognitive abilities

V. PARTS OF THE BRAIN AND COGNITIVE ABILITIES

We will now look at a **few parts** of the **brain** and only a **few cognitive abilities** associated with each part. There are very many individual cognitive abilities. We will talk about some that might be more easily **recognized**, when a person is communicating or performing a task, as cognitive abilities that are particularly difficult for this person and that are more likely to have an obvious **impact** on a person's ability to perform tasks, communicate, and interact with their surroundings. Some implications for intervention and support that are easily implemented might also be more apparent. They are intended to illustrate the role of a person's brain in their abilities and actions. We address cognition here, though changes in the brain can also directly affect emotions.

More cognitive abilities, and those included here, are discussed in more detail in the other chapters in this volume, in the CAIS handouts, and in the resources listed at the end of this chapter.

Brain Areas and Cognitive Abilities

As a person ages from birth to old age, each area or part of the brain becomes **increasingly specialized** in performing specific functions or cognitive abilities. This specialization begins immediately and gradually increases. As a person grows into adulthood the ability of any one part to perform a function other than those it has become specialized in is reduced. When part of the brain becomes injured or is not working well for any reason, the rest of the brain tries to take over the abilities associated with that part. The older the brain is, however, the more difficult it is for other parts of the brain to take over the functions or cognitive abilities of the affected part. That is one of the reasons a person who is injured at 7 years old can usually recover cognitive abilities more easily and quickly than a person who is injured at 77 years old.

Even at a young age, each brain area or part is associated with its own specific cognitive abilities. For example, if during surgery a surgeon puts an electrode on a particular spot of the brain, they can cause a person's finger to move, or a foot to move; or even cause this person to suddenly stop talking.

When an area of the brain changes, its cognitive abilities also change. This is true regardless of what is causing the brain area to change.

In other words, there could be a variety of causes of brain changes (such as growth and development, stroke, head injury, mental illness, brain disorder from birth, dementia), but no matter what the cause, when any of these events or disorders affect a particular part of the brain, then the **same cognitive abilities** are **affected**. For example, the temporal lobe is a part of the brain. If the areas in the left temporal lobe (or Broca's area in the frontal lobe) associated with speech have changed, this person will likely lose or partially lose their ability to speak, regardless

of whether the change is due to a stroke, a traumatic brain injury (TBI), dementia, or some other cause.

The Brain

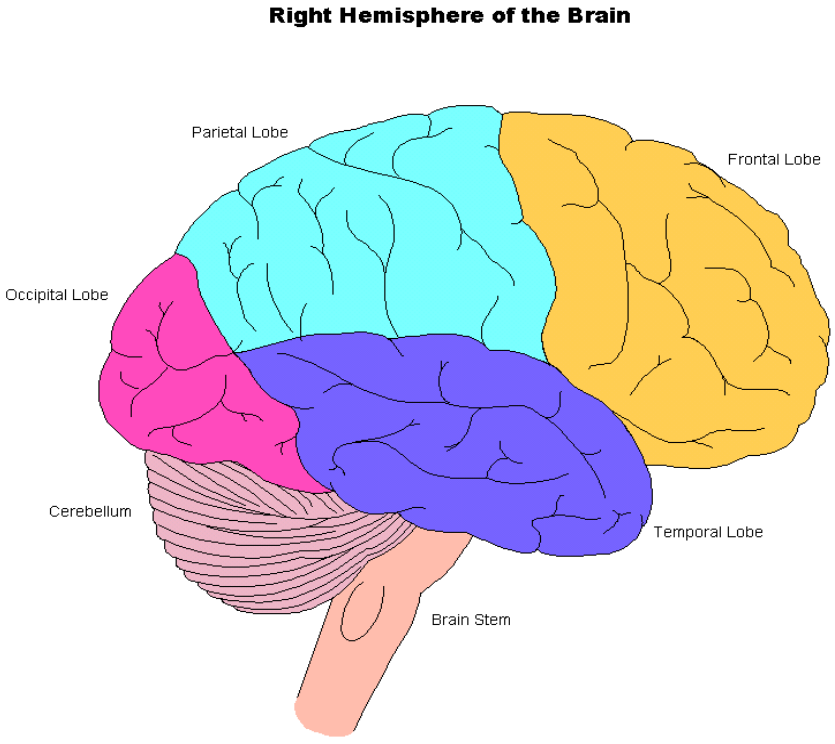
The brain has two halves, one on each side called the right and left hemispheres that are almost mirror images of each other. Each side has four parts called lobes. For each lobe on the right side there is a similar lobe with the same name and in a similar position on the left side.

See the colored drawing called "Right Hemisphere of the Brain". In this drawing, the front of the brain is on the right side of the drawing where the frontal lobe is labeled. So this person's eyes would be to the right of the drawing.

All of the parts of the brain referred to in these three volumes are on both the right and left sides.

The right side of the brain controls the left side of the body, and the left side of the brain controls the right side of the body.

Colored Drawing: The Right Hemisphere of the Brain



Brain Structures and Specific Cognitive Abilities

We list here a few of the specific cognitive abilities associated with four parts of the brain: the hippocampus, the left temporal lobe, the right parietal lobe, and the frontal lobe. We focus

especially on the surface or "cortex" of the brain, rather than the deeper "subcortical" parts of the brain.

We cannot do justice to the **complexity** and marvel of the brain here. While each part plays a major role in each of the cognitive abilities listed, there is a complex **network** among all parts of the brain that allows brain structures (and individual brain cells, including neurons) to communicate with each other to ensure efficient functioning of each part and to work together as a **whole**. Each part of the brain depends on other parts to work efficiently. How this occurs varies somewhat with each individual person. So, this outline of the general location of various cognitive abilities in the cortex of each part of the brain, within each lobe and hemisphere, is **oversimplified** and generalized.

There are also **many cognitive abilities** associated with each brain structure. **Only a few** are mentioned **here** that have a more obvious impact on functioning, emotions, and behavior to illustrate the impact of changes in the brain and cognitive abilities, as was said earlier. Once changes in cognitive abilities are recognized, intervention options can become more apparent.

We are describing here the brain of a person who is right-handed or possibly left-handed. (In some people who are left-handed, some of the functions of the brain may be in the same part (lobe) but on the opposite side or more evenly on both sides of the brain from those of right-handed people.)

We will use the word "you" when we describe the cognitive abilities and the brain to emphasize that we all experience changes in each of these cognitive abilities at various times in our lives and with varying levels of impact on our day to day functioning.

Many **more cognitive abilities** and more **detail** about them are discussed in the other chapters, including specific implications for functioning and behavior.

For more information about the brain see the **additional resources** at the end of this chapter.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**10** about the brain
#**36** about right hemispheric brain changes and interventions
#**8** about the brain and cognitive abilities
#**7** about the effect of changes in the brain on cognitive abilities
#**3** that lists a variety of cognitive abilities
#**1** with basics regarding the brain and interventions that focus on cognition
#**2** about basic assumptions regarding the brain, cognitive change, and behavior

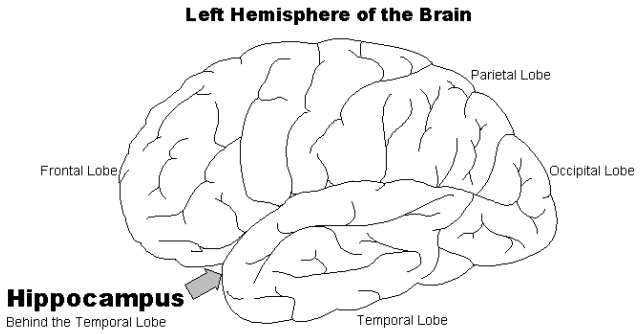
Hippocampus

The hippocampus is a part of the brain that is affected in individuals more frequently than some other structures, at least in way we can easily notice. It is susceptible to aging and to a variety of disorders.

The hippocampus is a structure tucked up inside the brain behind the temporal lobes on both the right and left sides of the brain.

See the drawing called "Left Hemisphere of the Brain" and look for the "Hippocampus" at the bottom left. In this drawing, the front of the brain is on the left side of the drawing where the frontal lobe is labeled. So this person's eyes would be to the left of the drawing.

Hippocampus in the "Left Hemisphere of the Brain"



One of the **many functions** of the hippocampus is to create your memory for recent events or information.

For example, it lets you know:

- What just happened.
- What you just said so you don't repeat yourself or forget to follow through on a promise.
- What you had for lunch.
- That your friend just visited you and how you felt about that.

It also tells you what to remember and what to forget.

When your hippocampus changes, these cognitive abilities related to memory also change.

Examples of **evidence** of changes in the **hippocampus** may be you:

- Repeat a question or concern, perhaps frequently in a short period of time.
- Forget something someone just said, such as a request or an answer to your question.
- Forget that a friend just visited and how you felt about it.

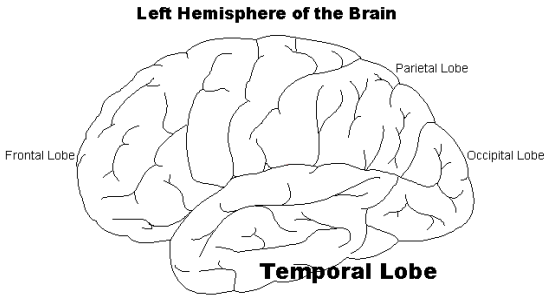
- Become surprised and angry when someone begins to take off your coat, because you forgot you just agreed to let them help you with it.
- Become surprised when someone expects you to do something because you forgot you were going to do it.
- Remember the food someone was eating rather than the information they told you.

Left Temporal Lobe

The temporal lobes are parts of the brain located on the sides of your head (above and in front of your ears).

See the drawing called "Left Hemisphere of the Brain" and look for the "Temporal Lobe" at the bottom right. In this drawing, the front of the brain is on the left side of the drawing. So this person's eyes would be to the left of the drawing.

Temporal Lobe in the "Left Hemisphere of the Brain"



Two of the **many functions** of the left temporal lobe (and of Broca's area in the left frontal lobe nearby) include understanding and producing speech.

When the left temporal lobe (and Broca's area) change, these language changes are some of the most obvious and frequent changes we notice. They become weaker and your ability to speak may change. Some of these changes are called receptive aphasia and expressive aphasia.

Examples of **evidence** of changes in the **left temporal** lobe (and **Broca's** area in the frontal lobe) may be you:

- Make nonsense sounds like "wuh wuh wuh", even though you might sometimes think you are saying an actual word.
- Use the wrong words.
- Substitute a similar word (e.g. "pip" for "pen").
- Use fewer words (you can't think of words to use). This is sometimes called word finding difficulty. But more than likely the number of words you use and how frequently you speak is reduced significantly.

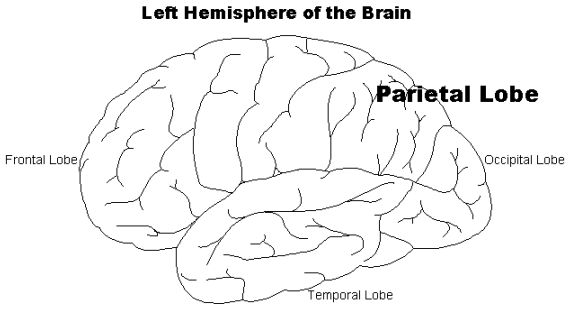
- Say "yes" when you mean "no". You may be unaware you said that.
- Do not understand what someone tells you or asks you to do. You may not understand the words or the words you hear from someone may sound like nonsense words like "wuh wuh wuh"
- Use swear words without realizing it. This is different from the swearing someone might do when they get angry. Often with this type of swearing a person's volume, tone, or pitch of voice doesn't change but is simply inserted into the sentence. It is usually better to ignore the swearing when this happens.
- Take longer to speak or to understand what someone is saying. You may need more time to absorb, understand, and process what you hear and then to respond.

Right Parietal Lobe

The parietal lobes are parts of the brain located above and behind the temporal lobes.

See the drawing called "Left Hemisphere of the Brain" and look for the "Parietal Lobe" at the top right. In this drawing, the front of the brain is on the left side of the drawing. So this person's eyes would be to the left of the drawing. (The right parietal lobe would be in the same position shown in this drawing, but in the right hemisphere of the brain.)

Parietal Lobe in the "Left Hemisphere of the Brain"



The right parietal lobe helps you:

- Locate and arrange objects in space relative to each other and to yourself.
- Notice everything in your visual field or space.

Among **many functions**, the right parietal lobe plays a major role in your ability to **locate** and arrange **objects** in space **relative** to **each other** and to **you**. This would include arranging food and your plate, silverware, and glass in front of you when you are eating. It includes aiming your hand and putting your hand and arm into the sleeve of your coat, or drawing an analog clock (circle with numbers 1-12) on a piece of paper in a spatially correct way. When you are driving it includes knowing where the other cars are as they move in and around you. (Your left parietal lobe may help increase precision by perceiving a more defined edge of objects and people relative

to their background.) If your parietal lobe changes, you may have difficulty dressing, moving in large spaces such as the dining room, or recognizing where objects and people are, especially if the objects and people are moving.

The parietal lobe also tells you to **notice** everything in your visual field when your eye sees them (that is, in the environment, in the space in front of your eyes.). It tells you that the objects or people are there. If there are changes in your parietal lobe, there may be a part of your visual field, where your eyes see all the objects and people, but your brain (that is, your parietal lobe) does not tell you to notice the objects and people, so it is as if you don't see them.

For example, when you have changes in your right parietal lobe you may eat off only the right half of the plate in front of you (since the right parietal lobe allows you to notice the objects in your left visual field, and the left parietal lobe allows you to notice the objects in your right visual field). You may read only the right half of a page because you don't notice (or "see") the other half of the page on your left. Or you may read only the right half of a circular (analog) clock, or notice only the right half of the room when you stare straight ahead. So that, if someone speaks to you from the unnoticed half of the room, their voice can seem disembodied and hard to locate.

Changes in the right parietal lobe may have a **profound impact** on your **ability** to **recognize, understand**, and **arrange** the **space around you.**

As is true regarding all cognitive abilities that we have more difficulty performing, we **aren't aware** of how much **extra energy** we use, and how much **harder** we **work**, to do a task that other people do more easily with much less effort.

Knowing where objects are in space and relative to your own body is necessary throughout most of the day, from the time you wake up and get out of bed, get dressed, brush your teeth, and eat a meal, to the time you get undressed and go back in to bed at the end of the day. If you are working hard to do each of these tasks, you can become quite exhausted, stressed, and irritable by the end of the day and even throughout the day. Just sitting in a chair and looking at the environment or at a screen can be a significant amount of work.

Examples of **evidence** of changes in the **right parietal** lobe may be you:

- Use an excessive amount of energy to put your arm into the armhole or sleeve of a shirt. (This extra amount of energy used may not be obvious to yourself or others.)
- Put a glass down on the edge of the table or of a plate, instead of beyond it, and spill what's in the glass.
- Have difficulty following hand movements in a gesture, or reaching out for an object when someone is handing it to you.
- Think someone's face is closer to your face than it is, or that their hand is moving to your face rather than your shoulder or is moving more quickly than it is. (You may think their hand is moving quickly to your face in an aggressive way.)
- Have difficulty responding to stimuli in the left part of your visual field.

- Have difficulty tolerating clutter, many objects, and movement in the environment.
- Feel angry, frightened, frustrated, stressed, or fatigued from working so hard to process all the confusing stimuli in the environment. (You will likely be **unaware** why you feel distressed.)
- Respond more easily and accurately when someone approaches from your right (or from the front if both parietal lobes are changing, as is likely the case in dementia).
- Resist going down the stairs because you can't recognize how steep they are or where the edge of each stair step is.
- Resist stepping into a tub or shower because you aren't sure:
  - How high the side of the tub or edge of the shower is.
  - Where your feet or hands should go.
  - How deep the water is.

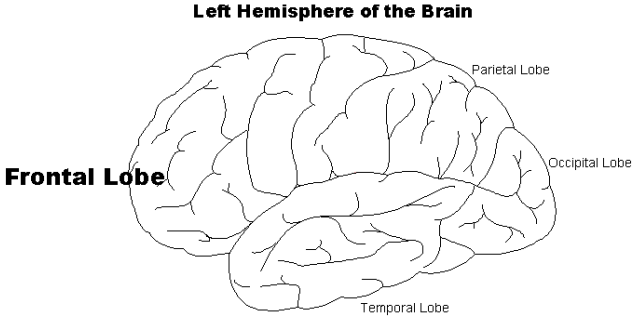
FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**29** that describes visuospatial abilities and suggests interventions
#**36** about right hemispheric brain changes and interventions
#**20** and #**37** with intervention tips and examples of parietal lobe cognitive and behavior changes in Dementia with Lewy Bodies
#**8** about the brain and cognitive abilities
#**7** about brain changes and the effects on cognitive abilities
#**5** about how to recognize evidence of a person's specific cognitive abilities

Frontal Lobe

The frontal lobe is located at the front of the brain behind your forehead and eyes.

See the drawing called "Left Hemisphere of the Brain" and look for the "Frontal Lobe" on the left. In this drawing, the front of the brain is on the left side of the drawing. So this person's eyes would be in front of the frontal lobe to the left of the drawing.

Frontal Lobe in the "Left Hemisphere of the Brain"



The **many functions** of the frontal lobe are some of the most complex of all cognitive abilities.

The frontal lobe helps you:

- Do more than one thing at a time. (This is as long as you don't have to think to do all of the tasks. You can focus attention on only one thing at a time. This is why it's not possible to focus on driving and focus on texting at the same time. That requires alternating attention.)
- Know what to focus on. It prioritizes and filters the stimuli you encounter.
- Sense how much time is passing, so you know whether you've been conversing with someone for two minutes or 20 minutes or 2 hours.
- Switch your attention from one idea or task to another.
- Get started on a task.
- Know when a task or thought is done and release yourself from it. It also allows you to recognize the end product or goal and to move on.
- Keep focused on a task until it's done.
- Identify the order of task steps or of pieces of information.
- Control impulsive responses to thoughts and desires.
- Make use of a pool of information or ideas, by sorting through and choosing from among them to make a decision, plan, or to produce an explanation for an unexpected situation or a change in plans.
- Recognize and monitor your own appearance, feelings, thoughts, and behavior.
- Recognize your mistakes and correct them.
- Imagine something that is not visible or tangible, such as an abstract idea or water in a clear glass.

Like we said about the parietal lobes, and is true for all of these cognitive abilities, the effects of changes in the brain, particularly if they are mild, can be **subtle**. There may be only subtle **mistakes** in the cognitive abilities associated with the frontal lobe. Or mistakes may be made **more often** when there is **fatigue**, **anxiety**, or **distraction**. It may take just a bit **longer** to understand something or to focus on something. Because the frontal lobe adds **nuance** to your walking and **movements** in your arms and hands, and to your speech (so that we each have our own unique way of walking and our own unique voice patterns), changes in your frontal lobe can create subtle changes in your walking and speech. They can result in less variation in for example, the length of your stride or the range of pitch in your voice. Your movements may be stiffer and your face more rigid, so that you can appear stubborn or even angry. You may reach out to pat someone's shoulder in a friendly gesture, but to them your gesture might feel like a hit because of its rigidity and reduced control and subtle variation in movement. (These effects on movement and facial expression are different from and in addition to the effects on emotions.)

Examples of **evidence** of changes in the **frontal** lobe may be you:

- Become overwhelmed when someone enters your visual field (space), moves, talks, and gestures at the same time. Again, this may or may not be subtle.

- Have difficulty recognizing which object, person, piece of information, idea, or part of an object or person is important to focus on. You may respond only to the most powerful stimulus.
- Have difficulty shifting from one thought or task to another. It may take longer to shift focus, so that in a conversation, for example, someone may be talking about a new topic, but you are still focused on the previous topic
- Get in a rut and not be able to stop thinking a thought or doing a task, even though the thought is harmful or no longer relevant, or the task is completed.
- Stop a task before you are done with it because you think you've been doing it long enough. Especially when the task takes a significant amount of energy to accomplish, you may be tired and assume you have been doing the task for a longer time than you actually have been.
- Have difficulty focusing and staying focused on a task, object, event, or what someone is saying. You might be easily distracted.
- Need short, simple words and sentences to accommodate reduced concentration.
- Need the most important words said first in a sentence because your ability to process additional information or words may gradually fade over the course of a sentence or a conversation. Stamina to maintain the conversation accurately may fade.
- Have difficulty following the logic of an argument.
- Have difficulty considering all the possible reasons for a change or unexpected situation. For example, you may think the only explanation for odd tasting water is that someone is trying to poison you, or if you can't find something someone must have stolen it.
- Have difficulty initiating a task. Even if you want to do something, you may have difficulty getting started on it, so that you appear lethargic, lazy, or uninterested.
- Refuse to do a task because you can't think of how to do it. It might be overwhelming to try to think of all the task steps, the order of the task steps, what objects you will need to do the task.
- Are unable to stop from striking or grabbing someone because you can't control impulses or switch gears quickly. This is especially true if you feel a surge of emotion and you can't soothe yourself or think quickly enough to explain to yourself why you shouldn't act on your impulse.
- Have difficulty choosing between two options that are abstract instead of in view, such as choosing soup or a sandwich for lunch when you don't see either option.
- Appear rigid with reduced facial expression.

Sometimes when a person is living with changes in their frontal lobe, many of the resulting changes in cognitive abilities including, for example, their reduced ability to generate and evaluate a **pool** of **ideas** or options while problem solving, can cause them to leap to the **wrong conclusion**. This conclusion can result in accusations or anxiety, worry, anger, or fear. It can be difficult for this person to shift out of their focus on this wrong conclusion, as noted above.

Anecdote #6

A woman took her **glasses** off before going to bed (as she always did) and thought about how much she depended on them. She began to worry about losing them during the night. Instead of putting them on the nightstand by the bed as she usually did, she decided to put them in the drawer of the nightstand for safekeeping. As she thought more about it, she decided to tuck them into the back of the drawer. Then on further reflection, she decided to wrap them up in a hanky before putting them in the back of the drawer. The next morning when she reached for her glasses on her nightstand, they weren't there. When the assistant walked in, she **accused** the assistant of stealing them. The assistant said "Your glasses are gone? I will help you."

About this anecdote: This woman appeared to forget what she had done with her glasses the night before. She may have been unusually tired or upset that night. Her immediate conclusion when she saw the assistant was that the assistant took them. She did not appear to try to reconstruct possible scenarios that might explain the loss. It did not occur to her to ask the assistant if she had any idea where they were. She became **focused** on the **first** possible **explanation** she thought of.

The assistant might have responded quicky with a denial, that she did not take them, then with logic, saying she had her own glasses, so why would she take this woman's glasses, especially since they wouldn't have been the right prescription. But this woman's logic was already affected by her frontal lobe changes. Instead, the assistant chose to calmly show this woman by her words, tone, and body language that the assistant was **on** this **woman's side** and that together they would face this problem of the lost glasses. It took some time for the assistant to help this person relax and gain this woman's permission to check the drawers.

There are many variations of this type of situation involving frontal lobe (and other brain) changes. Possible responses and interventions that are more **specific** are discussed in the CAIS, the other chapters, and in the CAIS handouts in this Volume I.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**35** with interventions for a person with frontal lobe changes
#**21** with intervention tips and examples of frontal lobe cognitive and behavior changes in Frontotemporal Dementia
#**38** with tips for intervention with frontal lobe cognitive and behavior changes in Frontotemporal Dementia
#**8** about the brain and cognitive abilities
#**7** about brain changes and the effects on cognitive abilities

FOR MORE INFORMATION SEE:

- The section with the subheading "**More Tips About How the Brain Relates to Cognitive Abilities and Behavior**" near the end of Chapter 2 for a few comments about some of the nuances regarding the brain and cognitive abilities.

VI. HOW TO HELP: INTERVENTION AND SUPPORT IN GENERAL AND WITH THE CAIS

We will consider the following (in the box below) general **suggestions** for **how to help** a person with cognitive changes who is in distress or in a distressing situation, or needs help with communication, a task, or interacting with their surroundings. They are all ways in which the CAIS questions and interventions can be useful.

Suggestions (and subheadings) for How to Help

1. Search for the **cause**: Ask "Why?"
2. Address **cognitive abilities** rather than primarily behavior.
3. **Make everything**, communication, and task **easier:** Conserve energy (Make the task easier for this person to conserve their energy. Help this person relax.)
4. **Change conditions**, not this person.
5. **Consistency**: Change only when and how it is helpful for this person.
6. **Four Factors:** Person, Environment, Communication, Task (Look to these four factors to understand and to help.)
7. **CAIS Questions to Ask** and **CAIS Intervention Strategies**: **Use** the CAIS Questions and Interventions.

Each of these suggestions is discussed below and in detail in **Chapters 2 through 5** in this volume. Each chapter discusses these suggestions in the context of one of the four factors: Cognitive Abilities, (Chapter 2), the Environment (Chapter 3), Communication (Chapter 4), the Task and Daily Routines (Chapter 5).

1. Search for the Cause: Ask "Why?"

When you sense a change would be helpful to resolve a situation, identify the reason or cause of whatever is making change desirable. This can increase the efficiency of finding an effective resolution or intervention.

The reason for change may be to help a person to grow or to learn new information or skills.

It could also be to address some **distress** that is occurring, a distressing situation, or behavior that is creating distress. This behavior could be intentionally or unintentionally engaged in by anyone (including yourself). The distress could also be experienced by anyone (including yourself).

Search for the Causes of Distress Behind Behavior

There may be many causes. But it seems obvious that brain changes and the resulting changes in thinking or cognitive abilities can be a major cause of distress when you are communicating with a person or assisting them with a task.

The changes in cognitive abilities can create frustration, anxiety, or confusion in this person, that can lead to distress, a distressing situation, or behavior that is distressing. That includes this person's behavior and behavior of other people, as well as this person's distress and others' distress, as was noted earlier.

To help a person, it is important to first **address** the **distress** rather than primarily trying to stop behavior (unless the behavior is immediately unsafe to this person or someone else). Look for the feelings behind the behavior, the immediate cause of the distress, and the underlying cause. Again, this could be anyone's distress or behavior.

Ask Yourself "Why?"

When a person is having difficulty understanding, communicating, or performing a task or there is distress or a distressing situation, ask yourself "Why?"
For example:

- "Why is this person having difficulty understanding or communicating at this moment?"
- "Why is this person having difficulty doing this task?"
- "Why is this person confused or frightened by this environment or space?"
- "Why is this distress or distressing situation occurring?"

By searching for the possible reasons or **causes** of the feelings of **distress**, you can **address** those reasons or **causes**.

For example, imagine you are distressed because this person is doing something you are uncomfortable with, such as holding hands with someone else. Imagine it is clear this person is not in distress, their safety or health is not being compromised by their action, and that no one else is distressed by this action. If **you** are the **only one** in **distress**, then try searching for the reason you are distressed and address those reasons rather than primarily trying to stop this person's behavior. In this situation, interventions should **focus** on **reducing your distress.**

In general, by looking at the changes in a person's cognitive abilities and the challenges those changes create, resulting in distress, you can intervene or develop support strategies that **support** this person's **cognitive abilities**, improve the situation, and reduce distress for everyone.

For example, if a person is worried about finding a particular room and you know they have difficulty with **visuospatial abilities** (associated with the **parietal lobe**), then you might put up

three dimensional cues such as signs that stick out into the hallway so they can more easily recognize the distance to the room and follow the signs to the room. The signs might be seen as landmarks for this person that help **mark** the **layout** of the **space** for them.

Another example would be a person who appears anxious and is repeatedly asking "What should I do?" You conclude after exploring possibilities with the CAIS questions and interventions that this person may have difficulty **knowing how much time** has **passed** (associated with the **frontal lobe**). So, you decide to try to help this person structure their time so that events or tasks follow a **consistent schedule** every day. That way there can be "**landmarks"** in **time** for this person so they can sense what comes next (even if they don't consciously know or can't tell you what comes next).

The CAIS questions help you identify possible answers to "Why?". The CAIS interventions provide ideas of interventions that can address those answers to "Why?".

2. Address Cognitive Abilities Rather Than Primarily Behavior

Behavior can be a window into a person's cognitive abilities. Behavior is important, but the reason or cause of behavior (for example, cognitive abilities) is an important focus. Change in cognitive abilities is one of the most common causes of distress or the need for intervention.

A person's cognitive abilities are directly affected by this person's brain functioning. When a specific part of the brain changes, the specific cognitive abilities associated with that part of the brain will likely change. While there is a fairly close association between a brain structure and a cognitive ability, the association between a cognitive ability and a behavior or an emotion is less clear.

This creates two dilemmas:

a) Change in one specific cognitive ability may result in a variety of behaviors or a variety of emotions.
b) Change in a variety of cognitive abilities may result in one behavior or one emotion.

a) Change in **one** specific **cognitive ability** may **result** in a **variety** of **behaviors** or a **variety** of **emotions.** For example, a change in the brain's parietal lobe may result in a reduced ability to know where objects and people are in the environment, that is a change in their visuospatial ability (a cognitive ability). A reduced ability to see where objects and people are in the environment may result in a variety of behaviors and emotions, such as bumping into objects, shouting for help, grabbing your arm tightly, rubbing their eyes excessively, staying in bed or in one chair much of the time, refusal to leave the house or to go down the stairs, anxiety.

- Change in Brain → Change in One Cognitive Ability → Variety of types of behavior
- Change in Brain → Change in One Cognitive Ability → Variety of Emotions

An effective and efficient intervention might be to address the difficulty in locating objects and people in the environment, rather than trying to change each of the resulting behaviors and

emotions. Again, we want to address the distress and reduce the behavior. But we do that by addressing the **reason** for the **distress** and for the **behavior**. An intervention that addresses primarily a behavior or an emotion will likely be less effective and less permanent than an intervention that addresses a specific cognitive ability (that is, the cause).

b) Change in a **variety** of **cognitive abilities** may **result** in **one behavior** or **one emotion**. For example, a person may grab your arm tightly and appear anxious. This may because they have a reduced ability to see where objects are in the environment, or to say aloud a word they want to speak, or to remember what they were asked to do, or they can't think how to put on their coat when it is time to go home. Again, addressing the grip on your arm (the behavior) or treating the anxiety (emotion) alone is likely to be much less effective than addressing the particular cognitive ability that is causing the tight grip and the anxiety.

- Change in Brain → Change in Variety of Cognitive Abilities → One Behavior
- Change in Brain → Change in Variety of Cognitive Abilities → One Emotion

Understanding a person's cognitive abilities (that is their ability to think, understand, and respond to other people and to their environment) can help you identify effective intervention and support strategies to assist this person when you are with them or when they are engaged in various tasks.

More about the rationale for addressing cognitive abilities rather than primarily behavior is earlier in this chapter under the heading "**Distress: Behavior and Emotions**".

3. Make Everything, Communication, and Tasks Easier: Conserve Energy

We all expend more energy and experience more fatigue and frustration when performing tasks that require cognitive abilities that are difficult for us. We are usually not aware of how much harder we work on those tasks than on tasks that require cognitive abilities that are easier for us. Often it takes us more time to do the tasks that for us are more difficult.

It is more difficult than is often obvious for a person to communicate or do a task (or parts of a task) that requires them to use cognitive abilities that are weak (for example, putting their arm into the sleeve of a coat or picking up a spoon). They **work much harder** than we or even they know. Even for a person who seems to communicate or perform a task well, the **easier** you can **make** that **task** or **communication** for this person, then the **more** you will be **conserving** their **energy** for more difficult tasks or more pleasurable tasks and communication. And the more you will be preventing fatigue, irritation, distress, striking out, withdrawal, or refusal to do a task.

Avoid the temptation to think of a routine task such as eating or putting on a coat as a way to provide cognitive exercises or stimulation for this person's brain. Their brain is likely working very hard already.

In fact, it is more effective to **help** this person's **brain relax**, so it can function more effectively and more easily. This person will likely have more difficulty thinking when they are put on the

spot, are surprised, or are anxious. Especially avoid "testing' this person by having them guess who you are or what day it is, or produce a fact about themselves or in general.

To challenge and stimulate this person's cognitive strengths, offer tasks this person enjoys doing without demands or time constraints, such as cross word puzzles, trivia games, board games, arranging flowers, food preparation, or listening to you read an article or a story. They need to choose (either consciously or not) the challenges they want to pursue. A trained professional can also provide physical and other exercises or challenges that might be appropriate for this person.

To make communication and a task easier, identify and support this person's cognitive strengths and needs by modifying the environment, your communication, and the task. Chapters 2-5 and the CAIS show you how to do this.

4. Change Conditions, Not This Person

The CAIS approach to intervention or support focuses on changing the **conditions** or external factors around a person (that is, their environment, communication, task) rather than trying to change this person.

When the conditions around a person (that is, their environment, the timing and structure of a task, and interactions with other people) rely too heavily on cognitive abilities that are weak for a person (or hard for this person to do), then this person will likely have difficulty communicating or performing the task. When a person has too much **difficulty meeting** the **cognitive demands** and expectations placed upon them by the situation or conditions around them they will likely have to work hard to perform a task or communicate, and will more likely feel **confusion** and emotional **distress**. Withdrawal or distressing situations and behavior will more likely occur. Sometimes the conditions are **not cognitively stimulating** enough, and this person may have similar reactions, in addition to **boredom** and l**ethargy**.

The CAIS helps **make** the **conditions match** this person's **cognitive strengths** and **needs**. When there is a mismatch, where the conditions overestimate or underestimate a person's cognitive abilities, this person can become confused, stressed, fatigued, withdrawn, irritable, anxious, angry, or distressed in some way.

The CAIS questions and interventions focus primarily on **cognition**. The interventions suggest ways to **rely on**, **nurture**, and support **strong cognitive abilities**, and nurture, support, **adapt to**, or **compensate** for this person's **weaker cognitive abilities**. It does NOT try to directly "teach" a person cognitive skills. It tries to **modify** the **conditions** and situation, so this person can more easily use their cognitive abilities. When necessary the conditions are modified to compensate for this person's cognitive needs. This helps this person to successfully interact with their surroundings and other people and perform tasks.

The CAIS also addresses emotions and behavior by modifying the environment, communication and the task to address this person's cognitive abilities which in turn affects this person's **emotions** and **behavior**.

Intervention Strategies that Address Cognitive Abilities

The chapters in this Volume I and the CAIS in Volume II provide specific and practical, everyday intervention strategies to accommodate an individual's specific cognitive abilities.

These interventions rely on and use the cognitive abilities this person does easily and well, and support or compensate for the cognitive abilities this person has more difficulty with (that is, their cognitive weaknesses or needs). They make tasks, understanding, and communication easier for this person.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**2** about basic messages about cognitive changes
#**1** about messages about cognitive intervention

5. Consistency: Change Only When and How It Is Helpful for This Person

An important concept for helping a person is **consistency** in the environment, in how you interact with them, and in how a task is structured and timed.

This person may rely on **familiarity** and **predictability** to recognize their environment, understand what you are saying, and know how to do a task. It will likely be difficult for them to adapt to someone new, a new space, or a new activity or task. They may have difficulty understanding context and what is appropriate in that context, or the reason for a task, or the need to communicate. Familiarity and habit may help them perform a task or communicate more easily even if they don't consciously understand the subtleties or the overall plan or logic.

If you need to make a change in anything, do it only when the change will benefit this person more than it will tax their cognitive abilities. For example, avoid changing where this person eats a meal unless the place they have been eating is making it too difficult for this person to eat and moving to a different spot is the **only** way to help them eat more easily.

Nearly every change you make, even when it helps this person, will make it more difficult for this person in some other way. So every change has to be weighed for the trade off in benefit versus challenge it creates. For example, if this person cannot tie their shoes because their fingers are in too much pain, then replacing the tie shoes with Velcro shoes or slip on shoes may be worth the change. If this person gets upset or simply can't adjust to the change, then two alternatives would be to use adaptive equipment if they can learn to use it easily, or for you to tie their shoes for them.

In the two examples used above under the subheading "Ask Yourself "Why?"", the intervention of cues in the environment to help a person find a room was noted. These were for a person with parietal lobe changes where "landmarks" in the environment were helpful. For this person keeping the environment consistent might be crucial if they have difficulty locating objects in

space relative to other objects and to themselves. If those objects are moved around, this person has to continually recalculate or "relearn" where objects are. This could be fatiguing and overwhelming to them, even if they do not know they need to do this or are doing it unconsciously. Keeping furniture, colors, objects, and people in the same place, rather than rearranging or redecorating for variety, is an important intervention.

Just as a person with **parietal** lobe changes will likely need their **environment** structured and **consistent**, so a person with changes in the **frontal** lobe will likely need their **time** structured and **consistent**. They may need "landmarks" in time such as predictable and consistent timing of events, the same order of events, and the same way of performing a task. Having the same people assisting them, the same tasks, routines and schedule every day can be important. Even if this person doesn't consciously know the time or the order of events, they will more likely sense after lunch that it is time for a walk. They will more likely have a sense of confidence and security "knowing" what to do and when to do it. This is discussed more in other chapters and in the CAIS Intervention Strategies.

6. Four Factors: Person, Environment, Communication, Task

To help a person in any situation or with a task or communication, examine four factors (this person, their environment, your communication with them, their tasks and daily routines). You can examine these four factors to try to understand a person and a situation and then use the four factors for intervention.

When you ask "Why?" as suggested above, these are the four places you look to find the answers.

When you want to help, these again are the four places where you can find ways to help.

The **four factors** are:

- **Person**: A person's cognitive, emotional, physical, and medical condition (including medications).
- **Environment**: What is going on in the environment around this person.
- **Communication**: How you communicate with this person.
- **Task**: How you structure or organize a particular task, whether that task is putting on a coat or making a decision.

When you understand how each of these four factors is making it harder or easier for this person to understand what is going on, to communicate, to feel comfortable, and to do a task, then you will get ideas of how to help this person.

By focusing on these four factors you can better understand:

- How each of the four factors helps or hinders.
- What this person's cognitive needs and strengths are.
- How to change the environment, your communication strategies, or the task itself to better address those cognitive needs and strengths.

- How these changes can support or compensate for this person's cognitive needs.
- How these changes can help this person rely on and use their strong cognitive abilities.
- How these changes can make it easier for this person to feel calm, comfortable, and successful in general.
- How these changes can help make your time with this person more enjoyable for both of you.

The more we know about a person's cognitive abilities, the more we will understand how to help.

Address the Whole Person

We are focusing here on a person's cognitive abilities. It is very important however to address the whole person including their emotional, spiritual, physical, and medical wellbeing.

Especially if a person is in distress, it is important to look to a variety of possible influences. For example, this person may be in pain or taking a medication that is causing discomfort, confusion, delirium, or sleepiness. They may be emotionally distressed due to a poor night's sleep, a frightening experience, or the death of a family member.

This person's medical and emotional status will have a significant impact on their ability to focus and to perform tasks. When this person feels safe, comfortable, and relaxed, their cognitive abilities will likely improve. They will be able to think, understand, process, and respond more easily, and will feel less frustrated and distressed.

A medical evaluation (including a review of medications) and review of a person's medical and personal history will be important.

Knowing what was and is familiar or "normal" to this person throughout their life and what kind of a person they try to be is also important. What were and are this person's life-long goals or self-image (perhaps to be independent, modest, productive)? For example, a person who takes pride in being independent may benefit from feeling like they are doing tasks themselves. A person who is modest and private may need to be covered most of the time. A person who likes being productive may feel good doing a task, and may benefit from being shown, then complimented on the outcome of their task.

Knowing how this person tended to cope with stress, trauma, or tragedy in the past and their current coping strategies would be helpful to know.

The CAIS and Chapter 2 focus on the cognitive abilities of a person. These other influences will need to be examined in addition to the cognition.

The next four chapters #2 through #5 will look at each of the four factors identified above and see how they can be examined and adapted to address this person's cognitive strengths and needs as they change over time. They will explore how to individualize to a specific person at a specific time.

They will show how you can systematically examine each factor and change each factor with intervention strategies that help this person and you feel comfortable, communicate better, perform a task more easily, and also reduce distress, distressing situations, and behavior that creates distress, or even prevent distress from occurring in the first place.

7. CAIS Questions to Ask and CAIS Intervention Strategies

All of this is done by learning to ask a series of questions about each factor using the ***Cognitive Abilities and Intervention Strategies (CAIS) Questions to Ask.***

The CAIS questions identify a particular person's unique set of cognitive strengths and needs (cognitive abilities), then systematically examine how well each factor supports them.

Answers to these questions generate suggestions of intervention (support) strategies from the ***Cognitive Abilities and Intervention Strategies (CAIS) Intervention Strategies***. These interventions are simple, practical, concrete, and individualized to a particular person, time, and situation. They are designed to support a person's unique set of specific cognitive abilities by adapting the environment, your communication strategies, and the structure and timing of the task and daily routines.

They focus on specific cognitive abilities so they can **use**, **build**, and **rely on** this person's specific cognitive **strengths**, and **support**, **nurture**, **adapt to**, or **compensate** for this person's specific cognitive **needs**.

These interventions can be modified to remain effective as this person's cognitive abilities change over time and as conditions (such as the environment, communication, and the task) unexpectedly change over time.

Anyone can use these questions and interventions. They are simple, use a minimum of technical language, and apply to everyday (as well as unusual) tasks and situations.

The CAIS is intended to be a part of your approach to intervention and support. It can be **added** to **other intervention strategies** you may **already use**. It does not to need to replace intervention strategies you have found to be helpful.

All the concepts and support strategies in the CAIS and in these three volumes apply to **any person**, **any setting**, and **any interaction** or **task**.

The CAIS consists of questions and intervention strategies in four parts: **Cognitive Abilities**, the **Environment**, **Communication**, and the **Task and Daily Routines**.

You can find the **full set of all four parts of the CAIS Questions and Interventions** (including the CAIS Cognitive Abilities, Environment, Communication, and Task) in **Volume II** of this

manual. It can also be found both as a pdf and in an interactive format on the **Improving MI Practices** website at **https://www.improvingmipractices.org**

VII. SUMMARY AND LOOKING AHEAD

Chapter 1: Summary

Chapter 1 described the brain and the effects of changes in the brain on cognitive abilities and behavior. It introduced the CAIS as a way of understanding the effects of the brain changes and planning support or intervention strategies that address a particular person's cognitive abilities.

Chapter 2: Coming Next

Chapter 2 describes how to look at the cognitive abilities of a person to see how to rely on and build on this person's cognitive strengths and accommodate their cognitive needs.

Tips for understanding a person's cognitive abilities so you can make it easier for this person to perform tasks, understand and interact with other people and with their environment, and to feel comfortable and competent are discussed with examples from the *CAIS Cognitive Abilities Questions to Ask* and the *CAIS Cognitive Intervention Strategies* to illustrate how the CAIS is structured.

Chapters 3 through 5: Looking Ahead

Chapters 3 through 5 look at how to adapt the **environment**, your **communication**, and a person's **tasks** and daily routines to a person's cognitive strengths and needs (that is, their cognitive abilities), respectively. They give **tips** and **examples** from the *CAIS Questions to Ask* and the *CAIS Intervention Strategies*. Chapters 3 and 4 explain and illustrate two of the five ways the CAIS is **individualized** by comparing suggested intervention **concepts** and **strategies** across the four parts of the CAIS.

VIII. ADDITIONAL RESOURCES

Original Sources

1. Weaverdyck, S.E. (1990) "Neuropsychological Assessment as a Basis for Intervention in Dementia". Chapter 3 in N. Mace (Ed.) Dementia Care: Patient, Family, and Community. Baltimore, Md.: Johns Hopkins University Press.
2. Weaverdyck, S.E. (1991) "Assessment as a Basis for Intervention" and "Intervention to Address Dementia as a Cognitive Disorder". Chapters 12 & 13 in D. Coons (Ed.) Specialized Dementia Care Units. Baltimore, Md.: Johns Hopkins University Press.

Resources About the Brain and Cognition and the CAIS

For more information about the brain and cognition and the CAIS that is easily accessible and easy to read see:

1. The Michigan **Improving MI Practices** (**IMP**) **website** at this link: **https://www.improvingmipractices.org** Many resources regarding the brain, mental

health, and cognition are on this IMP website. This website also has this entire three-volume manual including this Chapter 1, the entire CAIS Questions and Intervention Strategies, and the CAIS online course that is described below.

2. The ***CAIS Questions to Ask*** and *CAIS* ***Intervention Strategies*** and instructions for all four parts: Cognitive Abilities, Environment, Communication, Task and Daily Routines in Volume II. The CAIS Questions and Intervention Strategies are questions you ask yourself to understand a person's cognitive abilities and how well their environment, task and daily routines, and your communication with them support this person's cognitive strengths and needs. It provides suggestions of intervention strategies that address this particular person's specific cognitive strengths and needs. The entire **CAIS Questions** and **Intervention Strategies** are available in an **interactive format** and as pdf documents on the IMP website at **https://www.improvingmipractices.org**
3. **CAIS Handouts of Information and Suggestions** (43 total) in Volume I. These can be distributed as handouts. They are additional resources on a variety of topics with more in-depth information about the brain, cognitive abilities, and intervention and support strategies. There is a list of the CAIS handouts that are especially relevant to the **brain and cognition** (and this **Chapter 1**) below. All 43 handouts are available at the end of this Volume I and on the IMP website at **https://www.improvingmipractices.org**
4. The five-session **CAIS curriculum**, called the "**CAIS Educational Series**: Understanding and Supporting a Person's Cognitive Abilities: **Session 1 Understanding the Brain and Cognition**" in Volume III, for you to use informally or to present more systematically as an instructor. The sessions and content can be used **informally** for **your own learning**, or for **sharing** or **advising** in a one-on-one conversation, with a family, or a small group setting. They can also be used more systematically as a presentation to a class, meeting, or an audience in any other venue. Sessions 1-5 address the brain, cognitive abilities, the environment, communication, and the task, respectively. These sessions encourage asking "Why?". They include **informal questions** to ask that are similar to those more formally structured in the *CAIS Questions to Ask*. Session 1 includes information about dementia (or major neurocognitive disorder). Each one-hour session has a script, objectives, PowerPoint slides, handouts, and evaluation forms. The entire curriculum of five one-hour sessions is available on the IMP website at **https://www.improvingmipractices.org**
5. **CAIS Handout #8** "**The Brain and Cognitive Abilities**". This is an adaptation of the handout from Session 1 of the CAIS Educational Series curriculum described above. Both of these handouts are on the IMP website at **https://www.improvingmipractices.org**
6. The **Online Course** of five one-hour modules called "Beyond Behavior: Cognitive Abilities and Intervention Strategies (CAIS)", including **Module 1: The Brain and Cognition**". The online course explores concepts and gives examples and tips from the *CAIS Questions to Ask* and *CAIS Intervention Strategies*. It also **shows how to use** each of the four parts of **the CAIS.** Each of the five modules address the brain and cognition, cognitive abilities, the environment, communication, and the task and daily routines, respectively. The **title** and **content** of each **module** in the online course **correspond** to the title and content of each **chapter** in Volume I, each part of the **CAIS** in Volume II, and each **session** of the curriculum in Volume III. The content and context in each of the three volumes and online course, while similar, **treat** the **topics differently**, because they each have a different focus and **purpose**. Each of the three volumes of the manual provide **additional content** and **tips** that can help you

better **understand** and more easily **apply** the information in the modules of the online course. **Chapter 1** goes into **more depth** than the online course and provides additional tips and content related to the **brain and cognition**. The online course is for anyone who interacts with a person (particularly a person living with cognitive challenges or distressing behavior), assists with a task, or advises someone who does. You do not need specialized expertise or training to use the CAIS or to take the online course. The entire online course is available for you to view or take on the **IMP website** at **https://www.improvingmipractices.org**

Handouts of Information and Suggestions Especially Relevant to the Brain and Cognition

The CAIS Handouts of Information and Suggestions are available at the end of this Volume 1. They might be particularly helpful and informative. They can be read and distributed as handouts. There is a complete list of all the CAIS handouts available (**43 handouts** total), called "**CAIS Handouts: Information and Suggestions for Improving Everyday Life and Reducing Distress by Supporting Cognitive Abilities**".

The CAIS Handouts that are especially relevant to topics covered in this chapter, including the brain and cognition are listed below. The number before each handout below refers to the number of the handout in the CAIS Handouts list. These are all available on the Improving MI Practices website at **https://www.improvingmipractices.org**

A Partial List of CAIS Handouts Especially Relevant to this Chapter 1:

#1. Messages about **Cognitive Intervention**: Suggestions about the Basics of Addressing a Person's Cognitive Abilities: 4 pages (CAIS.Handout.1.Messages.Cognitive.Intervention.4.22.20.pdf)

#2. Messages about **Cognitive Abilities**: Suggestions of Assumptions to Make about a Person who Needs Help: 3 pages (CAIS.Handout.2.Messages.Cognitive.Abilities.4.22.20.pdf)

#3. **Cognitive Abilities Listed**: Five Phases of Cognitive Processing: 2 pages (CAIS.Handout.3.Cognitive.Abilities.List.4.22.20.pdf)

#4. **Understanding** Cognitive **Abilities:** Questions to Ask: Handout from Session Two of the CAIS Educational Series: 5 pages (CAIS.Handout.4.Questions.Cognitive.Abilities.4.22.20.pdf)

#5. **Recognizing Cognitive Abilities**: Suggestions for Recognizing Evidence of a Person's Cognitive Strengths and Needs: 6 pages (CAIS.Handout.5.Recognizing.Cognitive.Abilities.4.22.20.pdf)

#6. The **Healthy Brain and Cognition**: Information about Cognitive Abilities and Parts of the Brain: 4 pages (CAIS.Handout.6.Healthy.Brain.Cognition.4.22.20.pdf)

#7. **Brain Changes and the Effects** on Cognition: Information about Parts of the Brain, Cognitive Abilities, and Dementia: 10 pages (CAIS.Handout.7.Changes.Brain.Cognition.4.22.20.pdf)

#8. The **Brain and Cognitive Abilities**: Handout One from Session One of the CAIS Educational Series: 8 pages (CAIS.Handout.8.Brain.Cognitive.Abilities.4.22.20.pdf)

#9. Hand Dominance Criteria: Suggestions of Evidence a Person is Left or Right Handed: 1 page (CAIS.Handout.9.Hand.Dominance.4.22.20.pdf)

#10. **Comments about the Brain**: Information about the Brain and Effects of Brain Changes Summarized: 2 pages (CAIS.Handout.10.Brain.4.22.20.pdf)

#17. Three Questions About Cause: Suggestions for a Search for the **Reasons Cognitive Changes** are **Occurring Now**: 2 pages (CAIS.Handout.17.Three.Questions.Cause.4.22.20.pdf)

#18. Change in Cognition Questions: Suggestions for Exploring Possible Reasons for Cognitive Changes in **Mental Illness**: 1 page (CAIS.Handout.18.Change.Cognition.4.22.20.pdf)

#19. **Alzheimer's Disease**: Information and Intervention Suggestions with an Emphasis on Cognition: 8 pages (CAIS.Handout.19.Alzheimers.Disesase.4.22.20.pdf)

#20. **Dementia with Lewy Bodies**: Information and Intervention Suggestions with an Emphasis on Cognition: 9 pages (CAIS.Handout.20.Dementia.LewyBodies.4.22.20.pdf)

#21. **Frontotemporal Dementia**: Information and Intervention Suggestions with an Emphasis on Cognition: 9 pages (CAIS.Handout.21.Frontotemporal.Dementia.4.22.20.pdf)

#24. **Do's to Remember:** Suggestions for Preventing and Responding to Distress and Distressing Situations: 2 pages (CAIS.Handout.24.Distress.Tips.4.22.20.pdf)

#25. Responding to **Distress**, **Pain**, and **Needs** of a Person: Suggestions of Verbal and Nonverbal Strategies: 3 pages (CAIS.Handout.25.Nonverbal.Pain.Distress.4.22.20.pdf)

#26. **Emotions**: Suggestions of How to Recognize **Nonverbal Evidence**: 2 pages (CAIS.Handout.26.Emotions.Nonverbal.4.22.20.pdf)

#27. **Touch**: Suggestions for Touching a Person with Changes in Cognitive Abilities: 4 pages (CAIS.Handout.27.Touch.4.22.20.pdf)

#29. **Visual-Spatial Interventions**: Suggestions for Helping a Person by Addressing their Visuospatial Abilities: 4 pages (CAIS.Handout.29.Visuospatial.4.22.20.pdf)

#34. **Sleep** Interventions: Suggestions for Helping a Person by Addressing their Cognitive Abilities: 6 pages (CAIS.Handout.34.Sleep.Tips.4.22.20.pdf)

#35. Interventions for a Person with Brain Changes in the **Frontal Lobe**: Suggestions for Helping a Person by Addressing their Cognitive Changes: 9 pages (CAIS.Handout.35.Frontal.Lobe.Tips.4.22.20.pdf)

#36. Interventions for a Person with **Right** Hemispheric Brain Changes: Suggestions for Helping a Person by Addressing their Cognitive Changes: 2 pages (CAIS.Handout.36.Right.Hemisphere.Tips.4.22.20.pdf)

#37. **Dementia with Lewy Bodies Interventions**: Suggestions for Helping a Person Living with DLB: 4 pages (CAIS.Handout.37.Tips.Dementia.LewyBodies.4.22.20.pdf)

#38. **Frontotemporal Dementia Interventions**: Suggestions for Helping a Person Living with FTD: 5 pages (CAIS.Handout.38.Tips.Frontotemporal.Dementia.4.22.20.pdf)

#40. Ten Questions about **Distress**: Suggestions of Questions to Ask when Advising about Distressing Situations and a Person in Distress: 1 page (CAIS.Handout.40.Ten.Questions.Distress.4.22.20.pdf)

#41. Response to **Acute Distress**: Suggestions of Questions to Consider when Assisting a Person with Cognitive Changes: 2 pages (CAIS.Handout.41.Acute.Distress.Questions.4.22.20.pdf)

#42. **Planning an Intervention** for a Distressing Situation: Suggestions for How to Address the Distress: 4 pages (CAIS.Handout.42.Planning.Distress.Situation.4.22.20.pdf)

#43. Methods and Occasions for **Assessment**: Suggestions of Types and Times of Assessment for a Person with Cognitive Changes: 2 pages (CAIS.Handout.43.Assess.Methods.Occasions.4.22.20.pdf)