Chapter 2: Cognitive Abilities

I. INTRODUCTION TO CHAPTER 2

The **goal** of these chapters (and this manual) 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 **Cognitive Abilities Intervention Strategies** (**CAIS**) questions and interventions suggest 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.

This chapter focuses on **cognitive abilities** and the ***CAIS Cognitive Abilities Questions to Ask*** and the ***CAIS Cognitive Intervention Strategies***.

This is the second 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 **CAIS Questions** and **Intervention Strategies** (in an interactive format and as pdf documents), 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 2** ("Cognitive Abilities") directly relates to **Module II** ("Cognitive Abilities") of the **online course**, and **Session 2** ("Understanding Cognitive Abilities") of the ***CAIS Educational Series***. Chapter 2 goes into **more depth** and provides **additional tips** and **content** that can help you better **understand** and more easily **apply** the information in **Module II**, in **Session 2**, and in the ***CAIS Cognitive Abilities*** *Questions to Ask* and *CAIS Cognitive 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 environment or other people, or do 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.

In this chapter the words "**Questions**" and "**Interventions**" or "**CAIS**" will frequently be used to refer to the "*Cognitive Abilities and Intervention Strategies (CAIS)* ***Questions to Ask****"* and the "*Cognitive Abilities and Intervention Strategies (CAIS)* ***Intervention Strategies****"*.

Topics (and headings) in Chapter 2:

Topics in this Chapter

This chapter presents some **concepts** and issues related to a person's cognitive abilities, some tips regarding how to support a person's cognitive abilities, and some **examples** from the *CAIS* ***Cognitive Abilities*** *Questions to Ask* and *Intervention Strategies* to illustrate how the Questions and Interventions are **structured** and how they address the concepts and issues.

There are **four parts** to the CAIS Questions and Interventions: Cognitive Abilities, Environment, Communication, the Task and Daily Routines. This chapter addresses the **Cognitive Abilities CAIS**. Each part has a set of **questions** you ask yourself as you observe a person performing a task (with or without assistance). The Cognitive Abilities CAIS questions help you **identify** a particular person's **specific cognitive strengths** and **cognitive needs**, even as they change over time. For **each question** there is a **list of** ideas of concrete, practical, everyday **intervention** or support **strategies** that address that particular question. It is important to identify a person's **strengths** as well as **needs**, so you and this person can rely on and use their strengths as you and they nurture, adapt to, or compensate for their needs.

You can find the full set of **all four parts** of the **CAIS Questions** and **Interventions** (including the Cognitive Abilities Questions and Interventions) in **Volume II** of this manual. It can also be found both in an **interactive** format and as **pdf** documents on the **Improving MI Practices** (IMP) **website** at **https://www.improvingmipractices.org**

An **introduction** and **instructions** for the **CAIS** are also in **Volume II** and on the same IMP **website**. The **first page** of each ***Questions to Ask*** in all four parts of the CAIS gives brief instructions.

For a **brief description** of the **Cognitive Abilities** CAIS Questions and Interventions that still has details, see the "**CAIS REVIEW**" content at the end of **this chapter** under the heading "**Description of the Cognitive Abilities CAIS**: **CAIS REVIEW**". It focuses on cognitive abilities as a brief overview of the full description of all four parts of the CAIS in Volume II. It might be helpful to read the "CAIS REVIEW" before reading the rest of Chapter 2 if you are not familiar with the CAIS and how it is structured.

II. COGNITIVE ABILITIES

This chapter looks at how you can **support** a person and their **cognitive abilities.** It explores how asking the CAIS Questions can help you identify for a particular person which cognitive abilities are **strong** and which need **additional support**. It can help identify what makes tasks and interactions with the environment and other people **easy** or **difficult** for this person, and what helps this person feel relaxed or upset.

The CAIS Intervention Strategies show how the **environment**, the **task**, and the way you **communicate** with this person can be adapted to support this person's cognitive strengths and their cognitive needs. As stated earlier, this support can help improve this person's ability to understand and interact with their environment and other people, do a task, and feel more comfortable. It can improve their quality of life. It can also prevent or alleviate distressing situations (including behavior that creates distress), and reduce frustration and stress for both you and this person. Adapting to this person's cognitive abilities can make it easier for you and this person to feel comfortable, competent, and to enjoy your time together.

This chapter shows how the CAIS can be a **simple** way to **support** a person's **cognitive abilities** that can be used by **anyone** in **any setting**, and is i**ndividualized** to a particular person and their cognitive abilities.

Chapter 3 shows how to support cognitive abilities by adapting the **environment**, Chapter **4 communication**, and Chapter **5** the **task and daily routines**.

The intervention or support strategies help:

- **Use**, **build**, and **rely on** this person's specific cognitive **strengths**.
- **Support**, **nurture**, **adapt to**, or **compensate** for this person's specific cognitive **needs**.

<u>Cognitive Abilities, Distress, and the Brain</u>

Cognitive abilities include a person's ability to **understand** and **respond** to their environment and other people, to **think**, remember, problem solve, and imagine. Cognitive strengths and needs

directly affect this person's **emotions** and **behavior**, as well as their ability to **communicate** and to perform a **task.**

Chapter 1 explores examples of cognitive abilities as a person's brain matures and their cognitive abilities grow throughout this person's life. It describes the brain and how changes in **specific parts** of the **brain** can affect **specific cognitive abilities** of a person. These changes in the brain and cognitive abilities can cause a person to communicate or perform a task more easily some times than other times.

Sometimes specific changes can make communication and doing a task **difficult** for a person. This person may get confused, frustrated, or upset easily or engage in behavior that might be distressing to themselves or others. These cognitive changes can also make **someone else's behavior unintentionally** feel **distressing** to this person. This unintentionally distressing behavior by others could include words, movements, or actions. This is especially apparent when the brain changes are related to dementia (or major neurocognitive disorder), stroke, mental illness, injury, or other factors. Chapter 1 discusses in detail cognitive abilities, the brain, and distress.

Each person's brain, healthy or not, has unique and specific strengths and weaknesses, which create a unique pattern (or profile) of specific strengths and weaknesses in this person's cognitive abilities. We are all born with this **unique** pattern of **cognitive strengths** and **needs**. Most of our cognitive abilities are **not conscious**. So we don't know most of our own cognitive abilities or how weak or strong they are. That is, we don't know most of our own cognitive strengths and needs and can't easily talk about them.

Since each person's brain continues to change throughout this person's life, their **cognitive abilities** also **change** in obvious and less obvious ways.

As changes in the brain occur (regardless of the cause) it is important to understand how these changes affect specific cognitive abilities (strengths and needs) for this person.

While brain disorders often affect specific parts of the brain (and therefore specific cognitive abilities), each person with any brain difference or disorder, including dementia, still has their own unique set of cognitive strengths and needs at any given time. There is usually much **variation** across individuals living with a brain difference or disorder, reflecting in part the differences in individuals' brains at birth as described in Chapter 1. So, it is important to **look closely at** this **particular person** to discover what their own strengths and needs might be, and how they might change in ways unique to this person over time and day to day. The CAIS is **individualized** to a particular person, setting, and time. Explanations of how the CAIS is individualized and how you can individualize it further are in the "Complete Instructions and Introduction for the CAIS Questions to Ask and CAIS Intervention Strategies".

There are **many individual cognitive abilities**. Some of them are obvious, but some can be quite **subtle**. The pattern of cognitive strengths and needs can be **complex**. Changes in cognitive abilities can also be subtle and noticeable only by for example, a slowed response or minor mistakes. The **CAIS** addresses some of the cognitive abilities that are more **recognizable** and that have a more easily recognized **impact** on a person's ability to perform a task and interact with the environment and other people. Interventions to address them can also be more easily identified.

Chapter 1 discusses why the role of cognitive abilities in a person's emotions, behavior, and task performance is the focus of the CAIS. It gives the rationale for the assumption that interventions that address cognitive abilities are likely to be more effective and efficient than those that address primarily behavior or emotions.

Specific cognitive abilities are discussed in detail below under the heading "Tips about Cognitive Abilities and Examples from the CAIS".

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

III. FIVE PHASES OF COGNITIVE PROCESSING

There are five steps or phases of cognitive processing that **everyone** (all of us healthy or not) must go through in order to **understand** and **respond** to people, objects, and events in their environment.

The **five phases** of cognitive processing are:

1. Sensory Phase
2. Comprehension/Perception Phase
3. Executive Phase
4. Expressive Phase
5. Motor Phase

We each go through these five phases in this order when we see, hear, feel, taste, or smell something around us and respond.

Let's use the scenario of helping a person **wash** their **arm** at the **sink** to illustrate the five phases of cognitive processing.

This person must go through each of the five phases in order to take the washcloth you are offering them.

Specific cognitive abilities are required of this person during each phase of cognitive processing.

The leading question in each phase below can help you understand a person's ability to go through each phase, as you offer them a washcloth.

1. Sensory Phase

- Is this person **receiving information** from the environment through their five senses (seeing, hearing, feeling, tasting, smelling)?

First, in the sensory phase, this person needs to **see** the washcloth you are offering and to **hear** the words "wash your arm".

2. Comprehension/ Perception Phase

- Is this person **recognizing** and **understanding information** received through their five senses?

Second, in the comprehension/ perception phase, this person needs to know what they saw and heard.

Their brain needs to recognize the **words** they heard "Here is a washcloth" and know what the words **mean**.

They need to be able to **recognize** and **know what** a washcloth is for.

Their brain also needs to be able to recognize **where** the washcloth is relative to other objects and to themselves.

3. Executive Phase

- Is this person **categorizing**, **organizing**, **applying**, and **using** the **information** received?

Third, in the executive phase, this person's brain needs to **decide** what it wants to do with the information and what **response** it **wants** to produce.

This person must decide if they want to take the washcloth. To make this decision, the brain uses cognitive skills such as:

- **Memory**: For example, they remember that a washcloth is used to clean or wash the arm.
- **Logic**: For example, it makes sense to wash since their arm needs it.
- **Other** cognitive skills to decide whether to take the washcloth.

4. Expressive Phase

- Is this person's **brain telling** their **body what to do**?

Fourth, in the expressive phase, can their brain tell their body how to respond?

Can their brain tell their body how to take the washcloth?

If this person decided they want to take the washcloth, their brain needs to tell their body how to take the washcloth; how to coordinate all those little movements in their arm, wrist and hand to reach out and to remove the washcloth from someone's hand.

5. Motor Phase

- Is this person's body **physically responding** to the **instructions** from their brain?

Fifth, in the motor phase, this person's body must be able to **respond** to their brain's instructions. How healthy, strong, and pain free is this person's body?

Can this person's hand reach out to take the washcloth?

If this person has a broken arm, arthritis, or their hand or arm is weak, or they are in too much pain, or their muscles aren't able to follow their brain's instruction, then their hand may not be able to reach out to take the washcloth.

Identify the Phase(s) Difficult for This Person

If this person doesn't take the washcloth, you can ask yourself which of these five phases this person is having **difficulty** with.

Ask yourself the **leading question** identified in each phase above to help identify the most difficult phase(s) for this person.

To identify in more **detail** the difficulty with the five phases, you can ask yourself the questions from the *CAIS Cognitive Abilities Questions to Ask*. They will help you identify the **specific cognitive abilities** in each phase that are the most difficult for this person.

Once you figure out where the difficulty is, you can **help** this person with the **phase** (or specific cognitive abilities) they are unable to do easily.

Often a person with many cognitive needs has difficulty in more than one phase, so you may have to help with several **phases**.

Help with Difficult Phase(s)

You can **help** this person with the phase(s) (or specific cognitive abilities is each phase) that are most difficult by adapting your words and movements, modifying the environment, or adjusting a task object, step, or timing to help this person get through the phase(s). Often **small** modifications or adaptations can make a **big** difference.

Generally, a person will have **difficulty** moving though a phase when the task they are dong, or some aspects of their communication with someone, or their environment all rely too heavily on cognitive abilities that are **weaker** or more difficult for this person. So by **modifying** the task, our communication with this person, or their environment you can **reduce** the **need** for this person to **use** their **weaker cognitive abilities**.

Fir example, if this person can't see an object, you can bring it closer to them or clean their glasses (**Phase 1**). Or if this person doesn't know what a washcloth is when they see it, you can tell them what it is (**Phase 2**). Or if this person doesn't know what the next step of a task is, you can put a list of the task steps in order up on the wall or you can tell them what the next step is one at a time (**Phase 3**). Or you can put the washcloth in their hand rather than expecting them to pick it up off the shelf (**Phase 4**). Or you can provide a chair for this person at the sink, so they don't have to stand to wash their arm if they are too weak to stand (**Phase 5**).

The ***CAIS Cognitive Intervention Strategies*** give ideas of specific intervention or support strategies to help this person through all five phases.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**3** that identifies more of the many cognitive abilities in each of the five phases
#**5** about how to recognize evidence of a person's specific cognitive abilities
#**1** about how interventions can focus on cognitive abilities
#**2** about cognitive change and behavior and the ability to do tasks

IV. TIPS ABOUT COGNITIVE ABILITIES AND EXAMPLES FROM THE CAIS

Some tips regarding cognitive abilities are presented here under the five phases of cognitive processing (that is, the **subheadings**) that are in the CAIS Cognitive Abilities Questions and Interventions. **Examples** from the Cognitive Abilities CAIS are used to illustrate how the **CAIS** is **structured**.

Only a few of the tips, issues, questions, and interventions are mentioned in this chapter. See many **more details** and **questions** and **interventions** in the Cognitive Abilities part of the **CAIS**.

To look directly at the Cognitive Abilities CAIS (that is the ***CAIS Cognitive Abilities Questions To Ask*** and the ***CAIS Cognitive Intervention Strategies*****)**, see **Volume II** or see the **interactive** format (or **pdf documents**) of the CAIS on the Improving MI Practices **website** at **https://www.improvingmipractices.org**

There are **instructions** and a **description** of the CAIS in Volume II (and on the IMP website) and an abbreviated description at the **end of** this **chapter** under the heading "**Description of the Cognitive Abilities CAIS**: **CAIS REVIEW**".

CAIS Questions to Ask and Intervention Strategies

The **CAIS questions** address each of the five phases of cognitive processing and the specific cognitive abilities in each phase.

You can use the CAIS Cognitive Abilities **Questions** to **identify needs** and **strength**s in each phase and in **specific cognitive abilities.** Then you can use the CAIS Cognitive Interventions to generate ideas of **intervention** strategies to address this person's specific cognitive abilities. There are intervention ideas listed in the *CAIS Intervention Strategies* for each question in the *CAIS Questions to Ask*.

The questions and interventions listed in the CAIS are **only a few** of the many cognitive abilities, questions, and interventions that could have been included. You may have **additional questions** and **interventions** of your own that are helpful, including some regarding cognitive abilities not in the CAIS.

Many more questions and interventions could have been included in all four parts of the CAIS Questions and Interventions. You can **add more questions** and **interventions** not only to the CAIS Cognitive Abilities, but also to the CAIS Environment, CAIS Communication, and CAIS Task and Daily Routines discussed in Chapters 3, 4, and 5, respectively.

Some of the cognitive abilities identified in the CAIS Cognitive Abilities Questions are easier than others to understand and recognize in a person. If you would like more information on **how** to **recognize specific cognitive abilities** in a person, see the **Handout #5** noted below that is in the CAIS Handouts at the end of this Volume I (and on the IMP website).

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**3** that identifies more of the many cognitive abilities in each of the five phases
#**5** about how to recognize evidence of a person's specific cognitive abilities

Subheadings in the CAIS Cognitive Abilities: Five Phases of Cognitive Processing
Look at the *CAIS Cognitive Abilities* ***Questions*** *to Ask* ***Yes/No*** *Response Format.*

After the first page with introduction and instructions you see ***I. Sensory Phase*** on the left.

It looks like this:

I. Sensory Phase: Look for evidence this person is receiving information from the environment through their five senses (seeing, hearing, feeling, tasting, and smelling):

As you glance through the *Cognitive Abilities Questions to Ask*, you'll see the questions are organized under **five subheadings** (numbered by Roman Numerals I-V) that are the **five phases** of **cognitive processing** described earlier.

The five subheadings (phases of cognitive processing) are:

I. Sensory Phase
II. Comprehension/Perception Phase
III. Executive Phase
IV. Expressive Phase
V. Motor Phase

These are the five steps or phases that everyone must go through in order to understand and respond to their environment and other people. With the *CAIS* ***Questions*** *to Ask* you will see which phase(s) are **difficult** and which are **easier** for this person. Each phase identifies **specific cognitive abilities** that can help this person move through the phase.

Then the *CAIS Cognitive* ***Intervention*** *Strategies* will help you consider with respect to each of these cognitive abilities, ideas of intervention or support strategies that **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 help this person feel and be more **successful** with a task and in their interactions with you and their environment. They can also **reduce stress** and **anxiety** for both of you.

Ask all the questions

In the *CAIS* C*ognitive Abilities Questions to Ask* each phase (and subheading) has a series of questions to help you explore the specific cognitive abilities used in that phase. As you can see, there are many questions in each section under the subheadings #I-V.

When using the CAIS, it is most helpful to ask yourself **all** the **questions** in each phase (under each subheading) about a particular person to learn about this person's cognitive abilities. We will note later that there may be times you choose not to ask all the questions.

I. Sensory Phase Cognitive Abilities

Is this person **receiving information** from the environment through their **five senses** (seeing, hearing, feeling, tasting, smelling)?

All five senses can **fluctuate** depending on the environment, timing, and situation for any person at any age. There can also be sensory loss at any age even when it is not very noticeable.

Frequently when a person has **sensory loss**, they can **compensate** for this loss by using their brain (their frontal lobe for example as described in Chapter 1) to rely on other cues and senses to **figure out** what they are hearing and seeing. In such cases the sensory loss may not be obvious. For middle aged and older adults sensory loss occurs gradually for many years, so the brain has time to become more proficient at compensating.

However, if the **part** of the **brain** that **compensates** for sensory loss is **not working well**, this person will more likely depend on their senses alone. For example, if they cannot hear the "s" in "Time to get dressed", they may reply "drecked?".

Anecdote #1

This occurred with an older woman living with some hearing loss and changes in her frontal lobe. She was sitting in the living room in the morning in her nightgown when an assistant came to her and said "Let's go get **dressed**". This woman said "**Drecked**?" The assistant replied "Let's go put your clothes on". This woman looked toward the window and said "closed?" The assistant finally went to this woman's bedroom, picked up her dress, and walked toward the living room. Halfway down the hall this woman **saw** the assistant with the dress and immediately walked toward the bedroom to get dressed.

About this anecdote: This woman's brain (her frontal lobe) had difficulty compensating for her hearing loss by figuring out what the assistant was saying (by noting, for example, it's morning, I am in my nightgown, this assistant usually helps me get dressed, the assistant must be saying it's time to get dressed). The clothing as a **visual cue compensated** for her inability to hear and understand what the assistant said.

You may have to show a person a **tangible cue** (such as their clothes) before they understand it is time to get dressed. The part of the brain that is having difficulty compensating for sensory loss may also have **difficulty using other cues** (such as the time of day, your routine role in helping them get dressed every day, or the fact that they are in their pajamas) to help them **figure out** what is being said or understand the request to get dressed. They can more easily become confused and upset. So, it is even more i**mportant** for your interventions to **address sensory loss**. Dementia is an example of brain changes causing this increasing importance of sensory interventions.

Seeing

Due to changes in the eye that frequently occur with normal aging or with some other vision change or disorders, this person may not be able to see when there is too little light, too much glare, or too little contrast between dark and light color intensities in objects or in their environment.

For example, it may be difficult for this person to see a white washcloth when it is in front of a white towel, your white shirt, or a white wall. Glare from the floor may make a shiny floor look wet or slippery. They may wonder if a dark spot on the floor is a hole or something to step over. They may not be able to see how deep the sink is, which could affect their ability to even recognize it as a sink. These challenges may cause a person to hesitate walking on a floor or resist washing their arm at the sink.

Providing contrast that highlights certain objects or parts of an object can help this person see them more clearly and know where they are. Reducing glare with a different finish or with carpet can alleviate anxiety or uncertainty about how safe the floor is. Putting lines on a sink or bathtub can help this person see how deep the sink or tub is.

Hearing, seeing, and touch issues and interventions are in the CAIS and discussed in more detail below.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**30** with vision and hearing interventions
#**27** about touch
#**5** about how to recognize evidence of a person's specific cognitive abilities

Example Seeing: Sensory Phase in the CAIS Cognitive Abilities Questions to Ask

Look at the questions in the ***I. Sensory Phase*** section of the *CAIS Cognitive Abilities* ***Questions*** *to Ask* ***Yes/No*** *Response Format.*

I. SENSORY PHASE:

Look for evidence this person is receiving information from the environment through their five senses (seeing, hearing, feeling, tasting, and smelling):

- How well this person sees and hears the information
- How this person feels or experiences touch
- How well this person tastes and smells

A. If this person needs glasses, are they using glasses?	NA	NO	YES
B. If this person has glasses, are the glasses clean?	NA	NO	YES
C. Does this person see well enough during this task to focus on an object or to follow an object when it moves?		NO	YES

These are the first three questions. As you can see there are **many** more **questions** in this Sensory Phase section.

These sensory questions will apply to **every person** you are observing. They especially apply to a person with known sensory loss for any reason, including a middle aged or older adult or a person with vision changes or disorder.

If you answer "**No**" to Question **C** because this person's eyes do not see easily or well then you can go to the *CAIS Cognitive **Intervention** Strategies* for some intervention options to help this person, for example, see the washcloth.

Example Seeing: Sensory Functions in the CAIS Cognitive Intervention Strategies
Now look at the suggested intervention strategies in the ***I. Sensory Functions*** section of the *CAIS Cognitive **Intervention** Strategies.*

A "No" response (or "1" or "2" in the *Four Point Response Format*) in the *Cognitive Abilities Questions to Ask* directs you to the *Cognitive Intervention Strategies* where ideas of **intervention strategies** are identified **for each question** in the *Cognitive Abilities **Questions** to Ask.*

Look at the interventions under **Question C** in the ***I. Sensory Functions*** section of the *Cognitive Intervention Strategies*.

I. SENSORY FUNTIONS

Look for ways to help this person receive information from the environment through their five senses, by helping them to more easily:

- See and hear
- Feel or experience touch
- Taste and smell

. . . . .

C. Does this person see well enough during this task to focus on an object or to follow an object when it moves?

` **STRATEGIES:**

1. Identify which part of this person's visual field is optimal. That is, identify the spot in the environment where, if this person stares straight ahead without moving their head, they see objects and people most easily, quickly, and accurately.
2. Hold an object in the optimal part of this person's visual field.

   EXAMPLES for #C.2:

   - *Avoid holding the object too far away, too close, too high, too low, too far to the left, or too far to the right.*
3. Ensure there is enough light on an object so it is easy to see.
4. Ensure the area surrounding an object contrasts with the object so it is easy to see.

   EXAMPLES for #C.4*:*

   - *The pill is lighter or darker than the spoon that holds it.*
   - *The washcloth is lighter or darker than the bathtub or sink behind it.*
5. Ensure the area surrounding an object is not confusing or patterned

   EXAMPLES for #C.5:

   - *Make sure the object isn't camouflaged or lost in the background.*

These are just five of the strategies.

See more interventions listed in this sensory functions section of the *CAIS Cognitive Intervention Strategies*.

Hearing

When you offer this person a washcloth to wash their arm, in the **sensory** phase this person also needs to hear the words "wash your arm".

This person may have a variety of hearing difficulties regardless of their age. An older adult will likely have difficulty hearing **high-pitched sounds** like **consonants** such as f, s, and d, due to changes in the ear that frequently occur with normal aging.

For example, **words** like **wash**, **washcloth**, bathroom, food, meal, dressed, bath, or shower, may be hard to hear.

They may have difficulty hearing when there is background noise. The loud noise of running water may drown out your voice.

Reduce **background noise**, such as the running water when you say, "wash your arm". Drop the pitch of your voice and speak **clearly**, with an emphasis on speaking **consonants** distinctly (for example, b, p, g, k, j, m, s, t, f, d). This will often be more helpful than speaking louder. Often when someone speaks louder, the pitch of their voice rises, and when consonants are not distinct the words sound mumbled.

FOR MORE INFORMATION SEE CAIS HANDOUT:
#**30** with vision and hearing interventions

Example Hearing: Sensory Functions in the CAIS Cognitive Intervention Strategies
One of the questions that address hearing is Question G in the same Sensory section of the *CAIS Questions to Ask* and the *CAIS Intervention Strategies*. Look down through the questions and interventions to find Question G.

Look at the interventions listed under **Question G** in the *I. Sensory Functions* section of the *CAIS Cognitive Intervention Strategies*.

G. Does this person hear well enough to respond to a sound? (For example, by looking toward the sound, moving, or responding with a sound?)
STRATEGIES:

1. Discern if this person hears more easily, quickly, or accurately out of one ear rather than the other. If so, then present any sound so that it is closer to the "better" ear, though still in a spot where they can see the source of the sound to help them better understand and interpret the sound.
2. Identify which sounds are easier for this person to hear, then adjust sounds as necessary.
   EXAMPLES for #G.2:
   - *Low versus high pitched sounds, certain consonants, certain familiar voices.*
   - *Remind yourself that normal age related hearing changes can cause this person to have difficulty hearing high pitched consonants such as "f", "d", and "s", including words such as "bath", "shower", and "food".*
   - *Adjust the sound to make it easier to hear, such as lowering the pitch of a sound if that is easier for this person.*
   - *Lower the pitch of your voice when speaking*
   - *Speak more distinctly, especially emphasizing consonants.*
3. Discern how loud a sound must be to be heard easily by this person at this time. Increase the volume of sound as needed.
4. Reduce background noise so they can hear more easily, including subtle and momentary sounds.
   EXAMPLES for #G.4:
   - *Before speaking, turn off the radio, TV, fans, running water, and close the doors and windows.*
   - *Avoid sounds that occur briefly, such as a car driving by.*
5. Adjust for background noise that occurs briefly.
   EXAMPLES for #G.5:
   - *Adjust for sounds from a car driving by, a phone ringing, or a nearby comment or conversation.*
   - *Stop talking until the sound stops.*
   - *Repeat what you said.*

See more interventions listed under G and other questions about hearing in the *I. Sensory Functions* section of the *CAIS Cognitive Intervention Strategies*.

Touch

Some of the other questions from the Sensory section of the Cognitive Abilities Questions address how a person feels when someone or something touches them. These are questions that explore how this person experiences **touch** when they come in contact with **someone** else, **cloth**, **surface**, or **water**.

The **temperature** of water or a room may feel hotter or colder than it does to most other people. Or may feel like it fluctuates rapidly from one minute to the next, so this person may want the water or air temperature adjusted frequently. When this occurs, adjust the water frequently or help this person feel warm or cool enough. Ensure the water isn't so hot it scalds this person.

A person might feel various sensations when a particular body part is touched by someone else, cloth, surface, or water. These could include chronic or acute **pain** or **discomfort** due to the brain's interpretation of the touch (or due to a fracture or other disorder in that part of the body).

These changes in experience of touch and temperature and hypersensitivity are quite **common**. Many people prefer to wear their socks inside out for example, because the seam across their toes feels uncomfortable, or to remove the tag on the back of their shirt because it feels uncomfortable on their neck. Or they startle easily and even get irritated when someone unexpectedly touches them from behind. There is a range of just how sensitive a person is and on what parts of their body. Because this is so common, changes in experience of touch are discussed in some detail below.

How a person feels when someone or something touches them can be in the **sensory phase** (the ability of this person to receive the touch sensation through their skin) or in the **comprehension/perception phase** (**perceptual**, that is, the ability of this person's brain to accurately recognize the touch and for example, how strong the touch is). The **CAIS** has it in the sensory phase, though it could be affected by the **senses** or the **brain**. This possibility of change in both the senses and the ability of the brain to recognize or understand the information from the senses occurs for many of the sensory and perceptual functions.

The **brain's misinterpretation** of the **touch** could include hypersensitivity, pins and needles, itching, tickling, bugs crawling on or under the skin, extreme hot or cold temperature, intense pain or discomfort, increased pain or discomfort in a part of the body that wasn't even touched, or a heightened sense of pressure, so that a soft touch feels like a hit or a **soft spray** of **water** from a faucet feel like **sharp pellets** or pricks hitting their skin.

Anecdote #2

During a lecture in a public venue about the brain and cognition, a young man in the audience said he had experienced a stroke 8 years ago, and during this lecture he had an extremely **uncomfortable** feeling in his **abdomen**. He recognized the feeling and looked down at his right **arm**. It was **touching** the table in front of him. When he pulled his arm away from the table, the feeling in his abdomen immediately stopped.

About this anecdote: This person felt **extreme discomfort** in his abdomen. Others who have had similar discomfort from sensitivity to touch have said it is not like feeling gas, or cramps, constipation, or hunger. It is not easily described. But once the touch stops, it goes away.

A similar discomfort can be **anywhere** else in the **body** when a person who is particularly sensitive to touch experiences touch. The effects of touch may be a **variety** of **sensations** as noted above, and not simply pain or discomfort.

There could be a **range** of **sensitivity** where for example, this person does not know they are being touched, to where a soft shower spray or water from a faucet at the sink feels like sharp pellets hitting their body.

It is important to **watch** and **listen** closely for evidence of discomfort with touch, whether or not a person verbalizes it or shows it in an obvious way. A person may show no obvious evidence of discomfort except refusal to put their hand under the water or to use the washcloth.

This person may have had this sensitivity to touch from birth and not just due to recent brain changes. They may have always felt sharp pricks or pellets from a soft water spray, for example, but didn't realize most other people don't feel those sensations. So, it hasn't occurred to this person to tell anyone else about these sensations.

When you touch a person who is sensitive to touch because of the brain's interpretation or sensory changes, you can **adapt** the way you touch this person to make it more comfortable for them.

Some adaptations might include: identifying and avoiding areas on the body where this person experiences discomfort when touched; decreasing or increasing the pressure on their skin according to this person's preferences; reducing the number of contact points between their skin and yours (using your palm rather than fingers, for example); reducing the number of times you break contact and reinitiate contact with their skin; and identifying the number and size of areas on the skin that this person prefers you avoid touching.

As we consider the illustration of helping this person wash their arm, remind yourself that when you lift the sleeve of this person's shirt to help wash their arm, they may have strong emotional reactions. These reactions could be due to past experiences, or to sensations they feel when they are touched or when the sleeve moves on the skin of their arm. The washcloth may feel rough on their skin. They may misinterpret your behavior as physically or sexually suggestive, aggressive, or socially inappropriate.

To help this person feel better and to make the task of washing their arm easier, you can try, for example, to avoid having water move over their skin. Put a soft washcloth between their skin and the faucet, by covering the faucet with another washcloth or covering their hand with the washcloth so they don't feel the spray. Or use sanitizer from a bottle rather than water and soap.

You can create a barrier of a soft cloth between you and this person's hand, so you avoid touching their skin directly with your hand.

Use a soft cloth, rather than a rough terry cloth washcloth. Use a brightly single colored cloth (with no patterns or figures on it). Pat their hand to dry it rather than moving the towel on the skin.

Some of these interventions are listed in intervention strategy #**9** under **Question B** in the ***V. Motor Functions*** section of the *CAIS* ***Cognitive Intervention*** *Strategies*. Some are under Questions J and L in the Sensory Functions section below.

There could be other non-cognitive causes of discomfort for this person regarding touch. This person may feel physical or emotional pain when they are touched. They could have an injury or medical condition, such as an old fracture or arthritis that causes pain. Their medications could cause pain or a change in how they feel touch.

There could be cultural reasons.

If this person has in their remote or recent past experienced (or is currently experiencing) emotional, sexual, or physical discomfort, pain, or trauma, touch could trigger distress or a reliving of these experiences. This person may "freeze" or not respond to touch (and so look like they don't feel the touch) because they are overwhelmed emotionally or physically. Take this person's feelings and behavior seriously and respond immediately by stopping the touch. Be kind, compassionate, and respectful. More suggestions about this are included in the CAIS Intervention Strategies.

This person's sensitivity to touch may vary from moment to moment and be unpredictable because of the nature of the brain changes or other factors. It is rarely intentional. The comment "She is fine with touch when she wants to be" is usually false and a misinterpretation of this person's abilities. Again, be compassionate, patient, and tolerant.

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

Example Touch: Sensory Functions in the CAIS Cognitive Intervention Strategies
Look at the interventions listed under **Question J** in the *I. Sensory Functions* section of the *CAIS Cognitive Intervention Strategies*.

J. Do all parts of this person's body appear to experience touch equally (that is, there are no body parts that are more or less painful or more or less sensitive than other body parts when touched)? . . . . . .
STRATEGIES:

. . . . . .

5. Identify parts of this person's body, places on a body part, a side of their body, where this person experiences pain or discomfort when touched compared to other body spots at this moment.
   - Listen to the words or sounds this person makes.
   - Watch and listen for changes in their breathing.
   - Notice visible evidence of pain or discomfort in their face and body such as stiffening, jerking, withdrawal, going very still, a frown, wince, shifting their eye gaze, or a startled response.
   - Notice their eyes darting, blinking, widening, or closing.
   - Notice if your soft touch feels to them like a hit.
   - Notice if they try to remove clothing or anything that touches certain parts of their body.
   - Notice if they pull away or try to prevent you from touching particular spots on their body.
   - Listen for frequent references to parts of the body when they talk.
   - Watch for "freezing" or an apparent lack of response to your touch, such as going very still or staring at you, or avoiding eye contact. Make sure this person truly does not show or feel pain where you touch. Ensure this person isn't simply "freezing" and not responding to your touch because they are feeling emotionally or physically overwhelmed due to emotional, physical, or sexual trauma or discomfort in their past or due to current pain or discomfort.
   - Notice when this person seems to be verbally or nonverbally reacting in an exaggerated way to touch (or events, certain people, or words they hear). They may raise their voice or try to push you away by striking out. Take this person's feelings and behavior seriously and respond with kindness and calm patience. Remind yourself this person has reasons for acting in this way, which might include a current experience or history of emotional, sexual, or physical discomfort, pain, or trauma.

. . . . . .

9. Identify the type of pain or discomfort resulting from touch, such as itching, chronic or acute pain, or discomfort due to the brain's misinterpretation of the touch. (Discomfort from the brain's misinterpretation could include hypersensitivity, a sense of pins and needles, tickling, bugs crawling on or under the skin, extreme hot or cold temperature, intense pain or discomfort, increased pain or discomfort in a part of the body that wasn't even touched, or a heightened sense of pressure, so that a soft touch feels like a hit or a soft spray of water from a faucet or shower nozzle feels like sharp pricks or pellets hitting their skin).

See more detail about possible interventions for touch under Question J in the *I. Sensory Functions* section of the *CAIS Cognitive Intervention Strategies*.

Look at the interventions listed under **Question L** in the *I. Sensory Functions* section of the *Cognitive Intervention Strategies* for interventions about the touch of cloth, water, or a surface.

L. Does the cloth, water, or surface appear to feel comfortable? For evidence, note that there is no negative verbal or nonverbal response. (For example, this person isn't trying to remove clothing or a washcloth, or isn't reacting by wincing, withdrawing, or resisting when they come in contact with a surface, cloth, or water.)

STRATEGIES:

1. Discern which types of cloth, water or surface appear to be most comfortable for this person, and use only those as much as possible.

   EXAMPLES for #L.1:

   - *Use a washcloth that is made from a smooth material rather than terry cloth.*
   - *Offer a soft rather than an itchy wool sweater.*
   - *Encourage this person to take a bath rather than a shower.*

2. Movement of the cloth, water, or surface on this person's skin may increase discomfort. When contact with uncomfortable items is necessary, reduce the amount of movement.

   EXAMPLES for #L.2:

   - *Use a bath rather than a shower.*
   - *Use a damp cloth, commercial wipes or sanitizers, or dry shampoo.*
   - *Pat their arm dry with the towel rather than rubbing it dry.*
   - *Reduce fans or wind that might blow the sleeve of a shirt against this person's arm.*

3. Remind yourself that the sensitivity of any part of this person's body to contact with a cloth, water, or surface may fluctuate or be unpredictable at any given moment. There might be a different response to contact a short time later. When contact is uncomfortable at one time, try again another time.

See more interventions listed in this sensory functions section of the *CAIS Cognitive Intervention Strategies.*

This **hypersensitivity** can occur with touch or any of the **five senses**.

Anecdote #3

A person highly sensitive to **noise** scrunched their face tight, appearing to be in pain while a calm conversation was being held nearby that could be heard but not well enough to hear the words being used. This person's face relaxed immediately when the conversation ended. Similar responses (and sometimes anger) occurred to the noise of a door closing or a fan turning on.

Another young person carried herbs in his pockets because he was sensitive to **smells**. When he encountered a noxious odor (that to others was unnoticeable, such as lip balm on someone else that had no fragrance added) he would bring a handful of herbs to his face.

About this anecdote: Just as in sensitivity to **touch**, sensitivity to **noise, odors**, **taste**, and **visual** stimuli can cause pain and extreme discomfort or any of the other effects noted above regarding touch. Sometimes it might look like a **behavior** that is unwarranted, confusing, or **distressing**. But this person's **coping strategy** that uses herbs from the garden to reduce the effects of uncomfortable odors (while it may appear odd, unusual, or even embarrassing) is a creative way to solve this person's discomfort. Once you **understand why** a person is suddenly angry (in response to a fan automatically turning on that you hadn't even noticed) or is engaged in a behavior that is messy or apparently unnecessary or eccentric (such as carrying herbs in their pockets), you can help **address** the **cause** by, for example, reducing noises and fragrances or odors in this person's environment.

II. Comprehension/Perception Phase Cognitive Abilities

Is this person **recognizing** and **understanding** information received through their five senses? Do they know what they saw and heard? Does this person's brain **accurately interpret** the information this person received through the five senses?

In our illustration of offering a person a washcloth, this person needs to **recognize** the **object** as a washcloth. Their brain needs to recognize the **words** they heard and know what the words **mean**. They need to be able to recognize and **know what** a **washcloth is for**.
Their brain also needs to be able to recognize **where** the washcloth is relative to other objects and to themselves.

Even if a person sees and hears well, if their brain has been changing, they may not be able to perceive (recognize) the information provided by the senses.

Sometimes a person can hear a word but not know what the word means. (Chapter 1 notes this reduced ability is called "receptive aphasia".) Sometimes a person can't **read** because they can't recognize the letters. Or sometimes a person can read notes and signs but doesn't **understand** what they are reading.

For example, they may correctly read the word "apple" but not know what the word "apple" means, especially if they read the word silently so they have to rely only on the written word rather than hearing it.

A person may have difficulty recognizing gestures, colors, two-dimensional photos or drawings, or even parts of their own body and where they are. They may not know what a sound is or where the sound is coming from.

Chapter 1 describes changes in the parietal lobe that sometimes result in changes in "visuospatial" abilities. The effects of the parietal lobe changes depend on which areas within the parietal lobe are changing. Some possible effects could be a person doesn't notice everything in their **environment** because their brain doesn't tell them to notice information in certain parts of their

visual field or on certain parts of their **body**. In this case there will be some **objects** or **people** that this person simply doesn't notice.

For example, this person may respond more easily or quickly when you **approach** them from the **front** or perhaps from one side versus the other. They may not notice the food stains on the front of their shirt because when they look down their brain doesn't notice the stains or even their shirt. They may notice and therefore eat off only half of their dinner plate, or read half of a page of writing, or notice objects only if they are in their left or right visual field. They may notice only part or an object instead of the complete object, and therefore not recognize what the object is.

When you hand this person a washcloth, they may notice your arm, or even your hand, and not notice the washcloth.

When this person does notice an object, such as your face, it may be **closer** or **farther** away than they realize. They may think your face is closer to their face than it is, or that your hand is moving to their face rather than their shoulder or is moving more quickly than it is (that is, they may think your hand is moving quickly to their face in an aggressive way). They may put their glass down on the edge of the table or of their dinner plate instead of beyond it. They may have difficulty knowing exactly where the washcloth is.

A person with many cognitive needs **rarely** "sees" or **experiences** the environment the **same way you do**. This is why it is helpful to highlight important parts of the environment with contrasting color intensities such as a light plate on a dark place mat or food that is brightly contrasted with the plate so it is more easily noticed and recognized. Put objects where they are more easily located. For example, turn their plate, or hand a washcloth in front of them rather than to their side.

Anecdote #4

A woman was living with some hearing loss, as well as **visuospatial** challenges due to changes in both of her parietal lobes. When her friend came to see her, the friend sat beside her and said "Hello". The friend was cautious and hesitant to touch this woman because this woman seemed to get angry easily and would strike out sometimes. This woman looked straight ahead did not respond to her friend's greeting, even after repeated greetings. Finally, the friend leaned in from the side to kiss her on the cheek, and this woman struck her friend in the face.

About this anecdote: Very likely, this woman was **not noticing everything** in her **visual field**. She hadn't seen the friend until the friend moved in close. She was likely startled and frightened because she also hadn't heard her friend and was surprised when her friend's face suddenly loomed in front of her with no apparent warning. She didn't have time to recognize her friend before she struck out. **Approaching slowly** from the **front** and **giving** this woman **time** to understand who the friend was and what the friend was saying would have likely avoided the friend getting hit.

Some of these visual and hearing changes may be in the eyes or ears (**sensory**) and some in the brain (**perceptual**) as mentioned in the section under the subheading "Touch" with respect to the Sensory Phase.

Interventions to address these changes are in the CAIS Intervention Strategies.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**29** that describes visuospatial abilities and suggests interventions
#**7** that describes the effects of brain changes on cognitive abilities and behavior
#**5** about how to recognize evidence of a person's specific cognitive abilities

Example: Comprehension/Perception in the CAIS Cognitive Intervention Strategies
Look at the interventions listed under **Question A** in the *II. Comprehension/Perception* section of the *CAIS Cognitive Intervention Strategies*.

II. COMPREHENSION/PERCEPTION

Look for ways to help this person recognize and understand information received through the senses, by helping them to more easily:

- Understand what they see and hear
- Recognize where an object or sound is in space

[For perception of touch and other information received through the senses, please see the "CAIS Cognitive Intervention Strategies I Sensory Functions"]

A. Does this person know what an object is when they see it?

STRATEGIES:

1. Make sure an object looks familiar and normal to this person.
2. Remind yourself that this person may know what an object is, but may have difficulty naming it, difficulty knowing what it is used for, or difficulty knowing how to use it. Watch this person carefully to discern how well this person can do each of these.
3. Ensure this person can easily see the complete object. Adjust conditions to help this person.

   EXAMPLES for #A.3:
   - *Adjust the lighting.*
   - *Make sure there is no confusing pattern behind or surrounding the object.*
   - *Make sure the object is highlighted.*
   - *Make sure this person's attention is drawn to the correct object.*
   - *Make sure this person's attention is drawn to the complete object.*
4. If this person doesn't seem to recognize an object, say what it is and what you and they will do with it.
5. Encourage this person to hold and manipulate an object to better understand what it is.

See more interventions listed in this comprehension/perception section of the *CAIS Cognitive Intervention Strategies.*

Three questions with interventions in the *II. Comprehension/Perception* section of the *Cognitive Intervention Strategies* address the ability to **notice objects** and **recognize where** objects are in a person's visual field: **Question I** (Does this person easily notice objects in all parts of their visual field?); **Question J** (Does this person accurately recognize how far away from them an object is?); **Questions K** (Does this person accurately recognize where objects are relative to other objects?) There are **five pages** of interventions listed. Some of the interventions were noted earlier in this chapter.

III. Executive Functions Phase Cognitive Abilities

Is this person **categorizing**, **organizing**, **applying**, and **using** the information received?

In our illustration of offering a person a washcloth, this person needs to **decide** whether or not to take the washcloth.

This person's brain needs to decide what it wants to do with the **information** and what **response** it wants to produce.

This person uses many cognitive skills to decide whether or not to take the washcloth. These include cognitive abilities such as **memory** (they remember that a washcloth is used to clean or wash the arm), **logic** (for example, it makes sense to wash since their arm needs it), as well as the ability to focus their **attention** on the object and to **shift** their attention from one activity to another.

There are many executive functions, many more than are in the CAIS. They are the most varied and complex cognitive functions a person must perform.

They include the ability to think **abstractly** and to **make decisions**, that is, to hold multiple thoughts or options in mind while considering how desirable each might be. They include seeing the **big picture** as well as the **details**, and seeing from another's **point of view**. The ability to know what to pay **attention** to and what to ignore, or **how important** a piece of information or an object is relative to others is also included in the executive functions.

Challenges

The executive functions are usually the most challenging of all the cognitive phases. Which of the executive functions change depends on where in the frontal lobe the brain changes have occurred. Not all of the challenges below are necessarily affected in one person.

This person may have difficulty adapting to **new** situations or to **changes** in the environment, their interactions with you, or in the task. **Consistency** may be very important to them.

Their expressions of **emotion** may not match the intensity with which they feel those emotions. They may cry or laugh even though they don't feel very sad or aren't reacting to something they think is funny.

They may not be able to easily do **more than one thing at a time**. They may not be able to feel surprise, anger, or embarrassment at the same time they hear and respond to your request to stop doing a particular action or behavior. So, they may not respond to your words when emotional. Or they may have difficulty responding to both your words and your movement into their visual field at the same time. You may need to be very intentional about doing only one thing at a time with them.

This person may have difficulty with **abstract** thinking, that is knowing what an object is if they can't see, hear, feel, taste, or smell it. They may not know there is water in a clear glass, or they may have difficulty holding an image in their mind of how they would like to appear and comparing that with the image of what they see in the mirror. Or they may not even know who is in the mirror. They may think it is someone who has come to visit. Or they may think it is their parent who looks similar to them but isn't them because they assume they (themselves) are younger than they actually are. One 80-year old woman with frontal lobe changes looked in the mirror every morning in the bathroom and said, "What is my mother doing here?"

It may sometimes be difficult for a person to **shift** from one activity to another, to "shift gears", even when during the first activity they appeared to be staring off in space. You may need to give them **time** to shift their focus to you or to the next activity.

It may be difficult to **get started** on a task that this person wants to do (initiation). Giving them **time** to respond to your request or to get started is often helpful.

Or this person may **continue** thinking a **thought** or doing a **task** long after the thought or task was completed. For example, this person may repeatedly spoon food from a bowl when the food is no longer there. It might be difficult for this person to **know when a task is done** or to prevent themselves from **unintentionally continuing** the task or thought. You may need to gently inform them verbally or nonverbally when a task or thought is done.

This person may be easily **distracted** by internal thoughts and feelings or external events or movements. It is important to **get** a person's **attention** and **maintain** it with eye contact, if eye contact is comfortable for this person. The CAIS lists various ways to get and keep a person's attention.

A person may misjudge **how much time** has passed. They may not know how long they have been doing a task. They may feel they've been doing it long enough and want to stop even though it isn't

finished. They may repeatedly ask you a question because they think it has been a long time since they first asked you.

This person may not know or be able to follow a **sequence** of task steps to complete a task. They may need a note stating the task steps, or to be verbally or nonverbally prompted regarding each step (or some of the steps) of a task.

They may also ask a **question** more **frequently** than you would expect or want, because they forgot they had asked it. Or they may not **follow through** with a request or a task because they forgot they had agreed to do it.

Memory loss may or may not be obvious. With memory loss, you will likely need to patiently **repeat** requests, information, and explanations as often as necessary.

A person may suddenly and **impulsively** speak or act on a desire or thought that comes to mind or on a request or comment they hear. They have difficulty stopping themselves or pausing to give themselves time to think through the words or action and censor or delay their response.

Sometimes a person does not **know** what they **know**, **want**, or **need**, or when they make a **mistake**. It is usually helpful to discern their needs and desires by noting their behavior and comments, or by considering what their general self-concept has been. For example, in the CAIS interventions from Question L below regarding a person saying they want to go home even when they are already in their home, if they have always seen themselves as being responsible, then they may want to go home to feed their children, or if they have always tended to be anxious, they may want to go home to find comfort. The intervention will likely be most effective if it addresses the reason this person is saying they want to go home. Telling this person their children are being taken care of today, for example, then asking them to help with a task may help them feel they are being responsible. It is also helpful to discreetly assist a person rather than call attention to their mistakes.

Other intervention or support strategies include waiting until a person is **emotionally** and **physically ready** to focus and stay focused on a task or conversation, **getting their attention** before speaking to them, patiently presenting information as **frequently** as necessary, **presenting options** for decision making in a way and at a time this person can understand and analyze them, creating ways to help this person manage their **impulsive thoughts** and **actions**, and maintaining **consistency** in tasks, the environment, and interactions.

These interventions are described in **more detail** along with **many other interventions** in the *CAIS Cognitive Intervention Strategies* and in other chapters in this volume I.

Examples of the CAIS interventions listed in the Executive Functions Phase are below.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**35** with suggested interventions for a person with frontal lobe changes
#**32** about helping a person make decisions
#**5** about how to recognize evidence of a person's specific cognitive abilities

Example: Executive Functions Phase in the CAIS Cognitive Intervention Strategies
Look at the interventions listed under **Questions A**, **H**, **and L** in the *III. Executive Functions* section of the *CAIS Cognitive Intervention Strategies*.

III. EXECUTIVE FUNCTIONS

Look for ways to help this person categorize, organize, apply, and use information received, by helping them to more easily:

- Recognize the importance of various pieces of information
- Use information to solve problems
- Use information to make decisions and plan

A. Does this person focus attention on an object?

STRATEGIES:

1. Reduce distractions by modifying the environment, the task, and your interactions with this person, since they may be easily distracted by other stimuli even when they want to pay attention. Remind yourself that this person's brain may have difficulty screening out or ignoring irrelevant stimuli.

   EXAMPLES for #A.1:

   - *Reduce noise and visual distractions.*
   - *Close the door.*
   - *Turn off the phone ringer.*
   - *Reduce the number of items in the area of the task, such as excess dishes from the dining room table.*
   - *Reduce patterns in the object and the surrounding areas, so the object can be seen more easily.*
   - *Avoid unnecessary interactions, such as asking questions or touching.*
   - *Avoid moving around the room.*
2. Discern this person's level of interest or desire, at this time, regarding an object. If they are disinterested, try again at another time.

See more interventions listed in this executive functions section of the *CAIS Cognitive Intervention Strategies.*

H. Does this person easily shift from one activity to another?

STRATEGIES:

1. Give this person enough time before and during a shift, to move from one thought or activity to another.

   EXAMPLES for #H.1:

   - *Enter this person's visual space and wait for them to focus on you before speaking.*
   - *When offering to help this person take a bath or shower, allow time for them to process your words before handing them a robe or beginning to undress them.*

2. Assume this person needs time and help shifting focus, even when they seem to be uninvolved in an activity, such as staring off into space or sitting with their eyes closed.
3. Avoid changes in routine, expectations, the environment, the tasks, and your interactions with this person.
4. Avoid rapid or unexpected shifts in conversation, activities, or expectations.

EXAMPLES for #H.4:

- *When passing this person in a hall or room, avoid saying a brief "Hi" and short comment before moving on. Remind yourself that this person may need to use too much energy to shift their focus and orientation to you. If you don't have time to help them shift gradually, then simply pass by with only a smile.*
- *If while passing you establish eye contact and it is clear they have shifted their attention to you, then slow down and smile.*
- *If they say something to you, then stop and say a few words in response to their comment. Stay and converse as long as you are able.*

See more interventions listed in this executive functions section of the *CAIS Cognitive Intervention Strategies*

L. Does this person recognize their own needs or desires?

STRATEGIES:

1. Remind yourself that this reduced ability to recognize their own needs or desires, that is, a lack of insight, is most likely due to brain functioning. It is rarely due to denial or this person's desire or intention. Be compassionate and tolerant.
2. Remind yourself that this person may not know that they know something or that they feel a certain way.

. . . . . .

7. Remind yourself that this person may sometimes ask for one thing when they actually want or need something else. Discern and respond to their need or desire.

EXAMPLES for #L.7:

- *This person may say they want to go home, even when they are sitting in the home they have owned for fifty years. What they actually want may be such things as to use the bathroom, eat, leave a confusing environment or noise, do a task they feel they should be doing such as feeding their children, be comforted because they are anxious and uncertain, get exercise, be relieved from boredom, get help because they don't feel well, or to return to their childhood home. Avoid responding with "This is your home." Find and meet the need or desire they have.*
- *If they are in a new home or living in another setting and say they want to go home, avoid saying "This is your home." This likely doesn't look like the home they are used to or recognize as home. They may become confused or upset. Or they may actually be expressing a different need or desire. Find and meet the need or desire they have.*

See more interventions listed in this executive section of the *CAIS Cognitive Intervention Strategies.*

IV. Expressive Functions Phase Cognitive Abilities

Is this person's **brain telling** their **body** what to do? Can their brain tell their body how to take the washcloth?

In our illustration of offering a person a washcloth, this person's brain needs to tell this person's body how to take the washcloth, and how to produce the correct words for this person to respond to someone else's words.

In this **expressive** phase, if this person decided they want to take the washcloth, their brain needs to tell their body how to take the washcloth; how to coordinate all those little movements in their arm, wrist and hand to reach out and to remove the washcloth from someone's hand.

The expressive phase also includes the brain producing the **words** a person wants to use when speaking or writing. The use of wrong words, nonsense sounds, or few words may be obvious in a person. Chapter 1 describes this as expressive aphasia. The struggle to find the word they want to use is sometimes called "word finding difficulty".

Sometimes a person can sing more easily than speak. Sometimes they can move a part of their body more easily when they don't think about it than when they are asked to move it. They can speak or move spontaneously more easily than they can upon request. Using **song** and **rhythm** when talking, walking, or performing a task might sometimes help them speak, walk, or do a task more easily.

Sometimes a person can do a **task** more easily **if** they **don't think about it**. This is like tying your shoe. If you don't think about it, you can do it easily. But when you try to focus on tying your shoe or explain to someone else how to tie a shoe, you may find yourself stumbling through the task.

That is one of the reasons it is best to try not to change a task any more than is absolutely necessary, especially if it is a task they have been doing for a long time and know well. This is sometimes called an "overlearned" task or skill, or "chunking" of task steps. They do it automatically.

It is also why it is sometimes helpful to slightly distract a person, so they can still do the task as independently as possible. An example of this is Anecdote #5 below and Anecdote #3 in Chapter 4.

Anecdote #5

A woman who was cold was offered her sweater. This woman did not take the sweater or respond even after encouragement and repeated requests and suggestions. She **resisted help** putting the sweater on. A short time later this woman felt a desire to go home. She put on the sweater, buttoned it up and said, "Let's go". An assistant said about this woman, "She can do it when she wants to."

About this anecdote: In fact, it's **when they want** to that they sometimes **can't do it**. They can put on the sweater only if they think of a longer-range goal, (such as going home) and don't think about

putting on the sweater, which they do automatically. That is why it may also be helpful to say for example, "Let's go get lunch," when you are trying to help a person stand, rather than saying simply "Stand up." They may be able to stand up more easily when they think about going to lunch rather than thinking about the act of standing up.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**12** that suggests interventions with rationale while helping a person with tasks
#**28** about helping a person move a part of their body
#**5** about how to recognize evidence of a person's specific cognitive abilities

Example: Expressive Functions Phase in the CAIS Cognitive Intervention Strategies
Look at the interventions listed under **Question F** in the *IV. Expressive Functions* section of the *CAIS Cognitive Intervention Strategies*.

IV. EXPRESSIVE FUNCTIONS
Look for ways to help this person's brain tell their body what to do, by helping this person more easily:

- Coordinate their body parts to perform a task
- Express a thought

…….

F. Does this person do a task as easily when focusing on the task or thinking about how to do the task, as they do when doing the task automatically without thinking about it? (For example, do they stand as easily when asked to "stand up" as they do when asked to "come to lunch"; or do they get dressed as easily when reminded of each task step, as they do when being slightly distracted by a conversation about the weather?)
STRATEGIES:

1. Remind yourself that any reduced ability to perform a task when this person thinks about it is most likely due to changes in this person's brain, affecting the ability to tell their body how or when to perform the task, or their body's ability to respond to the brain's instructions. It is rarely due to this person's desire or intention. The comment "They can do it when they want to." is usually false and a misinterpretation of this person's abilities and desires.
2. Remind yourself that this person's ability to perform a task when they think about it may fluctuate or be unpredictable at any given moment. If you return a short time later, they may be able to perform a task when they think about it more easily.
3. Watch this person closely to discern whether at this moment, they are having difficulty performing a task because they are thinking about it. Adjust your communication, the environment, and the task to help them perform the task more easily or to compensate for the decrease in their ability to perform the task.
   EXAMPLES for #F.3:
   - *Other CAIS strategies sections give specific suggestions for modifying your communication, the environment, and the task.*
4. Reduce the need to draw this person's attention to a task or task step. Set up conditions that help this person perform the task without thinking about it. Remind yourself that it is easier to tie your shoe if you don't think about each task step while doing it.

5. Slightly distract this person while performing a task.
   EXAMPLES for #F.5:
   - *Sing songs or talk about the weather or upcoming activities while getting dressed*.

See more interventions listed in this expressive functions section of the *CAIS Cognitive Intervention Strategies.*

V. Motor Functions Phase Cognitive Abilities

Is this person's body physically responding to the instructions from their brain?

Can this person's hand reach out to take the washcloth?

In this **motor** phase, the body must be able to respond to the brain's instructions. This person's body needs to be healthy, strong, and pain free enough to respond.

This person may have a broken arm or arthritis, or their hand or arm may be weak, they may have limited range of motion, they may be in too much pain, or their muscles may not be able to follow the brain's instruction.

When this person's body has difficulty physically responding to the instructions from their brain. it is important to understand whether this person cannot physically move the body part because of a loss of motor function, or because of pain associated with movement, or a combination of both.

Pain is often under-treated. A person with many cognitive needs may not be able to recognize pain or express they have pain, even when asked. Unrecognized or undertreated pain is a very common cause of distress and behavior that is distressing to themselves or to others.

Exercise is usually important to help body parts move more easily and with less pain or discomfort. Help this person move their body part if it is physically and medically safe and not painful to do so. Treat any pain that is there.

When the distance a person has to move in order to do a task is too long for them, they may arrive at the place to do the task tired, in pain, or confused. Shortening the distance by bringing the task to them or helping them move closer to the task can be helpful.

In general, with regard to motor functions, it is important to:

1. Ensure there is no pain in any part of this person's body at this moment.
2. Treat for pain as medically advised.
3. Ensure this person's medical needs are met and are frequently evaluated and treated.
4. Immediately report any changes in this person's strength to a medical professional.
5. Encourage this person to exercise regularly if safe. Consult a medical professional.
6. Encourage this person to eat a healthy diet.

Respond to changes in motor functions by:

1. Alerting a medical professional.
2. Modifying the task immediately.
3. Helping this person immediately with the parts of a task that require use of their weaker body part.
4. Reducing your help as a body part grows stronger.

FOR MORE INFORMATION SEE CAIS HANDOUTS:
#**28** about helping a person move a part of their body
#**25** about how to recognize and respond to pain, needs, and distress

Example: Motor Functions Phase in the CAIS Cognitive Intervention Strategies

Look at the interventions listed under **Question G** in the *V. Motor Functions* section of the *CAIS Cognitive Intervention Strategies*.

V. MOTOR FUNCTIONS

Look for ways to help this person's body respond to their brain's instructions, by helping their body to be more:

- Healthy
- Strong
- Pain free

…….

G. Is each body part free of pain when it moves? If No, select each body part that appears to be in more pain compared to this person's other body parts: Mouth, Left arm, Left leg, Left hand, Left foot, Right arm, Right leg, Right hand, Right foot.

STRATEGIES:

1. Take this person seriously when they say or indicate they are in pain, even if they are very confused. Assume they are in pain.
2. Assure this person you are taking their pain seriously.
3. Seek medical advice to diagnose and treat the pain.
4. Immediately report to a medical professional any changes in this person's level of pain.
5. Watch this person's face and body constantly and listen to what they say to recognize evidence of their level of pain or their level of discomfort with touch and movement at this moment.
6. Notice if this person seems to be verbally or nonverbally reacting in a startled or exaggerated way to events, touch, certain people, or words they hear, as a possible indication of pain. Remind yourself this person has reasons for acting in this way, which might include a current experience or history of emotional, sexual, or physical discomfort, pain, or trauma. Take this person's feelings and behavior seriously and respond immediately by stopping the movement or touch. Show this person kindness and calm patience.
7. Remind yourself that this person's pain may fluctuate or be unpredictable at any given moment.
8. Look at this person's diagnoses and physical health to see if there is an existing condition that might cause pain, such as arthritis.
9. Ask a medical professional how to help this person exercise properly.

See more interventions listed in this motor functions section of the *CAIS Cognitive Intervention Strategies.*

More Tips About How the Brain Relates to Cognitive Abilities and Behavior

We note in Chapter 1 that brain changes can cause subtle and complex changes in cognitive abilities that can be difficult to identify. "Knowing" and "Recognizing" are complex abilities.

Anecdote #6

A granddaughter was vising her grandmother who was living with dementia. As she was leaving, the grandmother hugged her tight and said "I love you. **I love you** so much, I don't have words for it. I love you, I love you, whoever you are".

Anecdote #7

A person is agitated and unable to speak, and seems unaware of their surroundings. But this person is **calmer** and can relax or sleep more easily when their **family** or a particular loved one is in the room or holding their hand.

About this anecdote: In both of these anecdotes, this person **knew who someone was** (for example, their granddaughter) or at least that they were very important to this person. But the ability to know exactly what the relationship was, or to come up with a name, or to be able to tell someone else the name was difficult.

Sometimes a person we love doesn't seem to know we are there, or talks to us in a way they would talk to anyone else, or calls us the wrong name, or says we are their sister rather than their daughter. Sometimes they may take a long **time to recognize** who we are or to respond to us in a warm way.

This illustrates the multiple layers and ways of knowing something. We often assume if a person can't tell us a piece of information, such as our name, then they don't know the information or don't recognize us. There are many discrete individual cognitive abilities in such an interaction. The difference between **knowing something** and being able **to express this knowing** or to identify it, or explain it, are all different types and levels of knowing and of cognitive abilities that we all experience in many ways and situations. This is addressed in the CAIS intervention strategies.

We talked earlier in this chapter and talk in Chapter 1 about how we each have a **unique brain** and, while the parts of our brain interact and work as a whole, we each have **parts** or aspects of our brain that **work more easily** and effectively than other parts or aspects. No one has a "perfect" brain. For example, some of us have a brain that uses more easily and effectively the parts associated with logic, analytical thinking, and words or language. This brain seems to "prefer" to use those parts to solve problems, understand situations, and respond to events. Others of us have a brain that "prefers" to more often use parts associated with spatial processing and intuition. (For example,

some people when they speak may see words and letters in their mind. Others when they speak may see pictures, images, moving patterns, or colors.) This "preference" or **more frequent reliance on** some parts of the brain versus other parts results in a pattern of **cognitive strengths** and **needs** that is unique to each of us.

As we have noted, it is easy to feel distress and to **misinterpret** the behavior of another person when that person's pattern of cognitive strengths and needs is different from our own.

Anecdote #8

A **woman** was particularly skilled with **words** and logic. She used **lists** to organize her time and space and to prioritize her "to dos". When she was anxious or overwhelmed, listing her concerns or to dos helped sooth and reassure her. She was the one in her family who scheduled appointments and organized closets. Her spouse was more spatially oriented and was warm and emotionally supportive. He was particularly skilled at **knowing** where **locations** were in the community even when he had been there only once before. He knew how to get to a destination even when there were detours or unexpected route changes. He would sometimes say, even on convoluted mountain roads, "I know we are going north because it feels north". He would sometimes forget appointments and important dates. Long lists often made him more anxious rather than less anxious. This woman would sometimes say if he loved her he would remember her birthday, and that he was just being lazy.

About this anecdote: When a person is **stressed** or overly busy, their weaker cognitive abilities (their cognitive needs) become more apparent. If this man already has difficulty remembering a schedule or specific dates of important events, this difficulty will likely become even more pronounced under stress. This man works harder to remember dates compared to this woman. What is easy for her is more difficult for him. Just as she relies on him to navigate detours spatially, he likely relies on her to manage the schedule. Once they recognized ways they could each support each other by using their **cognitive strengths** and avoiding relying on cognitive needs or weaknesses (that is to work as a team where their skills could **complement** each other's), their love for each other was more easily recognized and not measured by how well they each overcame their own cognitive weaknesses.

If a person's brain changes, it would likely be helpful to know how this person's brain had **originally** "preferred" to work. In the anecdote above, it would not be surprising if this woman has difficulty locating a destination in the community as she grows older, since she has always had that difficulty. If her spouse has difficulty finding a destination as he grows older, however, then it's possible he is experiencing some significant brain changes and should be seen by a health professional, since he has always been able to do that more easily.

Similarly, if a person has tended to rely more on words and logic to understand and express themselves and there is, for example, a stroke or injury in the parts of their brain that affect speech or language, then they may have a more difficult time developing **compensation** or **coping strategies** to adjust. Someone who relied less on speech and had a stroke in a similar location in the brain would not have as much difficulty developing coping strategies.

Chapter 1 discusses behavior as a reflection of coping strategies or compensation strategies that we all use to compensate for the parts of our brain that don't work as well as others (whether due to the way our brain is structured from birth/conception or due to changes in the brain from events, injury, or various disorders). Such behavior can be an important **window** into the status of a person's specific cognitive strengths and needs and how to help them.

Anecdote #9

A woman who had brain changes on both sides of her brain could still dress herself. But she did it slowly and by "**talking her way" through the task**. She would say to herself in a murmur, "Now the socks, the socks, the socks. Oh yes, here they are". This woman's assistant was careful to avoid interfering with this woman's own compensation or coping strategy. When this woman then had a stroke that resulted in changes in the speech areas of her brain, she had much more difficulty speaking. She could no longer speak aloud to herself during the task, and so had much more difficulty dressing. She needed someone else to do most of the dressing task for her. She became frustrated and angry with her situation.

About this anecdote: This woman's **compensation** or coping **strategy** was talking her way through a task or problem. That was her preferred way to think about situations and to think through the steps of a task. When that was taken away by her stroke, she had much more difficulty preforming tasks, and therefore needed more help from an assistant.

The CAIS Questions and Interventions can help you more easily **recognize**, **support**, and **use** a person's compensation or coping strategies whether or not this person is living with a disorder.

V. SUMMARY AND LOOKING AHEAD

Chapter 2: Summary

Chapter 2 described 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. The five phases of cognitive processing along with some of the specific cognitive abilities in each phase were presented.

Tips for understanding a person's cognitive abilities were discussed 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. Examples from the *CAIS Cognitive Abilities Questions to Ask* and the *CAIS Cognitive Intervention Strategies* illustrated 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.

VI. 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 Cognitive Abilities and the CAIS

For more information about cognitive abilities 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 2, the entire CAIS Questions and Intervention Strategies, and the CAIS online course that is described below.
2. The "**Description of the Cognitive Abilities CAIS**: **CAIS REVIEW**" (including the "**CAIS REVIEW**") at the end of this chapter. Except for the added content and emphasis on **Part 1** of the CAIS Questions and Interventions that focuses on **Cognitive Abilities**, most of the content is a brief overview of the descriptions of the CAIS in Volume II.
3. 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**
4. **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 **cognitive abilities** (and this **Chapter 2**) below. All 43 handouts are available at the end of this Volume I and on the IMP website at **https://www.improvingmipractices.org**

5. The five-session **CAIS curriculum**, called the "**CAIS Educational Series**: Understanding and Supporting a Person's Cognitive Abilities: **Session 2 Understanding Cognitive Abilities**" 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**
6. **CAIS Handout #4** "**Understanding Cognitive Abilities**: **Questions to Ask**". This is an adaptation of the handout from Session 2 of the CAIS Educational Series curriculum described above. Both of these handouts are on the IMP website at **https://www.improvingmipractices.org**
7. The **Online Course** of five one-hour modules called "Beyond Behavior: Cognitive Abilities and Intervention Strategies (CAIS)", including **Module 2: Cognitive Abilities**". 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 2** goes into **more depth** than the online course and provides additional tips and content related to **cognitive abilities**. 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 Cognitive Abilities

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 cognitive abilities 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 2:

#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)

#11. Domains to Explore: Suggestions of **Information to Gather** as you Consider How to Help: 2 pages (CAIS.Handout.11.Domains.to.Consider.4.22.20.pdf)

#12. Helping a Person with a **Task**: Suggestions for **Adapting** the Environment, Communication, and the Task and **Why**: 16 pages (CAIS.Handout.12.Helping.Task.4.22.20.pdf)

#22. **Four Factors** and Basic Concepts for **Intervention**: Suggestions for Assisting a Person by Addressing their Cognitive Abilities: 2 pages (CAIS.Handout.22.Tips.Four.Factors.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)

#28. **Movement with Less Distress:** Suggestions for Moving a Part of the Body of a Person who Needs Help: 1 page (CAIS.Handout.28.Moving.Pain.Distress.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)

#30. **Vision** and **Hearing** Interventions: Suggestions for Helping a Person by Addressing their Cognitive Abilities: 2 pages (CAIS.Handout.30.Vision.Hearing.4.22.20.pdf)

#32. **Making Decisions**: Suggestions for Helping a Person Make their Own Decisions by Addressing their Cognitive Abilities: 2 pages (CAIS.Handout.32.Making.Decisions.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)

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

#39. **Sharing Ideas with Others**: Suggestions for Sharing Information, Support, and Intervention Ideas: 6 pages (CAIS.Handout.39.Sharing.Ideas.Tips.4.22.20.pdf)

VII. DESCRIPTION OF THE COGNITIVE ABILITIES CAIS: CAIS REVIEW

This is a **brief review** or reminder of the CAIS descriptions presented in Volume II.

The description below is adapted to the **Cognitive Abilities CAIS**.

Except for the added information and emphasis on **Part 1** of the CAIS Questions and Interventions that focuses on **Cognitive Abilities**, most of the content below between the tags "***CAIS REVIEW BEGINS HERE***" and "***CAIS REVIEW ENDS HERE***" is **similar** to the "*CAIS REVIEW*" content at the end of Chapters 3, 4, and 5.

If you have already read this "CAIS REVIEW" content in other chapters or read the complete description and instructions in Volume II (in the section under the title of "Complete Instructions and Introduction for the CAIS Questions to Ask and CAIS Intervention Strategies"), then you can feel free to **read** this "CAIS REVIEW" below with **cognitive abilities** specifically **in mind**, review it to **refresh** your **memory**, or use it for **later reference**.

In this "CAIS REVIEW" content, information that is **NOT in the other chapters** will say "**PLEASE NOTE**" in front of it.

CAIS REVIEW BEGINS HERE

Below (in the box) is a list of the topics and subheadings in this CAIS REVIEW.

Topics (and subheadings) in this CAIS REVIEW:

A. The Cognitive Abilities and Intervention Strategies (CAIS) Questions to Ask and Intervention Strategies

This is a brief description of the CAIS. The complete **description** in **Volume II** is more detailed and generic, and applies to **all four parts** of the CAIS.

The words "**Questions**" and "**Interventions**" or "**CAIS**" will frequently be used here to refer to the "*Cognitive Abilities and Intervention Strategies (CAIS)* ***Questions to Ask****"* and the "*Cognitive Abilities and Intervention Strategies (CAIS)* ***Intervention Strategies****"*.

The **CAIS Questions to Ask** and **CAIS Intervention Strategies** for all four parts of the CAIS are in **Volume II**.

The CAIS can also be found both in an **interactive** format and as pdf documents on the **Improving MI Practices** (IMP) **website** at **https://www.improvingmipractices.org**

For a **description** and **instructions** regarding the CAIS see in Volume II:

1. The "Complete Instructions and Introduction for the CAIS Questions to Ask and CAIS Intervention Strategies". These are **detailed** and **in-depth** to provide more **complete** information regarding all four parts of the CAIS.
2. A **list** and **outline of steps** to take for using the CAIS included in the "Complete Instructions and Introduction for the CAIS Questions to Ask and CAIS Intervention Strategies".
3. The "Brief Instructions and Introduction" **before each part** of the CAIS. These are **brief** instructions that pertain to each part of the CAIS.

4. **Page 1** of the Questions to Ask Response Formats in each part of the CAIS. These instructions are brief but more **specific**.

Chapters 2-5 in Volume I illustrate how each of the four parts of the CAIS is structured. **This Chapter 2** discusses **concepts** and issues about **cognitive abilities** and uses **examples** to **illustrate** how the ***CAIS*** *Cognitive Abilities Questions to Ask* and *Intervention Strategies* are structured.

B. Goal and Structure of the CAIS

The goal of the **CAIS** is to help you interact more easily with a person and to help this person and you feel comfortable and competent, by understanding and addressing this person's **cognitive abilities** (that is, this person's **cognitive strengths** and **cognitive needs**). The primary objective is to generate ideas of specific **intervention** or support strategies that might be especially effective with a **particular person** by supporting this person's specific **cognitive strengths** and **needs**, even as these cognitive strengths and needs **change** over time.

The CAIS suggests ways you can support a person's cognitive abilities, 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.

There are **four parts to the *CAIS*** *Questions to Ask* and the *CAIS Intervention Strategies.* Each part is the topic of one of four chapters in this Volume I:

1. Cognitive Abilities in Chapter 2
2. The Environment in Chapter 3
3. Communication in Chapter 4
4. The Task and Daily Routines in Chapter 5

Each of the four parts of the CAIS has a set of **questions** and **intervention strategies**.

It **doesn't take more time** to use most of these questions and interventions during a task or interaction, in fact they can decrease the time, once you learn them. It does take **being alert** and **watching** this person while you are observing or assisting them.

While there is a systematic format and structure to the CAIS, there is no strictly formal way to use the CAIS Questions and Interventions. **You can adapt** them to the needs and preferences of you and the person you are relating to.

These **CAIS Intervention Strategies** can be **added to interventions you already use**. They can expand your pool of intervention options.

The CAIS questions and interventions are specific, **practical, concrete**, and **easy** to use for **anyone** who relates to a person with cognitive strengths and needs in **any setting**. They can be helpful in any unusual or usual situation, including everyday living and routines.

There are **many more cognitive abilities**, **questions**, and **interventions** that could have been included in all the CAIS Questions and Interventions. You can add more questions and interventions that are helpful.

Even **if you don't assist** with some of the **tasks** described or referred to in the CAIS and in these chapters, the concepts and techniques (and all the questions and interventions) illustrated by the tasks will **apply** to nearly **any task**, **interaction**, or **situation** you do encounter. The tasks used as examples are often particularly **difficult** and illustrate complex emotional, social, physical, and cognitive aspects of a task or interaction that can make them challenging, and also relevant to most other tasks.

C. Cognitive Abilities

Each of us has a unique pattern of **cognitive strengths** and **needs**. This is because each of us is unique with respect to which parts of our brain work well and which parts don't work as well.

The *CAIS **Cognitive Abilities Questions to Ask*** identify which of a particular person's **cognitive abilities** are strong and which need additional support.

The CAIS **Intervention Strategies** address this person's specific cognitive needs and strengths identified by the questions. The interventions **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**.

For example, in a situation where a task **requires** this person to use a **cognitive ability** that is **weaker** for them or harder to use, this person may not be able to do the task. Or they may become confused, fatigued, irritated, or overwhelmed. The interventions suggest ways to support the weaker cognitive ability or to perhaps compensate for it. They may suggest that you **modify** (support it) or **perform** for this person (compensate for it) the **parts** of the task that rely too heavily on this person's weaker cognitive ability. The same example would apply to their environment and to your communication with this person.

By addressing cognitive abilities, these intervention strategies improve this person's ability to do tasks, to interact with other people and their environment, and to feel comfortable. This in turn reduces distress, distressing situations, and behavior that creates distress.

D. Address the Causes

These questions and interventions can help **avoid** a **trial and error** method of intervention by suggesting specific interventions that **address** the **causes** of **distress** and **reasons** a person may have **difficulty** doing a **task** or **interacting** with their environment and other people.

They suggest ways to address the mismatch between a particular person's cognitive abilities (their strengths and needs) and the requirements of the task, environment, or interactions this person encounters.

Because they address **the causes**, (including this particular person's difficulty using a cognitive ability that a task requires) the CAIS interventions are likely to be **more effective** than many other interventions **with this person** and **situation**.

A person's quality of life can be improved greatly when their cognitive abilities are supported and encouraged, and their difficulties and distress are addressed.

E. The CAIS Questions

Each of the four parts of the CAIS (that is, Cognitive Abilities, Environment, Communication, and Task and Daily Routines) has a set of ***CAIS Questions to Ask***.

You might choose to ask the questions in only **one part** of the CAIS. Or you might choose to ask the questions in **more** than one of the **parts**. The questions in each part of the CAIS are individualized to the person you are observing and trying to understand and help.

To be more **thorough** and as **individualized** as possible to a particular person, you would ask the questions in the **Cognitive Abilities** part **first**, and then in each of the other **three parts**. This allows you to have a better understanding of this particular person's cognitive abilities (their cognitive strengths and needs) first, so you can better understand **how well** this person's environment, your communication, and their tasks are **supporting** the cognitive abilities of this particular person.

Once a person's cognitive strengths and needs are identified by using the *CAIS* ***Cognitive Abilities Questions*** *to Ask,* you can use the CAIS Questions to look at the environment, communication, and the task to see how they can each be adapted to this person's particular cognitive strengths and needs.

The **cognitive abilities** CAIS helps you identify this person's cognitive abilities by **asking yourself** a series of **questions** using the CAIS Cognitive Abilities Questions. They explore how changes in the brain and cognitive abilities might be causing this person to perform a task, interact with their environment, and communicate with other people **more easily some times than other times**. They help clarify how this person's cognitive strengths and needs might **help or hinder** this person, and how they may **decrease or increase stress** and **distress** for both **you** and **this person**.

The questions in all four parts of the CAIS are questions to **ask yourself**, NOT to ask the person you are observing and whose cognitive abilities you are trying to understand and support. **You ask yourself** the questions and **you answer** them.

These questions are designed to be asked regarding a **particular person**, since each person has unique needs, strengths, and desires, and therefore, unique preferences and requirements of the task, interaction, and environment.

It is helpful, but not necessary to ask the questions while this person is **engaged in a task**. It can be any task, but sometimes a task that is typical for them is easier to observe and interpret. It is best to observe (and ask these questions) during the **entire time** of the task.

They should also be asked **frequently** enough to accommodate changes in this person's needs, strengths, and desires.

Each time you ask the questions, you can use one of **two response formats** to record your responses: A ***Yes/No*** or a ***Four Point*** *Response Format.* These allow you to respond with a "Yes", "No", or any number from 1 to 4. Brief **instructions** are on the first page of each response format.

Your response of "No" or "1" or "2" to each question directs you to a list of intervention ideas regarding that question in the *CAIS Cognitive Abilities* ***Intervention*** *Strategies*. **For every question** in the *CAIS Questions to Ask* there is a **list** of **intervention ideas** in the *CAIS Intervention Strategies*.

F. The CAIS Interventions

These intervention or support strategies suggest how to **modify aspects** of the **environment**, the **task**, or **your communication** with this person in order to support this person's cognitive strengths and needs.

The interventions for each question are **not listed in order** of priority or likely success rate. When you read through all of them, **select those that make sense** to you regarding this person at this time and in this setting or situation. **Try using** them, then **evaluate** their effectiveness by noting the results.

These interventions are suggested to help this person feel more comfortable and competent, and communicate and perform a task more easily. They can help prevent and reduce distress and distressing situations, including **your own stress** and **distress**.

G. Based on Brain and Cognition: But Anyone Can Use

The questions and intervention strategies are based on **brain functioning** and **specific cognitive abilities**. However, you do not need to know anything about the brain or cognition to use them. There is a minimum of technical language. You can ask these questions and use these interventions whether you are a friend, family member, healthcare provider, direct care partner (caregiver) or assistant, lawyer, bank teller, or an employee in a restaurant. You may have **just met** this person and have a specific task to do with this person, or you may be with this person **24 hours a day**.

H. Individualized to Any Person in Any Setting

The CAIS and all the concepts and intervention or support strategies described in these three volumes can be used by **anyone**, with **any person**, in **any setting**, and at **any time** regardless of what this person is doing. They can be helpful during **any** observation, communication, or task.

The questions and interventions can be used with any person regardless of their age, health, cognitive abilities, or level of independence. They can be used with a person with **any brain disorder** or **no brain disorder**. If this person is living with a brain disorder, it can be at any level of severity. Since we all have cognitive strengths and needs and none of us has a perfect brain, **we can all benefit** from the CAIS even in casual everyday life, to increase our ability to communicate, perform tasks, and interact with our surroundings.

This is **because** the **CAIS questions** and **interventions** are **individualized** to a particular **person** and **their cognitive abilities**, regardless of this person's **situation**, even as a setting or circumstances and these cognitive abilities **change over time**.

This means the questions and intervention strategies can be used in any **setting** in any **room** in any **building**, for example, a private home, an office, residential setting, long-term care, gathering space, or a store.

They can be used with any **unusual** or **usual situation**, **interaction**, or **task**. The task could be for example, a **leisure** activity such as playing a game, doing crafts or hobbies, or conversing; an **abstract** task such as making a decision or learning how to get to a store; or a **concrete** task such as doing a household chore, preparing food, washing hands, dressing, eating, using the toilet or shower

Remember to ask yourself these CAIS questions and update your interventions **frequently** enough to accommodate not only changes in a person's cognitive abilities (their needs and strengths) and desires, but changes in your communication, their environment, task, and situation as well.

The CAIS instructions in Volume II list **five ways** the CAIS questions and interventions are individualized. An explanation and elaboration are available in the "Complete Instructions and Introduction for the CAIS Questions to Ask and CAIS Intervention Strategies" in Volume II and on the IMP website at **https://www.improvingmipractices.org**

I. Similar Process in all Four Parts of CAIS

The process of using the Cognitive Abilities Questions and Interventions is **similar** to the process used with the Questions and Interventions in the other parts of the CAIS (regarding the environment, communication, and task).

CAIS REVIEW ENDS HERE