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Lesson 3.

Specific Techniques for Reconnecting and Reinforcing Cognitive Processes

In this section we will provide an overview of some crucial features of our approach, as well as more detail about the interventions using 'Treatment Tracks' AND 'Cognitive Skills Groups'. Bear in mind that STRUCTURE is the key to effective intervention at all levels.

An important point . . .

Also please note that the *specific nature* of the cognitive therapies in these groups are designed and scaled to the FUNCTIONING LEVEL of the individual, i.e., they are dependent on whether s/he is assigned to Track I or Track II. It is important to note, also, that not all 'Track I participants' require the same complexity of tasks or presentation techniques, nor do all Track II participants. *Therefore, Tracks I and II are divided into A Track and B Track, as we saw with 'Hattie'.*

. . . considering functional limitations . . .

Staff must also consider such factors as whether the individual is expressively APHASIC or electively NON-VERBAL when eliciting response. **An example of this is that staff would ask an individual to POINT to an object for recognition ('Show me the picture of the shovel ...'), rather than asking the individual to VERBALLY identify the object ('Tell me what this is...').**

These operational principles - of scaling the complexity to the individual's functional level - apply to the all categories of therapeutic activity. Senior clinical staff who are responsible for the daily operation of the program directly observe the appropriateness of the staff's execution technique on an ongoing basis, and make adjustments in approach to each given participant as needed.

Some basic principles of these interventions . . .

Day and residential programs in nursing homes or retirement centers or Adult Day Care typically organize participants into small groups for at least part of each day, for easier management – and our approach takes the deliberate step of applying some STRUCTURE to the decision about WHO is assigned to WHICH small group.

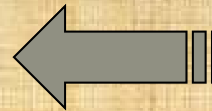
- **As reviewed in Lesson 2, we are forming COGNITIVE SKILLS GROUPS. These groups TARGET the SPECIFIC cognitive DEFICITS of the group's participants.**

- **The focal activities (INTERVENTIONS) used by the staff in these small groups correlate with the *specific functional goals which have been established as 'currently most important'* for those particular individuals who are participating in a given group.**

7 Skill Targets = 7 Skills Groups

1. Orientation and Response to the Environment – *Reality Orientation*
2. Thinking Things Through – Perceptions, Decisions, Doing (Mental Processing)
3. Memory Functions
4. Communication Skills [including appropriate expression of feelings, wants, and needs]
5. Sensory-Motor Integration – including ambulation
6. Activities of Daily Living [performing essential self-care routines]
7. Social Interaction [using a gross motor interactive medium]

Remember that from our list of Cognitive Functions, we carved out the seven primary 'Cognitive Tasks' or 'Skill Targets' seen here at the left . . .



which become the focus of 'Skills Groups'.

These Skills Groups are the mainstay of the program. How else to describe them? They are essentially 'targeted skills development groups' within a geriatric framework.

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Cognitive Target #1: *Reality Orientation* – Orientation and Response to the Environment, Including Attention

Geriatric mental health clients often experience an acute disruption of their reality orientation, or they may 'tune out' the surrounding environment – which makes it difficult to treat them effectively. In this program, a continual *therapeutic connection* with the individual – through COGNITIVE SKILLS GROUPS – enhances the individual's awareness of his/her immediate surroundings, situation, and timeframes. Through effective orientation to surroundings (including the people around him or her), the individual's confusion and frustration are reduced, and his attention to the environment and to treatment is improved. Behavioral reactions are more settled.

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The Reality Orientation Activities

Reality orientation therapies are provided in one-to-one sessions as needed, but most often occur in structured small group sessions, and informally as opportunities arise.

Family members are often involved in the implementation of therapeutic strategies – and certainly they would be involved in the Reality Orientation activities, which need to be ever-present – at home as well as the program site. Functions which are addressed individually and in small group sessions include *several specific activities* **. . . which serve to support two different aspects of reality orientation.**

1A. Orientation to time, place, and situation.

This activity is done formally AT THE BEGINNING OF EACH PROGRAM DAY with a large-scale 'orientation board'. Contents of the board: The name of the program (and picture of the building), a very large calendar of the month marking the date and day of the week, symbols to indicate the season of the year and the weather today (sun, rain, clouds, snow). It's a WHERE ARE YOU NOW? activity, in which group members are encouraged to participate.

A large clock at chair height continuously marks the correct time in each treatment room. Scaled to the verbal functioning level of the group members, orientation exercises spin off into discussion about weather, holidays, remembrance, and time frames.

Aside from this specific activity as a scheduled *group activity*, orientation to time, place, situation, and person (self and others) is done *throughout the day* as the occasion arises.

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1B. Awareness of timeframes - seasons, holidays and daily activity schedules.

Awareness of 'timeframes' is exercised as part of discussion groups and during 'orientation board' activities, and should also be woven into the ongoing daily routines. It's a 'WHEN DOES THIS HAPPEN?' and 'HOW LONG BEFORE we do such-and-such?' type of activity. Staff should integrate *timeframe concepts* into a meaningful context - and therefore orientation work occurs as part of nearly every group activity. Examples:

- **Entering into a discussion about seasons and holidays during crafts projects which relate to preparation for holidays, and**
- **Prompting discussion which helps the individual remain oriented to the flow of his daily schedule, e.g., '*It is now morning, and we have Orientation Board and snacks in the morning,*' or '*It is now 2:00 o'clock, and we will be leaving in an hour.*'**

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Cognitive Target #2: Thinking Things Through – Perceptions, Decisions, and Then Doing. It's 'Mental Processing'.

Many of our patients are re-learning skills and also learning new routines and environments. For many, it's all a 'blur' which produces chronic confusion. Effective 'MENTAL PROCESSING' (thinking things through) is essential to stabilization.

Mental processing 'brings things into focus'. In this program 'Thinking Things Through' means *accurate perceptions*, making *decisions,* and *then doing*. The issue of accurate PERCEPTION is critical here – it's the first step in being able to do anything else.

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Thinking Things Through – Mental Processing Activities

The program approaches this goal through focused exercise of specific functions on a daily basis, in Skills Groups. Mental processing therapies can be provided in one-to-one interactions but are primarily provided through daily structured small-group sessions (in Mental Processing Group, and wherever else it might arise on an ad hoc basis).

Interventions incorporate the exercise of *concentration*, *perception*, recognition of *similarities* and *differences* (i.e., "THIS is not THAT", and "This is LIKE that"), *symbol* recognition, verbal and non-verbal *concept formation* (recognizing categories of things), *sequencing, problem solving, planning, and doing*.

‘Perception’ – what’s that, in terms of this program?

- **To think of it simply, perception is knowing and understanding WHAT you are looking at – and thus WHAT to DO with it, or how to RESPOND to it.**

- **‘Perception’ requires that you accurately *recognize* what you are looking at or hearing, and that you can *differentiate* between this and something else. It also involves the ability to *sequence* activities or events (what comes first? what comes next? etc.), when you are deciding what is needed, and in actual doing.**

Perception, cont. . . .

RECOGNIZING AND DIFFERENTIATING: Activities include asking group members basic questions intended to promote *recognition* and *differentiation*, using flash cards and pictures. For example: Are you looking at a circle or a square? Is this color blue or yellow? Or, which one is the yellow card? Is this a picture of a ball or a drinking glass? Or, holding up 2 or 3 cards, 'point to the picture of a ball.' Is this number a 3 or a 7? Which of these symbols means 'wheelchair', and which means 'a men's bathroom'? Is this a stop sign or a green light? A smile or a frown? Which of these is shows a clock that says 2:00? Which one says 4:00?

SEQUENCING: What comes first – washing your hands, or drying them? What comes first – the meat and veggies, or the desert? A 5 or a 2? Afternoon or morning? 4:00 or 2:00?

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It's all about *DIFFERENTIATION*.

And concurrently, engage group members in discussion of what do these things TELL us – what's it for, where do you see it, how are we supposed to use it, etc. – and are there other things *like it* but not exactly the same?

Please note: In many persons who have had a stroke or who are experiencing acute cognitive confusion or disuse, this type of thinking is not easy. In fact, they may not even have the CONCENTRATION to focus on these things – and so the world becomes a confusing and dangerous place. Just ripe for behavioral and emotional upheaval. Our goal is to bring some clearing of ATTENTION and PERCEPTION, and thus pave the way for other aspects of MENTAL PROCESSING (deciding, planning, doing).

. . . Some additional 'Mental Processing' Skills Group activities:

1. *Mental Processing Discussions.* **Such as simple Q and A activity – someone asks a simple question ("what's your favorite thing to eat?"), someone answers it and then gets to ask the next question. Also, discussions involving COMPARISON of abstract concepts or things or events – such as the difference in holidays (Christmas vs. Halloween), feelings (sad vs. happy), the "old" vs. the "new" life, growing older (what's different), jobs once held, various childhood games, the practical use of things (THIS is for ___ and THAT is for ___), etc.**

Do our participants like these activities? Judge by the laughing and giggles, the eagerness to arrive at the program, and the progressive social interaction of withdrawn individuals.

Mental Processing Skills Group, cont.

2. Activities for recognition of *similarities and differences* . . .

- **Use of form boards, puzzles, peg boards, and flash cards to promote cognitive RECOGNITION of SIMILARITIES in shapes, colors, and items in a category (flowers, things to eat, toys, tools, foods, etc.);**
- **SORTING of objects and concepts by classification. Use flash cards laid out on a table in front of group members, who may either point, manually sort, or give verbal responses. May be used as an interactive game.**
- **For more verbal individuals, 'call out' items in various categories – competition is fun for higher functioning individuals.**

Mental processing skills group, cont.

3. *Cognitive activities which require sequencing, planning, attention to detail, and decision making.* **E.g., "Let's talk about what we have to do to get ready to come here. What do we do first?" Or "all the steps needed to get dressed, in order" . . . Or "What are the steps in making cupcakes?"**

And when feeling adventurous, we'd actually make cupcakes, from deciding what kind of cake, to the recipe, to filling the paper cups, to baking them and eating them. And for this group, in this day and age, we'd use Splenda instead of sugar – and no icing. ☺

Are these activities too simplistic? Not for this population, which is trying to re-build cognitive and expressive skills.

4. **Counting, adding and subtracting games and exercises, using objects, pictures, flash cards, and other objects.**

5. **Recognizing common signs and symbols.**

6. **Selected simple writing exercises (for patients with reasonably intact capacity for written expressive language, but rarely Track I – more likely Track II-A).**

It is crucial that the staff select therapeutic materials and presentation techniques which are appropriate to the mental and motor functioning level of the individual. The complexity of the tasks, the pace of the instructions and follow through, the instruction technique (*hand-over-hand guidance vs. demonstration*), and the number of repetitions will all depend upon the severity of the impairment and the mental and motor status of the individual.

Cognitive Target #3: Short- and Long-Term Memory Functions

Memory exercises are conducted as a scheduled group therapy with two to six individuals utilizing various approaches such as 'shell games', picture identification cards (show-and-recall), one- and two-step instruction activities, story telling and immediate recall exercises, naming and trivia games, reminiscence or 'remembrance' discussions, etc..

Track II participants are able to engage in these activities at a higher level of complexity than Track I participants, and in general, activity for Track I participants needs to take into account their shorter attention spans and oftentimes limited verbal expression skills. Hand signals and 'pointing' are encouraged!

For example, the functioning of an individual's object constancy, his object identification skills, and the presence of expressive or receptive aphasia are important psychological phenomena to consider when memory is exercised.

- **Two-step instructions are often too difficult for Track I participants – so start with one-step instructions; and individuals with expressive aphasia need to point to items and pictures as needed, rather than having to verbally identify or recall the name of an object. And shell games for persons with poor object constancy are generally not a good idea – leads to frustration and embarrassment and sometimes anger. Alternatively, for such individuals, start on a small scale using two "shells" (one empty and one with an object inside) and use your-hand-over-patient's-hand to move the shells around, to facilitate object constancy.**

And memory activity is also ad hoc!

In addition to therapeutic groups specifically targeted to exercise of long- and short-term memory, 'remembrance' and other memory function activities are also ongoing on an *ad hoc* basis - integrated into any activity in which aspects of the activity 'trigger' discussion of past life events or offer short term memory opportunities (e.g., what have we done today? What did we have for lunch today?)

Quite commonly, individuals with non-Alzheimer's memory deficits may exhibit more problems in SHORT TERM memory than in long term memory. For example they may recall long ago events vividly, but may have trouble remembering what we had for lunch today. As cognition begins to clear, we may see improvement in short term memory.

Examples of such *ad hoc* memory work during other Skills Groups:

- **While working in the Sensory Integration group - associating the sound of mooing with the picture of a cow - the therapist might ask the group members if any of them ever lived on a farm, and then entering some brief discussion about the circumstances of that life.**

- **In the Sensory-Motor Integration group, while doing a crafts project using blue and red paint, the therapist asks a Track I participant what colors are in the American flag.**

- **In a Track II Mental Processing group, while talking about the nature of the 'President's job', the Track II participant is asked what job(s) he or she did in his or her earlier life.**

- **While eating lunch, the Track I participant is asked what she ate for her snack earlier that morning - and is given prompts as needed.**

Cognitive Target #4: Communication Skills

Effective communication is a skill that tends to deteriorate in the organically or psychiatrically impaired individual without focused exercise. Further, the inability to communicate effectively is often the source of tremendous anger and frustration for the geriatric individual - particularly those with organic complications such as expressive aphasia which hinder verbal expression. Improved expression of feelings, wants, needs, and preferences - and the development of socially appropriate ways of communicating them - often produce striking improvement in frustration and anger in this client population.

For both Track I and Track II, communication functions are integrated into the treatment program on a daily basis, in the context of the entire daily routine, and in Communication Skills Group at least twice per week.

- **Both verbal and non-verbal communication are addressed, and at varying levels of difficulty, depending upon the cognitive capacity of the individual. Orientation to the environment and to timeframes is inherent in communication activities.**

A discussion format is most often utilized, with the complexity scaled to the functional level of the individual. This activity typically occurs in a small-group format, but should also occur individually on an ad hoc basis [perhaps with a speech therapist or OTR or other clinician in some well staffed programs, for individuals with aphasia]. Some specific considerations:

Special Considerations for Communication Activities

- The therapist must often 'titrate' requests for response, in order to help the individual organize his or her thought patterns. This refers to the need to make requests incrementally, in small steps, pausing to assure that understanding was had at each step. Short simple questions which prompt short simple answers are best, to start.

- For individuals with expressive aphasia or very poor verbal skills, pictures of 'emotions' are utilized, and individuals are taught to use non-verbal means of expressing feelings, wants, needs, and preferences (hand signals, holding up picture cards prepared for specific purposes, such as a drinking glass to ask for water or juice, a toilet to request assistance, a facial expression communicating emotion, etc.)

- Individuals who have expressive difficulties, or those who have had little reinforcement for expressing feelings or needs, are often quite reticent to do so. Positive reinforcement is essential.

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Cognitive Target #5: Sensory-Motor Integration

These skills activities most often occur in the normal small Skills Group format, and in some well funded programs may be overseen by an Occupational Therapist (OTR). These treatment activities facilitate

- ***physical coordination* and *concentration skills*,**
- **sensory-based *connection to the environment*,**
- ***spatial integration*,**
- ***one- and two-step motor sequencing* activity,**
- ***planning* ability, and**
- **the *connection of current sensory input to memory processes*.**

These crucial skills are oftentimes significantly impaired in persons who have experienced strokes. Some examples of remedial activities appear on the following pages.

Sensory-Motor Integration, cont.

1. **Construction of designs, shapes, and color collages from paper, Styrofoam, wood, or pre-formed materials – with goals of either duplicating colors or patterns from a model, or using freeform construction. Obviously use water soluble wood glue – not hammer and nails – and wash-out water based paints.**

2. **Arts and crafts projects to take home or display in the room – teachers' supply stores are an excellent source for arts and crafts materials used in these sensory integration activities.**

Sensory-Motor Integration, cont.

3. Structured sensory integration exercises, involving RECOGNITION and ASSOCIATION of shapes, textures, colors, sounds, and smells. Examples: • Peppermint extract and lemon extract dobbed on 2 cotton balls – which is which, matching to pictures of lemons and candy canes? • Flashcards of various geometric shapes – move cards around to match up identical shapes. • Show pictures of *colorless* bananas, apples, trees, etc. on flash cards; then ask group members to select the appropriate colors from several color-swatch flashcards which match the color of the items. • Give each member a desk bell – instruct to "ring it when you hear the sound of [a cow, a bell, a cat, a hammer, thunder, etc. etc.] on the tape recorder". It's great sensory-motor integration coupled with memory and auditory recognition.

Sensory-Motor Integration, cont.

Do these activities look simplistic and childlike? Not to persons who have lost elements of sensori-motor functioning

4. **Auditory recognition and differentiation – identification and matching of sounds, smells, colors, and pictures – e.g., matching a mooing sound to the picture of a cow, baaah with a sheep, crowing with a rooster, a fiddle melody with the instrument, a thunderclap with lightening and clouds, etc. There are inexpensive tapes which contain sounds for recognition, in teacher supply stores, as well as flash cards of every description.**

5. **Structured physical movement and [wheel]chair exercises emphasizing coordination of large muscle groups (gross motor coordination).**

And for those with severe gross motor difficulties . . .

For individuals with more severe gross motor difficulties, Occupational Therapy or Physical Therapy may be appropriate. These may include:

a. Gross motor and range of motion for individuals with specific impairment – with guidance from a physical therapist or OTR if the individual has major physical limitations or disability.

b. Ambulation, especially when connected to REFUSAL to ambulate and when physical capacity is a significant factor. [Development of strength in ambulation and wheeling is an OTR or PT function – not a mental health function – although program staff may carry out activities under direction of an OTR or PT.]

Physical therapy . . .

NOTE: Physical Therapy is not a standard part of the programs which we describe in this course. Physicians may prescribe PT administered by a licensed professional if it can be billed to Medicare or other medical coverage.

Cognitive Target #6: Activities of Daily Living [including essential personal care skills, social judgment and appropriate behavior]

'Community Integration' – the traditional psychosocial approach to ADLs for community living – is NOT considered an appropriate approach in this cognitive reconnection program, because of the age and physical condition of the participants, and the GOALS that we have for successful treatment.

However, a part of the therapeutic program IS targeted to strengthening of basic personal care routines and functioning in social situations.

Activities of Daily Living (ADLs), cont.

The program recognizes that acute or chronic disuse or impairment of cognitive functions often impacts the most BASIC of ADL skills . . . leading to difficulty for caretakers and problems in social situations - even in an institutional setting such as a nursing facility.

In the non-Alzheimer's patients whom we treat in programs such as this, there is something that we can do about 'daily living skills impairment'.

ADLs cont.

Depending upon the subject matter and the individual's needs, therapeutic interventions may occur on a 1:1 basis (such as in toileting and bathing), as well as in the daily ADL Skill Group context. Program staff provide training, various levels of direct assistance, pictorial and in vivo demonstration, and structured feedback. Family members are included in the therapeutic process as appropriate.

Personal care routines are affected by difficulty in *motor sequencing*, which is used in toileting, eating, and hygiene – i.e., getting the order of physical movements correct, e.g., in what order do you do what with your hands, feet, etc. in order to complete a task?

Aside from *motor* difficulties affecting ADLs, we also see ADL difficulties in:

micro-planning (what shall I wear today?),

attending to the mechanics of dressing, eating, and toileting

cooperating with a 'routine',

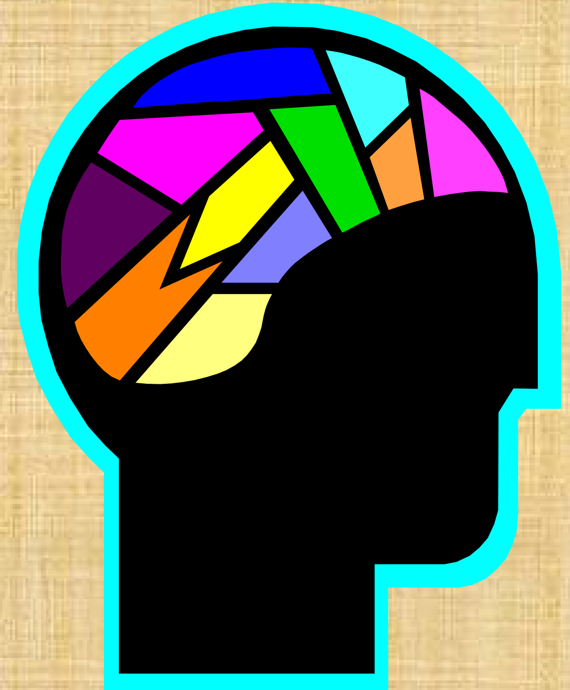
social awareness – what's acceptable public behavior,

the ability to express wants and needs related to ADLs, etc.

ADLs cont.

The approach used in the program seeks to address such difficulties. Note: When self care skills are addressed in a hospital setting (feeding, dressing, toileting, personal hygiene, etc.), Medicare reviewers typically take the position that such rehabilitation must be provided under the oversight and supervision of a Registered Occupational Therapist (OTR), in order to be billable. HOWEVER, in the context in which most of us would provide these services, that is not an issue. Any program staff person with proper training and supervision may carry out these services.

ADLs cont.



A few notes about ADL activities follow . . .

1. Social Awareness and Judgment

Handled most often as a small group discussion, incorporating actual practice, demonstration, and pictorial explanation as appropriate. Examples: A discussion of how to behave in various social situations; why it's important to not interrupt when others are talking; what you can do when you feel like yelling or cursing loudly or hitting someone, etc.

- **Note: Track I patients tend to do better with *in vivo* practice of social behaviors, with program staff demonstrating and the individual practicing the modeled behaviors . . . while Track II patients tend to do well with discussion of the 'rules' and expectations which govern social behaviors and judgment.**

2. Personal Routines

These are typically one-to-one interventions with individuals, requiring a structured plan which shapes and rewards appropriate personal routines. Requires creativity, and includes such areas as:

a. Toileting and continence, especially when complicated by behavioral or psychiatric disturbance.

b. Personal hygiene problems [such as 'feces digging' and combative reactions to attempts to assist bathing routines].

c. Oral hygiene. When it's clear that the individual failed to attend to oral hygiene before arriving at the program that day, after snacks or lunch is a great time to practice this skill!

d. **Self feeding. May include acceptance of solid foods where a G-tube has been discontinued. May also involve problems with swallowing and risk of choking. In such situations, it is crucial that a nurse or dietary specialist oversee the approach and implementation of training activities to resume normal intake of liquid and solid food.**

e. **Effective use of eating utensils – for persons with serious sequencing and motor movement difficulties, or for those whose disconnection with the environment has impaired such areas as 'figure-ground' perception. Figure-ground perception problems make it very difficult to effectively approach a plate of food with a spoon or fork! Hand-over- hand practice helps to resurrect these skills.**

The role of medication . . .

We must recognize that depression and anxiety can effectively 'paralyze' an individual's completion of his normal daily routines, so that he becomes dependent, often angry, and more depressed.

NOTE: Clearing of depression and concurrent anxiety with appropriate medications can bring about remarkable improvement in cognition – INCLUDING DAILY LIVING SKILLS.

Therefore, a medication evaluation should be obtained for individuals who appear depressed or anxious. AS WE NOTED IN PREVIOUS SLIDES, DEPRESSION OFTENTIMES MIMICS DEMENTIA and other cognitive dysfunction – thus correct diagnosis can be facilitated through a trial of medication.

Cognitive Target #7: Social Cooperation [in the Context of Interactive Gross Motor Activities]

Inability to effectively use and coordinate major muscle groups is often one concomitant to organically-based mental disorders and other psychiatric illnesses, and often produces feelings of frustration, anxiety, and depression. Disuse of gross motor movements also prompts restless, psychomotor agitation, and inability to alleviate stress in many cognitively impaired individuals.

Therefore, this program incorporates treatment of these functions into the daily schedule, ***and it does so in the context of Social Cooperation - with individuals cooperatively engaging in small group exercise of gross motor functions.*** **The group activity requires social interaction and makes exercise far more palatable.**

Social Cooperation Supports Gross Motor Exercise

The group activities improve the *coordination* of gross motor movements with the sensory functions (hearing, sight), and simultaneously teach reduction of stress and *social cooperation* through guided movement. Let group members take the lead!

Various gross motor games are utilized (such as 'wheel chair horseshoes' and group use of large soft inflatable balls) as well as 'chair exercises' to music . . . rhythm bands using tambourines, spoons, xylophones and drums, and 'Simon says' games using gross motor imitative movements (which simultaneously exercises attention and concentration).

Congratulations!

You have completed the 3rd of 4 lessons in this Aging Course 4G. You may complete the short quiz for this lesson either now or later. To reach the quiz link, you may simply close this internet page to return to your My Home Page. Click through on the link for Aging Course 4G until you arrive at the Study Guides and Quizzes page – where you will see links to the quizzes. You may also return to the quiz links at another time, at your convenience.

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So either take the quiz now, or you may resume the course – your choice! To move on to the 4th lesson of the course, return to My Home Page and click through the links until you reach Study Guide Lesson 4.