

What are some of the Deficits in Executive Functioning in Alzheimer's Disease?

by Carole Larkin, Certified Dementia Consultant

Shall we ponder some of the issues regarding slowly losing executive functions in Alzheimer's and related diseases today? First, let's define what executive function is. An article by Leilani Doty, PhD, the Director of the University of Florida Cognitive and Memory Disorder Clinics tells us that executive functions generally take place in our frontal lobes, right behind our forehead. These functions include our ability to plan things, to solve problems, to organize things in our heads, to develop the initiative to start something, to make an appropriate decision, to consider consequences of our choices, to form an idea, to prioritize things, to be able to control your own emotions and to be able to think abstractly. Additionally executive functions include the ability to use working memory (to hold the item in your head long enough to use it or apply it to something else), the ability to pay attention to something without getting distracted, the ability to focus in on important details, to work towards a goal (plan), to adjust to changes (shift gears midstream) and to know when to stop an action or task that has been completed. These things are what place us above other animals; in other words what make us human.

She breaks it down into 4 main steps:

“Start: Think about the problem and what needs to be done. Think of a way to solve the problem. Consider resources, past experience, new possibilities, values, deadlines, etc.

Maintain: Start acting on the first step and continue until that step is done.

Switch: Do each step and move on to the next step in order to complete the task or solve the problem.

Stop: Evaluate the outcome. Is the end result good, is it adequate, is it finished, or is more action needed? When done, then stop.”

And here are some finer brain actions within the main steps of executive function:

“Forming ideas to do an action.

Starting an action.

Maintaining an action until the step is finished (knowing when a step is done).

Switching behaviors to do the next step needed.

Regulating, controlling and adjusting body actions to deal with changes and new information along the way.

Planning a tactic down the road to deal with a new issue or new direction.

Holding details in working memory.

Controlling emotions.

Thinking abstractly.

Knowing when the whole task is finished, stopping that task, and moving onto a different task or activity.”

Follow this link to see the full article:

<http://alzonline.phhp.ufl.edu/en/reading/ExecutiveFxLatest.pdf>.

Phew! That’s a lot of things that executive function controls. Now imagine the neurons in that part of the brain beginning to die. Think of it as if there is a light bulb representing that part of the brain and it begins flickering; sometimes on strongly, sometimes on weakly, sometimes not on at all. Well that’s how it is for years and years in Alzheimer’s and other related dementias.

How do you (the caregiver) know when the person’s executive function is OK, kinda not OK, or definitely not OK, because it’s always fluctuating? The answer is: you don’t know. You couldn’t possibly know. Because, of course, you are not inside their heads watching the neurons fire, or not fire. So here you’ve come face to face with the true evil which is Alzheimer’s or another dementia.

You are the caregiver. The one with the whole brain (theoretically). At any given moment, you are responsible for their safety and their continued existence on this planet. Yet, they deserve to be self-reliant and independent as any other adult would be. They know it and you know it. What to do? What to say? Stressed out much, are you at this moment?

So now, I think we are talking about talking risks here, folks. We do it with them all day, every day. We don’t want to, but we’re forced to. They force us to because many times they are not even aware that the light of logic and reason is weak or has gone out. Oh and by the way, self awareness is another executive function.

I think each of us has their own answer to this quandary. Each of us has their own level of risk that we deem acceptable. And that’s OK, as long as we own our decision, meaning taking responsibility for the decision we make in regard to acceptable risk.

I would ask this of each of you. To think about taking a calculated risk by trying to control the environment or the circumstances in which this action (or non action) takes place, as much as possible. By tipping the scale on the side of safety as much as you can, you are taking a calculated risk as opposed to an uncalculated risk. It takes courage, I know, in the face of the

anger and other nasty emotions that you will faced with, from the person with the disease. But at least try.



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