Staying Sharp – Hunter
Tape HUN
THE DANA ALLIANCE FOR BRAIN INITIATIVES

RP: Hello everyone. I am going to begin now, so those of you who are still coming in, please take your seats, we're going to start. My name is Roger Persell and I am a faculty member here at Hunter College in the Biology Department. Tonight it's my pleasure to serve as the moderator for a panel of experts on staying sharp. The fact that you're all here sitting down means that you are certainly taking steps to stay sharp already. And we're going to talk about the normal brain, the aging brain, what we might face when the brain doesn't work as well as we would like it to, and what we can do to keep it right.

Before I begin and before our panel introduces itself, we'd like to thank the institutions and the organizations that have made this afternoon's panel discussion possible: AARP, not inappropriately; the Met Life Foundation; the Dana Foundation for Brain Initiatives; and, of course, Hunter College, a very great resource to the Upper East Side and the New York City Community. I'd also like to mention that this is Brain

Awareness Week, something I was unaware of until fairly recently. The Staying Sharp Program is part of this week, part of Brain New York, B-R-A-I-N-Y, New York's first collaborative Brain Awareness Week campaign.

I'm going to let the panel introduce itself, each member. Our experts, and then we will begin. What I would like to do right now though is to please ask you to hold off questions, which I expect you to have many, until the end, and then we will try to address all of them. (Background Conversation)

AG: Hi. My name is Dr. Anne Ganzer, and I am an Assistant Professor here at Hunter College in the Department of Nursing. And I teach the graduate students, the psychiatric nurse practitioners. I have been practicing nursing for about 25-plus years, and I have worked in a variety of different settings, primarily in aging and dementia and Alzheimer's centers at NYU, at Downstate in Brooklyn, and I am also a post-doctoral fellow at the Veterans Administration where I do research on brain aging and stroke and how we can work with older adults who have had transient ischemic attacks, or TIAs, to recover quickly.

CM: Hi, I'm Charles Mobbs. I'm a Professor of

Neuroscience, Endocrinology and Geriatrics at Mount Sinai School of Medicine and I've been studying aging for over 30 years and my basic focus is what I call the metabolic mystery which is the observation that, as we know, and we'll talk about more today, certain risk factors like diabetes and obesity are basically very toxic to a lot of the organs, and on the other hand dietary restriction, which means eating 30 percent fewer calories than you otherwise would eat, is extremely protective. This is very mysterious because we don't understand why that should be the case. So I'm trying to understand how that works because dietary restriction is protective against basically all age-related diseases, including cancer, Alzheimer's disease and everything. I'm not recommending anyone in this room undergo dietary restriction. We just want to figure out how it works so we can put it in a pill. And I actually work very closely with Dr. Jack Rowe, who was one of the first people to formulate the concept of successful aging, so I'm a bit of a proponent.

RP: Let's begin please. Welcome. Let's begin by taking a look at the normal brain, sort of lay the groundwork there, and then I think I'll ask Dr. Mobbs to do that.

CM: As you all know, basically, the brain is where it's at for human beings, so it basically supports lots of different functions. One of the functions that we'll be talking about today a lot, of course, is memory, but we shouldn't forget all the other functions that the brain supports as well, that are equally important, if not really more important, like consciousness, emotion, calculation, imagination, love and all those things really arise from this very mysterious organ in the brain. Of course, again, as you all know, how does it do that, and it basically does it by the connections between one particular cell type called the neuron, which is kind of the business end of the brain, but that's supported by other types of cells too, especially glial cells. So it's really the health of the neurons that's really the key point. And another key point that you probably know as well is that different parts of the brain support different functions. So the part of the brain that supports memory function is a part in the middle of the brain called the hippocampus, but that talks to the sort of thinking part of your brain called the cortex, and unfortunately those are exactly the two parts of the brain that are most devastated by Alzheimer's disease. Another part of your brain called the basal ganglia supports

movement and not surprisingly, I guess, unfortunately, that is the part of the brain that's most devastated by Parkinson's disease and also Huntington's disease. So we don't really understand why that happens but that at least explains why we get those particular symptoms.

RP: Thank you very much for that. Why don't the questions that may crop up, has to do with gender and aging. Do men and women age differently, do they have different issues as they age, people who see other members of other genders may notice differences or they may not, we'll see. Anne, Dr. Ganzer?

AG: You want me to speak to the gender ….? Well, in general, I think we know that women tend to outlive men and that's also a mystery, right. Why do women outnumber men? And as we age now, and our population is really growing, and I'm sure that's why so many of you are coming out here today, because the expectancy of your longevity has really risen. Maybe around 1900, the life expectancy was around 47 years of age, and in the year 2000 it's now up to 78, and it's progressing. And so there's going to be a lot more women out there. What can we do to help you maintain that longevity? And that's what we're here to

talk about tonight, and how can we put things in place to help the guys stick around?

RP: Dr. Ganzer, is there a difference between the mental faculties of men and women as they age?

CM: I'll address that point. Probably a lot of you had heard that a lot more women get Alzheimer's disease than men, which is true. But we don't entirely understand why that is. In my opinion it's almost entirely just because women live longer than men, and Alzheimer's disease is clearly, obviously, a disease of the aged. So, in terms of almost any other respect that one can imagine, women basically are superior to men as far as I can tell. Otherwise there's not really any major gender effect. I will bring up though, the point which I'm sure many of you have heard, about whether estrogen replacement therapy, therefore, might be useful for women, against Alzheimer's disease, and you probably heard that there are a lot of trials that looked at this question, seemed like a good idea at the time. Basically, at the moment, the consensus is no, estrogen replacement therapy is not in any way helpful for cognitive function or for Alzheimer's disease as you get older. That's the consensus. There's some people that are still hoping

something can come of it, but for the time being the clinical recommendation is do not use hormone replacement therapy for cognitive impairments.

RP: I want to add a little complexity here. Turns out that more men get Parkinson's disease than women. So these kinds of changes that occur with aging are not simple and as you'll hear many, many times tonight, no one really knows why, but there are differences in how the two genders age, maybe with respect to susceptibility to some illnesses, some brain dysfunction. But otherwise, I think we we're probably in agreement that as long as you're staying healthy the distinctions are trivial, nor not even in existence. One of the issues with aging that we all face, certainly, as well as you, is memory. I think it probably worries us as much as any specific disease, and indeed, one of the first things is, "Well, my memory is going, do I have Alzheimer's?" "My memory is going, am I too old? What's going on?" Memory is often the first flag for us, and probably generates more worry than anything else. Can either of you talk about the nature of memory and what we can expect normally, and maybe with some suspicion, as we get older.

CM: This comes up a lot and so I just want to make a few kind of comments on this point. First of all, it's very important to distinguish between Alzheimer's disease and what happens if you don't have Alzheimer's disease, because basically, Alzheimer's disease, of course, is a horrible disease and it's devastating and memory impairments is one of many symptoms of Alzheimer's disease and not necessarily even the worst, certainly not the earliest. But that's a devastating disease. If you don't have Alzheimer's disease, there will be, as with all the rest of your physiological functions, some impairments in memory function as you get older, but really, they're very, very minor. And in fact they are so minor on the whole that at most they're an inconvenience and very likely you wouldn't even notice them, but unfortunately as we get older we get sort of paranoid about Alzheimer's disease so we get this confirmation bias. "Oh, I must have Alzheimer's because I forgot where my keys were." Well, I forgot where my keys were when I was 20 years old also. There is one thing that's kind of particularly annoying and particularly common, which is the tip-of-the-tongue phenomenon. I'm sure we've all experienced that. There's a word you know and you just can't come up with it,

ten minutes later you get it. So, very common, very annoying, it does increase with age. But by and large, not really physiologically significant. So the important thing is to not get panicky, and especially don't get panicky about your relatives just because they 're not being able to come up with a word or something like that. As we'll talk about more, there are many, many reasons to be optimistic as you get older, that you can really retain all your marbles. I think the name of the game here is don't over react to relatively minor symptoms.

RP: We all have been victimized by a lot of clichés that probably go back thousands of years, and one of the most dogged ones, if I may used that pun here, is that you can't teach an old dog new tricks. And the thought is that well, we're getting older, we're losing some function, maybe memory, and we're stuck with that. I think you're hearing already the first indications that we're not stuck with that, and that you can teach anybody at any age new things. So one of the aspects of that learning process comes under the general idea of brain plasticity, something that we tend to think of perhaps as being characteristic of the young, but it turns out it's a characteristic of human beings,

period. Dr. Ganzer?

AG: It was a fallacy that we've had for many years that the brain … we thought that the brain could no longer change when you became a certain age, you couldn't develop any more neurons, that was it, it was over. And it was only going backwards, you were losing neurons as time went on. We used to call it senile dementia, oh, that person's senile. You go to a nursing home and they were sitting there. A lot of times they weren't really senile, they were bored. They were just sitting there bored and they were looking out into space, no one was engaging them. They were, perhaps, depressed because when you get to a certain age you've lost, perhaps, your significant other, things have changed and you are no longer fitting into that life that you once knew. Well, the new thought is change is good, we need to change, change with the times. So we need to learn to embrace the changes that occur with each decade of our life, and as we get to 50, 60, 70, and over, we need to think about things that we can do to enhance our brains and make our brains think differently. So, for instance, I like to use the example of you're right handed, and your whole life you're right handed. Well, you know what? Change hands. Use your left

hand to comb your hair and brush your teeth. That stimulates neurogenesis in the brain. Now the brain has to think, "What are you doing? You're not using your right hand anymore to brush your teeth?" Okay, so those are the kinds of things that we're going to be talking about this evening – what can you do now to help make those neurons start reproducing?

RP: One aspect of memory and brain plasticity and learning, indeed, and one of the reasons that we often do fear the loss of that is that, let's face it, many of us don't always get a good night's sleep. And it's turning out that a good night's sleep is a necessary requirement. It may not be the same as it was when you were 14, sleeping 14 hours a day, but it is something that we will also address later on. I wanted to jump to it briefly now because it is linked to successful learning and memory retention and successful brain plasticity.

Let's talk a little bit more. There are some changes with memory that do accompany age. What can we expect? Are there any differences? It's just maybe the word is on the tip of my tongue and nothing more? Is there something more?

CM: No, there's something more. So, for

example, if anybody here has recently played the game Memory of Concentration with a five or six year old, I don't know if you've done that, but you probably, if you have done that … the way that game works is you put down cards, you look at them, then flip them over and then basically you have to remember where they were before. Most of you probably will have found that your five year old niece or granddaughter probably beat the pants off of you, and that's a well established phenomenon that that kind of memory, it's also the same kind of memory that you use to memorize lists for example, absolutely starts declining – daily, weekly, yearly – from around the age of 17 on. And monotonically, constantly. So that if you had a room of teenagers and a room of not teenagers, older people, and you had a list of 15 words, you have five minutes to memorize those words and then ten minutes later you come back, unquestionably, the teenagers would be absolutely far better than the group of seniors. But I ask you, how important is that really in your daily life? It just doesn't come up that much. For example, as a hobby of mine is I'm an actor, and so I have to memorize a lot of lines. Believe me, it has gotten a lot harder as I've gotten older. But you know what? I compensate. I

cope. But as far as my day-to-day life, I'm a scientist. Do I really need to be able to memorize lists? No, I've got the internet. So do you. So, basically, these kinds of problems – I shouldn't call them problems – these kinds of age-related changes are easy to demonstrate in the laboratory. They're very robust, but they really don't mount to a hill of beans in my opinion.

RP: Should older people, should we pay attention to these losses? You're saying no, but when you think, my God, I saw a movie last week I have no idea what the name of it was, and everybody's looking at me like I'm the old jerk here in the room. Is there something we could be doing that just kind of keeps us a little bit more vibrant? Not necessarily crossword puzzles, as people have said if you do crossword puzzles it makes you good at crossword puzzles. But are there … maybe this is the first chance we can have of talking about some of the things we might want to engage in that are good with respect to memory.

AG: I'm sure all of you have seen all these new programs that they have on television, they're constantly running Luminosity and Cognifit, and there's all these different new programs that are trying to get into your deep pockets, because

they know baby boomers have lots of money, you've been saving now for years and years, so they're targeting you with your worst fear: your memory is going. And now, here it is, they're flashing it on the screen, this is all you have to do is engage in our games and your memories will improve. Well, there is some science to it. It's not just advertisement. There is some science that if you engage in new kinds of novel activities that, again, the issue of neuroplasticity in the brain, mapping out new pathways will begin go happen. But you don't have to go out and spend $500 on one of these programs in order to do that. There are other things that you can do that are very simple as long as they're different, and that's really, I think, from what I take away from this message, as long as they're different from what you have done in your routine life. So let's say you're going on a trip to France and you want to learn a new language, you want to be able to have conversational French when you get there. Well, that will help you learn because it's something new to you and to the way your brain has been thinking. You can engage in other kinds of activities. If you're a real big crossword puzzle doer, well, that's not going to help, because you've been doing that. But if you like to do something

different, change it to sudoku. Those are the kinds of things that I would recommend to help with successful aging and keeping your brain sharp.

RP: There's one last question we're going to talk about in this section before we move onto another section. Many people in this group, certainly people I know among my friends, have very aged parents still alive, 105 years old, and they've got children whose own children are facing stress. And so many people in this room may find themselves to be in almost a peak of stress. All life is stressful but for some it's more than at other times in their lives. Is there a contribution that stress makes? Or is there some way to help cope with that as we get older?

CM: Nobody likes to feel stress. Already we have sort of automatic alarms that go off when we're in a stressful situation. And there certainly is some evidence that under, at least extreme stress, that that can certainly cause problems for normal brain functioning. Certainly it's distracting. And there are some of the physiological responses to stress, like elevated stress hormone, can certainly cause damage to the brain if it's extreme enough. But on the other hand … and basically what we'll be

talking about in terms of lifestyle interventions, many of the things that we will be talking about will actually also help you cope with that stress. But I don't think there's anything … certainly people say aging is not for sissies, and so there's going to be a lot of things that we face, but I guess what I would say, in my view, the interventions that we will be discussing today, although they're really specifically targeted for successful aging, the fact is they will all help you cope with stress also better.

RP: Before we ultimately get to these various things we keep telling you we're going to talk about, we do want to address probably some of the big names with the kinds of disorders that many of the people we know may suffer from. Alzheimer's was mentioned, Parkinson's has been mentioned, stroke and dementia, which is kind of a general word. And one of the things that I personally am curious about from our experts is, is there a range of these conditions? Or is someone normal one day and then they've got disaster the next and that's it? Is it always yes or no? Or are we all coping with a variety of little different things all the time. So let's talk about some of the diseases.

AG: There were many, many diseases, and many

diseases that affect the brain. Of course we're all talking about Alzheimer's disease because that's been the hot topic for a long time now because we haven't been able to find an answer. We don't have an answer yet at this time. But dementia is an umbrella term and the diseases that cause dementia fall under this larger umbrella. And Alzheimer's is just one type of dementia. There are many, many different types – not that many but there are many. Stroke can cause a dementia-like condition. Stroke is caused by modifiable and non-modifiable risk factors. For instance, high blood pressure or hypertension; diabetes, which we have medications to treat; smoking, sedentary lifestyle, alcohol – those are all kinds of risk factors for stroke. And those kinds of risk factors are considered white matter disease. They cause these little tiny, tiny strokes in your brain, and that can cause dementia, albeit a temporary one. It just kind of comes and then it goes, so it's like … I remember my mom calling me up one day and she said, "You know, I just couldn't get the words out all morning. I could not get my words out." And I said, "Mom, you probably had what's called a transient ischemic attack," which is just a small, tiny, little blood clot in the brain, and then it just dissipates over a

short period of time and then the brain is reperfused and now she can think straight. Better get to the hospital and get checked out right away. That's really important because we know from science that if you have little tiny strokes, a lot of times you're setting yourself up for that big, full-blown stroke.

Now, we're talking about the other kinds of dementias. There are dementias called Jacob Creutzfeldt disease. There are dementias called Lewy body dementia. And they're all causing memory loss but they all have different kinds of symptoms and they come on differently. So in Alzheimer's disease the course is extremely slow and insidious. You start to have little bouts of memory loss, and then over time it gradually increases, and increases, and increases. So the characteristics of the different types of disease processes are very, very different. The only dementia that I could think of would be like a stroke related that comes on really quickly, and you could probably talk about some of that. Most of the disorders are slow and insidious and they don't just, you know, wham, you wake up the next day and you can't think anymore.

CM: I would just add one thing. It is true that the

dementias are associated with memory loss, but the clinical presentation of dementia is completely different from just the kinds of memory loss that most of us will deal with. In particular, they're basically pretty early on in the course of the disease. There are kind of disorientations that occur that just don't occur to normal people. For example, you forget the season; you wind up in a store and you have no idea why – well, that could happen, I guess, to anybody. But crazy things, really, that just are completely out of the ordinary for a normal person. So until those kinds of really strange things happen you really shouldn't start wondering whether your memory loss is a precursor to Alzheimer's disease because most likely it's not. But if you get some of these crazy, really strange orientation issues, either in yourself or your spouse or a loved one, that's a time when you might want to think about talking to a doctor to get a diagnosis. But until then, it's probably harmless.

RP: I'd like to feed off that point just a little bit because we are talking about successful aging and I think one of the characteristics I know I have faced with dealing with younger people, whether they're family members or strangers, is the

judgment that young people often levy our ways, our own children. And they often are the ones who first say, “You’ve got Alzheimer’s disease. You are getting older. You are over the hill. What’s wrong with you?” And it can really have a terrible effect on an older person. Can you recommend something to do with how do you cope with intergenerational conversation when the topic is your own insecurities and your own behaviors that might suggest dementia or decline? This is a complicated question, but is there a way to do that?

AG: I think it’s about relationships and when you are in a situation with, perhaps a spouse or your child, it’s about having a conversation. They may notice something, and that’s very often how it begins. A spouse may notice … I had a patient once and the spouse called me up and said, “My husband put the milk in the pantry,” and that was like a huge red flag because the milk doesn’t belong in the pantry. This is a very unusual occurrence. So that alerted me, and I said, “You really need to have him checked out.” I think the thing is, to be honest, and have a good, frank, conversation. We get into the heat of it and you say, “Oh, you have Alzheimer’s disease.” Well maybe … what do you

mean by that? Did you notice something that I'm doing that perhaps makes you think that? And ask your son or your daughter or your spouse. We're often very afraid to tackle this issue. It may be nothing. It may be absolutely nothing, but it may be something that is treatable. There are things that are treatable. We don't often talk about infectious disease, infectious processes. Very often I'll have a family member call me up and say, "My father, he is so disoriented and confused. I don't know what to do with him. He was fine yesterday and today he's so disoriented." And I say, "Well, maybe he's got a urinary tract infection. Or maybe he has a respiratory tract infection." Infectious processes can cause a delirious kind of behavior in people. So we need to get at the root of what's going on first and really not be, I think, fearful of what you're encountering.

CM: Just a couple of points I would add. One is that what you're doing right now is really the best thing you can do in a situation like this. Be educated, probably more educated than they are, because you're more concerned about it than they are. So if somebody accuses you of something you can come back and just say the things that we're talking about tonight, that most of

these kinds of very minor occurrences really in no way indicate Alzheimer's disease. The other point, there was one other kind of sort of avoidable or even reversible kind of dementia that wasn't mentioned and just occurred to me, which is medicines. There are a number of medicines that can actually cause kind of confusion and dementia like symptoms that really look a lot like Alzheimer's disease. You go on a different medicine and they disappear. So geriatricians are particularly sensitive to this kind of thing. They know about those kinds of side effects, which are certainly more common in the elderly than in the young people. And, of course, elderly people are more likely to be on those medicines anyway. One thing along those lines is certainly you don't want to have just a standard primary care physician trying to make a diagnosis of Alzheimer's disease because a geriatrician or somebody like that would be in a much better position to figure out maybe if some of these medicines are interacting that cause some of this confusion.

AG: One last comment also is depression. Sometimes we're depressed and when we're depressed we start to forget. And if we then get at the root cause of the depression, very often we can reverse the confusion and normalize the person

again. Again, there's different things that are going on and they all mimic the same kinds of symptoms, and we need to know what the root cause is really.

RP: I'm going to actually segue right back to depression but first I want to make a brief point that Parkinson's disease, which was mentioned earlier, can be associated with a dementia, often with a little bit more advanced Parkinson's, but not necessarily the devastating end stage, but even just a bit more advanced. But we all face a variety of things as we get older, whether it's an arthritic hip that can lead you to feel somewhat down and blue and depressed. And as Dr. Ganzer said, certainly depression has an impact on our cognitive function, our sharpness, the very topic of today's talk. And when you're not so sharp, everything starts to roll downhill and certainly to the outside world and even close family members, we can look a little bit demented. So depression is a topic worthy of its own discussion right now. What might cause it? How do we cope with it? There are certainly enough commercials on television, right along with the learning tricks and the learning programs, that you would think depression is big business. Well, I guess it is big business. So what is it? Is

everyone depressed? Is it possible just to be sad for a day without being depressed or what? What are we looking at here?

AG: When we think about our mood, our mood fluctuates every day. Some days we have good days, some days we have bad days. With depression you want to look at the duration. How long have you been sad and blue? What's the window of time that you've been experiencing? And how is it affecting your daily life? How's your diet? Are you eating well? Or are you just not eating at all? How's your sleep? Are you sleeping? Are you sleeping too much? Or do you have insomnia? Are you up all night pacing the floors? So, again, it's going to be the duration of how long this mood disorder is lasting, and that's going to tell us a lot about whether it's a chronic depression or major depressive disorder, or whether it's something that's seasonal. We've all heard of seasonal affective disorder. I often wonder, why do I live in New York City, it's always so dark and gloomy and we've had such a bad winter, it's been so cold. That can make you depressed. I get depressed. I walk around the city and I'm like, oh, where's the sunshine? That gives us a little boost in our affect, or we feel great when we see the sun. So, again, the

duration, how long? Is it a situational depression? Did you just lose somebody in your life? It's normal to feel like that. But if it lasts for six months then we're starting to worry what's going on.

CM: I would just emphasize that … I'm a little ambivalent about diagnosing Alzheimer's disease, to tell you the truth, because frankly, there's nothing we can do about it and so it's kind of definitely a two-edged sword. I contrast, depression is imminently treatable and the drugs out there are really so good. I mean they're right to put it on TV because it's imminently treatable in the vast majority of cases, which I think clearly indicates that it's biological in origin. And so in this case, better to seek treatment sooner rather than later. I think some of us macho guys feel like, well, what can a psychiatrist tell me? I can get my act together. But really, it's a biological disease and it's a disease that needs to be treated with a combination of talk therapy, but certainly drugs as well and don't hesitate to seek out medical attention. I don't know if you want to even go three months, I mean six months, because there's kind of a real difference between major depression and any kind of reaction you have to any life event. It's really much more profound. And if you really are feeling like you don't want to get

out of bed, you don't want to live, this is not a reaction to situations, it's a biological response which is very dangerous and it can be treated.

RP: We'll talk just about a couple more abnormalities, let's say, that we could face, and then move onto successful aging. One of them that has been mentioned a couple of times already is Parkinson's, and I'd just like to start off by saying most of us probably know a good deal about the, certainly the best known national spokesperson for Parkinson's, Michael J. Fox, and kudos to him for bringing attention to this disease at a national level. But like these other conditions, there is often a range of Parkinson-like conditions that may not be Parkinson's, often called Parkinsonism. And I mention this, my own brother, I noticed a head tremor about ten years ago, it's exactly the same today as it was ten years ago. But my first thought then was, "Oh, my goodness, he's going to have Parkinson's disease." It was a tremor. Many of us have tremors. We notice a thumb, a finger. It does not necessarily mean Parkinson's disease which is a distinct entity associated with very specific range of symptoms and so forth, and occasionally as it develops cognitive decline and some

dementia.

But a second topic that we can all talk about as well, since we are older and as I referred to the fact that we might have an arthritic knee or hip, or maybe our vision isn't quite so good, is physical injury. That takes its toll on our brain function, if we have a physical injury, or if we're worried about having an injury. Dr. Ganzer, do you want to mention something about protecting ourselves or what we might face in a city of concrete when it comes to injury.

AG: We all want to protect our brains and I'm not going to say go out there and get a helmet as you're roller skating down the street, because I'm sure most of you have given up roller skating. But it's good to stay active and it's good to know our limitations. I think what the best advice, you know, is really, in all instances, trauma to the head, we don't want to have trauma to the head. We know that when we have trauma to any part of our brain, the factors, amyloid gets released in our brain and that is one of the precursors or one of the disease-like symptoms … the particles that are in the brain in Alzheimer's disease. So we really want to be careful with our gait. Make sure that your homes are

safe. Make sure you don't have scatter rugs on the floor, which are the little mats, because it's easy to trip and fall in the nighttime when it's dark. It's easy to slip and fall in the bathtub. So make sure you've got those nice, secure hand railings on the side of the showers, because you need to be able to grab onto something should you slip. Many times I've had patients come in and they've said, "I was disoriented and it was nighttime and I went to the bathroom …," and they slip and they fall, and they come in, lo and behold with this huge golf ball sized welt on their brain. Well, that causes injury to the brain and then we've got some residual effects of that injury. So crossing the streets, how many times do you hear older adults that get, I hate to say it, but run over by taxicabs in the city, you know, were trying to make the light. As we get older we slow down a little bit. We start to slow down. So I would heed the crosswalk sign and try and go out when things aren't quite as busy, you know, you're in that big crowd and they're pushing and shoving. You want to be able to get out there, but I would also worry that you don't want to put yourself in a situation that's not comfortable, so really just to protect yourself. As we get older our balance is not quite the way it used to be and sometimes

we lose our balance a little faster than a younger person, and then we fall. So those are just things to think about.

RP: Moving … I'm sorry, go ahead.

CM: Just a couple of points I want to make. I'm very much looking forward to getting to the successful aging part of the day, but I can't help but throw in a little advertisement here, because the big thing that you're worried about, really we're worried about, is falls. Falls are devastating and they're certainly way more likely to happen as you get older. But one of the big things you can do to reduce your chance of falls is exercise certain kinds of very careful exercises which improve your balance and improve your strength, and make it much less likely you're going to fall. One last plea I would make, again to all of us macho guys, you know, at a certain point we need to use a cane, we need to use a walker, it's fine. I think a lot of guys are a little too vain to admit that but it's much better than falling and breaking your hip.

AG: I just want to also mention getting a good pair of shoes, a good fitting pair of shoes. We want to be fashionable and I get it, but a good pair of shoes that laces up and supports your ankles, which tend to also start to weaken as we get older, so

I would invest in that.

RP: All right. We are going to move onto how you all have probably had your own successful aging, how we try to, and maybe some new things that you haven't yet tried. And I'm going to run through just a very quick little litany, the kinds of things that you can expect to hear. We know most of this already. Obviously good nutrition, sleeping, exercise, these are almost clichés that you hear about everywhere – for all ages, by the way, not merely older people. But there are some more subtle and maybe esoteric aspects of our blood flow, our vascular health. And these are the topics that are experts are going to now go onto. What can we do to really keep our health at a maximum, at an optimal level as we age.

CM: So we're into successful …

RP: We are. Talking to the choir here.

CM: Okay. I just want to just explain a little bit about the background of what we're talking about and where this evidence comes from, that what we're saying is actually going to be useful. And this goes back to studies in the, basically, late '70s and early '80s in which my former mentor, Jack Rowe, is very

prominent, and developing this concept of successful aging. But since it was going to be a scientific topic, it had to be defined in a very precise way so that we could figure out what's the best way to get to that point. And to make kind of along story short, the final sort of criterion, the main criterion for successful aging, is to be able to live independently. And that's, I think, probably was not a bad idea, because that's sort of the thing that we all fear the most is becoming dependent and basically having to rely on other people. It's really a major loss of our sense of self, and we kind of feel guilty about it. So we'll talk about a lot of … well, four main factors that were found in those many, many studies that clearly predicted a longer independent life. But in general, that's a really good indicator that you're living the kind of life you want to live. So if you don't think independent living is your main criterion, I think you'll find that that's highly associated with the things that really are your goals.

RP: So what are these four main things?

CM: The four main predictors, and now there are intervention studies that prove that these really do work, are exercise – but I mean this isn't hitting the gym, this is actually just

moderate exercise, doing just sort of normal things around the house, vacuum cleaning is something that I really recommend – but that kind of thing. Dancing is also very good; things that get your heart up a little bit but doesn't necessarily make you pass out from fatigue. The second thing is keeping your brain engaged and that means all the things that we were talking about today. But probably the most important thing is maintaining an interest in life, doing things that are fund and exciting, and doing different things, as was already mentioned. And learning new things is the best thing you can do. Read, continue to read, or start reading if you haven't been doing it before. And the third thing is social engagement, and that's really much more important than you might think, in lots of practical ways, but it seems to have some mysterious effect that we don't really understand, on maintaining that emotional health, which is kind of the opposite of depression, and it gives you the excitement that makes you want to maintain your engagement. And the last thing is a little bit hard to understand but it's called self-efficacy. And it has something to do with basically feeling like you can get done what you want to get done. It's a little different from self-confidence, and it's a little bit

different from just knowing that you've got certain skills. It's a kind of an internal personality trait, but it can be developed. One of the best ways of developing it is doing these activities which give you confidence that you really can … yes-we-can kind of a thing.

Now there's a lot of other related things that you can do that really do … but these, basically, these are the four kind of bottom line things. Now, again, for example, I didn't really mention nutrition, and I'm a nutritionist so you would think I would make … and I studied dietary restriction. But the truth is within reasonable bounds, and I think most … actually, as people get older they tend to get a lot more reasonable about their diets. You don't really have to go on a strict diet of any kind, as long as you're reasonable. And that did not really come up, strangely enough, as one of the main predictors of successful aging. So keep it within bounds, but actually … I do have to say one thing. As you get older – about nutrition – as you get older, actually, you don't want to be too thin. And I know people think you can't be too thin, actually you can be too thin as you get older. Actually somewhat increased adiposity or body mass index, is actually protective in terms of mortality. Now, we don't really entirely understand why

that is, but it's a very robust phenomenon. So, you know, as you get older it's not the time to go on a diet, I mean unless you're really obese, but that becomes less and less likely as you get older.

RP: Let's maybe go into some depth, into each of these. They're the essence of staying sharp really – exercise, nutrition within bounds, social engagement. The words sound good, but let's face it, friends move away, we're not as energetic. Maybe we're losing some friends who have died. So social engagement isn't always easy. It certainly isn't as easy as it is when you first show up at your dormitory at 17 years old as a new college student. Then it's an hour and you're socially engaged. Well, it's a lot harder for most of us. What does one do to stay socially engaged? What kind of engagements are there for people as they get older?

AG: I think that it's defined individually. What is socially engaging for one person is completely socially un-engaging for another person. So what turns you on? What makes you happy? What do you want to get out of your day? What do you want to get out of … what are your goals? What makes you

feel good inside? And I think that has a lot to do with our mood. It helps us improve our mood if we're doing the kinds of things that make us happy. There's a lot to be said about happiness. So if you enjoy going to the museums, great, go to the museums. If you like book clubs, book clubs. Discussing things in a group help you stay socially engaged. If you're more interested in doing solitary kinds of activities, maybe you like gardening, so you go out and you join a gardening club. You can still be socially engaged in that gardening club, but you're still doing your own thing. Or you like knitting. Knit in groups. Knitting is becoming quite popular these days. I can remember it was very popular and then it dropped off and now there are knitting clubs all over the city. So things that … movies, you know, go to the movies with friends. Go out for coffee afterwards, talk about it. So it's very, very individual, but as long as it is something that you enjoy doing.

CM: Let me just amplify that point because I think it's a good point. I think a lot of us consider that growing old has a lot of challenges, and it's certainly true. But it also actually has a lot of advantages, believe it or not. And one of those is now is the time to really indulge yourself. Probably as you have lived most of

your life you've sacrificed a lot of things for your children, you've had a job that you didn't really like, you had to save money, you lived somewhere you didn't like. Hey, you're retired, go for it. Just do what is fun. And try to lose those, to some extent, those restraints that you've placed on you when you were younger. But on the other hand, with respect to all of these things, to tell you the truth, social … I'm an introvert, so I have to kind of really push myself to socialize. But I do. I push myself and … because really, wouldn't you rather just stay home? I would. But you know, I push myself to go out, and I'm always glad I did. But it does take a little bit … it takes a certain amount of willpower actually to do that. Same with exercise and hopefully not the same with reading and learning. But maybe, for some people – my daughter, definitely, that takes a lot of willpower on her part to read a book. We all have things that we sort of enjoy more than others, and what we're trying to do here is to encourage you and give you some evidence that if you just push yourself a little bit, it'll have really great returns in terms of how successful you are during aging.

RP: I would like to argue in favor of using the internet. Maybe other people have done this already for you. The

internet … there's an article about the internet every day in the newspaper and I'd say nine times out of ten, it's critical. It's leading to bullying or its isolating, it doesn't allow face-to-face contact. Well, it's amazing that it allows far more than you might think. And if you're not an active computer user, I'd say get involved with that. I happened – this is a true story – just a couple of weeks ago I signed up for a course at the Museum of Modern Art. It's exclusively on the internet. I'm not going down to MoMA. Well, it turns out people on this course are from Sydney, Australia, Mexico, Albuquerque. I think I'm the only one in the city who's taking this course. But here we are talking to people, I'm talking to people. One person is from Spain. And we are socially engaged. It's a little bit different than sitting in a room and knitting together or doing something like that. But it's incredibly engaging and there are videos on the course, happened to be done – a little plug here, by two graduate students, doctoral students at the City University of New York, and they hold little coffee conversations on the internet that you can flash back and forth. A lot of my friends I keep in touch with by e-mail, an old girlfriend who lives in Houston, I haven't seen her in decades; people in California. A lot of people

our age on Facebook. It's not my thing, to get to the personal taste, but it is for many, to stay in touch with their grandchildren who might be in Oklahoma. Who knows where? It's a good thing. It can be a great thing to keep you socially involved, even e-mailing people in the city who you might not necessarily have the time to talk to on the phone. So I am an advocate for that. So there are … the variety of social engagements is almost limitless. One of the other things that we were talking about before – we're all faculty – getting involved with young people is fantastic. I would say it keeps faculty going. It's one of the reasons retirement age is so high for faculty. They do nothing but look forward. We talked about it's a strategy for old people, don't look back all the time, don't reminisce about your teenage years back in the '40s and '50s. Look forward. Be engaged with the future. Well that's all they do and it can be very uplifting and thrilling. If you're not a teacher or a faculty member, and how many people can be, there are volunteer … they're begging for people to volunteer in schools and helping young people. And goodness knows they often need and adore the involvement of an older person in their lives. It's, I think, one of the most rewarding things I have ever heard retired

people talk about is an engagement with high school students, with grade school students, obnoxious as they can be, and they can be, one on one they are often just delightful and uplifting in a way nothing else can be. That was my two-bit contribution to this. I don't consider myself an expert on that, but I did want to get that out.

What about other engagements? I have a relative who is a Parkinson's patient and by virtue of my contact with that group, I was asked to participate in a clinical study as a control person. How odd. I never thought of myself that way. But are there clinical involvements that older people can associate with?

AG: Absolutely. We live in such a great city here and there are so many major medical centers, Mount Sinai being one of them. Cornell has a very close relationship with Hunter College, Weill Cornell; NYU, Columbia. All of these medical centers sponsor either through the government or through private organizations, foundations, clinical trials, research studies. And they're looking for normal, healthy, older adults, ages 50 and over, to participate. And you are so valuable to the research that is

being done and you are just such an integral part of getting the word out to your friends about participating in clinical trials. A lot of these clinical trials are looking at some of the issues that we talked about here this afternoon – Alzheimer's disease, Parkinson's disease, depression studies, drug studies, trying to bring to market products that are needed to help with a lot of these disease processes. And we can't do it without normal healthy volunteers as a control, as the control. So even cancer studies at Sloan Kettering. I would always recommend looking in the newspaper, listening to radio stations like NPR that do public service announcements of these kinds of opportunities. And sometimes they even give a little incentive, maybe they send you off with a gift card or a little something to … they'll pay your travel, you might get a free medical exam, something like that. So think about it.

RP: I'd just like to confirm that. I learned when I participated in the study over at New York Hospital, that it's the healthy controls that are hard to find. And yet most of us, if we have any friends or relatives who are ill in one way or another, who need to go to the doctor, we often accompany them, and we sit there and read a magazine while they go to the doctor and the

doctor is engaging with a person who is medically in need, when a perfectly healthy person who could participate in a study is sitting out there doing nothing. And it requires just a small step, “Gee, are you involved with any studies? Do you know of any studies? I can volunteer?”

AG: Absolutely. A lot of the Alzheimer’s disease and memory disorder clinics here in the city are looking for normal controls so that they can compare your normal aging, and how your brain is normally aging, as compared to someone who’s not. They may ask you to participate in a MRI study where they’ll actually do an MRI of your brain and they want to look at why is it that your brain looks this way and an Alzheimer’s disease is looking a different way? Or most of the studies are non-invasive. And those are studies that I would definitely encourage you to participate in if you have any interest at all.

CM: Absolutely right about that. This is also true, by the way, for post-mortem tissue. And so not to get, you know, morbid or anything, but something to keep in mind is … certainly my wife and I plan to donate our body to Mount Sinai to be used for control tissue, because that’s really very hard to come by. Once

we're gone we don't have any use for it. So just, it's something to keep in mind as kind of a public service.

RP: We're going to move onto some questions, which I hope you've been formulating, but before we do I'd like to ask each of you for a singular bit of advice on successful aging, maybe your favorite or the first thing that comes to your mind as an important bit of advice?

AG: I think whatever you're going to do, whatever takeaway message you get from this afternoon, it's not just one thing, it's a combination of things that we do in our lives that lead to successful aging. So it's not just doing the exercise or engaging in the leisure activities or being socially engaged, or eating healthy – and I'm a big advocate for eating healthy, and that's something that you're really involved in – but it's a combination of these factors over time. If you adhere to these kinds of practices over time that, in my opinion, will lead you on the path to really successfully achieving health and wellness.

CM: I completely agree with everything that was said and I guess my one little thing I would add is go out and educate yourself about successful aging. There's lots of books out

there. The Dana Foundation has lots of literature on it. And it will help you find the path that's best for you, and also give you ammunition to argue with those young whippersnappers who are telling you want to do, because they're not going to do it.

RP: There's an old word for you, one I heard when I was a little kid but it's still perfectly valid. We would like to open this up for questions. There's one limitation and it's that although we might call this, "Ask the Doctor," but please don't say, "I've got a pain here in my side." This is not about a personal visit to the physician but rather try to formulate your question so that it is going to be of general interest to the audience. There's a gentleman out there who had his hand up first and Chris Kane(?), a postdoctoral fellow here at Hunter is going to help us out, and Chris if you could also be eyes as well as ears for hands.

MAN: What do you do with people – this is a person who is 75 years old – whose hearing is going and absolutely refuses to get fitted for a hearing aid?

AG: So what is their main concern? They don't want to be embarrassed by having somebody see that they actually can't hear, and that's really the bottom line.

MAN: They have these hearing aids that go inside, I don't know the technical data, but he still refuses to do that also. I think it's … this is a personal opinion, he refuses to admit he's getting older.

AG: That very well may be and the tiny little hearing devices that you insert inside your year that are virtually invisible, are very difficult, and I'm sure some of you might be able to agree with me, to manipulate. When you are older you have difficulty sometimes with dexterity. And to put that little tiny hearing aid inside your ear is often very difficult. You know what? Let it go. You don't want to cause yourself stress. Is it that big of a deal in your family?

MAN: No, it's not that big a deal, no.

AG: Okay, so then I think to keep your stress level down and just make sure that they can hear when they're crossing the street. Maybe get an adaptor for the telephone.

CM: I agree. Definitely you don't want to stress yourself out. But I would say for the people in this room that might be having doubts about the value of hearing aids, there are two really, really good reasons that you should make sure your hearing

is as good as it can be. The first point I want to make is that hearing loss is virtually universal. It's going to happen to all of us if we live long enough. In contrast to Alzheimer's disease, that's not true. But it's certainly true that hearing loss is universal. And the biggest problem is it becomes socially isolating, and that's one of the big no-no's for successful aging. So that would be a really good example of a situation of where you don't want to do it, basically, but you force yourself to do it, just like me going out and talking to people, because it really is going to be good for you and the people that depend on you.

MAN: How beneficial is it to set aside each day for meditation, minutes out of the day?

CM: I'll restate the question. This is one of my favorite topics. The question is, how beneficial is meditation. And I should have thought of that when we were talking about how to deal with stress. There are many studies that have demonstrated that meditation is really very, very helpful and beneficial. I am personally a big believer in it. I mediate myself. And there are many kinds of meditations that you can use and probably it doesn't matter which one it is. One of the most robust effects of

meditation, and it really is very robust, is for stress, stress effects. It's amazing. I actually started meditating because I had asthma as a child and I thought it might help that and it really did. Now that might have been a placebo effect to some extent, but there have been MRI studies and hormonal studies and all kinds of objective evidence that meditation is really, has a lot of health and emotional benefits.

RP: I'd just like to mention placebo effect is not a bad thing. It's a psychophysiological reaction to wishful thinking. Who knows? But it's not necessarily a bad thing. Chris you've got the next … okay.

WOMAN: You've mentioned all these things that you think will help us. Does this help if you have a gene for Alzheimer's?

CM: I'll repeat the question. This is a great question. The question is, what if you already have a gene for Alzheimer's disease? Then do all of these things help? First of all, I'm glad you asked that question. I would like to point out that what we've been talking about here today is, at least in the last part of this discussion, is about successful aging. And that has a

particular, as I've said, sort of technical meaning having to do with independence. And basically nothing can alter the course of Alzheimer's disease. So if you have Alzheimer's disease, you're not going to prevent it. But even if you do have Alzheimer's disease, these interventions will still help you cope with that Alzheimer's disease better. The same thing is true for other diseases, for example, multiple sclerosis. Now, exercise does not stop the progression of multiple sclerosis, but it allows you to function much better if you have multiple sclerosis. So the same thing is true for Alzheimer's disease. With respect to Alzheimer's disease and genes, I should point out, though, that although Alzheimer's disease has a relatively high heritability, meaning if you have an identical twin, there's about a 50 percent chance you'll get the disease, but still 50 percent chance you won't. And we don't really understand what those factors are. So bottom line is, to be perfectly honest, you're not going to stop the disease progression with any known intervention, but you will certainly function better if you do these practices.

WOMAN: Hi. I have a few questions. One, the issue of balance and the issue of slowing down, walking slower, what

causes that? And is there anything to remediate it, reverse it? The second is healthy vitamins, vitamins that are good for the brain; and the third question I have has to do with the facilities like Mount Sinai or New York Hospital, what's available, for this neighborhood, for people to go in … if one wants to have a consultation and say, "Hey, you know, I'm synapsing slowly?" Or, "What do you have for me?" I mean I've had short-term memory loss my whole life. I happened to have ADD. I'll be 75 in June and I work at least 20 hours a week. I volunteer. I'm a first responder. Thank you, Hunter, for being … this is the place, if anybody lives in this neighborhood and you got to respond to a place to be secure, here's where you come. So all the factors that you mentioned I have in my life except for I notice balance and walking, that I am much slower than I used to be and don't have the muscle strength in my lower body. Thank you very much.

AG: I can answer a couple of the questions, then I'll pass it over to you. There is an aging center at Cornell Weill and you can go there and they have a fabulous gerontology or geriatric department and the physicians that are on staff there are excellent and very well trained and knowledgeable about issues

that are specific to the aging process. So you have a place right in your backyard here. I'd like to also thank you for mentioning … I know that Hunter really opened their doors to the community during Hurricane Sandy and I know a lot of people came here, including myself so I know exactly what a great place this is. You spoke about vitamins and nutritional supplements. There are quite a few things that you could do. I'm a big fan of omega-3 fatty acids. I always recommend, if at all possible, to get a prescription for what's called Lovaza, or Lovaza, which is a pharmaceutical grade omega-3 fatty acid and it really does help, and it's in the literature. It is not prescribed as a neuroprotective agent. It's actually prescribed as an agent to lower triglycerides, but anything that lowers your risk for high cholesterol certainly is something that I would advocate and all of those good monounsaturated fats that we should be eating in our diet, like avocados, that are rich in all of those kinds of nutrients, are brain protective. We heard a lot about the Mediterranean diet, and I'm sure you could speak to that, and olive oil in particular is good; beta carotene is excellent. And I'll let you talk …

CM: I think you covered the nutrition pretty well

and so, although I am a nutritionist, but even though I'm a nutritionist, I'm a really big believer in exercise and there are … buy the way, in congratulate you on your wonderful poster child lifestyle for the successful ager, and that's awesome. But I would say, though it sounds like you have a very active life, in truth, there are exercises that are particularly good for balance and lower body strength. And I would like to emphasize, absolutely what you said is correct. The loss of muscle mass is one of the most robust phenomena in aging. It happens to all animals, happens to all people, happens to athletes, but you can really protect yourself a lot against the effects of loss of muscle mass by particular exercises. So, for example, I go to a gym and I had learned some exercises from my personal trainer that are not strength exercises and they're not cardiovascular, they're specifically for balance. You've got to sort of dedicate yourself to those particular kinds of exercises. In other words, I would say things having to do with physical impairments like balance and walking more slowly and feeling weaker, that is probably amenable to intervention more than anything else we've talked about. So you just need to get special exercises for that.

RP: I'd like to add one thing about this, because I was listening very intently. We happened to be very fortunate living in New York City, which is a walking city. You have an opportunity – we all do – I walk to work, I'm very, very lucky. And yet I see students get on the elevator here at Hunter and take the elevator from the first floor to the second floor. I can't stand it and it drives me crazy. These are young, healthy people, but not for long. We can walk, and if there is an opportunity to walk, whether if you're from the general area, whether it's into the park, up a small flight of stairs, that's both helpful for balance and modest strength improvement, and reflexes. Don't necessarily walk downstairs if you can help it, but walking up is very valuable, and walking an extra block. Doing things like that is good.

We were following the bouncing microphone.

WOMAN: Thanks. I don't know if you can hear this, but thank you, it sort of followed along that trajectory. I have vertigo, and I have the kind of vertigo that is disabling and I fall. And as you talk about exercise, I want to put a plug in for, number one, if you feel dizzy, you really need to be checked out because this is something that doesn't just come from aging. In my case it came

from massive infection and then also being allergic to half the medication I take, because you know, you can have massive doses of antibiotics to try to clear up a mouth infection, ear infection, and then this can be the aftermath. But the other part is you could talk about exercise, but as you say, rehabilitation from … the best way to learn, if you really suffer from any kind of dizziness, weakness, falling, is to really get physical therapy. I ended up at Rusk for six months to learn how to walk again, and it's very different than your average exercise. And I go to the Y, but they could not teach me how to really prevent the falling and to really learn. You can get physical therapy whether you have insurance coverage or not, if you really have a serious thing. And a lot of people suffer … this dizziness, it can lead to loss of hearing and just getting a cane or a walker is not as protective as really getting some physical therapy and learning how to fall even. I was taught how to fall, how to get up, and how to protect myself, because I don't think I'd still be here if I didn't get that kind of training. And it can happen as early as your 50s, to get that kind of training. So exercise is different than physical therapy. So I just want to put a plug in for that. Thank you.

RP: Chris, who's next?

WOMAN: How true is it that a quarter of teaspoon of cinnamon a day would prevent diabetes and Alzheimer's?

RP: You heard that cinnamon would prevent diabetes and Alzheimer's. Any comment?

AG: Actually, there are some studies that cinnamon is beneficial to the brain and to preventing dementia-like syndromes. I mean it's anecdotal for the most part. I mean there aren't long-term studies, but there are studies on turmeric, for instance. Turmeric is also considered to be a very healthy product to be consuming, in certain populations, Indian cultures they eat a lot of turmeric. If you're not familiar it's a root and it gets powdered and it's yellow. (Inaudible / Overlap) Very much so.

WOMAN: (Inaudible) … turmeric, put it in milk at night before you go to bed. He said put the turmeric in … not rice milk, the other one, almond milk, with a little bit of honey, each night before you retire. He said a lot of Indian people do that and don't suffer from dementia. I also wanted to say one quick thing. There's a class at the Y called Silver Sneakers that addresses issues such as falling and promoting balance among seniors. It's

called Silver Sneakers at the YMCA.

AG: Silver Sneakers at the Y.

WOMAN: Hi. Thank you very much. It was interesting and thank you for reassuring me that I can continue to lose at the game of Memory with my grandchildren. I thought it was my focus and I'd like you to say something about focus and aging, how that's affected. Thank you.

CM: Thank you for bringing that up. What we usually talk about is attention, and attention definitely is impaired with age, and the part of the brain that primarily supports attention, the prefrontal cortex, becomes somewhat less engaged with the rest of the brain, which can be somewhat problematic. So we don't really know … and you're right, that part of the problems with memory just could be that kind of loss of attention. I don't know, though, that there's anything … I'm not aware of any particular exercise that enhances attention. I don't know. But I think it's a real possibility and I guess it's a question of probably just being aware of it as a possibility. For example, reducing the potential … the word I'm looking for here …

RP: It's on the tip of your tongue … (Laughter)

CM: Distractions. By the way that also applies to a number of related circumstances. For example, as we said earlier, hearing is universally impaired with age. In addition to the physical impairment, it becomes more difficult to make out specific words in a loud room. Probably we've all experienced that. So what it means is, one of the ways of dealing with that is just try to reduce the number of potential distracting noises. Maybe turn off the radio when you're really trying to focus on something, something along those lines. But it is a very valid point.

RP: Dr. Ganzer addressed aspects of attention without necessarily pointing to attention when she mentioned try something new. One of the ways that attention is activated is with novelty, whether it's a new language, whether it's a new exercise. One of the things that actually physical therapists and trainers know very well is that when you're doing the same old exercises day in and day out, you lose interest, you lose attention, you lose focus, and the exercises lose their efficacy. So new exercises, new travel, walking a different route, if you have a walking route. That does focus you by changing and exciting your attention. Now whether that translates over into the rest of your life, to some

extent no doubt it does, but it certainly activates, keeps it active for the time being, and that's something that a lot of people don't do when they just go, well, this is the same route I always took. I know it and I'm not going to change. That's the last thing you want to do is keep the old style and not try something new.

AG: I just want to mention one thing. This past summer at the International Alzheimer's Conference, one of the presenters did a study on ballroom dancing and the benefits, older adults engaging in ballroom dancing. So if you are interested at all in going back to the '50s and doing ballroom dancing, by all means, you know, there are places here in our city that would actually support that, and it's very, very beneficial to successful brain aging.

RP: Chris who's got … (Inaudible / Overlap)

WOMAN: My question, this goes back to just an earlier discussion that the woman mentioned about the Rusk Institute, which they also mentioned at the Staying Sharp Conference on Wednesday, because apparently they have something called gait training, and in my head I thought G-A-T-E, but it's G-A-I-T. And for people who need help with balance they said that they

recommended it. I wondered if you needed a prescription, because Rusk is a hospital after all? And if one … and then there must be a cost involved. Are there places where you can get that kind of physical therapy or the kind of aging exercises that are less expensive – settlement houses? Are there places to go if you don't have the wherewithal to pay for expensive treatment.

AG: You can definitely get a prescription from your physician. If you are complaining about any kind of a disorder – whether it's your balance – and many times I write a prescription out for a patient to go for physical therapy for what we call gait retraining and so they go in, they get evaluated, and then the physical therapist will call and say these are the kinds of things I'm going to do in order to re-strengthen this individual. Absolutely. And it's also, we do that also for memory impairment. We can send you to places where you can get training, like I said before, the programs. And sometimes insurance companies will pay for these things. I had a patient that I wrote a prescription for the Cognifit program and they submitted it with the bill, and the bill was like $600 an they go 80 percent back. So it depends on your individual insurance carrier.

RP: Community centers are the best bet.

AG: As far as free and low-cost kinds of programs, I'm not familiar with anything like that. Perhaps if you look into the YMCA here, the 96th Street Y, they sometimes run programs that might … (Inaudible / Overlap) … Absolutely, absolutely. Maybe you found a niche market that no one's interested in at the moment.

MAN: Thank you all, appreciate the talking here. I want to talk about opposites. At the same time – I'm 63, I notice not a marked level, but somewhat I want to express something, I have all the definitions of the phrase or the word and it's on the tip of the tongue, it might come into my head in ten minutes, when I wake up the next day. Yet at the same time – and I've had this for as long as I can remember – I can remember bank accounts from 30 years ago, phone numbers, old jokes my father told, and things that I haven't talked about in ages. And I kind of want to get an idea, is this a good sign? You know what I mean?

CM: This is absolutely universal. Basically, memories that were laid down early on, and we all, I'm sure have exactly the same experience … it's amazing what you can

remember, what you learned … my wife and I, as I say, we do community theatre, so we learn a lot of new songs for a show, and then it's gone the next week, completely gone. But songs we learned in our teens, the crazy songs from the television shows, you know, Gilligan's Island, all that stuff, we remember every word of that. So it's just one of those kind of amusing and somewhat a frustrating phenomena but it's a very well established phenomena, so welcome to the club.

MAN: I'm a fulltime musician and I plan on staying that way and it kind of amazes me – I'm a trombonist but I play piano as well – how many songs that I never tried to learn I could just sit down and play. I understand that being a musician I'm very much into mathematics and arithmetic. I feel like my brain is pretty sharp. Those frustrating moments though, when someone has to fill in the gaps … really, actually I'm at the point where I just want to be very proactive. I just got married a couple of years ago to someone 15 years younger and I definitely want to keep up.

RP: (Inaudible / Laughter) meaning of proactive …

MAN: Not amateur but pro, right. Thanks so much.

WOMAN: Hi, and thank you very much for the presentation, it was very interesting. Kind of close to the subject that he was talking about, very often I find that I'm talking to someone and I'm trying to think of the word, I can think of the description, I can describe it to you, but the word itself just won't come. Is there any way to compensate for that?

RP: I would say yes. I say this because … and it's one of the things, as Dr. Mobbs said earlier, we forgot things when we were in our 20s, just nobody pays attention to that forgetfulness. Everyone's focused on our forgetfulness. One of the ways that words come back is by context and certainly, if you're with someone and you're describing a context, as you say describe whatever it is, you might get sort of like … what's the game? Charades. Somebody will cue you and the word will come back. So context is extremely important for remembering almost everything, and particularly vocabulary words. Without context it's very hard to learn those words in the first place, and it's exceptionally hard to remember them without the context. So just remember … this is part of … what was it? It was that book I read, it was that movie, it was the newspaper article. Ask yourself these

questions if no one is there to ask them of you. Oh yeah, it had to do with that news item on the fire in Queens. That really does help it come back.

AG: I'll just mention, making associations is really the way I try to remember things. A game that sometimes you can play to help remember is to associate whatever it is with something familiar, so one individual decided to associate words with furniture in their living room, and they go around and they go back to that piece of furniture and that's the cue or the stimulus that brings back that memory that you're looking for that's stored way back. So it's that association, oh, that person's face, or it reminds me of an apple because it's round, and you look at it and you remember, oh yeah, it was an apple, right, her name was Amelia, so things of that nature.

RP: Speaking of your question and probably someone many of us have read is Oliver Sacks's various books on neuroscience and neurological problems, and he himself suffers from and has written about, prosopagnosia, and "The Man Who Mistook His Wife for a Hat," and one of the things that people do is associate clothing with the identity of a person, or a gait, how they

walk. Many people are walking around not recognizing faces very well. And goodness knows, if an individual changes clothes dramatically they may not be recognized. But normally we do associate – we are not often aware of it, but it is a key way in which we keep our minds sharp is to try to be aware that we're associating clothing with a person or sounds with a musical composer, or something, context association. Chris, where are you?

WOMAN: I just want to say walking is wonderful exercise, however, in New York City you really need to be very careful of the curb cuts. I caught my leg on the higher part of one, stepped on the lower part, and knocked my head off the apex of my spine. An ambulance driver said another woman he picked up broke both her wrists. And two weeks of mine a friend of mine fell and died. So, walking can be very, very hazardous and you have to be really careful. And actually, the curb cuts all need to be redone so that they're not so hazardous.

AG: She said that the curb cuts, along the edges of the corners, are of various heights, and so it's very important as we are stepping down or stepping up, you can trip up or you can

trip down, and you can really fall and hurt yourself and several people have, including this lady.

RP: Chris?

WOMAN: I just want to say I'm also a big proponent of cycling and you can buy little, for $30 from Amazon, a little metal frame with two pedals on it, where you can sit down and just cycle.

MAN: One of the questions I was going to ask you is, can I get back to biking after a traumatic brain injury? I have a TBI and I won't go into the details. A couple of questions are just not applicable to the general audience. I found everything quite relevant and I am very grateful.

RP: Thank you.

WOMAN: Hi, again, I thank you also for this afternoon. You talked about situational depression and I wonder if anybody is studying the effect on older people who are home more often now that we're not working, and the daily onslaught of bad news. We're just inundated with it, and I think even the newscasters are getting depressed, but we're bombarded with it. And so what …

CM: Turn off the television set.

RP: Absolutely. I think we can about three more

questions. Let's try to get as many people who have not yet asked.

WOMAN: Thank you, you three doctors, for this wonderful exchange of ideas. I'm sorry I was late. I bought a movie that won an award on the … and I was so mesmerized … I love animals, I work with animals and that's a suggestion. Get a dog everyone. Walk with the dog or walk with any … a cat. And my dog died recently so I haven't been able … I live across the street from a park, from Carl Shurz Park and I've not been able – that's a mental thing I guess, not been able to go to the park for the last few months because of my dog, not having a dog, so now I'm in search of a little dog. But it will change my habit because I sleep until 12 noon. I'm a night person. I'm up all night and so I sleep late.

RP: Do you have a question for the …

WOMAN: So a question. What about do about that, changing my habits of course is a thing because I'm going to get a dog and it's not fair to the dog to have him sleep with me. My guinea pigs sleep well with me. There's not a problem. But I would like to know how I can change that habit.

AG: The habit of sleeping in? Well, I would recommend what we call sleep hygiene, changing your pattern of sleep hygiene. You're going to have to go to sleep. You're going to have to force yourself to go to sleep at night and get up early in the morning and it'll happen gradually and maybe you can do that before you get the dog, so the dog doesn't have to worry, but gradually, over time … you can drink a glass of warm milk in the evening before you go to bed or take the supplement melatonin which helps induce sleep.

RP: Chris, last couple … where are you? Go ahead.

WOMAN: Is small vessel disease of the brain a heart condition or a brain condition? And would going to the Cornell Center for the Aging be a good place to go and see a neurologist, or what do you suggest?

AG: The question is, is small vessel disease a condition of the heart or the brain? Well, it's a combination. It begins with having hypertension and the hypertension is not being managed properly … (Inaudible / Overlap)

RP: Your blood pressure is fine?

WOMAN: Yes, I'm low blood pressure.

AG: Right. And it's also inherited. You might have a disorder of coagulation of the blood that causes sometimes tiny strokes, and yes, going to Cornell, they have a wonderful neurology department.

WOMAN: And it's called Cornell for the Aging?

AG: Yes. They have neurologists on staff there.

RP: We'll have a last question. I think there's a woman there in the blue who has not spoken.

WOMAN: A friend of mine told me about a program on Channel 13, a Dr. Neal Bernard, and he has a theory, he said there's a study, but he didn't go into which study, (Inaudible) whatever, of the effect of high blood pressure and high cholesterol medication, which is causing memory loss. Have you heard of such a study? I imagine a majority of seniors are on both of those medications.

AG: I think what they're probably referring to is what's called polypharmacy. Polypharmacy is the taking of multiple medications and the interactions or the cross reactions between the different medications. There's something called the

Beers Criteria, and it lists what's called potentially inappropriate medications for older adults. And it's readily available at pharmacies. You can go to your pharmacists and discuss it, and ask them. You know, I'm on X-Y medicines, could they be causing me to have memory problems or kinds of confusion, most likely. It's called the Beers Criteria, B-E-E-R-S criteria.

RP: We do have time for one more question. Chris … let's go.

WOMAN: I don't know if this is a question but I thought you might like to know there's an organization in New York City called Health Advocates for Older People and the prime focus of Health Advocates is to keep people healthy, giving them skills and the tools that you need to stay at home, which means that they do things, they have book clubs, they have t'ai chi exercises, they have somebody … Gracious Homes will go in to evaluate your bathroom and your house, plus they have a person who does that, an occupational therapist, to make sure that it's safe. And you can look at it online, Health Advocates for Older People, it's HAFOP as in Peter, and it does a lot of different things. There are movies, book clubs, lectures, all kinds of things.

RP: Very good to know. All right. I think we have come to our end. I want to thank you Dr. Anne Ganzer, Dr. Charles Mobbs, and of course Hunter College and the Dana Institute for Brain Function … the Dana Foundation for Brain Initiatives. That's it. Thank you all. Thanks Chris.

(END OF TAPE)