

The Duet-Wheelchair Biking Program

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Consortium

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New York State Home for Veterans at Oxford, and Hilltop
Retirement Community**

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The staff, residents and families at NYS Veterans Home at Oxford and
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<Narrator> [Music playing] Many of the things we hold close to our heart were first learned in childhood. The thrill of catching your first trout, throwing your first fastball, and that burst of freedom and exhilaration as you slipped away from guiding hands and rode a bike all by yourself. As parents, we pass to our children the values and ethics that we have sifted from our rearing. We share in games and activities that we learned as children, and in this ever-changing age of computerization, are taught a few new ones by our children and grandchildren. Being around young children keeps us active both physically and mentally. In our senior years, we often find ourselves re-living the parenting role all over again as grandparents. And while we might not move as quickly as we did in younger years, we can be assured that with grandchildren around, we will be active. Coupled with other leisure activities, our life will continue to be filled with physical and mental stimuli that are so vital to enjoying life to its fullest. But not all of us are that fortunate. With age comes the increased possibility of disability, some so severe that we are robbed of the freedoms and opportunities that we once so enjoyed and accepted as a normal part of our life. And in many cases, when nursing home care becomes a necessity, we become residents of a long term care system and a shrinking world that exists within the confines of the facility. For those individuals with dementia, the ability to stay active and involved in leisure time activities may not be easy. For nursing home residents with dementia and depression, many think it's nearly impossible.

Depression among the elderly is a major health problem. It is something you find in people over the age of 60 at least in 10 to 20 percent of the people. I can tell you too that most of the time it's either misdiagnosed, unrecognized, or it gets complicated by other underlying diseases and this absolutely makes the diagnosis and treatment much more complicated. It is NOT a natural extension of aging. This film is produced so that we can eliminate misconceptions that are there concerning aging and depression, and somewhere along the way, foster enlightenment and an informed approach to the diagnosis of depression in people over the age of 50.

According to the National Alliance for the Mentally Ill, 6 million older Americans suffer from serious and persistent symptoms of depression. Among long-term care residents, the prevalence is especially high, perhaps 30 to 40 percent have depression. For people with dementia, the rate is even higher. For the institutionalized elderly, the risk factors for depression are complex. These older adults have an increased prevalence of medical illness and disability. They may be taking medications and coping with major losses that come with institutionalization. Thus, the heightened risk of depression comes as no surprise. Depressed older adults in a long-term care setting may become so severely depressed that they develop an intention to give up on life using non-violent means such as self-starvation or non-compliance with their essential medical treatments. This may show up as a condition known as failure to thrive.

The good news about depression is that safe, effective therapies abound. Evidence from carefully controlled clinical trials supports the effectiveness of antidepressants, ECT, and psycho/social interventions. psycho/social interventions are important in addressing the causes of depression in elderly patients, because prevention strategies are both effective and simpler than pharmacological treatments. Social support and activity involvement is crucial and such approaches have proven to be

effective, especially among older adults with mild or moderate depression. Effective therapy requires accurate, timely diagnosis. If you are a health care provider for older adults, you need to be aware of the symptoms of depression and do something about what you see.

The first step in treating depression is recognizing it. If you care for someone with generalized widespread physical complaints out of proportion to any medical condition, or irritability or mood swings, difficulty thinking straight, or remembering things, it's time to react. You may also notice feelings of sadness or apathy, feelings worthless, useless, or excessively guilty for no apparent reason, or you may recognize a patient's difficulties in sleeping or eating, or engaging in other normal hobbies or activities. These are the indicators that this individual needs to be screened for depression. A simple, useful screening tool is the geriatric depression scale. It will give you an idea if the person is depressed, and if so, just how depressed he or she may be. There are many medical causes for depression in nursing homes residents. Some medications and chronic diseases, like heart disease, dementing illnesses, malignancies, and cerebral-vascular diseases can cause or exacerbate depression. Anti-depressants pharmacotherapy is an important tool in the treatment of depression. We now have many safe and effective anti-depressants that we can prescribe for our depressed elderly patients. Zoloft or Sertraline, Paxil or Paroxetine are two examples of those kinds of therapies. Non-pharmacologic interventions can be used in combination with anti-depressant medication therapy and may greatly improve the likelihood of successful response to treatment. Unfortunately, medical treatment for depression in nursing homes is often limited to the administration of antidepressants, since psycho/social interventions are often not readily available.

Nursing home residents suffer many psychological losses. They've left the warmth and security of their own home to reside in an unfamiliar environment. Now with their health and mobility impaired, they no longer have the opportunities to do the many things that filled their lives with vitality and happiness. What we do as occupations, as recreation or leisure often defines who we are whether you were an avid skier, football player, loved going to the beach, or spent most of your life in military, once you lose these activities, you tend to feel a loss of identity. Isolation, passiveness, and depression quickly weave into one's soul with devastating results. While all nursing homes provide activities by law, the residents with cognitive impairments have many constraints or barriers to these leisure activities. Acknowledging these limitations, a unique and innovative approach was developed towards the treatment of depression. One that not only could be used with a majority of long-term care residents, but more importantly, one that would bring positive results and give people an opportunity to experience something different. Something exhilarating, exciting, filled with a level of freedom and the desire to seek the experience again and again. The solution: the Duet Wheelchair Biking Program.

The duet is a specially engineered bike that blends the wheelchair and the bicycle into a mobile type of therapy. The front of the duet is a detachable wheelchair that serves as the front wheels of the bike. With the fresh air surrounding them and the sun beaming down on their faces, residents of all functioning levels can enjoy the thrill and freedom of riding along a park pathway, or through gardens, sanctuaries, or wherever the heart desires. Seated behind the resident on the pedaling portion of the duet, the therapist can control the speed, braking, and turning of this unique piece of recreational equipment. This marvelous piece of machinery is engineered and fabricated in Germany and has

undergone rigorous testing for safety. With the advent of the duet bike and the sincere belief in its positive effect on depression, two separate research projects were created which linked the disciplines of recreation therapy and nursing with a committed staff eager to provide a familiar but unique way to reach people in need. The treatment protocol is simple. First, screen residents who have symptoms of mild to moderate depression. Ask them if they are interested in participating in the program. Participants are assigned to small groups of four or five. Each session has two parts: A group activity or discussion about activities from the past. Then each person goes for an individual ride with a staff member. When the rider returns, he or she tells everyone about the ride. This takes place five days a week for two weeks. This intensive two week program draws the participant back to a level of active engagement. This is followed by a continuing program where each person goes for a ride with a staff member, family member, or volunteer twice every week. The goal of this program is to take the person to another activity program to take part in and reconnect them with hobbies, interests, and activities that make life worth living. During the studies, a classic experimental design with randomization of the control group and treatment group, and pre and post testing was used. Forty residents, identified as being depressed, based on the geriatric depression scale, were assigned to treatment or control groups. Those in the treatment group participated in the two week intense biking program and were then post tested. The results in two separate studies showed statistically significant improvement in depression levels for the treatment group.

<Principal Investigator, Linda L. Buettner, Ph.D., Certified Therapeutic Recreation Specialist, speaking to Suzanne Fitzsimmons, RNC, MSN, GNP> “You can talk about statistics and be as scientific as you want, but what you notice is that people “come back to life.” They have smiles on their faces and they’re out and about, out of their rooms, they’re feeding themselves, their families are involved with them again in a unique way.”

The mean depression score for the treatment group dropped 3.474 points after the two week intervention. Thirty one percent of all participants were without a chart diagnosis of depression before we screened them, further substantiating the claim that depression is often undiagnosed. Furthermore, fifty one percent of the participants were currently not receiving any treatment for depression. This finding adds further support to the findings that depression often goes undiagnosed and untreated.

We had residents that require porter lifts to get them on the bike, we’ve had residents who have ridden with oxygen tanks, with foleys for urinary drainage, we had one that was a tube feeder that was fed continuously even when he was riding, and for those types of impairments, they have very few activities offered to them.

The effects this research had on the participants had both startling and surprising beyond what could be measured on the geriatric depression scale. Prior to this study, many of the participants rarely left their rooms or participated in facility activities.

Suzanne> Remember that guy, named Nick?

Lin> [Smiling] He was the best. He was the best success. He didn't talk before we started, he didn't come out of his room, he never got the opportunity to go to the dining room for meals, cause he was too bedridden.

Suzanne> And he just sat in his room all day long watching tv. And once we got him on the bike, on the third day, the staff came in and said "oh my gosh, Nick is talking again."

Lin> And Nick was out at the front door waiting for us the next morning at 8:00 a.m.

Suzanne> Wheeling himself around the facility, and that was great.

Lin> Remember that gentleman that came in and he had about 3000 platelets, and the Director said to us, "his wish - he wants to go for a bike ride while you guys are here." And I said, do we dare?

Suzanne> And it was pouring down rain outside.

Lin> And we bundled the guy up, took him out, and he was so happy. And he said to me, "I want to do this every day while I'm here." And then, over the weekend, he passed away.

After just three days, our research staff was heartened. They witnessed numerous encouraging events. These previously isolated residents were not only coming out of their rooms, but were self-initiating activities, interacting with other residents, and exploring the facility on their own. Staff members, health care providers, and families told us that they could see a noticeable difference in the residents.

Family Members of a Resident> She's always been social but she loves the bike program. She really loves it. She would come up all excited and talk about how she gets to go out on the bike, or she's going to go out in the afternoon and she's looking forward to it. She's got pictures of her on the bike and she's so proud. She says "look, I was on it again." And they've got a couple of pictures of her in the hallway on a bulletin board and she's riding by and holding onto somebody else's hand that's on another bike.

Family Members of a Resident> She gets on the bike and laughs and seems to be enjoying herself with the fresh air. My mom always liked a lot of attention, so this is something that has brought her out of her shell from being inside, and it gets her outside too. She's not as fearful of things, and when she first came here she diminished quite a lot in her ability to play cards, or bingo, or even watch television. And this has added a new dimension to her life. Something that maybe is happening five minutes before I got here, she may not have remembered. I'm not quite sure where she is in space, but it's really nice when we come here and see her happy. She's having a blast. She's having a great time.

He can't stop talking about the bike, became the recurring theme from all. Additionally, we found that many of the residents would seek us out and approach us before their scheduled rides to say "don't forget me."

Lin> I just saw Steve go by.

Suzanne> Oh yeah. He really enjoys it. He used to wait for us by the front door. Steve is a repeat. He was in the study last year and now he's back this summer. Although functionally, he's declined considerably.

Lin> I felt so bad. He was doing so well in the project last summer and then we came back and he had had a brain bleed and was really on life support just waiting to die. But now he's come back enough to say that he wants to ride the bike again. This is the only thing he gets up out of bed for.

There was a recognizable change in the activity participation level and a new type of culture forming throughout the facility.

Dr. Peg Connelly, Executive Director of the National Council for Therapeutic Recreation Certification> Programs like this one represent the future direction of recreational therapy services for older adults in long-term care. The duet biking program is exceptional because it addresses very real needs of older adults that are not being met, and that is depression and failure to thrive. Second, the program is a clear example of a high quality, recreation therapy intervention. The older adults are assessed prior to placement in a program and then the treatment protocol is implemented to address those unmet needs. The program represents full cooperation and collaboration between nursing and recreational therapy professionals and substantiates the need for this type of partnership just as we've seen documented in a great deal of the literature on healthcare reform. Collaboration improves the quality of care and reduces overlap and duplication of services which in turn reduces overall cost.

Residents and their families will tell you about the benefits of this program in clear and simple terms - it works! The older adults who have enjoyed this program communicate more, improved physiologically and show a reduced level of depression. While activity is important in all of our lives, that activity has to have meaning to the individual for it to be useful and enjoyable. How wonderful it is to know that there is a source of freedom that can steal one away from feelings of depression and despair. Life cycles itself. As we close this circle, we often return to vivid memories of a childhood filled with free-spirited, and unbridled freedom once enjoyed. And it's in this world that we can now find pleasures to fill our final days.