

Mary Ann Chance Memorial Paper: Aging Well; Inspiration from Mary Ann Chance

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ABSTRACT

Objective: The life of Dr. Mary Ann Chance will be examined in the context of healthy aging, drawing upon her examples of healthy behaviors and comparing them with the scientific literature on health promotion related to aging.

Methods: Literature on health promotion and disease prevention in the aging population was reviewed to lay a foundation for this paper. Secondly, a structured interview with Mary Ann Chance's spouse was completed in 2014, to ascertain how closely Dr. Chance's lifestyle followed the published evidence-based health promotion strategies for healthy aging.

Results: Mary Ann Chance's lifestyle was an excellent reflection of a number of behaviors and habits that are consistent with the science on aging well. Her example is chronicled here for her fellow chiropractors and other health professionals.

Conclusion: Dr. Chance aged with grace and her example can serve as a model for other who wish to age well.

Keywords: History of Medicine; Chiropractic; Health Promotion [Chiropr J Australia 2016;44(1):43-51]

INTRODUCTION

Dr. Mary Ann Chance was a woman of rare beauty. She could walk into a room and her mere presence demanded that you take notice. Her grace, temperament, and smile all added to her beauty. I had the great honor of enjoying an annual reunion with Mary Ann when she would take the long trip to visit our alma mater, Palmer College of Chiropractic, for Homecoming each year in Davenport, IA. As a Davenport resident, it was easy for me to pop by Homecoming each year, but, for Mary Ann, attendance required a greater commitment. To say that she was a regular attendee would be a gross understatement. Few alumni could beat her near-perfect attendance record at Palmer's homecomings over the many decades, and surely nobody acquired more frequent flyer miles in the process! Even in her last few years of life, I would scan the Homecoming crowds eagerly to catch a glimpse of the radiant Mary Ann with her beloved Rolf by her side. Their warm greetings, ready smiles, and news from "Down Under" always completed the Homecoming experience for me. Rolf continues to make the long Homecoming journey solo, and neither of us can resist reminiscing about our favorite mainstay at the Palmer College Homecoming, our dear Mary Ann. The truth is that we miss Mary Ann, and hope to celebrate her life through memorial papers like the one below. In this paper we will focus on aging issues around the world, with a particular focus on Mary Ann's home, Australia, and the author's home, the United States.

DISCUSSION

The Silver Tsunami

Aging is an incredibly important topic in the scientific frontier. The “silver tsunami” is upon us, whether you live in Japan, Germany, Australia or the USA. The number of people aged 65 or older, globally, is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050, with most of the increase in developing countries. (1, nia.hih.gov) The largest increases are expected in the “oldest old,” those over 85 years old. (2) For example, in 2011 there were 4,252 people in Australia (Mary Ann’s home) over the age of 100, and that number is expected to steadily increase through the year 2050. (3, 4) In the U.S. there are approximately 100,000 centenarians now and a projected 1 million by the year 2050. (1) Overall, there are an estimated 4.5 million people in Australia over age 60 (5) and Australia ranks 4th highest among the 91 countries considered in quality of life for older adults, particularly in the areas of health and educational status. (5) By comparison, the U.S. ranks 8th overall, but 24th on health status and 36th on income security. (5)

The body of scientific literature related to aging is rapidly expanding as well. Everyone, from pharmaceutical companies to vitamin distributors, and from doctors to patients, are eagerly searching for the proverbial fountain of youth, and some are spending billions in research dollars to find it. It turns out that the mythical fountain of youth is not something that one bathes in once and then stops aging, but rather may be something that one should sip from over a lifetime in order to age well. In the coming paragraphs, we will look at some of the sips one can take that are scientifically supported and do seem to impact the aging process favorably. But first, it is important to know some of the common causes of mortality. These are the health issues that often rob people of their golden years altogether, or worse yet, may result in spending many of those golden years disabled or unwell.

Life Expectancy and the Top Causes of Death in Older Adults

Overall, Australians enjoy one of the highest life expectancies in the world. In 2012 the male life expectancy of 79 years is quite comparable to the highest recorded life expectancy (Iceland) of 79.2 years.(6) The highest female life expectancies were recorded in Japan (85.5 years) and France (83.9), compared with Australia's very respectable life expectancy of 83.7 years. Australian life expectancy is somewhat higher than in countries such as Canada, New Zealand, and Norway, and significantly higher than in the United Kingdom and the United States. (6) By comparison, the U.S. ranks 26th out of the 36 member countries of the Organization for Economic Cooperation and Development (OECD), according to a new report from the organization. (7) In the U.S., life expectancy is 78.7 years (76 for men and 81 for women). (7)

In Australia, like in many industrialized nations, cancers, cardiovascular disease and respiratory disease are the most common causes of death over age 65. Lung, prostate, breast, and colorectal are the most common causes of death by cancer. Cardiovascular disease, as in many nations, is a leading cause of death followed by respiratory system diseases such as COPD, pneumonia, and influenza. (8) Endocrine

diseases are the next most common cause of death, followed by cognitive disorders such as dementia. (6)

Prevention: One Key to Aging Well

There is no doubt that lifestyle and behaviors can significantly lower the risk of many of these top killers. In fact, for the 12 common cancers, about 35% of cases in the United States are preventable through a healthy diet, being physically active and maintaining a healthy weight. (8) This translates to about 340,000 preventable cases of cancer in the USA alone. Estimates for the preventability of cancers in other countries are: 37% for the United Kingdom, 30% for Brazil and 27% for China. (9) These figures confirm that about a third of the most common cancers in higher-income countries and about a quarter in lower-income countries could be prevented through three lifestyle changes: a) eating healthily, b) being physically active and c) maintaining a healthy weight. (9)

She Aged With Grace: Mary Ann's Healthy Choices

Mary Ann gave us an excellent example of aging well. Some of this may be attributed to good genetics, but Mary Ann also earned her health by walking the walk of a healthcare professional. (10) She followed a recipe for aging well, as the paragraphs below will reflect. We would all benefit from emulating just a few of Mary Ann's healthy behaviors that promoted wellness in her older years. The next few paragraphs will examine, from a scientific perspective, several healthy behaviors.

Physical Activity

Mary Ann did floor exercises every morning, with light hand weights and ankle weights. She would often walk from home to her chiropractic clinic, about 5 km, not taking the easy way, but walking up and down hills on the way. She loved hiking in Bavaria; her longest hike, the Hike for the Silver Edelweiss, took almost 12 hours. This hike was only about 25 km, but it included mountain paths with elevation changes of about 2,500 meters. (10)

Participation in regular physical activity is arguably the most valuable lifestyle to promote healthy aging. Physical activity is reported to have protective effects related to many of the common causes of death and disability in aging. (11-13) In fact, such studies indicate that physical activity impacts not only physical health, but also functional status and cognitive status. (12,13) The effect of physical activity is profound on breast cancer risk, decreasing by nearly 20% in women who go from being sedentary to walking 10 hours per week. (14) See Figure 1 for a brief summary of the benefits of physical activity from the U.S. Surgeon General. (11)

FIGURE 1: BENEFITS OF PHYSICAL ACTIVITY

Physical Activity and Health: A Report from the US Surgeon General. (11)

- Helps maintain the ability to live independently and reduces the risk of falling and fracturing bones.

- Reduces the risk of dying from coronary heart disease and of developing high blood pressure, colon cancer, and diabetes.
- Can help reduce blood pressure in some people with hypertension.
- Helps people with chronic, disabling conditions improve their stamina and muscle strength.
- Reduces symptoms of anxiety and depression and fosters improvements in mood and feelings of well-being.
- Helps maintain healthy bones, muscles, and joints.
- Helps control joint swelling and pain associated with arthritis.

As health professionals, we can and must educate our patients about the benefits of physical activity on health. Further, we can model a physically active lifestyle, like Mary Ann did, to offer a positive model for our patients to follow. An excellent resource for helping patients become more active is the book and video entitled: *Exercise and Physical Activity: A Guide from the National Institute on Aging*. (16) These materials can be downloaded or ordered through the National Institute on Aging's website: (15) The book can also be downloaded for free and includes chapters on strength, flexibility and endurance exercises, all of which are important for aging adults. (16) Additionally, a team of experts in chiropractic and aging developed a best practices document, which outlines scientifically-supported health behaviors for older adults. (17)

Healthy Eating and Hydration

Mary Ann consumed a diet full of fresh vegetables and whole grains. She was a superb cook and rarely ate out except when traveling. She liked cooked vegetables, but every night prepared a large salad with Boston lettuce, tomatoes, and onions. Mary Ann also kept well hydrated, drinking several glasses of water per day. (10)

Mary Ann's habits dietary matched the recommendations in the scientific literature for aging well. One excellent resource for information on nutrition and aging is the Tufts University "Food Pyramid for Older Adults." (18) Older adults have unique nutritional needs, which are reflected in the Tuft's Food Pyramid. A summary of the differences between the older adult and younger adult nutritional requirements are as follows:

- lower overall calorie need
- a need for more "nutrient dense" food such as fruits and vegetables
- lower protein requirements
- an emphasis on higher fiber food
- the inclusion of water as the base of the pyramid
- the need for supplements including Vitamin D, B12, and Calcium (18-21)

Some researchers add other micronutrients to the "recommended list" for older adults including Vitamins A and C, Zinc and Iron. (19-21)

Hydration and water consumption are important for healthy aging. The changing physiology and slower gastric motility of the older adult leave older people prone to

constipation. Higher numbers of prescription medications are taken by older adults (22), and proper hydration is important for the appropriate metabolism of those medications. It is also important to note that, in older adults, thirst becomes a very poor gauge for hydration needs. If older adults wait for thirst to dictate their water intake, they will never come close to drinking enough fluid. One good strategy to ensure better hydration is to recommend that older adults monitor their fluid intake by filling a container with their daily goal of water intake (Tufts recommends 6-8 glasses per day) (18), then making sure to finish the whole container by early evening time each day. Drinking a lot of water at the end of the day to catch up is ill-advised due to the resultant nighttime trips to the toilet.

Volunteering

“Love cannot exist in isolation, it must be put into action; and that action is service.”

Mother Theresa

There is no doubt that one of the ways an older adult can improve their quality of life is to volunteer. Mary Ann's list of volunteer activities was extensive. Aside from her considerable work at the *Chiropractic Journal of Australia*, she was a presenter at Radio station 2AAA, a well-respected community radio station, She was especially fond of presenting jazz music, and she and her husband attended the Bix Beiderbecke Jazz festival in Davenport many times. She served as secretary of the radio station and was on their board of management for several years. Mary Ann was a member and, later, secretary of the Lions Club of Wagga Wagga, where her husband served as President. She was also involved with female elders of the local Aboriginal community and served as a leader in her faith community. (10)

The evidence is fairly clear related to the value of volunteering to health. Studies have associated volunteering with better overall health, lower levels of pain, and higher reports of well-being, in addition to improvement in mood. (23-26)

Laughter is the Best Medicine

Mary Ann could be counted upon to light up the room with her smile. She exuded a fun-loving attitude into her final years. Everyone has challenges, and Mary Ann had her own, but she met adversity head on and kept her head high when times were hard. While Mary Ann's demeanor was often serious, she was known to break into laughter when funny things happened. Enjoying a long and loving marriage and a successful professional life gave Mary Ann plenty to smile about. (10) Laughter has a profound effect on the health of individuals. The old proverb, “Laughter is the Best Medicine”, holds true. Numerous studies on this topic (including many clinical trials) show that engaging in regular laughter improves mood, depression, blood pressure, and blood sugar. (27-30) Better still, laughter is free to all who enjoy it and has no negative side effects.

Chiropractors' Role in an Aging World

Certainly with an aging world, the healthcare challenges will be many. There is wisdom in the traditional chiropractic value of aiming to prevent disease from occurring, rather than waiting for chronic disease to disable our patients and our healthcare systems. Chiropractic training includes taking a proactive chiropractic approach to promote health and wellness. (31,32) Examples of this value set can be seen in the chiropractic health services literature and in practice. The 2010 Practice Analysis of Chiropractic, a survey of U.S. chiropractic practice patterns, shows that the vast majority of chiropractors recommend actively promote healthy behaviors like exercise or proper nutrition in their practices along with chiropractic adjustments. (33)

Musculoskeletal disorders such as back pain are a leading cause of disability in older adults. Chiropractors have been providing conservative musculoskeletal care for over 100 years, and are well-positioned to reduce the public health burden of back pain in older adults. In several promising studies, chiropractic adjustments (sometimes referred to as spinal manipulative therapy in the scientific literature) have been an effective intervention for older adults with back pain. (34-37) Since no traditional therapies have shown better efficacy than chiropractic in the management of back pain, chiropractic has an important role to play in elder patients with back pain.

CONCLUSION

Mary Ann Chance aged with beauty and grace, leaving us with an excellent model of healthy aging to follow. As health professionals, we can all learn from Dr. Chance how to “walk the walk” of healthy aging, showing our patients, by example, how to age well. We can also follow Dr. Chance’s lead by staying active in our professional life well into our golden years, helping other aging patients through patient-centered care.

REFERENCES

1. Global Health and Aging. National Institute of Health (NIH) publication #11-7737. http://www.nia.nih.gov/sites/default/files/global_health_and_aging.pdf, Oct 2011
2. Christensen K, Doblhammer G, Rau R, Vaupel JW. Ageing populations: The challenges ahead.
3. Editorial. Lancet 2009; 374/9696:1196-1208.
4. Australian Demographic Statistics, Jun 2011. Australian Bureau of Statistics. 10 December 2011, Article 1 (3101.0)
5. Population by Age and Sex, Australian States and Territories Jun 2010. Australian Bureau of Statistics. 21 December 2010, Article 2 (3201.0)
6. Australian Institute of Health and Welfare. Global Age Watch Index 2013. <http://www.helpage.org/global-agewatch/data/global-rankings/> Retrieved Aug 1, 2014.
7. OECD (2013), Health at a Glance 2013: OECD Indicators, OECD Publishing. http://dx.doi.org/10.1787/health_glance-2013-en
8. AIHW; Australian institute of health and welfare. <http://www.aihw.gov.au/deaths-faq/#othercountries>; Updated 2013

9. American Institute for Cancer Research. Preventability. http://www.aicr.org/research/research_science_policy_report.html . Updated 2014
10. Interview with Dr. Rolfe Peters: Mary Ann Chance and healthy behaviors. November, 2013
11. Physical activity and health: a report from the surgeon general. National Center for Chronic Disease Prevention and Health Promotion. Center for Disease Control and Prevention (CDC) <http://www.cdc.gov/nccdphp/sgr/olderad.htm> November 17, 1999. Updated 2013
12. Kim TH, Eke Dogra S, Al-Sahab B, Tamim H. Comparison of functional fitness outcomes in experienced and inexperienced older adults after 16-week tai chi program. Altern Ther Health Med. 2014 May-Jun;20(3):20-5
13. Farina N, Tabet N, Rusted J. Habitual physical activity (HPA) as a factor in sustained executive function in Alzheimer-type dementia: a cohort study. Arch Gerontol Geriatr. 2014 Jul-Aug;59(1):91-7
14. McTiernan A¹, Kooperberg C, White E, Wilcox S, Coates R, Adams-Campbell LL, Woods N, Ockene J; Recreational physical activity and the risk of breast cancer in postmenopausal women: the Women's Health Initiative Cohort Study. JAMA 2003;290(10):1331-6
15. Benefits of Physical Activity Video Series. National Institute on Aging. <http://nihseniorhealth.gov/videolist.html#exercise> updated 2013.
16. National Institute on Aging, National Institutes of Health. Exercise and physical activity: your every day guide from the National Institute on Aging. Jan 2009 <http://www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide/>
17. Hawk CK, Schneider M, Dougherty P, Gleberzon BJ, Killinger LZ. Best practices recommendations for chiropractic care for older adults: results of a consensus process. J Manipulative Physiol Ther 2010;33:464–473.
18. Lichtenstein AH, Rasmussen H, Yu WW, Epstein SR, Russell RM. Modified MyPyramid for Older Adults. J Nutr. 2008 Jan;138(1):5-11.
19. Chernoff R. Micronutrient requirements in older women. Am J Clin Nutr 2005;81(5):1240S-1245S
20. Montgomery SC, Streit SM, Beebe ML, Maxwell PJ. Micronutrient needs in the elderly. Nutr Clin Pract 2014;29(4):435-444
21. Bischoff-Ferrari HA, Willett WC, Wong JB et al. Fracture prevention with Vitamin D supplementation: a meta-analysis of randomized controlled trials. JAMA 2005;293(18):2257-2264
22. <http://www.drugabuse.gov/publications/research-reports/prescription-drugs/trends-in-prescription-drug-abuse/older-adults>
23. Goth US, Småland E The role of civic engagement for men's health and well-being in Norway-a contribution to public health. Int J Environ Res Public Health 2014;11(6):6375-87.
24. Cattan M, Hogg E, Hardill I. Improving quality of life in ageing populations: what can volunteering do? Maturitas 2011;70(4):328-32
25. Parkinson L, Warburton J, Sibbritt D, Byles J. Volunteering and older women: psychosocial and health predictors of participation. Aging Ment Health 2010;14(8):917-27

26. Tang F, Choi E, Morrow-Howell N. Organizational support and volunteering benefits for older adults. *Gerontologist* 2010;50(5):603-12
27. Lebowitz KR, Suh S, Diaz PT, Emery CF. Effects of humor and laughter on psychological functioning, quality of life, health status and pulmonary function among pts with COPD: a preliminary investigation. *Heart Lung* 2011;40(4): 310-19
28. Ko HJ, Youn CH. Effects of laughter therapy on depression, cognition and sleep among community-dwelling elderly. *Geriatr Gerontol Int* 2011;11(3): 267-74
29. Tan SA, Tan LG, Lukman ST, Berk LS. *Adv Mind Body Med* 2007;22(3-4):8-12.
30. www.the-aps-org/press/releases/09/14/htm
31. Killinger LZ. Chiropractic and geriatrics: a review of the training, role, and scope of chiropractic in caring for aging patients. *Clin Geriatr Med* 2004;20:223-235
32. Killinger LZ. Wellness in chiropractic practice: guiding our chiropractic patients to age successfully. *J Amer Chiropr Assoc* 2004;41(9):43-45
33. Christiansen MG, Kollasch MW, Hyland JK. Practice analysis of chiropractic, 2010: A project report, survey analysis and summary of chiropractic practice within the United States. Greeley, CO: National Board of Chiropractic Examiners; 2010
34. Docking RE, Fleming J, Brayne C, Zhao J, Macfarlane GJ, Jones GT. Epidemiology of back pain in older adults: prevalence and risk factors for back pain onset. *Rheumatology* 2011;50:1645–1653
35. Hondras MA, Long CR, Cao Y, Rowell RM, Meeker WC: A randomized controlled trial comparing 2 types of spinal manipulative therapy and minimal conservative medical care for adults 55 years and older with subacute or chronic low back pain. *J Manipulative Physiol Ther* 2009;32:330–343
36. Giles LGF, Muller R: Chronic spinal pain: A randomized controlled trial comparing medication, acupuncture and spinal manipulation. *Spine* 2003; 28(14):1490–1503
37. Shekelle PG, Adams AH, Chassin MR: Spinal manipulation for low back pain. *Ann Intern Med* 1992;117:590–598