The Dramatic Movement Toward Health Centered Dentistry

DeWitt C. Wilkerson, DMD With E. Shanley Lestini, DDS

Foreword by Peter Dawson, DDS & Brad Bale, MD

Widiom Publishing llc. ISBN-10: 0-9985336-2-9 ISBN-13: 978-0-9985336-2-9

The Shift The Dramatic Movement Toward Health Centered Dentistry First edition Copyright © 2019 by Widiom Publishing llc

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> ISBN-10: 0-9985336-2-9 ISBN-13: 978-0-9985336-2-9

Dedication

To all you *shifters*, who will experience the health benefits that come from an anti-inflammatory lifestyle, better breathing, and better oral health.

To our Great Creator, who designed us to experience both better health and daily joy.

* * *

"For you created my inmost being; you knit me together in my mother's womb. I praise you because I am fearfully [reverently] and wonderfully made; your works are wonderful, I know that full well. My frame was not hidden from you when I was made in the secret place, when I was woven together in the depths of the earth. Your eyes saw my unformed body; all the days ordained for me were written in your book before one of them came to be. How precious to me are your thoughts, God! How vast is the sum of them!"

> Psalm 139 King David of Israel

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ACKNOWLEDGMENTS

This project is the result of many years of sitting at the feet of great teachers, mentors, and coaches. Many are my dearest lifelong friends.

In the beginning...there was Mom! My mother, Dorothy Collins Wilkerson Templet, is an inspiration to all who know her. She has always exemplified a life committed to total health. My earliest memories include her daily routines of juicing carrots and celery, hands full of vitamins, weighing on the bathroom scales, jogging, biking, golf, Bible reading, and much prayer for her kids. This goes back to the 1960s! Thank you, Mom, for being such a great role model and cheerleader. I'm your biggest fan and love you so much.

Then there was Pat! My wife is such a special person – super talented, beautiful inside and out, eternally optimistic, and fully committed to every relationship in her life. She has taught me about all aspects of balance and love that have shaped our family and my career. Patty, you are my hero, role model, best friend and the love of my life. Thank you for believing in this project because you believe that everyone deserves to experience a life filled with health and joy. Our children – Todd, an Integrative Health coach; Whitney, an educator; and Ryan, a medical technologist – have each provided great feedback and support and have made me a very blessed and proud father.

Dr. Pete Dawson mentored me even before I entered dental school. We first met as family friends. When he learned I had been accepted into dental school, he immediately gave me a copy of his textbook and invited me to attend his three advanced dental seminars, as his guest. This was just the beginning of the many years of incredible influence Pete has had in my life. Thousands of dentists around the world join me in thanking Pete for leading a revolution from "usual and customary" to being the very best we can be, both professionally and personally. Upon graduation from the University of Florida College of Dentistry, I was invited to join Pete in his private practice, along with Dr. Pete Roach and Dr. Glenn DuPont. I'm grateful for the many years we've worked together.

Dr. David Hildebrand taught me so many lessons about life, inspirational leadership, and seeing the very best in other people – David, you will always be the best!

This book is divided into three major areas of focus: (1) Inflammation/Infection, (2) Airway/Breathing/Sleep Disorders, and (3) TMD/Dental Occlusion Disorders. I would like to thank the following individuals, who have been instrumental in influencing my learning in each area:

- Inflammation & Infection:
 - Steven Masley, MD, Brad Bale, MD, Amy Doneen, DNP, ARNP, Michael Roizen, MD, Caldwell Esselstyn, MD, Tom Nabors, DDS, David Seaman, DC, MS, Covert Bailey, MS, Jeff Novick, MS, Isabelle Simon, MA, Colin Campbell, PhD, Mark Hyman, MD, Joel Fuhrman, MD, Mehmet Oz, MD, Robert Lustig, MD, Doug Thompson, DDS, Mark Cannon, DDS, Susan Maples, DDS, Michael Schuster, DDS, Jamie Koufman, MD, FACS, Charles Whitney, MD, Elizabeth Board, MD, Gary Kadi, and Ron Kobernick, DDS, MScD
- <u>Airway/Breathing/Sleep Disorders:</u>
 - John Tucker, DDS, Richard Bonato, PhD, Rose Nierman, RDH, Barry Glassman, DDS, Tom Colquitt, DDS, Ben Miraglia, DDS, Kevin Boyd, DDS, Barry Raphael, DDS, Marianna Evans, DDS, MS, Steven Park, MD, Christian Guilleminault, MD, John Remmers, MD, Jeff Rouse, DDS, Scotty Bolding, DDS, MS, Lance Manning, MD, Gy Yatros, DMD, Jim Metz, DDS, Patrick McKeown, Roger Price, BSc, Pharm, William Hang, DDS, MSD, and David Gozal, MD, and Keith Thornton, DDS
- TMD & Dental Occlusion Disorders:
 - Peter Dawson, DDS, Mark Piper, DMD, MD, Parker Mahan, DDS, Terry Tanaka, DDS, Henry Gremillion, DDS, Bill Arnett, DDS, Ormand Ware DDS, Robert Corruccini, PhD, Jerome Rose, PhD, Weston Price, DDS, and Richard Roblee, DDS, MS

A very special thanks, with much gratitude, to each one of you!

I would also be remiss if I did not thank Aramelys Canales (DMD, Cuba), my clinical assistant for 23 years. Your competency, attention to detail, and spirit is invaluable. I would also like to thank Greg Sitek, whose technical expertise has helped us complete this manuscript. Amy Trumbull Harmon, my super talented niece and

graphic artist, designed the cover – thank you, Amy!

Finally, from the bottom of my heart, let me thank Shanley Lestini, my co-author. You are one very special person. Your commitment to excellence, in all areas of your life, is an inspiration to all who know you. I'm so proud of your incredible contribution to this project. You have worked tirelessly and joyfully every step of the way. I could not have done it without you, nor would I have wanted to. The Wilkersons consider you part of our family and love you very much. Now rest!

- Witt Wilkerson

* * *

I am grateful for the opportunity to echo my thanks to the professionals and friends Dr. Wilkerson has already named. It has been a privilege to learn from your teaching, advice, and examples. I know that patients around the world are receiving more excellent care because of your tireless efforts and the excellent work to which you are each committed. You will never know how much your training has impacted me, and I am excited to continue learning from all of you!

Specifically, Dr. Dawson, I will never forget the conversation we had during lunch at one of your seminars shortly after I finished dental school, when we talked about my hopes and goals. Your time, advice, and encouragement meant so much to me. Also, your readiness to share about the difference your personal relationship with Jesus has made in your life greatly encourages me. I am very grateful for the privilege of learning so much from you and the other incredible faculty at the Dawson Academy! The training and encouragement I have received at the Dawson Academy have enabled me to better serve my patients in countless ways, and I look forward to continue benefiting from your exceptional teaching and commitment to excellence.

In addition, I would like to thank Drs. Richard and Amy Hunt. Working with you and our wonderful team is such a blessing! You are both such incredible dentists and teachers, and I thank the Lord for the gift of having you both as amazing mentors and as dear friends. Thank you also for introducing me to the Pankey "family"! I so appreciate the training and friendships I have found at the Institute. It is inspiring to witness the leadership and spirit of service in the men and women of the Pankey Institute! I would also like to thank my parents, Bill and Stephanie, for their love, encouragement, and support. Thank you for pointing me to the Lord, the Great Physician, and for instilling in me a love for His Word. You were the first to share with me about a relationship with Jesus, and it is because of my relationship with Him that I have true joy and purpose. In addition, Dad, your example as a physician, who always served his patients with excellence and compassion, inspires me every day! Mama, thank you for the time and energy you have poured into our family and for your tireless support and encouragement. I would also like to thank my sister, Lysandra, for her support throughout this project. Lysandra, I am so proud of you for pursuing your passion for painting portraits, but I am also glad that we share a passion for dentistry!

Finally, I am grateful to the Wilkersons for their years of friendship and encouragement. All of you mean so much to me! Dr. Wilkerson, thank you for the incredible privilege of getting to be a part of this project. The principles of The Shift have changed the trajectory of my life and the lives of countless other dentists and patients. I will never forget the conversation we had on the ServingHIM mission trip in Romania when you shared with me about all the ways the profession of dentistry can bring about restoration and healing in people's lives. That conversation launched my personal and professional life on this amazing path, and I can't wait to witness the transformation of more and more lives through this message. Thank you for being an incredible mentor and an example of someone who serves the Lord and other people wholeheartedly. I could not be more grateful that you have given me the opportunity to be a part of spreading the message of The Shift!

- Shanley Lestini

How to use this book:

<u>If you are a dentist</u>...it is our hope that this book will inspire and assist you in implementing health-centered dentistry and the message of *The Shift*. Your desire to provide your patients with the best care possible motivates and encourages us as we continue on this journey.

<u>If you are a physician</u>...your collaboration is key to the success of the mission of *The Shift*. The tireless efforts of the experts in your fields give us hope that our patients truly can live lives of genuine health and not just settle for the absence of disease. We welcome your input in these efforts and thank you for your assistance in providing patients with optimal care.

If you are a member of a dental or medical team...we are grateful for your invaluable contributions toward empowering patients to adopt the strategies they need to maintain health for a lifetime. *The Shift* would not be possible without you.

<u>If you are a patient</u> desiring to improve your health or the health of those you love...we applaud you for your efforts to seek out true health for a lifetime. We invite you to use this book in whatever ways are most helpful. We have sought to communicate the research and recommendations of *The Shift* in a way that is approachable, and we have also included inserts of several quotations from a variety of professionals whom we respect. Your personal successes and goals give us hope that we are indeed entering a new era of health care. It is because of you that we are committed to continuing on this exciting journey.

FOREWORD, by Peter E. Dawson, DDS

The shift from "tooth dentist" mentality has evolved to recognition that acceptable care of dental patients requires more than just repair of teeth.

The masticatory system is one of the most complex systems in the body, and dentists are the only health professionals who are trained (or should be) in the many aspects of health that are directly or indirectly affected by disharmony or disease within the masticatory system.

Dentists must be physicians of the total masticatory system. But that does not downplay the importance of teeth. Teeth are composed primarily of neurogenic origin. They act as exquisite sensors to the neuromuscular system that controls the function and comfort of the muscles of the jaw. They have a major influence on the musculature of the face and cranium.

Teeth are almost always a factor that must be considered in patients with orofacial pain, including tension headaches and TMJ disorders. Symptoms caused by disharmony between the dental occlusion and the temporomandibular joints (*occluso-muscle pain*) is the most prevalent cause of facial pain as well as damage and pain to the teeth and the TMJs. But sadly, it is also the most missed diagnosis.

Misalignment of teeth can affect the airway. The effects of a crowded dentition or arch deformity can be diagnosed and corrected at an early age to avoid later serious problems of obstructive airways that lead to major health issues. As a rule, dentists see their patients on a regular schedule and typically spend more time per office visit than physicians do. Thus they are in an ideal situation to partner with physicians as gatekeepers for observing early signs or symptoms of disease or behavioral issues affecting maintenance of general health.

There is a growing trend for dentist/physician collaboration that requires expertise and reliability on the dentists' part. A major responsibility is to be accurate in determining if a masticatory system disorder contributes in any way to a patient's disease or discomfort. In the complex analysis of orofacial pain, as an example, physicians must be able to rely on the dentist to correctly diagnose if a masticatory system disorder is responsible for all of the pain, some of the pain, or none of the pain.

Dentists must accept that responsibility and avail themselves of advanced training if their diagnostic skills fall short of this new norm. Physicians must recognize the importance of collaboration with dental expertise when it is appropriate.

Dentistry has gone through a number of shifts starting with a major shift in the 1960s in which the importance of occlusion opened new frontiers in diagnosis and treatment. In the 1970s advancements in periodontics and restorative dentistry got major attention. This was followed by new knowledge about implantology that made it a practical alternative to full dentures or partials. In the 1990s, new restorative materials plus adhesive dentistry changed the way dentistry was practiced. Then in the 2000s computer-guided technologies opened new doors to diagnosis through advanced imaging capabilities as well as actual treatment options.

As advancements at all levels of practice became the norm, none of them negated the importance of the basic principles of stable occlusion or the recognition of the goal of TMJ health and stability in harmony with the occlusion. Occlusal disease remains a focus of every dental practice. The shift to Integrative Dental Medicine does not in any way diminish the principles of sound practice that have evolved through the years. It is additive to those advancements. Concerns about the general health of every patient must become an integrative inclusion into the concept of complete dentistry.

So what is the next frontier shift in dental medicine?

I believe it is the utilization of our well-established oral health model as a foundation to look more closely at the whole person with emphasis on complete health. That requires development of

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an expanded Integrative Dental Medicine model of care. Complete dentists must routinely address critically important issues that are often ignored in our busy healthcare system.

Let's look at some examples of what complete dentists should be observing:

- Dentists are in a unique position to observe systemic inflammation that may be reflected in periodontal inflammation, elevated blood sugar levels, pre-diabetes or even full-blown diabetes that exacerbates periodontal disease but is often ignored by patients.
- Gastric reflux that visibly destroys tooth enamel but is also associated with a high risk for esophageal cancer, the fastest-growing cancer in the Western world.
- Nasal allergies and upper airway restrictions that promote mouth breathing and improper tongue positioning. This leads to altered neutral zones that affect arch contours that, in turn, crowd the tongue into airway obstruction. Any alteration of the neutral zone can also affect craniofacial growth and development, altered dental occlusions, neuromuscular imbalance and potential TMD signs and symptoms.
- Observable signs of airway obstruction can lead to disordered breathing that can affect sympathetic dysregulation with increased chronic stress hormone production such as cortisol. The effects of this harmful body-wide stress during waking hours or during sleep should be noticeable enough during a complete dental examination to alert the dentist to seek answers that may require collaboration with medical specialists. The solution may require a dental solution such as changes in arch form to allow proper positioning of the tongue.
- Upper Airway Resistance Syndrome (UARS) and Obstructive Sleep Apnea (OSA) are major health risks experienced by millions of people of all ages. Visible signs may include dental occlusal wear, crowded dental arches, soft tissue obstruction in the throat and scalloping of the tongue. These disorders are commonly associated with gastric reflux. Other frequently occurring signs may include fatigue, poor sleep quality, snoring, attention deficit, morning headaches and sore muscles.

The opportunity for dental professionals to contribute to primary care assessment and intervention is extensive. This will require a shift for both dentists and physicians to appreciate the vital role of dentists, dental hygienists and team members to save not only smiles but to potentially save lives.

This new focus of care is defined by understanding both the nature and scope of oral-systemic connections and how best to treat these newly appreciated relationships between infection, inflammation, breathing, airway, TMD and dental occlusion. This requires an in-depth search of the scientific literature and extensive clinical experience.

I know of no one better equipped to undertake the challenge that lies ahead than Dr. Witt Wilkerson, my practice partner since 1982. Witt brings to the table the needed broad perspective required to resolve the challenging interplay of restorative, occlusal, and TMD problems with the complex relationships to general health issues. Through his association with the Dawson Academy for Advanced Dental Study as a senior faculty member, he has taught thousands of dentists the fundamentals of dental occlusion and diagnosis and treatment of TMJ disorders. With this background, he can bring to the profession a logical insight into integrating these concepts with a new and better correlation with the general health of dental patients.

Dr. Witt Wilkerson is an outstanding professional innovator and leader. He has served as the president of the American Equilibration Society (AES), the largest Academy dedicated to TMJ disorders and occlusion. He is also currently serving as president of the American Academy for Oral and Systemic Health (AAOSH).

In this well-researched and very readable text, Witt has beautifully illuminated dentistry's next frontier. Every dentist who is dedicated to optimum patient care must make a serious effort to seek the necessary education to incorporate these concepts into every-day practice.

Peter E. Dawson, DDS

* * *

Pete Dawson is considered by many to be the most influential clinician and teacher in dentistry in the United States – and the world. He is known globally for his contributions to the fields of occlusion and restorative dentistry and for his concepts on the diagnosis and treatment of temporomandibular disorders. Dr. Dawson authored the #1 best-selling dental text, <u>Evaluation</u>, <u>Diagnosis and Treatment of Occlusal Problems</u>, which is published in 13 languages. He has also authored <u>Functional Occlusion: From TMJ to Smile Design</u>, <u>The Complete Dentist Manual</u>, and <u>A Better Way</u>.

He is the Past-President of the American Equilibration Society, the American Academy of Restorative Dentistry and the American Academy of Esthetic Dentistry. In 2016, Dr. Dawson was awarded the American Dental Association Distinguished Service Award.

Dr. Dawson and Dr. Wilkerson have been partners in private practice, in St. Petersburg, Florida, since 1982.



FOREWORD, by Brad Bale, MD

Whether you are reading this book from the perspective of a medical or dental professional or simply as a recipient of our overloaded health care system, it is clear that we as a society currently face critical issues of health and disease. As one of the developers (with Amy Doneen, DNP, ARNP) of the Bale/Doneen Method® for the prevention of heart attacks and strokes, I feel that this book represents a critical bridge between past practices and the future of health and wellness in medicine and dentistry. As a medical professional, I emphatically believe that a strong partnership with our dental colleagues is of the utmost importance for our patients' well-being. To help convey this truth, it is necessary to fully understand the reality of the medical crisis in which we find ourselves.

Heart attacks remain the number one killer in this country, and strokes are the number one cause of disability. Cardiovascular disease (CVD) ranks number one for healthcare expenditures and may single-handedly destroy the solvency of America's healthcare system. In light of this, CVD is the most costly healthcare issue from a humanitarian and fiscal standpoint. Every thirty-four seconds, someone has a heart attack, and every minute someone dies from one. Sudden Cardiac Death (SCD) is responsible for more years of productive life lost (YPLL) than any single cancer. It is currently estimated that every year SCD will claim 2 million YPLL from men and 1.3 million YPLL from women. Strokes occur every forty seconds, and someone dies from a stroke every four minutes. The current annual combined direct and indirect cost of CVD is \$315 billion and is projected to reach \$1.2 trillion by 2030. Whether you are a patient or a practitioner, these numbers are incredibly alarming.

We can no longer tolerate this degree of human suffering and monetary expenditure. We need to migrate to a platform of preventing arterial disease or, at a minimum, treating it before it leads to a heart attack or stroke. The wonderful news is that we now possess the technology and knowledge to do exactly that. We now have painless, inexpensive tests which can identify patients who have silent but potentially deadly arterial disease lurking in their arteries. Furthermore, it is now known that inflammation initiates the formation of such disease and then drives the progression of it. Arterial disease fueled with enough inflammation will culminate in a heart attack or stroke. Extinguishing this arterial 'fire' will halt this disease, allowing it to stabilize prior to causing devastating damage to the heart or brain. To eradicate the inflammation, a holistic approach is needed and, within this approach, a critical factor is maintaining a healthy mouth. Oral health will play a critical role in removing cardiovascular disease from "Number One" on the billboard of death and disability. Therefore, whether you are a patient seeking to maintain your oral health or a dental/medical professional aiming to provide the best care possible, it is imperative to internalize this truth and the message of The Shift.

To further understand the reasons behind this, a deeper look at how oral health can optimize cardiovascular health is helpful. To begin with, examining the role of periodontal disease (PD) is critical, as PD is a big dog in the cardiovascular arena of healthcare. The most revered organization in the CVD arena, the American Heart Association (AHA), has concluded that PD is extremely important. In healthcare, there are two things that must be achieved in order to have no doubt that an issue is important, and each one is difficult to establish. Firstly, "level A" evidence needs to be obtained. This type of evidence provides the highest degree of scientific confidence. It must be produced from multiple populations and include conclusions derived from numerous randomized clinical trials or meta-analyses. Secondly, "independent association status" bolsters assurance; however, it is extremely difficult to obtain. It refers to the process by which the investigators make adjustments for numerous other factors known

to be associated with the outcome in question in order to see if the issue being studied remains significantly predictive of the outcome. The AHA did indeed conclude that there is level A evidence that periodontal disease is independently associated with arteriosclerotic vascular disease (ASVD). The independent association status was achieved after they adjusted for the following: age; ethnicity; sex; socioeconomic status (income and/or education); smoking habits; diabetes (presence or duration/hemoglobin A1c); hyperlipidemia (or low-density lipoprotein cholesterol and/or high-density lipoprotein cholesterol and/or triglycerides); hypertension (or systolic and/or diastolic blood pressure); body mass index or waist/hip ratio or obesity; alcohol consumption; physical activity; marital status; microalbuminuria; C-reactive protein; fibrinogen; diet; vitamin E intake; statin intake; history of ASVD; family history of ASVD; current access to dentist; renal disease; papillary bleeding score; dependent living; hypertension medication; frequency of dental visits; oral hygiene; missing teeth; DMFT index (decayed, missing, filled teeth); family history of diabetes; and family history of hypertension. This 2012 publication by the AHA rendered a verdict that is exceptionally powerful, acknowledging that periodontal disease is very important in cardiovascular disease. Therefore, we can be confident that oral health plays a vital role in the maintenance of healthy arteries and in the stability of diseased arteries. As such, it is important that both patients and practitioners make decisions with this in mind.

Inflammation plays a key role in the intersection between oral and systemic health. Over 150 years ago, Dr. Rudolf Virchow proposed that inflammation was the cause of arterial disease. Large, genetically-based studies confirmed this theory in 2012. The potential sources of arterial inflammation are numerous. Thev include the following: poor diet, lack of exercise, lack of sleep, anxiety, nicotine, cholesterol, auto-immune diseases like rheumatoid arthritis, low vitamin D, pre-diabetes, hypertension, genetic predispositions, infectious diseases and oral disease (both periodontal and endodontic disease). If such oral disease persists, the resulting inflammation will contribute to the progression of arterial disease. In 2013, Dr. T. Pessi published an excellent study indicating a significant number of heart attacks may be triggered by oral infection, including endodontic infection (Pessi, 2013). We know inflammation initiates and propagates ASVD. It also appears to trigger CV events. With the understanding that oral disease can create arterial inflammation, it is mandatory that periodontal and endodontic disease be effectively managed to reduce CVD risk. With this in mind, efforts to substantially reduce the current burden of CVD must include the world of dentistry. The abilities of the entire professional oral health team and the engagement and participation of the patient are critical to effectively assess and manage periodontal and endodontic disease in order to avoid arterial inflammation.

The Bale/Doneen Method® was developed for the prevention of heart attacks and strokes. The method advanced to the degree that we began 'guaranteeing' our work several years ago. That guarantee is grounded in being able to extinguish arterial inflammation. We have had (and will continue to have) many cases that required eradication of periodontal and endodontic disease in order to quell inflammation. Some cases have been emergent, which necessitated the awareness of both the patient and his/her dental practice's front office staff to understand the significance of the oral-systemic connection to appreciate the urgency. To the dental team members reading this book, we applaud you for your interest in this subject and your commitment to offer the best treatment possible to those within your care. We appreciate and rely on a close collaboration with our dental colleagues for our success with patients. To the patients reading this book at the recommendations of their dental care providers, we want to encourage you: the fact that you are reading The Shift indicates that you are currently in a dental practice that understands the significance of sustaining excellent oral health in order to minimize cardiovascular risk. Please follow all of their advice. If you have periodontal disease, it can be successfully treated and maintenance therapy can keep it at bay. This will reduce your chance of having a heart attack or stroke. If you have infected teeth, the infection can be eradicated. This will also reduce your cardiovascular risk. You are fortunate to be with this dental team. Thank you for reading this material and for joining us in the effort to reduce the number of heart attacks and strokes. Together, as patients and providers alike, we can anticipate the healthier future that The Shift can provide.

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* * *

Brad co-founded the Bale/Doneen Method® and the Heart Attack & Stroke Prevention Center. He is a principal instructor in the Bale/Doneen Method®, training other medical providers across the country.

He has a private clinical practice in Nashville, Tennessee. He also serves as the medical director of the Heart Health Program for Grace Clinic in Lubbock, Texas, Adjunct Professor for Texas Tech Health Sciences, School of Nursing, Clinical Associate Professor for Washington State University College of Medicine, and Assistant Professor at the University of Kentucky, College of Dentistry. Dr. Bale serves on the Board of Directors of the American Academy for Oral Systemic Health (AAOSH).



Part I: *The Shift* and Integrative Dental Medicine

As you change the way you look at the world, the world you look at changes.



1. WHY "THE SHIFT"?

The Shift began in my family as early as the 1940s. My dear mom, Dottie, was raised in rural North Carolina. She observed obesity and poor health throughout her family and community. Relatives all around her were experiencing severe health problems at relatively young ages. Diabetes, strokes, heart attacks, cancer, and early deaths were all too common.

She made a decision at a young age to stay fit and healthy, if at all possible. She began researching and seeking answers. She followed the advice of others, such as the nationally-known nutritionist Adelle Davis who taught, "We are indeed much more than what we eat, but what we eat can nevertheless help us to be much more than what we are. As I see it, every day you do one of two things: build health or produce disease in yourself." That made sense to my mom.

She made the *shift*. She chose a very disciplined daily lifestyle of whole foods, juicing, Vitamin C and supplements, limited sugars and white bread, daily exercise, controlled weight, and "walking by faith", believing that God loved her and had a wonderfully positive plan for her life.

As a child, I remember watching her juice carrots in the kitchen, drinking so much carrot juice that her feet and hands would turn orange! When my sisters, DeAnne and Kitty, or I caught a sniffle, my mother would fill a syringe with B12 that she kept in the bathroom medicine cabinet and give us shots in the bottom! It was both an entertaining and traumatic childhood, but that was our mom... and it worked!

Fast forward 70 plus years, and despite many apparent genetic predispositions and disadvantages, my mother has not suffered from osteoporosis, or diabetes, or cancer, or heart attack, or stroke, or Alzheimer's or any other chronic illness. In fact, she recently told me that prior to a recent broken bone, the last time she was hospitalized was the day I was born, over 60 years ago!

She remains vibrant, independent, and mentally strong – working out two times a week with a personal trainer, walking on a treadmill 30 minutes each day, driving her car, traveling, and wearing high heels well into her mid-90's! She looks like she's in her mid-70's. She thinks and acts like she's in her mid-60's! She is a super-hero to all who watch her in stunned amazement, admire her, and want her secret! Her secret is the message of *The Shift*!

Personally, I've been interested in nutrition for years, but not sure which "diet" was best. Many years ago, I was diagnosed with high total cholesterol, hovering ominously around 300. I was prescribed by a cardiologist not one but two statin prescriptions daily for several years, making my muscles feel weak. I've had four surgeries on my right knee over the past few years, which was a great excuse not to exercise. My sweet wife, Pat, threatened not to take me back if I had a fatal heart attack due to lack of exercise! Furthermore, my father died from leukemia, at the young age of 63. Did I inherit a cancer gene? Do I have cardiovascular disease? All this left me worried and with no real, solid answers. It was like a black cloud hovering ominously over my head as I approached 60.

In June 2012, I was invited to attend the meeting of the newly formed American Academy for Oral Systemic Health (AAOSH), held that year at the Cleveland Clinic. The theme, heralded by the physicians leading the world-renowned Cleveland Clinic Wellness Institute, is the same theme that describes *The Shift*: you can take control of your own health, through your lifestyle choices.

The following are some of the messages they shared:

• Michael Roizen, MD, Chief Medical Officer, Cleveland Clinic Wellness Institute, stated, "Aging is a process that you can control. Research has demonstrated that lifestyle choices and behavior have a far greater impact on longevity and health than heredity." He pointed out that though our genetic makeup is significant, DNA research is showing that nearly 80% of our genes act like "switches" that turn on or off the other 20% of expressive genes that can

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cause disease. He explained that these switches are largely controlled by diet, physical activity, stress, and smoking (toxins). Therefore, our health is not all inherited. That's great news, and it's a great explanation of the focus of *The Shift*.

· Caldwell Esselstyn, MD, former Chief of Surgery at the Cleveland Clinic, reviewed the epidemiological research for coronary artery disease that established it as primarily a dietcontrolled illness. He examined the method and result of nutritional changes that may halt and reverse coronary artery disease. He spoke of one patient who had undergone 20 arterial stent procedures, quadruple bypass surgery, and was experiencing angina so severely he couldn't walk to the kitchen without being exhausted. He was not a candidate for further surgery because his vascular system was literally collapsed. He was a dead man walking. He enrolled in a pilot program at the Cleveland Clinic run by Dr. Esselstyn, described in his book, Prevent and Reverse Heart Disease. This program was based on evidence which showed that a diet rich in plants, which produce nitric oxide when digested, dilate the arterial system and shrink plaque. 20 years later, the patient was still alive and thriving. That's The Shift in action!

• Brad Bale, MD, co-author of <u>Beat the Heart Attack Gene</u>, explained the connection between vascular health and inflammation. Heart attacks and ischemic strokes are triggered by an inflammatory process that can be initiated and exacerbated by periodontal (gum) disease, as well as poor diet, physical inactivity and stress – another key point of *The Shift*.

• Anthony Iacopino, DMD, PhD, Dean of the University of Manitoba, College of Dentistry, reviewed recent evidence that supports systemic inflammation as the most reliable link between periodontitis and various systemic diseases/conditions, such as diabetes and cardiovascular disease. Diabetes and periodontal disease have similar effects on systemic inflammation. Inflammation is a key theme in *The Shift*, as is the role that oral bacterial pathogens entering the bloodstream can play.

• Mladen Golubic, MD, PhD, prominent researcher at the Cleveland Clinic, explained that the root causes for the development and progression of type 2 diabetes in most people are lifestyle factors, including poor diet, lack of physical activity and unmanaged stress. Lifestyle interventions for this reversible disease positively impact the health of all tissues, including those in the oral cavity. Therefore *The Shift* includes potentially life-changing information for diabetics, including their dental health!

The two days I spent at the AAOSH meeting in 2012 forever changed my understanding of true health and solidified my commitment to learn all I could about *The Shift*, both for my own health as well as for the dental patients that I serve every day.

Following the AAOSH meeting, I sought out Steven Masley, MD, former Medical Director of the famed Pritikin Longevity Center in Miami, Florida and author of Ten Years Younger, The 30-Day Heart Tune-Up, Smart Fat, and The Better Brain Solution, plus numerous scientific articles and PBS Specials on television. Dr. Masley is one of the pioneering Integrative/Functional Medicine Physicians in the world, and he has become my primary coach. I underwent a full-day comprehensive evaluation in his clinic. Strictly following his prescription of an anti-inflammatory diet, supplements, exercise and stress reduction dramatically improved my total wellness. Within a few months, my total cholesterol had dropped below 200, my knee pain had improved significantly, my energy level was much higher, my memory had improved noticeably, my testosterone levels had risen 40%, and my blood counts had normalized. Most significantly, based on carotid intimamedia thickness testing (CIMT), which is used to diagnose the extent of carotid atherosclerotic vascular disease, my carotid artery showed an increase of 13% lumen diameter after one year. My arterial disease was reversing! I'd become a Shifter! At that time and since, my former concerns about heart attacks, strokes, and cancer have turned into excitement about health and wellness, which I share with anyone even remotely interested in their own health and who isn't?

Now you understand why *The Shift* is such an important project, as we all work together to turn around the health crisis that is affecting all of our lives. This is the foundation upon which we will build the Integrative Dental Medicine model.

"As a functional medicine physician, I would strive to enhance your cardiovascular system through a broad and holistic range of options, which must involve the weblike interactions among your diet, activity level, weight, environmental toxins, hormones, stress, and biochemical factors such as blood sugar control and inflammation levels. My aim, and that of functional medicine, is to lower your blood pressure from elevated, to normal, to optimal with a lifestyle plan that matches your unique needs. Instead of a diagnosis of hypertension, I would likely call this something like: 'not enough exercise, not enough fruits and vegetables in the diet, high emotional stress, and excessive body fat.' The plan wouldn't be to treat the blood pressure problem with a drug, but rather to view the whole matrix of health issues, optimize a new lifestyle plan with customized tools designed for your success, and correct the underlying cause of the high blood pressure once and for all. The result would be a personalized plan that achieves normal blood pressure without medication."

> Steven Masley, MD <u>The 30-Day Heart Tune-Up</u>