The Journal of Collegium Aesculapium

FALL 2013

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Manuscripts considered for publication in the *Journal of Collegium Aesculapium* must be clinically appropriate and spiritually consistent with the principles and doctrines of The Church of Jesus Christ of Latter-day Saints. All manuscripts must be clearly written and submitted in a double-spaced 12-point font in a Microsoft Word e-mail attachment. A manuscript that meets these standards is peer reviewed by several members of the editorial board and is evaluated with the reviews by the editorial staff. After suggested content adjustments are made, an article may be accepted, edited to our standards of style and readable writing, and published in the *Journal*.

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The Journal
of Collegium
Aesculapium

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A Physician is a Teacher

Elder Cecil O. Samuelson, M.D.

I **appreciate the opportunity to be with you again. Although my attendance** and participation have been sporadic at best over the years, I have had great interest in this organization since its beginning. I congratulate all of you who have done and do so much.

You might not be surprised that in my frequent encounters with others, I am asked many questions. One of the most common is, "Do you miss medicine?" My honest answer is that I have not lost my interest but have had little time to muse on the matter these last couple of decades. A second less frequent question that comes almost exclusively from outside our LDS culture is "Why did you retire from medicine so early?"

My answer to that has often been a little more complicated than need be. In the last several years, I have merely adopted the approach Kim Clark used when he left Harvard to go to BYU-Idaho. Kim explained that we, meaning committed members of our Church, revere our Church President as a prophet like Moses. He then asks his questioner, "If Moses called you on the phone and asked you to do something, would you do it?" That seems to satisfy all but the most hardened skeptic.

For virtually all of my medical career, I was directly involved in medical education as a teacher, administrator, clinician and researcher. Now, for almost a decade, I have been deeply consumed in education without any direct involvement in medicine. While BYU consistently ranks in the top ten of all baccalaureate degree-granting colleges and universities in the United States in producing medical students, we do not and will not have a medical school.

A few weeks ago in our Annual University Conference at BYU, I made reference to a man I have held in high regard for many years because of some commonalities in his career and mine. Please understand I also appreciate some very significant differences but there are sufficient parallels in our lives to make him a person of interest to me.

Mark Hopkins was born three years before the Prophet Joseph Smith and lived to the age of 85. He was a native of Massachusetts and spent most of his life there, with several of his middle years living in New York and a short time in Virginia.

He was fortunate enough to come from a family that supported education and had the means to allow him to attend school and eventually Williams College where he graduated. He then studied medicine during the days long before medical education was anything like we each experienced. He received his M.D. in 1829 and then briefly practiced medicine in New York before returning to Williams College to join the faculty.

In 1836, he was appointed the president of Williams and for many years was the youngest man to hold the office of college president in the United States. He served in that role for thirty-six years. Happily, this pattern does not seem to continue in our day.

Interestingly, even though he had done some public preaching before 1836, he was also ordained as a Congregational minister that same year. In subsequent years, he received Doctor of Divinity degrees from Dartmouth and Harvard and various other awards and honors that reflect the high regard in which he was held in the society of his times.

Because Williams was a small college, Hopkins also was an active faculty member and instructor during his presidency. He was apparently a naturally skilled teacher and highly regarded and loved by his students, many of whom went on to lofty accomplishments and distinctions in their own rights. One of those was James A. Garfield, the twentieth president of the United States. A rather famous aphorism about Mark Hopkins attributed to Garfield might be familiar to some of you: "The ideal college is Mark Hopkins on one end of a log and a student on the other."

I think this notion has currency and application for colleges and universities with their faculties and students today. I also think that there are some useful considerations applicable to physicians and other health professionals as they interact with their patients. In less engaging but perhaps more direct prose, I would say the best health care system is a skilled and caring doctor interacting, helping, treating and especially teaching his or her patient with appropriate help and support but without undue interference from others with responsibilities in the system.

I hope I am wise enough to recognize that almost all of you will be more conversant than am I with most of the current details in our evolving health care system challenges. With that reality, I wish to spend our precious time together this evening focusing on what may not be well appreciated generally but, in my view, is a key essential in the makeup of an excellent, productive physician or other healthcare professional. I worry a little that even doctors, let alone their patients, may not understand the significance and importance of our responsibility to teach carefully those for whom we have been charged to care.

Yes, there are times for all practitioners when actions are much more important than words. Emergencies are real and require prompt, even urgent, interventions. These are times of excitement, life or death decisions and certainly the stuff of television dramas.

Likewise, it is not the rare patient who only wants the doctor to "fix it" quickly, whatever the "it" is. My belief, however, is that with virtually every disease, medical or surgical problem, there is the need to communicate, to teach, to answer questions, and to give guidance, advice and comfort to those who come to us in the special and sometimes sacred relationship of the doctor and the patient.

Virtually all of us have our professional heroes and mentors who have influenced us for good and have in turn been a blessing to our patients because of what our teachers have taught us. The older I get, the more grateful I am for the handful of exceptional doctors who so influenced me in the ways I have thought about medicine and tried to act in the interest of my own patients and students. I suspect this is close to a universal truth for all physicians, whatever their other values, interests, backgrounds and experiences.

One mentor, friend and teacher for all of us who value this organization and our beloved Church is the Greatest Physician, the Lord Jesus Christ. While it is tempting to focus on His many miracles of healing, including raising the dead, and especially His own resurrection and all the events surrounding His incomparable Atonement, tonight I would like us to think about the great examples Jesus provides us in His remarkable teaching.

First, He was extremely effective in large groups as we learn from the Sermon on the Mount as one example[1] or His extended instruction to the faithful on this hemisphere following His resurrection as another.[2]

Second, most of His teaching was done for individuals or small groups. We cannot note all the occasions mentioned in scripture such as the woman of Samaria at Jacob's well[3] or with His cousin, John the Baptist, who was initially resistant to baptizing Jesus.[4] Think of the woman taken in adultery and what Jesus taught her individually as well as the surrounding crowd.[5] It should cause each of us considering this account to ask ourselves if we might be figuratively part of the crowd initially willing to cast the first stone. You, like I, will have your long list of favorites from which to glean specific individual lessons as well as the general tutorial applicable to all persons.

Of course, His teaching did not cease after His resurrection and ascension. Perhaps the most significant learning experience of all for people of our day and time was when the Savior and His Father visited and taught young Joseph Smith in the Sacred Grove (see JSH). Likewise, the Apostle Paul testified that the Risen Lord appeared to Peter and the Twelve and more than 500 of

In the inherent busyness of our clinical work, do we fail to stick with the issues so important for our patients to understand fully before we move on to other matters?

the brethren after His initial ascension into Heaven.[6] Of course we know of Paul's own experience on the Damascus Road[7] and even later on while Paul was in prison, Jesus again visited and comforted him in a very personal and private way.[8]

While we can comfortably imagine that by no means do we have a complete record of encounters Jesus had with various people and His effective teaching during His mortal ministry and beyond, we do have more than an adequate sample of His approaches and techniques that would be useful to us in our clinical work as well as in our Church and service work.

Let me now mention ten characteristics or approaches that have been most impressive to me. Again, I cannot be comprehensive. You will be able to compile for your own use and understanding more and likely better examples than can I. Likewise, I present my list without rank order or priority.

First, Jesus was an excellent listener. You will remember the nighttime, almost clandestine, visit of the prominent Pharisee, Nicodemus, to Jesus. While perhaps not needing to ask as many "find out questions" as one of us might to know our visitor better, the Savior nevertheless patiently answered the questions posed by Nicodemus and He did more: He answered the question that this good man really should have asked with respect to the possibility of entering the Kingdom of God. Because Jesus listened, He was able to address the primary issue of this ruler of the Jews and taught him more than he had thought to ask.[9] I believe careful listening is a talent that the most effective physicians develop.

Second, He was always able to ask just the right questions. I love the example of His third visit to the disciples after His resurrection. Jesus might not have needed the information, given His perfect powers, but as a teacher His questions were a powerful pedagogical tool. You will know well one of my favorites.

"So when they had dined, Jesus saith to Simon Peter, Simon, son of Jonas, lovest thou me more than these? He saith unto him, Yea, Lord; thou knowest that I love thee. He saith unto him, Feed my lambs.

"He saith to him again the second time, Simon, son of Jonas, lovest thou me? He saith unto him, Yea Lord; thou knowest that I love thee. He saith unto him, Feed my sheep.

"He saith unto him the third time, Simon, son of Jonas, lovest thou me? Peter was grieved because he said unto him the third time, Lovest thou me? And he said unto him, Lord, thou knowest all things; thou knowest that I love thee. Jesus saith unto him, Feed my sheep."[10]

Jesus knew the answer but He persisted until He was satisfied that Peter also knew that He knew. I fear that in the inherent busyness of our clinical work we may fail to stick with the issues so important for our patients to understand fully before we move on to other matters.

Third, Jesus was not only respectful to his mother and family, but He demonstrated this principle to others at an early age. In our current canon of scripture, we know very little about His childhood and youth. What we do know is impressive to me. In the second chapter of Luke we find the account of Jesus accompanying Mary, Joseph and others of their extended family from their home in Nazareth to Jerusalem for the Feast of the Passover. After the several days of celebration, it came time to return home. Apparently, their family was like some of ours where the children delight in traveling with their cousins rather than being in immediate proximity to their parents. Mary and Joseph began their journey and assumed Jesus was somewhere in the company. After a day's journey, they looked for Him and He was not to be found.

As dutiful and concerned parents, they returned to Jerusalem and found him after three days "sitting in the midst of the doctors" listening to these learned men, teaching and asking them questions. All of us parents who have had a child go missing for even a few minutes understand the complex emotions Mary and Joseph experienced when they finally found young Jesus. I love these words of the scripture.

"And when they saw him, they were amazed: and his mother said unto him, Son, why hast thou thus dealt with us? behold, thy father and I have sought thee sorrowing.

"And he said unto them, How is it that ye sought me? wist ye not that I must be about my Father's business? [As an aside, note the gentle rebuke, reminding Mary of her Son's unique status.]

"And they understood not the saying which he spake unto them.

"And he went down with them, and came to Nazareth, and was subject unto them: but his mother kept all these sayings in her heart.

"And Jesus increased in wisdom and stature, and in favour with God and man."[11]

Jesus was not only respectful to his mother and family, He subjected Himself to their direction and demonstrated this principle to others. He knew who He was, but He also understood His responsibility as a young family member. As one who might have had the least to be humble about, He was the most humble.

Fourth, Jesus taught people how to think for themselves and did so at a level they could understand and accept. Consider how effectively He used parables. Think of the Parable of the Prodigal Son. He might have told the people that they need to love all their children whatever they do or do not do and He would have been right. We don't have time to consider all the lessons learned in this little story found in Luke 15 but there are many points that teach us about how we might best treat our own children and perhaps even insight in how we might respond to our most difficult patients. Often, those who are the least lovable need the most love.

Or think of the oft-quoted Parable of the Good Samaritan.[12] This account was given in response to the question posed to Jesus: who is my neighbor? In our context we might ask, "Who is my patient?" In the abstract none of the characters described in the parable would likely have felt a lack of sympathy or even some responsibility for the injured man. But, it was the one least likely because of the social circumstances at the time who came forth to render the needed service. I hope we all continue to think about how we might be described by an objective observer when we have the opportunity to deviate from our planned routines to help someone unexpectedly encountered who is in great need.

Fifth, Jesus was absolutely genuine in the interest in others He demonstrated. I like the brief account of the visit of the Savior to the home of Mary and Martha. Jesus loved them both enough to teach them about the things of most importance. Now, because I am somewhat OCD about some things, I can probably relate best to Martha but also have the greatest respect for her sister, Mary. As an aside, if I ever need to experience the skilled services of any of you surgeons present tonight, know that I will not mind one bit if you take the time to count the sponges and the instruments three times before you close me up! Let me share the five verses from Luke that detail the interaction with Mary and Martha.

"Now it came to pass, as they went, that he entered into a certain village: and a certain woman named Martha received him into her house.

"And she had a sister called Mary, which also sat at Jesus' feet, and heard his word.

"But Martha was cumbered about much serving, and came to him and said, Lord, dost thou not care that my sister hath left me to serve alone? bid her therefore that she help me.

"And Jesus answered and said unto her, Martha, Martha, thou art careful and troubled about many things:

"But one thing is needful: and Mary hath chosen that good part, which shall not be taken away from her."[13]

"Martha-itis" may become nearly chronic and congenital among most physicians if we are not careful.

> After a long, complicated exegesis by the resident, the older doctor asked the patient if he knew what was wrong with him. The man admitted he didn't understand anything that had been said.

Sixth, Jesus was able to correct without being offensive in criticism. Even when His disciples were careless or seemed to have forgotten lessons already taught, He was clear but sensitive in His corrective comments. We don't know what these early apostles knew of the pre-mortal existence but, like all of us today, there were questions they couldn't immediately answer. Think of the account of the man blind from his birth.

"And his disciples asked him, saying, Master, who did sin, this man, or his parents, that he was born blind?

"Jesus answered, Neither hath this man sinned, nor his parents: but that the works of God should be made manifest in him."[14]

The best doctors are usually the ones who can answer silly, repetitive questions without offense and correct erroneous or faulty information with kindness and clarity.

Seventh, Jesus taught using examples and parables that gave new insights through familiar terms or circumstances. Most of us don't have flocks of sheep today, but many did in the time of Jesus. Because some of the disciples were fishermen, they understood Jesus' charge that they were to become "fishers of men."[15]

We don't recognize minorities or others from different backgrounds today as Samaritans but we have been taught how we should treat and react to others different than ourselves. I remember as a new intern listening to a senior resident give a long, complicated exegesis on the diagnosis and treatment to an elderly black man who was suffering from neuro-syphilis. The attending physician waited patiently until the resident, quite pleased with himself, finished. Then the older doctor asked the patient if he

knew what was wrong with him and what we needed to do. The man admitted he didn't understand anything that had been said. The senior physician then simply said, "You have 'bad blood' in the fluid around your brain and we need to put in medicine to take care of it." The patient gratefully thanked the doctor for explaining his problem so well.

Eighth, Jesus had a great sense of timing so that His teaching was most effective. I have already mentioned the account of Jesus and the adulterous woman. Without saying anything, He paused, wrote in the dirt and gave all—the woman and her accusers—time to really think and consider the issues before them. Had He rushed in and said, ". . . go, and sin no more,"[16] His concern and message would not have been understood. As we teach our patients, our children and even ourselves, we need to consider carefully the timing and circumstances of the situation. Please read and consider the entire account in John, chapter 8, verses 1 through 11. No one could accuse the Savior of favoring or even tolerating adultery. But there were other equally important issues to address and lessons to be taught.

Ninth, Jesus was relatively relaxed about some things of lesser importance and did not feel it wrong to do good on the Sabbath. Remember, the man born blind we have discussed in John 9 was healed on the Sabbath day. It gave the Savior the opportunity to teach about spiritual blindness. Now make no mistake. Jesus was very compulsive about the things most significant. We can think of many more examples of this assertion than we have time to address but I draw your attention to another favorite.

As Jesus was concluding His ministry among the faithful Nephites, He taught them the importance of their records and scriptures. He endorsed particularly the words of the prophet Isaiah and then asked Nephi, the leader of the Church, to show Him the records they had kept. As He examined them, He asserted that He had commanded His servant Samuel the Lamanite to testify about the reality of the resurrection and other important points of doctrine. He saw that these words had not been included in their record and commanded that this important message be added.[17]

Jesus taught what was really important. He gives clear guidance on setting proper priorities among the many things we might do or decide to leave undone.

Tenth, while exercising His rightful authority, Jesus always deferred and gave full credit to His Father. His humility was genuine and powerful, particularly when we consider who He really is and what He really means to us and to the world. From the time of the First Vision, the Prophet Joseph Smith gained line upon line, gradually and progressively learning more about the Savior and His character and His teaching.

I will conclude with a favorite example among the many most impressive. In March 1830, the Lord provided the revelation we now know as Section 19 of the Doctrine and Covenants. Martin Harris and by extension all of us have been called to repentance. As I share these words, please think of the Savior's sacrifice, His Atonement and particularly His attitude toward His Father.

"Therefore, I command you to repent—repent, lest I smite you by the rod of my mouth, and by my wrath, and by my anger, and your sufferings be sore—how sore you know not, how exquisite you know not, yea, how hard to bear you know not.

"For behold, I, God, have suffered these things for all, that they might not suffer if they would repent;

"But if they would not repent they must suffer even as I;

"Which suffering caused myself, even God, the greatest of all, to tremble because of pain, and to bleed at every pore, and to suffer both body and spirit—and would that I might not drink the bitter cup, and shrink—

"Nevertheless, glory be to the Father, and I partook and finished my preparations unto the children of men."[18]

In my early days as a General Authority, one of the Twelve reported a meeting where President Howard W. Hunter was asked what impressed him most about these verses and he said it was the clear, absolute and loving deference Jesus always had for His Father. May we likewise give this same devotion and commitment to both the Father and the Son.

Jesus is the greatest physician and the greatest teacher. He is the Son of God the Father and our Savior and Redeemer. May we in our medical service and in all aspects of our lives do our very best to think of Him always, emulate Him and follow Him, in the name of Jesus Christ, amen.

Elder Cecil O. Samuelson, M.D. is president of Brigham Young University. He is an emeritus general authority of the Church and former member of presidency of the First Quorum of Seventy. Prior to church service, he was senior vice president of Intermountain Healthcare, and dean of the School of Medicine and vice president of health sciences at the University of Utah. From a Collegium fireside on October 3, 2012.

REFERENCES

1. See Matthew 5-7.
2. See 3 Nephi 8-10, 11-26.
3. See John 4.
4. Matthew 3:13-15.
5. John 8:1-11.
6. 1 Corinthians 15:5-6.
7. Acts 9:1-9.
8. Acts 23:11.
9. John 3:1-13.
10. John 21:15-17.
11. Luke 2:48-52.
12. Luke 10:30-37.
13. Luke 10:38-42.
14. John 9:2-3.
15. Matthew 4:19.
16. John 8:11.
17. See 3 Nephi 23.
18. Doctrine and Covenants 19:15-19.

HEALTH PREPARATION *for* BECOMING *a* SENIOR MISSIONARY

Donald B. Doty, M.D.

President Thomas S. Monson addressed mature members of the Church at General Conference, October 2010 stating:[1] "And now to you mature brothers and sisters: we need many, many more senior couples. To those of you who are not yet to the season of life when you might serve a couples mission, I urge you to prepare now for the day when you and your spouse might do so. As your circumstances allow, as you are eligible for retirement, and as your health permits, make yourselves available to leave home and give full-time missionary service."

He reaffirmed the call for more senior missionaries in General Conference, October 2012 after announcing the lowering of the age for young missionaries. President Monson stated:[2] "We continue to need many more senior couples. As your circumstances allow, as you are eligible for retirement, and as your health permits, I encourage you to make yourselves available for full-time missionary service. Both husband and wife will have a greater joy as they together serve our Father's children." This reaffirmation was somehow a bit lost by the general membership of the Church in the excitement pertaining to young missionaries, but the potential senior missionaries heard it and responded with missionary recommendation applications in greater numbers.

Having served for over eight years with my wife as full time missionaries in the Missionary Department as Chairman, Missionary Department Health Services, I have had many opportunities to observe the applications for missionary service from many of our seniors whose health record demonstrates deterioration and lack of attention to preservation of health. I have observed the consequences of degenerative health conditions that have shortened missions in senior missionaries.

As a heart surgeon, I cared for hundreds of older patients with coronary artery disease and performed coronary artery bypass operations on them. Nearly all of these patients did well, but occasionally there would be one without sufficient physical reserve to tolerate the operation. People below the age of 70 usually tolerate the operation, and those between 70 and 80 years old also do well unless there are associated medical conditions that raise the risk of operation. Above age 80, risk of operation rises dramatically due to limited physical reserve. I tried to recognize low physical reserve to know when risk was high.

My predictor of reduced physical reserve was simply to observe how the aged person would stand and walk. Those that stood up straight and tall and could walk briskly had good physical reserve, while those who were bent over and walked with feet shuffling had low reserve and were likely to have major problems after operation. Obviously, prediction of risk by this simple observation is not an exact science. Recently, however, more precise observation of gait speed has been shown to be a predictor of both major morbidity (complications) and mortality (death) in elderly patients having cardiac surgery.[3]

Subjects were timed with a stopwatch to determine how long it took to walk 15 meters (16.4 yards) in a well-lit hallway. A time of 6 seconds or longer was classified as slow gait (my observation as shuffling), whereas any time less than 6 seconds was considered normal gait speed. Using a cane or walker for better balance was permitted. Those with slow gait speed had double the chance of a prolonged hospital stay after operation, and tripled risk of serious complications such as stroke, renal failure, respiratory insufficiency, deep wound infection, and reoperation. For women with slow gait speed the problem was even worse as there was eight-fold increase in morbidity and mortality.

The major causes for early release while serving a senior mission are: (1) coronary artery disease and stroke (34%); (2) cancer (19%); orthopedic problems (12%). Multiple other problems incident to age and life style are responsible for early release from missions. Coronary artery disease is of particular concern because the disease often presents without warning as a "heart attack" (acute myocardial infarction) associated with sudden death in 20%. Proper care requires access to advanced medical care within 30 minutes. Many of these health issues can be diagnosed in early stages and general health improved with appropriate health preparation.

I had a little speech that I gave to my patients after heart surgery. "You need to live healthy. This means a more healthy diet with less red meat and more fish (omega-3 fatty acid) and poultry, much less sugar and fat, and for sure smaller portions because you need to lose some weight and keep it off. You need to exercise every day, starting today, gradually working up until you can walk, run, bike, or swim for at least 30-60 minutes without stopping for rest. No bad habits. If you are smoking, stop now. Get control of high blood pressure and cholesterol levels to normal or below. Do what you can to relieve stress in your life."

Based on dietary guidelines from the American Heart Association, I used to tell people not to eat eggs. For much of the past 40 years, the public has been warned away from eggs because of a concern over coronary heart disease risk. The epidemiologic literature,[4] however, does not support the idea that egg consumption is a risk factor for coronary disease. Within the nutritional community there is a growing appreciation that health derives from an overall pattern of diet rather than from the avoidance of

particular foods. The most recent American Heart Association guidelines no longer include a recommendation to limit egg consumption, but recommend the adoption of eating practices associated with good health.

There are solid data showing that people who live to advanced age are usually clustered in families where most live to advanced age.[5] In other words, there are good genes for long life. We can't do much about our genes; we are what we are when we receive our genome from our parents. Lifestyle, however, we can do something about and this forms the basis of preparing for better health to serve a senior mission. It all boils down to a simple formula: Move more, eat less (and better).

Weight gain and the value of exercise

Men and women gain weight as they age. Physical ability begins to decline about age 30 years and continues throughout the rest of life.[6] Rate of decline varies with individual fitness and lifestyle. Muscle mass may be reduced 40-50% with similar decline in bone mass. Metabolic rate also declines with age. Body fat increases as a result of imbalance of caloric intake and physical activity (eating more than we burn). On average this amounts to about a pound a year adding inches around the abdomen rather than on hips and thighs. The only way to compensate for middle-aged weight gain is to become more active, that is, exercise more.

Both the Surgeon General and the Centers for Disease Control recommend 30 minutes of moderate physical activity for everyone on most days of the week. Recent studies, however, published in Journal of American Medical Association (JAMA)[7] show that 60 minutes a day of moderate intensity activity (twice previous guidelines) is required to maintain normal weight while on a usual diet. Moderate intensity activity means that it makes you sweat. It is not strolling around the neighborhood and chatting with your friends. So the answer is in — increase the exercise time to 60 minutes most days in the week.

Healthy Diet

These are the basic objectives for a healthy senior diet:[8]

1. Reduce sodium salt to favorably affect high blood pressure and fluid retention.
2. Reduce fat and cholesterol containing foods.
3. Increase calcium and vitamin D for bone health.
4. Increase fiber-rich food or use fiber supplement to prevent constipation.
5. Increase protein, reduce carbohydrates (sugar).
6. Increase water intake.

HEALTHY FOODS "TOP 10" LIST

1. **Avocado:** monounsaturated fat (good fat), vitamin E, potassium.
2. **Berries:** blueberries, black berries, raspberries for flavonoids (antioxidants).
3. **Cruciferous vegetables:** cabbage, cauliflower, broccoli, etc., for enzymes that protect against cancer, raw or lightly cooked to preserve those enzymes. Eaten raw can be tough on old people's intestinal tract.
4. **Garlic:** one clove per day cooked or raw to protect against cancer.
5. **Ginger:** for arthritis, digestion, and circulation.
6. **Nuts:** of all kinds with emphasis on walnuts for minerals, digestion and immune system.
7. **Soya:** to help maintain estrogen levels.
8. **Whole meal pasta and rice:** fiber.
9. **Watermelon:** good source of fluid and tastes good. Seeds when blended, are supposedly nutritious.
10. **Water:** for hydration. No one drinks enough water. Two quarts per day suggested.

Most older people are living as a couple or alone without anyone depending on us. We like "comfort food," meaning food that tastes good, and is simple to prepare. All too often, however, our diet is heavily laced with "fast food" from walk up restaurants, and prepared meals or foods purchased in the market. These foods are known to be high energy food due to fat, sugar, and carbohydrate content and high in sodium salt. "Healthy food" lists are known to everyone who reads newspapers or magazines or watches television. The list on the previous page is a typical "Top 10" list.[9]

Having read this list, I am sure you are saying: "There are some things on that list that I simply can't eat." For me it would be cruciferous vegetables unless cooked thoroughly, garlic, ginger, walnuts, soya, and blended watermelon seeds. Along with people in essentially all cultures in the world, I prefer pasta made from refined flours and for fiber I would rather use a fiber supplement. Anyone worried about chlorine added to reduce bacterial count in tap water can buy a pitcher with an advanced filter that will remove contaminants and make the water taste great as well as better for health.

Where are the meat, potatoes and gravy that we were raised on? Sorry, not recommended for good health. Will we continue to eat things we are familiar with and like? Of course we will, and to avoid feelings of guilt, take these foods in sensible portions rather than in gluttonous portions that result in weight gain and obesity. And try to include foods from the healthy diet list for their obvious benefits. We can also increase protein in the diet by using dairy products (milk, yogurt), white of egg (processed liquid egg), and whey protein supplements. How about dark chocolate known to be rich in antioxidants? Beware, chocolate is a high energy food laden with calories which may offset benefits unless used in moderation or less.

Diabetes mellitus

Diabetes is caused by a problem in the mechanism of how the body makes or uses insulin.[10] Insulin is the hormone that is required to move glucose (sugar) into cells where it is stored to be used for energy. There are two types of diabetes: Type 1 usually affects young people and is often severe and difficult to control; Type 2 typically occurs on older people who are usually overweight (though not necessarily) and is related to insulin resistance. Family history and genetics play a large role in type 2 diabetes. Long term life style patterns of diet and exercise (lack of) also contribute to the cause of diabetes type 2.

Diagnosis of diabetes is by observing fasting blood sugar level of 126 mg/dL or higher or HgA1c level 6.5% or higher. HgA1c is a blood test that indicates average blood sugar level over the most recent two or three months. It also gives an indication of the balance of blood sugar, meaning neither too high nor too low. The American Diabetes Association recommends for people with diabetes type 2 that HgA1c level should be less than 7%. The American Association of Clinical Endocrinologists recommends an even lower HgA1c of 6.5% or less. The Missionary Department has a standing liberal policy that HgA1c should be less than 8% to be considered safe for missionary service.

Individuals with diabetes preparing for senior missionary service should schedule a visit with their personal physician to have a blood test of HgA1c level and cholesterol/triglycerides, check of blood pressure, examination of the retina of the eye, kidney function (urine test for albumin and blood creatinine test), check skin and bones of feet and legs, check sensation in feet including balance sense.

Consistent effort should be given to achieving best control of blood sugar levels as reflected by HgA1c and toward establishing good habits of healthy diet, daily exercise, and weight loss as indicated.

Loss of balance sense

Falling occurs more frequently as people get older. A fall, often associated with serious injury occurs in one-third of people over the age of 65 years during a single year.[11] Sense of balance begins to decline in the second decade of life and is due to gradual loss of the three main sensory contributors to good balance—vision, position sensors on the sole of the feet, and sensors in the inner ear that send gravity and motion information to the brain. Loss of muscle strength and flexibility that are associated with aging contribute to the problem.

Furthermore, as we become older, feet are not lifted as high above walking surface so that small irregularities or obstructions even less than an inch high may catch the foot causing stumbling or even falling. This may result in fracture of the bones in the hand or arm outstretched to protect against injury to the face or head.

Any person who has suffered a fall during the year prior to applying for missionary service, especially if accompanied by injury or fracture, should have balance sense checked and receive therapy to improve balance. Those finding themselves moving about the house touching furniture for balance would be wise to get a cane or walking stick and use it. Three point stabilization will do much to prevent fall and injury. These days, older people have a false pride against using a cane. Pride should be discarded in favor of personal safety.

Rest

Older people may have more difficulty falling asleep and staying asleep than when they are younger.[12] It is a misconception, however, that older people need less sleep. Sleep needs remain constant throughout adult life. Older people spend more time in lighter stages of sleep than in deep sleep and may wake up more frequently during the night. Older people become sleepy earlier and go to bed earlier than when they were younger, hence waking up earlier in the morning after having the usual 7 or 8 hours of sleep. Insomnia is more prevalent in older people.

Snoring is the primary cause of sleep disruption and affects millions of people. Snoring is often related to being overweight and becomes worse with aging. Loud snoring when accompanied with periods of silence when there is no breathing, suggests obstructive sleep apnea. This may be associated with daytime drowsiness that impairs daytime function. Sleep apnea should receive prompt medical attention because there is risk for cardiovascular disease, headache, memory loss, and depression. It is a serious disorder that is easily treated.

Mental health

About 20% of people over the age of 55 years experience some type of mental health disorder.[13] Depression is the most common mental health problem among older adults. Other common mental health issues include anxiety and cognitive impairment. Depression is a treatable medical condition, not a normal part of aging.[14] Older adults are often misdiagnosed and under treated for depression even though they respond to treatment as well as younger people. Older individuals may not see depression as something that should be treated and therefore do not seek help.

Late-life anxiety is not well understood but is probably as common as it is in younger age groups. Similar to depression, anxiety is less likely to be reported to physicians and older people more likely emphasize the physical complaints associated with anxiety. Anxiety at any age is related to stress. Regular exercise is one of the best ways to manage stress.

Losing cognitive mental function is often the most feared aspect of aging.[15] The ability to learn continues throughout life. Older people, however, often require more time and effort to assimilate new information. They may need to read instructions more carefully and repeatedly. They tend to become frustrated and avoid learning things that are not meaningful or rewarding. Learning requires linking to other senses such as sight and hearing so that as these senses decline, so does the ability to learn.

Short term memory tends to decline with aging. Long term memory is much more permanent. Long term memory increases from age 20 to 50 and remains the same until well after age 70 years. Adaption to learning and memory changes is accomplished by slowing down, doing things more carefully, thinking a little longer to remember, and avoiding new or strange environments. Memory loss may not even be noticed until there is a major life change such as moving to a different home (going on a mission) or the death of a spouse.

Information processing slows down with aging so that it takes a little longer to figure things out and what to do. Whether intelligence declines is debatable, but older people compensate by making fewer mistakes. Although slower to respond, because older people value correctness, their answers are more accurate.

Dementia is significant loss of intellectual abilities such as memory capacity, severe enough to interfere with social or occupational functioning. Dementia occurs in as many as 1% of adults 60 years old and the frequency doubles every five years after age 60. Alzheimer's disease is the most common form of dementia but there are other causes. Staying involved in leisure activities that require mental effort, such as reading, board games, playing a musical instrument, dancing, crossword puzzles, learning a new hobby, is thought to reduce risk of dementia.[16] Staying active in church, community activities, or support groups also helps.

Health maintenance

Preventive services are very effective in preventing disease from occurring or detecting disease early when treatment is most effective. In spite of the effectiveness of these potentially life-saving preventive services, only 25% of adults age 50-64 years in the U.S.A. and fewer than 40% of adults 65 years and older are up to date on these services according to the Centers for Disease Control.[17]

The chart on the next page shows recommended screening tests and immunizations for both men and women ages 50-70.

Following these guidelines is just good common-sense preventive medical care and will go a long way toward maintaining good health. Since estrogen levels diminish in women and testosterone levels drop with age in men, it is also good to have these levels checked. Hormone replacement can make an enormous difference in retaining physical strength. Your doctor will usually guide you to obtain these screening tests and immunizations. If not, you should ask for them.

SCREENING TESTS FOR SENIORS

Screening tests recommended for all adults age 50-70[17, 18]

- **High blood pressure (Hypertension).** 120/80 or lower is normal, 140/90 or higher is high blood pressure, between 120 and 139/80-89 suggests high probability for eventually having hypertension.
- **Cholesterol and lipids.** High levels of cholesterol and lipids or low level of HDL ("good cholesterol") measured in blood increases risk for coronary artery and other vascular disease
- **Diabetes.** Related to insulin deficiency. Type 1 diabetes usually occurs in young people and requires insulin therapy. Type 2 is primarily a disease of older people, is more common, and probably genetic as most have a family history of diabetes. Type 2 may be related to prior poor diet habits, obesity, and life style. Traditionally diagnosed by level of sugar in blood; new evidence indicates that HgA1c test is better.[19] The HgA1c test reflects average blood sugar for the most recent 2-3 months and if greater than 6.4% is diagnostic. Diabetes is associated with heart disease, stroke, number one cause of amputation, loss of vision, and the most important cause of kidney failure and kidney transplants.
- **Osteoporosis.** One-half of women and one-fourth of men older than 50 will suffer bone fracture due to osteoporosis. Diagnosis by bone density test and vitamin D level in blood.
- **Colorectal cancer.** This cancer can be prevented by removal of precancerous polyps from the colon. Everyone over age 50 years should have a colonoscopy. For those with family history of colon cancer, screening colonoscopy should begin 10 years earlier, or 10 years earlier than the age at which your youngest primary relative was diagnosed with colon cancer. If the initial examination is normal, it will not be necessary to have repeat colonoscopy for 7-10 years. Abnormal examination dictates more frequent follow up colonoscopy.
- **Coronary artery disease.** A stress test is recommended for those having three or more risk factors for coronary artery disease: age >50, male gender, family history of coronary artery disease, hypertension, diabetes, elevated blood cholesterol and/or lipids, and obesity.

Screening tests recommended for women age 50-70:

- **Cervical cancer.** Vaginal examination with Pap test annually until age 65.
- **Breast cancer.** Mammogram every two years.

Screening tests recommended for men age 50-70:

- **Prostate cancer.** Rectal digital examination and prostate specific antigen (PSA) in blood. Strongly recommended annually. Some consider this optional because PSA may be elevated by prostate conditions other than cancer.

Immunizations

- **Diphtheria-Tetanus+Pertussis (Td/Tdap)** — booster every 10 years
- **Zoster (shingles)**—one time at age 60 or older
- **Seasonal Influenza**—annually age 65 and older, due to high risk for death and complications with influenza
- **Pneumococcal vaccine**—one time at age 65 or older

Spiritual well being

It is clear that religion helps older people maintain morale, overcome difficulties, and protect against depression.

The best place to look for recommendations on spiritual well being during aging for members of The Church of Jesus Christ of Latter-day Saints is in the words of the living prophets. Elder Boyd K. Packer, president of the Quorum of the Twelve Apostles, provides the pattern to follow in an address titled "The Golden Years":[20]

"In your golden years there is so much to do and so much to be. Do not withdraw into a retirement from life, into amusement. That, for some, would be useless, even selfish. You may have served a mission and been released and consider yourself as having completed your service in the Church, but you are never released from being active in the gospel. 'If,' the Lord said, "ye have desires to serve God ye are called to the work.'"

President Thomas S. Monson has issued the call to serve:[21] "To mature brothers and sisters of the Church, I remind you that the Lord needs many, many more of you to serve as full time missionaries. If you are not yet at the season of life to serve a couples mission, I urge you to prepare now for the day when, as your circumstances allow, you and your spouse might do so. There are few times in your lives when you will enjoy the sweet spirit and satisfaction that come from giving full-time service together in the work of the Master."

Summary

The fundamental principles of health preparation for becoming a senior missionary have been reviewed. I apply all these principles in my own life including the habit of moderately intensive exercise for 60 minutes most days. A healthy diet with emphasis on controlling caloric consumption will be rewarded by zero weight gain (or losing weight as needed). Sufficient rest should be obtained, correcting things that disturb sleep. We are all concerned about mental health and dementia associated with aging. Keeping the mind active can improve mental health and cognition. I see my personal physician regularly to receive proper preventive medical care and follow established guidelines for screening for prevention or early detection of disease. I have received all recommended immunizations to prevent disease. And finally, my experience as a senior missionary has made it abundantly clear that attention to spiritual well being associated with consistent religious practice and Christ-like service to others will provide a more meaningful life in the "Golden Years." I hope you will prepare to join me and my wife as a senior missionary.

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WEIGHT LOSS
AHEAD

Building Evidence Basis *for* Bariatric Surgery

by Sherman C. Smith, M.D., FACS, FASMBS

IT'S BEEN A PLEASURE TO REVIEW the latest publications relative to bariatric surgery, establishing a foundation of science from which we can apply major benefit to patients suffering from severe clinical obesity. In the context of this meeting it would be appropriate to first review the currently recognized and effective surgical treatments.

The laparoscopic adjustable gastric band involves the use of a restrictive device placed just caudal to the esophagogastric junction. The restrictive effect is adjustable by filling an access port by needle on the anterior rectus sheath. It requires adjustments over time to achieve the maximum weigh-loss benefit. The weight loss at five years ranges from 35-60% loss of excess body weight (EBW), the outcomes largely dependent upon patient compliance with follow-up. It is the safest of all surgical procedures in this group, and the 30-day mortality is 0.05%. It is less expensive, reversible, and usually only involves an outpatient surgical experience.

Of course, there are some disadvantages. The weight loss is slower and patients lose less weight overall on average than with the other procedures. Long term follow-up in Europe has been disappointing, and about 40% of the patients have had to have the device either removed, surgically adjusted, or the patients have had unacceptably low amounts of weight lost. Preliminary studies in the U.S. are more promising, but longer-term studies are still pending.

The laparoscopic sleeve gastrectomy involves removing 80% of the stomach leaving a thin "sleeve" along the lesser curve. Some of the antrum is usually preserved. There is no foreign body involved and the small bowel is not involved in the operation. Patients tend to lose about 60% of EBW within a year, and seem to maintain that profile through the first five post-operative years. There is a risk of leak from the staple line in 1-3% of the cases, and stricture at the incisura will occur 1-2% of the time. These are difficult problems to correct and sometimes result in conversion to gastric bypass. Early post-operative heartburn can also be problematic. Mortality at 30 days is 0.2%. This procedure may be performed as the first stage of a biliopancreatic diversion with duodenal switch, with plans to return to perform the malabsorptive bowel stage after considerable weight loss in the more massively obese patients. For patients who have had previous bowel surgery for obstruction, or a colostomy, this approach offers the advantage of not having to deal with the adhesions involving the bowel. Patients with ulcerative colitis or Crohn's disease, and immunocompromised patients may prefer to pursue a sleeve gastrectomy.

The laparoscopic Roux-en-Y Gastric Bypass (RYGB) has restrictive, metabolic, and malabsorptive effects. The best long-term data is available with this procedure since it was first done as an open procedure in 1965 with a simple loop, and was converted to a Roux-en-Y in 1973 with markedly improved results with respect to bile reflux gastritis. It remains the most frequently performed procedure in the United States, and is now most often performed laparoscopically. EBW loss of 60-80% is seen at five years. The 30-day mortality is 0.2%. Diabetics see improvement in their disease within days of the operation, long before significant weight loss has occurred, consistent with a significant metabolic effect through a change in the incretins released from the bowel. This operation is difficult to reverse and may have malabsorption issues particularly with iron, B12 and calcium. Protein malnutrition is extremely uncommon. The dumping syndrome can occur. Anastomotic leaks develop <1%, lifetime risk of bowel obstruction is 5%, and anastomotic strictures requiring endoscopic dilation are seen in 5% of patients.

The biliopancreatic diversion with duodenal switch involves a sleeve gastrectomy, a duodenoenterostomy with preservation of the pylorus, and a short segment common channel in which nutrients are absorbed. This operation is highly malabsorptive, has some restriction, and is very powerful metabolically. It is suited for the super, super obese population and for those who have high triglyceride levels. These patients lose 70-90% of EBW and diabetes resolution is seen in over 90%, again, as early as 1-2 weeks. Although the true dumping syndrome is not seen, steatorrhea and foul-smelling flatus are problematic. There are considerable nutritional and vitamin deficiency risks, but most conscientious patients can safely avoid them. Anastomotic leaks are seen in 1%, bowel obstruction in 5%, and protein malnutrition in as many as 25%.

A review of some recent publications will be helpful in making an assessment as to the value of these aggressive approaches to obesity and its comorbid conditions. The first is "Health Benefits of Gastric Bypass Surgery After 6 Years."[1] This was a prospective study involving three

groups. Group I of 418 patients underwent RYGB, Group II of 417 patients sought RYGB but didn't have it, and Group III of 321 patients were randomly selected from a population based sample of obese patients not seeking surgery. With a 93% follow-up in all groups, there was 27.7% total body weight (TBW) loss in Group I, 0.2% TBW gain in Group II, and 0% TBW gain in Group III. Additionally, 94% of Group I patients had at least a 20% decrease in TBW at 2 years and 76% of the patients had at least that amount of weight loss at 6 years.

Diabetes remission defined as a normal HgbA1c was seen in 62% of Group I, 8% in Group II, and 6% in Group III. (Remission odds ratios 16.5, p<001 vs. Group II and 21.5, p< .001 vs. Group III.) The diabetes incidence in Group I = 2%, Group II=17%, and Group III=15%.

Hypertension remission/incidence was 42%/16% in Group I, 18%/31% in Group II, and 9%/33% in Group III.

Triglyceride remission/incidence was 71%/3% in Group I, 33%/25% in Group II, and 34%/28% in Group III.

Low HDL remission/incidence in Group I was 67%/5%, in Group II 34%/32%, and in Group III 18%/38%.

Mortality in the groups was comparable with 3% in Group I, 3% in Group II, and 1% in Group III. Suicides and poisonings were not statistically significant in group comparison.

Two randomized controlled trials (RCT) were published in the spring of 2012. The first came from the Cleveland Clinic, "Bariatric Surgery versus Intensive Medical Therapy in Obese Patients with Diabetes."[2] This study compared RYGB to sleeve gastrectomy (SG) and to medical therapy. All patients had uncontrolled Type 2 Diabetes Mellitus (DM2) with average HgbA1c=9.2%. The primary end point was HbgA1c of <6.0% after 12 months of treatment. There were 50 patients in each group and a 93% follow-up was noted. 12% of the medical group, 42% of the RYBP group, and 37% of the SG group reached the endpoint. The differences between the medical group and the two surgical groups were statistically significant, but the between each of the surgical groups they were not. There was improved glycemic control in all groups with average HgbA1c of 7.5% in the medical group, 6.4% in the RYGB group, and 6.6% in the SG group. The medical group lost 5.4 kg, the RYGB group lost 29 kg and the SG group lost 25 kg. Use of medications to control blood pressure, lower lipids, and to decrease glucose increased in the medical group, but it decreased in the surgical groups. There were no deaths, but four of the surgical groups' patients required reoperation.

The next study came out of Cornell University and Rome, Italy and is titled "Bariatric Surgery versus Conventional Medical Therapy for Type 2 Diabetes."[3] This was also a RCT involving 60 patients with HgbA1c > 7.0%. The RYGB group, the Biliopancreatic Diversion (BPD) group, and the medical group each had 20 patients. The end points to define DM2 remission were a FBS of <100mg%, and a HgbA1c <6.5% without pharmacologic therapy. The very impressive rates of remission at 2 years were 0% for the medical group, 75% for the RYGB group and 95% for the BPD group. Total body weight loss was 4.74% for the medical group, 33.3% for the RYGB group, and 33.81% for the BPD group.

Changes in blood pressure were not statistically significant. Decreases in LDL from baseline in the medical group were 20%, RYGB group 17%, and BPD group 57%. Increases in HDL from baseline were 6% in the medical group, 30% in the RYGB group, and 13% in the BPD group. Decreases in the triglyceride levels from baseline were 18% in the medical group, 21% in the RYGB group, and 57% in the BPD group.

Accumulation of this kind of evidence, especially the quality of evidence in RCTs, confirms the significant decrease in weight, control of Type 2 Diabetes Mellitus, decrease in cardiovascular risk due to lipid factors, and improvement in hypertension control following bariatric surgery, when compared to medical therapy. The offset of surgical risk has to be considered in these analyses as well, but there are several retrospective studies which point to a lower risk of death for the obese patient, if that patient undergoes bariatric surgery.[4,5,6,7,8]

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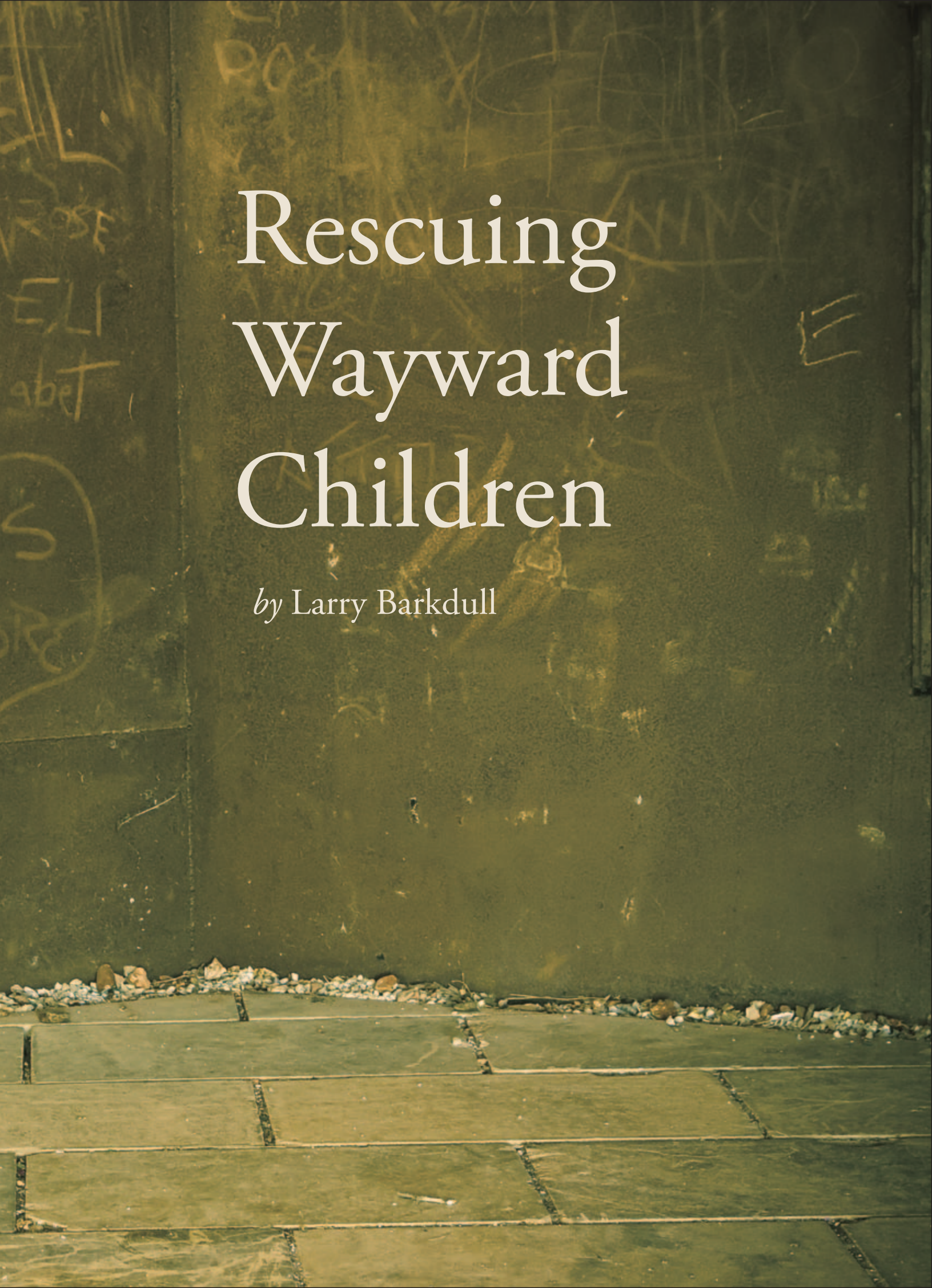

Rescuing Wayward Children

by Larry Barkdull

Mormon foresaw an epidemic of latter-day wayward children. Few families are not touched by the prevailing sickness. The following story is disturbingly common:

> "Marie," a mother in Arizona, wrote, "Nothing could have prepared me for the excruciating pain of my first delivery. I had thought that I wanted to have the full experience, so I turned down the epidural. I did fine for the first few hours, and then my water broke. The sudden, blinding pain was more than I could bear, and I was only dilated to '3'—I had hours to go. When the nurse offered me the epidural, I gladly agreed. In fact, when the doctor was delayed because he was treating another patient, I began to panic. I couldn't get relief from the pain fast enough. At the time, I thought, 'Who would knowingly go through pregnancy and delivery again?' But for as much pain as I experienced that day, it was nothing compared to the spiritual suffering I experienced when that same, sweet little boy chose drugs over school, immorality over chastity, friends over family—he abandoned the Church and broke my heart."

Mormon was a prophet who prescribed remedies for the latter-day challenges, including the current epidemic of waywardness. If we parents will internalize his message and embrace the powerful gospel tools at our disposal, we need not stand by and watch helplessly as loved ones spiral out of control.

The Book of Mormon Parallel

To help us, Mormon chose powerful examples from his history that would correspond with his vision of the last days. Consider his choice of the story of Alma the Elder and his son.

To set the stage, Mormon related an important incident regarding the Nephite "pioneers," whom the Lord had delivered and guided to their land of promise. The similarity between the Nephite pioneers and our forefathers does not escape us. Those stalwart parents, who had sacrificed so much to establish their Zion in Zarahemla, were now rearing children who did not believe, as had their parents. Here is how Mormon describes these children of the next generation:

> Now it came to pass that there were many of the rising generation that could not understand the words of king Benjamin, being little children at the time he spake unto his people; and they did not believe the tradition of their fathers.
>
> They did not believe what had been said concerning the resurrection of the dead, neither did they believe concerning the coming of Christ.
>
> And now because of their unbelief they could not understand the word of God; and their hearts were hardened.
>
> And they would not be baptized; neither would they join the church. And they were a separate people as to their faith, and remained so ever after, even in their carnal and sinful state; for they would not call upon the Lord their God.[1]

When waywardness touches our family, we often feel grief-stricken, isolated, ashamed and guilty. In vain we internalize and personalize the child's bad behavior: "What did I do wrong?" "Why didn't I see this coming?"

This frightening account of children abandoning their parents' beliefs and following paths of carnality and sin is played out in too many LDS families. Mormon made the point that no set of parents, not even the king of the land or the prophet of God, is safe from the effects of the plague of wayward children: "Now the sons of Mosiah were numbered among the unbelievers; and also one of the sons of Alma was numbered among them, he being called Alma, after his father…." Clearly, Satan can reach into any family and snatch away any of our innocent children.

No Grief is as Acute

When waywardness touches our family, we often feel grief-stricken, isolated, ashamed and guilty. In vain we internalize and personalize the child's bad behavior: "What did I do wrong? Why didn't I see this coming?" We groan under the weight of apparent scriptural indictments: "And again, inasmuch as parents have children in Zion, or in any of her stakes which are organized, that teach them not to understand the doctrine of repentance, faith in Christ the Son of the living God, and of baptism and the gift of the Holy Ghost by the

laying on of the hands, when eight years old, the sin be upon the heads of the parents…And they shall also teach their children to pray, and to walk uprightly before the Lord."[3]

Perhaps worst, we feel helpless to change things. Should we employ tough love and risk destroying the relationship? Or should we silently watch and mourn and risk losing the child completely? Where are the answers? Where is power to change things?

There is an Answer

Mormon knew what parents could do. So did the ancient prophets, and so do the modern prophets. It is a common scriptural and prophetic theme, if we know how and where to search for answers. For parents to become agents of change and capable of acting in the strength of the Lord, we must reevaluate our level of belief in the Plan of Salvation and adopt a new perspective. Perhaps we need to reexamine our faith and ask ourselves some questions.

- Do we simply believe that Christ exists, or do we believe who he really is—the Deliverer?
- Do we believe that the gospel is a nice culture, or a vibrant system of reclaiming and redemptive tools?
- Is our child's waywardness indicative of our personal failing, or is his waywardness indicative of a divine trust?
- Did Heavenly Father foresee this season of spiritual sickness, or did it catch him off guard?
- If He knew about it, did He plan for it?
- Am I alone? Do I have to fret and come up with a plan to save my child, or is there already a plan of salvation in place, and I just need to learn and do my part in that plan?
- If what I am going through is a calling rather than a curse, was I prepared for it? Can I count on God making me equal to my calling?

What can we learn from Mormon? Consider, for example, Mormon's detailed account of Father Alma as he dealt with his wayward son. What did this father do to affect a conversion opportunity for his son? If we search for the answer, we discover that Father Alma sanctified himself. Rather than put his energy into changing his son, he put his energy into changing himself, and that effort facilitated a spiritual awakening for his son.

Which brings us to a gospel verity that might not be immediately intuitive in latter-day thinking:

Every effort you make to become more sanctified has a redeeming effect on the person for whom you are praying.

Jesus is the great Exemplar. In his great intercessory prayer, the Savior taught that personal sanctification is the principle by which one person might save another. Just moments before Gethsemane, Jesus made the following statement: "For their sakes I sanctify myself, that they also might be sanctified."[4] In other words, the first action, personal sanctification, makes possible the second action, the increased ability to exercise a saving effect on someone else. We often think of sanctification in the context of being cleansed from sin—and it is certainly that—but here we see Jesus, who had no sin, sanctifying Himself. Obviously, there are greater reasons to persist in the process of sanctification beyond repentance, and that sanctifying effort empowers a person to summon a sanctifying experience for others.

Therefore, we do not have to sit by and helplessly watch a child spin out of control. We can go to work, and the primary work we will do is on ourselves. Speaking of this principle and stating a promise, Brigham Young said:

> Let the father and mother, who are members of this Church and Kingdom, take a righteous course, and strive with all their might never to do a wrong, but to do good all their lives; if they have one child or one hundred children, if they conduct themselves towards them as they should, binding them to the Lord by their faith and prayers, I care not where those children go, they are bound up to their parents by an everlasting tie, and no power of earth or hell can separate them from their parents in eternity; they will return again to the fountain from whence they sprang.[5]

Clearly, the gospel of Jesus Christ holds the spiritual solution for spiritual waywardness.

We often think of sanctification in the context of being cleansed from sin—and it is certainly that—but here we see Jesus, who had no sin, sanctifying Himself.

Sweeping Prophetic Promises

Of course, nothing trumps agency, and no guarantee could ever be made that a child will ultimately choose to turn from a life of waywardness. Nevertheless, these principles are so powerful that the prophets have used very little qualifying language in making universal and incredible promises. The atonement has a much greater reach than we might imagine. Joseph Smith said, "Our Heavenly Father is more liberal in His views, and boundless in his mercies and blessings, than we are ready to believe or receive."[6] Then come the promises:

> "There is never a time when the spirit is too old to approach God. All are within the reach of pardoning mercy."[7]
>
> —Joseph Smith

> "God hath made a provision that every spirit in the eternal world can be ferreted out and saved."[8]
>
> —Joseph Smith

> "I tell you that when the prophets and apostles go to preach to those who are shut up in prison, thousands of them will embrace the Gospel. They know more in that world than they do here."[9]
>
> — Wilford Woodruff

> "When the gospel is preached to the spirits in prison, the success attending that preaching will be far greater than that attending the preaching of our elders in this life. I believe there will be very few indeed of those spirits who will not gladly receive the gospel when it is carried to them. The circumstances there will be a thousand times more favorable."[10]
>
> —Lorenzo Snow

> "God has fulfilled His promises to us, and our prospects are grand and glorious. Yes, in the next life we will have our wives, and our sons and daughters. If we do not get them all at once, we will have them some time…. You that are mourning about your children straying away will have your sons and your daughters. If you succeed in passing through these trials and afflictions…you will, by the power of the priesthood, work and labor, as the Son of God has, until you get all your sons and daughters in the path of exaltation and glory. This is just as sure as that the sun rose this morning over yonder mountains. Therefore, mourn not because all your sons and daughters do not follow in the path that you have marked out to them, or give heed to your counsels. Inasmuch as we succeed in securing eternal glory, and stand as saviors, and as kings and priests to our God, we will save our posterity."[11]
>
> — Lorenzo Snow

> "Jesus had not finished his work when his body was slain, neither did he finish it after his resurrection from the dead; although he had accomplished the purpose for which he then came to the earth, he had not fulfilled all his work. And when will he? Not until he has redeemed and saved every son and daughter of our father Adam that have been or ever will be born upon this earth to the end of time, except the sons of perdition. That is his mission. We will not finish our work until we have saved ourselves, and then not until we shall have saved all depending upon us; for we are to become saviors upon Mount Zion, as well as Christ. We are called to this mission."[12]
>
> — Joseph F. Smith

> "You parents of the wilful and the wayward! Don't give them up. Don't cast them off. They are not utterly lost. The Shepherd will find his sheep. They were his before they were yours—long before he entrusted them to your care; and you cannot begin to love them as he loves them. They have but strayed in ignorance from the Path of Right, and God is merciful to ignorance. Only the fulness of knowledge brings the fulness of accountability. Our Heavenly Father is far more merciful, infinitely more charitable, than even the best of his servants, and the Everlasting Gospel is mightier in power to save than our narrow finite minds can comprehend."[13]
>
> —Orson F. Whitney

> "The Prophet Joseph Smith declared—and he never taught a more comforting doctrine—that the eternal sealings of faithful parents and the divine promises made to them for valiant service in the Cause of Truth, would save not only themselves, but likewise their posterity. Though some of the sheep may wander, the eye of the Shepherd is upon them, and sooner or later they will feel the tentacles of Divine Providence reaching out after them and drawing them back to the fold. Either in this life or the life to come, they will return. They will have to pay their debt to justice; they will suffer for their sins; and may tread a thorny path; but if it leads them at last, like the penitent Prodigal, to a loving and forgiving father's heart and home, the painful experience will not have been in vain. Pray for your careless and disobedient children; hold on to them with your faith. Hope on, trust on, till you see the salvation of God."[14]
>
> —Orson F. Whitney

> "Those born under the covenant, throughout all eternity, are the children of their parents. Nothing except the unpardonable sin, or sin unto death, can break this tie. If children do not sin as John said, 'unto death,' the parents may still feel after them and eventually bring them back near to them again."[15]
>
> —Joseph Fielding Smith

> "I leave my blessing upon you. May there be…a sense of security and peace and love among your children, precious children every one of them, even those who may have strayed. I hope you don't lose patience with them; I hope you go on praying for them, and I don't hesitate to promise that if you do, the Lord will touch their hearts and bring them back to you with love and respect and appreciation."[16]
>
> —Gordon B. Hinckley

"Those born under the covenant, throughout all eternity, are the children of their parents. Nothing except the unpardonable sin, or sin unto death, can break this tie."

—Joseph Fielding Smith

Such optimism from the prophets for eventual success should kindle hope within any parent's despairing heart. These empowering principles and promises should be good news for us. Rather than languishing in hopelessness, while watching our children die spiritually, we can employ the sanctifying principles found in the Plan of Salvation and expect miracles to happen.

And miracles do happen!

The Wayward Olive Tree as a Wayward Child

Just how much effort will the Father and the Son exert to rescue a wayward soul? Let us again defer to Mormon, who recorded an allegory of the olive tree given by the prophet Zenos. We commonly read this allegory in connection with the history of the family of Israel and the Lord's untiring attempts to save it. However, the allegory can also be personalized for the rescue of a wayward soul in our family.

When we are first introduced to the olive tree in Jacob 5, we are led to understand that this tree was a favorite of the Lord of the vineyard, who represents God, the Father. Evidently, this was a tree that he had lovingly nourished for a very long time. Then, as the tree grew, a crisis occurred—the tree "began to decay." Alarmed, the Lord made an exerted attempt to save it. This was the first of his many attempts and his many long time periods of waiting. As each redemptive episode is described, so is the Lord's character revealed.

That It Perish Not

The Lord's first attempt to save the tree spanned "many days" while he diligently pruned, dug about and nourished the tree that "it perish not." Interestingly, as a strategy to save the tame tree, the Lord allowed it to mix with a wild olive-tree to preserve the tame tree's root, the only part that had not yet decayed. This procedure might seem abhorrent to some observers.

Equally disconcerting is the Lord's willingness to cut away the corrupted parts of the tame olive-tree and cast them into the fire. If anyone except the Lord were doing this, we might question that person's sanity. But the Lord's ways are not man's ways;[17] obviously he had a well-thought-out and often violent plan to save the tree, and he was willing to take the long view and give the redemptive process time to work. In allowing the tame tree to mix with the wild tree, he was attempting to save the undecayed part by any means available, even if that meant his temporarily allowing otherwise unthinkable co-mingling. Although the Lord knew that the tame tree would bring forth wild fruit for a time, nevertheless, he was in control of the eventual outcome. In the meantime, he was willing to do whatever he had to do with present resources to save the tree.

Patience and Long-suffering

Zenos is careful to describe the Lord's character as the prophet unfolds this allegory. For example, at every step the Lord is "grieved that he should lose the tree," indicating the Lord's deep affection and commitment for his creation. Zenos lists the Lord's multiple efforts to save the tree, and Zenos also emphasizes that each of the Lord's efforts is followed by long periods of the Lord's waiting to assess the tree's progress. Although each effort results in a failure or a complication, the Lord does not give up. Rather, the Lord starts over with more digging about,

pruning, and nourishing; he is always working to preserve the good parts of the tree.

Over time, the Lord guides the tree (or segments of it) on an extensive and agonizing journey. The tree (or segments of it) ends up all over the vineyard; some segments end up in the "nethermost parts" of the vineyard and in "the poorest spot in all the land." The parable of The Prodigal Son calls these nethermost parts the "far country."[18] But even in these remote areas, the Lord knows where the tree is and how to bring it back.

Life-saving Surgery

Periodically the Lord performs extreme surgery to save the tree; segments are cut away and burned or transplanted in what might otherwise seem desperate or chaotic attempts. Finally, with its grafted-in wild branches, the tree appears so broken, fragmented and disfigured that it no longer resembles its original self. At one point, when we finally allow ourselves to feel the tiniest hope that progress is being made, we discover that the tree's roots and top are out of balance and threatening its survival. It is as though Zenos is trying to tell us that the body and mind/spirit are working contrary to each other.

Worse, the tame branches that the Lord had tried to preserve in another part of the vineyard have now become corrupt and overrun with wild branches. Yet another surgery is needed. We wonder: Who could ever put this tree back together and cause it to bring forth good fruit again?

God Weeps

An amazing thing happens here: "And it came to pass that the Lord of the vineyard wept, and said unto the servant: What could I have done more?"[19] In tears, the Lord then reviewed all that he had tried over long periods of time to save the tree, and now he mourned that the tree not only continued to bring forth "evil fruit" but it had corrupted the trees near it. Contemplating such a dire situation, God wept!

Who would not?

After all his efforts and endurance, the perfect, long-suffering Lord lamented that he seemed to have no other option except to hew down the tree and those that it had corrupted and cast them all into the fire. In the Doctrine and Covenants, the Lord speaks of this condition of exasperation as it relates to his dealing with his stubborn, unrepentant, wicked children. He states that these people even try the patience of the angels of heaven, who finally are compelled to cry out enough is enough! "Behold, verily I say unto you, the angels are crying unto the Lord day and night, who are ready and waiting to be sent forth to reap down the fields."[20]

The Savior's Intervention

Then, when the Lord had fully intended to cast the corrupt tree and its companions "into the fire that they not cumber the ground of the vineyard," the mediating Servant (Jesus Christ) stepped forward and pleaded, "Spare it a little longer."[21] The character and mission of the Savior are revealed here. The Savior has suffered for these wicked ones and he does not want his sacrifice to have been for naught. He suffered for their misdeeds and he overcame everything that stood between the wayward one and exaltation, if they would repent and come back to him.

Therefore, the servant, who represents the Savior, pled with the Lord of the vineyard for more patience and clemency for the corrupt tree. Eventually, he convinced the Lord of the vineyard, who was still grieved to lose his tree, to try yet one more time.

A Final Attempt to Reclaim

At that point, the Lord of the vineyard came up with a final elaborate plan. Notice that he (the Father) is the one who devises the plan and is in charge of the plan's execution. The plan involved yet another major surgery on the tree. The plan also would encompass the width and breadth of the vineyard.

Together, the Lord and his Servant set out again to graft and pluck and work with every segment of the tree from its roots to its branches. Their combined effort was beyond anything that had previously been attempted. It required segregating the tame tree from the wild ones, which now had fulfilled their purpose and were destined for the fire. The plan called for the Lord's enlisting other servants—earthly and heavenly servants—to help. This massive effort was shaping up to be a full-court press to save the tree by means of every resource that the Lord could assemble.

"Wherefore, let us labor with our might this last time," the Lord told his servants. "Prune…graft in the branches…dig about…dung them once more, for the last time…."[22] The Lord instructed his servants to pay close attention that the tree would achieve balanced growth—its roots proportionate to its top. As the servants helped to nurse the tree back to health, they were to carefully clear away any bad branches and nourish the good ones.

The Lord's enormous effort, which had spanned his kingdom and involved vast amounts of time and resources, ended with the full restoration and redemption of his one beloved olive-tree, "which was most precious unto him from the beginning." Now and forever this saved one would produce good and natural fruit.

Can we not see in this parable the Father and the Son's effort to save the one? They are willing to work together and expend vast amounts of time, effort and resources

While nothing can interfere with a child's freedom of choice, nevertheless, the Lord has promised that in His own due time—even if that time extends into the next life—He will tailor-make conversion opportunities for every wayward child.

to achieve their objective. In the process, they experience the full range of emotions, including exasperation. Nevertheless, they are always willing to try one more time and enlist both heavenly and earthly help to rescue their precious tree. In the end, they succeed. They have taken every necessary step to salvage the good parts of the tree then bring everything together in a perfect, balanced form so that the tree will bring forth good fruit forever.

The Individual Plans within the Plan of Salvation

The scriptures, which were written for our day, contain powerful principles that can turn each of us into a savior on Mount Zion in the similitude of the Savior of the world. We learn that the Plan of Salvation is just that: a plan to save. Said another way, within the Plan of Salvation is a personal plan of salvation for each of us and each of our children. We are no more the authors of that individual plan of salvation than we are the universal Plan of Salvation. God has considered his children from the beginning; He considered them on both a global and an individual basis, and He devised a plan to rescue them—a plan that was as perfect as He is. We parents are invited and commissioned to participate in that plan, but we are not required to create it.

The Plan of Salvation is a living, practical reality, and parents of the covenant have access to it to save their spiritually sick children. The mountain of evidence for eventual success is astounding. Again, while nothing can interfere with a child's freedom of choice, nevertheless, the Lord has promised that in His own due time—even if that time extends into the next life—He will tailor-make conversion opportunities for every wayward child, just as he did for Alma, the sons of Mosiah, Paul, and others, and attempt to call them back.

In the meantime, we parents can let go of our paralyzing feelings of failure. In actuality, we are involved in a carefully orchestrated trust that was foreseen and provided for in the Atonement. As with any calling to minister to the Lord's children, we were prepared for and will be strengthened to accomplish that trust. In accomplishing our mission, we do not have to create a plan of salvation; we simply need to increase our spiritual capacity to better participate in God's plan, as he reveals it to us. We are not alone; we are partners! And every effort we make to sanctify ourselves will make us better partners and have a redeeming affect on the person for whom we are praying.

Absolutely, there is hope.

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Iliofemoral Deep Venous Thrombosis: Significance *and* Management

Carl M. Black, MD

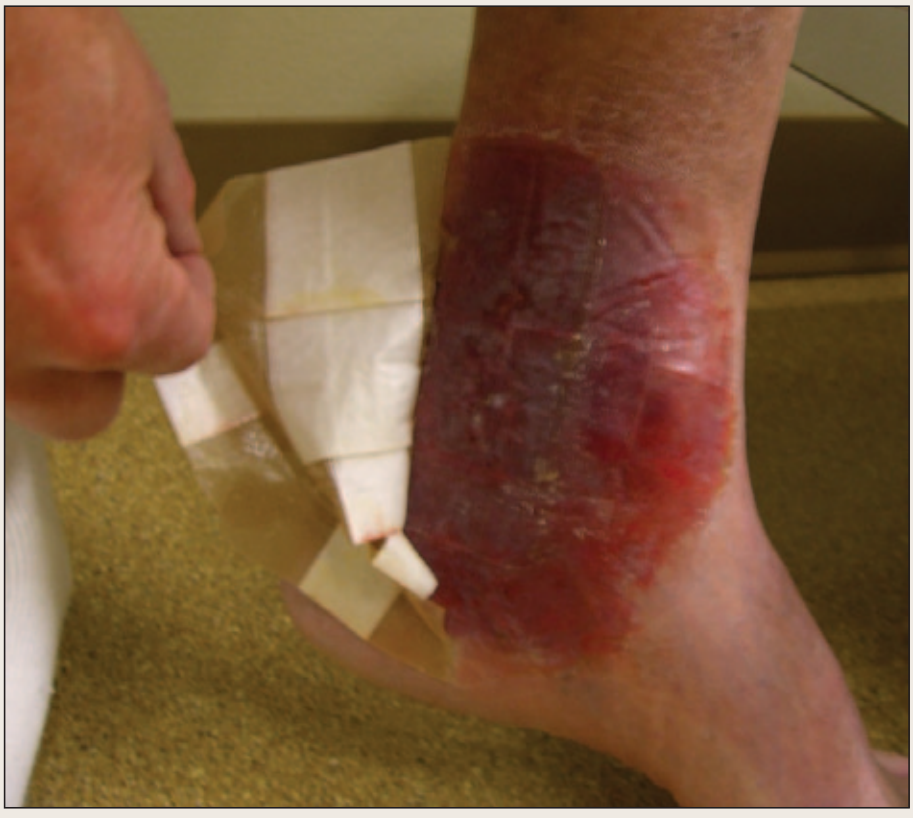

Figure 1. 52 year-old male with venous stasis ulcer 24 months post development of iliofemoral DVT treated with conventional anticoagulation and graduated compression stocking therapy. (All images in this article courtesy of the author.)

Clinical Significance of Iliofemoral Deep Venous Thrombosis

Acute deep vein thrombosis (DVT) is a common problem affecting approximately 1 in 1000 persons per year.[1] Among acute lower extremity DVT patients, there is an important subset of patients who present with a condition referred to as iliofemoral DVT (IFDVT). IFDVT is defined as complete or partial thrombosis of any segment of the iliac or common femoral veins, with or without involvement of other lower extremity veins or the inferior vena cava (IVC). In a prospective multicenter study of patients diagnosed with acute symptomatic lower extremity DVT, 24% of all cases were reported to have common femoral or iliac venous involvement.[2]

The clinical importance of IFDVT, compared to less extensive DVT, is significant as IFDVT puts patients at greater risk of recurrent deep venous thrombosis and postthrombotic syndrome (PTS). There is a reported 2.4-fold increased risk of recurrent venothromboembolic events in patients with IFDVT compared to patients suffering from less extensive DVT.[3] The reported incidence of PTS associated with IFDVT is as high as 60%.[2-10] Symptoms and signs of PTS include lower extremity pain and heaviness, chronic limb edema, life-style limiting venous claudication, hemosiderin staining, lipodermatosclerosis and skin ulceration.[2,4] PTS also results in a significant socioeconic burden due to direct and indirect costs of ensuing chronic medical care, compounded by the loss of patient economic productivity.[11-13] The direct treatment cost of chronic venous disease is estimated to exceed $300 million annually in the United States. It is also estimated that 2 million workdays are lost annually as a result of lower extremity ulcers.[11]

Conventional Therapy alone may not prevent Postthrombotic Syndrome

The primary goals in treating acute IFDVT include prevention of pulmonary embolism (PE) and DVT propagation, early symptom relief, and prevention of PTS. Despite optimal conventional therapeutic anticoagulation and use of graduated elastic compression stocking therapy, over 50% of IFDVT patients may still suffer from significant quality-of-life limitations due to PTS.[6-10,14,15]

When the femoral vein is thrombosed, the primary collateral route through which blood exits the extremity is through the deep (profunda) femoral vein. The deep femoral vein subsequently empties into the common femoral vein.[16] Venous thrombosis above the point of confluence between the deep femoral and common femoral veins, as occurs with IFDVT, causes higher-grade outflow obstruction, resulting in more severe baseline DVT symptoms, which likely accounts for the increased incidence of longer-term morbidity secondary to PTS.[3,16,17] Figure 1 shows a venous stasis ulcer in a 52 year-old male 24 months after treatment for iliofemoral DVT using conventional systemic anticoagulation and graduated compression stocking therapy.

KEY TERMS

Deep Venous Thrombosis (DVT)

Iliofemoral DVT (IFDVT)

Catheter-directed Thrombolysis (CDT)

Pharmacomechanical Catheter-directed Thrombolysis (PCDT)

Postthrombotic Syndrome (PTS)

May-Thurner Iliac Vein Compression

Anticoagulation

Elastic Compression Stockings

Stent

Angioplasty

Adjunctive Endovascular Catheter-based Thrombolytic Therapy

Since IFDVT is associated with a higher risk of a poor clinical outcome, it is imperative that clinicians be aware of all available treatment options, particularly the most recent advances in targeted catheter-directed thrombolytic techniques. Catheter-directed thrombolysis (CDT) is a targeted image-guided therapy in which a pharmacologic thrombolytic agent, such as recombinant tissue plasminogen activator (r-tPA), is delivered directly into the venous thrombus through an infusion catheter embedded within the thrombosed vein. Pharmacomechanical catheter-directed thrombolysis (PCDT) represents the next generation of image-guided targeted catheter-based therapy that combines mechanical energy with the infusion of a thrombolytic agent to facilitate more rapid dissolution of venous thrombus as compared to CDT alone. Several nonrandomized studies suggest that the use of PCDT decreases treatment time, requires less thrombolytic agent, and requires fewer hospital resources, as compared to earlier generation CDT technique.[18-23]

In 2012 the results of a large multicenter randomized controlled trial (CaVenT) comparing long-term outcomes after CDT versus standard treatment (anticoagulation and elastic compression stockings) for acute IFDVT were published with the conclusion that catheter-directed infusion of thrombolytic improved the long-term clinical outcome in IFDVT by reducing symptoms of PTS compared with conventional treatment ($p < 0.05$).[14] Adjunctive CDT resulted in a 14.4% absolute risk reduction for development of PTS compared to the control arm of conventional therapy. Although there was a reported slight increased risk of bleeding complication with CDT compared to conventional anticoagulation, this was mostly related to the percutaneous endovascular access site. No bleeding complications led to permanently impaired outcomes.

Other comparative studies[24-26] also provide support for adjunctive endovascular CDT to prevent PTS. In a case–control study of data from a prospective multicenter registry, patients with acute IFDVT treated with successful CDT and anticoagulation experienced a significantly decreased incidence of PTS and improved health-related quality of life at a mean of 20 months of follow-up compared with the control arm who had received anticoagulation alone.[24] In another study designed as a single-center randomized trial, investigators found a significantly higher rate of normal venous function (confirmed by duplex ultrasonography and plethysmography) in patients with acute DVT treated with CDT and anticoagulation compared with patients treated with anticoagulation alone.[25] Another prospective nonrandomized study found significantly more frequent symptom resolution in patients treated with adjunctive CDT compared to those treated with anticoagulation alone.[26]

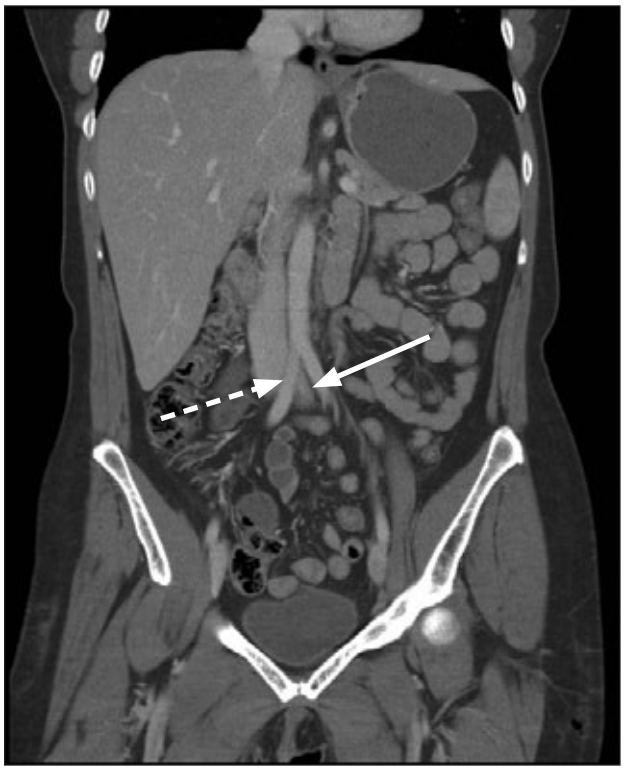

Figure 2. Coronal CT demonstrates extrinsic compression of the left common iliac vein (solid arrow) by the right common iliac artery (dashed arrow).

The Acute venous Thrombosis: Thrombus Removal with Adjunctive Catheter-directed Thrombolysis (ATTRACT) trial, funded by the National Institutes of Health (NCT00790335), is the largest ongoing randomized prospective trial of its kind for evaluation of PCDT. It is a Phase III, multicenter, randomized, open-label, assessor-blinded, parallel two-arm, controlled clinical trial that is designed determine whether or not adjunctive PCDT will reduce the incidence of PTS in patients with IFDVT.[27] Enrollment is ongoing, but nearing completion.

Additional Considerations

Iliocaval Venous Stenosis. A commonly encountered lesion in patients with left lower extremity venous hypertension or IFDVT is stenosis of the left common iliac vein. When observed in the absence of a compressing mass, this condition is often referred to as May-Thurner syndrome.[28] The spur-like venous stenosis (non-thrombotic occlusion) observed in May-Thurner syndrome is thought to develop in response to chronic compression and irritation of the left common iliac vein by the adjacent right common iliac

artery. Left-sided IFDVT often occurs when additional aggravating factors are present, including hypercoagulable disorder, recent surgery or trauma, or the initiation of oral contraceptive therapy. Multiple case reports and series highlight to the ability of CDT and PCDT with subsequent stent placement to provide effective treatment of acute IFDVT with underlying May-Thurner left iliac stenosis with low rates of rethrombosis.[29,30] In a large CDT registry, patients who were treated with iliac vein stents had greater venous patency at 1 year than those who did not have iliac stents.[31] Another study reported the primary stent patency in patients who underwent PCDT followed by stent placement was 83% at 6-month follow-up.[32] The coronal computed tomographic (CT) reconstruction in Figure 2 demonstrates the typical appearance of extrinsic compression on the left common iliac vein by the right common iliac artery.

IVC Thrombosis. IVC thrombosis often results in severe discomfort, particularly when venous congestion involves the external genitalia. Extension of thrombus into the suprarenal IVC, renal veins, or hepatic veins may also lead to acute renal failure or Budd-Chiari syndrome. CDT or PCDT may be justified to prevent PE, preserve visceral organ function, and achieve faster symptom relief in patients with IVC thrombosis who are at low-to-moderate bleeding risk.[33]

Chronic Symptomatic IFDVT. Since the iliac veins rarely recanalize without endovascular intervention, patients suffering from chronic IFDVT often develop valvular insufficiency and venous obstruction. This combination leads to most severe manifestations of PTS.[34,35] This challenging patient population may benefit from adjunctive endovascular therapy, such stenting and angioplasty.[36-40] The primary goals of therapy chronic IFDVT endovascular treatment are to reduce PTS symptoms and heal venous ulcers. Following stent placement, the use of therapeutic-level anticoagulant therapy using similar dosing, monitoring, and duration as for IFDVT patients who do not have stents is considered reasonable in most cases. Concurrent antiplatelet therapy may be reasonable in patients believed to be at particularly high risk of rethrombosis.[40]

Nonrandomized, single-center experiences show that stenting of chronically occluded iliac veins in patients with severe PTS appears to reduce symptoms, improve quality of life, and facilitate healing of venous ulcers.[36-39] The reported anatomic success rate for stent-based recanalization of chronically occluded iliac veins is as high as 98% with 95% initial reduction in lower extremity pain and swelling, and maintained symptom relief at 3 years in up to 79% of patients.

Acute Iliofemoral Deep Venous Thrombosis Case Report

The patient is a 22-year-old female who presented to her primary care physician with acute, progressive left lower extremity edema. She was otherwise healthy, but had recently started oral contraceptives. Venous duplex showed extensive left lower extremity DVT involving the femoral and common femoral veins. Despite systemic anticoagulation, her edema and lower extremity pain progressed. Interventional radiology was consulted for possible catheter-directed thrombolysis.

Diagnostic venography revealed obstructive thrombus in the left femoral, common femoral, external iliac and common iliac veins with slight extension into the inferior vena cava (Figure 3A). PCDT was initiated and complete clearance of thrombus was achieved within two hours. Repeat venography demonstrated an underlying stenosis of the left common iliac vein (May-Thurner syndrome) that was successfully stented. A final post-procedure venogram demonstrated brisk iliac venous outflow without residual thrombus or flow-limiting stenosis (Figure 3B). The patient's lower extremity pain and edema quickly resolved.

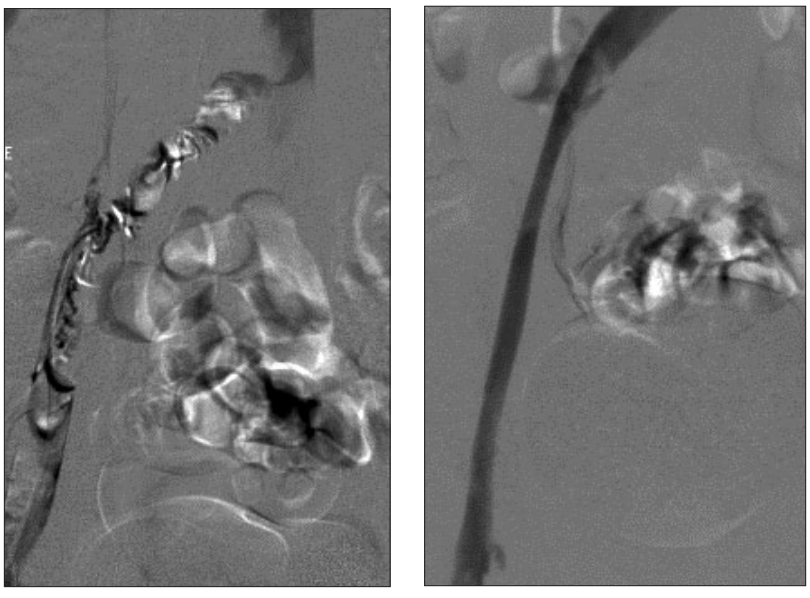

Figure 3. Baseline left lower extremity venogram (prone) shows iliac venous obstruction due to extensive iliofemoral DVT (A). Same patient following PDCT and stenting of left common iliac venous stenosis (B).

The patient then completed a six-month course of conventional systemic anticoagulation in addition to long-term use of graduated 30- to 40-mm Hg compression stockings. Venous duplex at five months post-procedure showed no residual thrombus or venous compromise. Follow-up venography two years post procedure demonstrated the left common iliac venous stent to be widely patent. The patient remains asymptomatic five years post procedure with normal flow and valvular function demonstrated on venous duplex evaluation.

American Heart Association Guidelines

Regarding adjunctive interventional management of acute IFDVT, the American Heart Association (AHA) has published the following recommendations:[41]

1. CDT or PCDT should be considered in patients with IFDVT associated with limb-threatening circulatory compromise (i.e., phlegmasia cerulea dolens) (Class I; Level of Evidence C).
2. Patients with IFDVT at centers that lack interventional expertise for endovascular thrombolysis should be considered for transfer to a center with this expertise if indications for endovascular thrombolysis are present (Class I; Level of Evidence C).
3. CDT or PCDT is reasonable for patients with IFDVT associated with rapid thrombus extension despite anticoagulation (Class IIa; Level of Evidence C) and/or symptomatic deterioration from the IFDVT despite anticoagulation (Class IIa; Level of Evidence B).
4. CDT or PCDT is reasonable as first-line treatment of patients with acute IFDVT to prevent PTS in selected patients at low risk of bleeding complications (Class IIa; Level of Evidence B).

Careful clinical assessment should be performed to identify factors that might increase bleeding risk or diminish the importance of potential clinical benefit that could be achieved. Acute IFDVT patients with reasonable life expectancy and an acceptable bleeding risk should be presented with a balanced discussion of the long-term risks of PTS and the potential benefits and risks of adjunctive catheter-directed therapy versus anticoagulation alone. Even if IFDVT patients have undergone successful revascularization with PCDT, the standard recommendations for systemic anticoagulation and graduation compression hose therapy should be followed.[33,41,42]

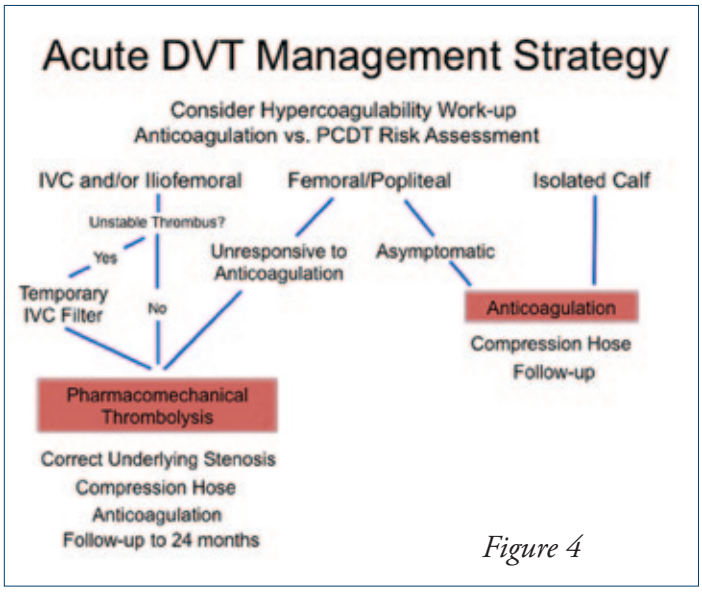

Figure 4

Summary

The primary goals in treating acute lower extremity DVT include prevention of pulmonary embolism and DVT propagation, early symptom relief, and prevention of postthrombotic syndrome. The important subset of Iliofemoral DVT is associated with a relatively high incidence of postthrombotic syndrome in spite of therapeutic systemic anticoagulation and use of graduated compression stockings. Because iliofemoral DVT is associated with a higher risk of a poor clinical outcome, it is imperative that clinicians be aware of all available treatment options, particularly advances in targeted catheter-directed endovascular therapies, such as pharmacomechanical catheter-directed thrombolysis.

Published data show that early endovascular targeted thrombolysis of iliofemoral DVT restores flow, helps maintain valve integrity and reduces the incidence of PTS. Adjunctive stenting and angioplasty may also be indicated, particularly in cases of extrinsic compression of the left common iliac vein by the adjacent right common iliac artery. The AHA, depending on patient life expectancy, comorbidities and bleeding risk, now considers adjunctive catheter-directed therapy for acute iliofemoral DVT a first line treatment option. The algorithm in Figure 4 (above) reflects a basic approach to treatment decision-making in acute lower extremity DVT management.

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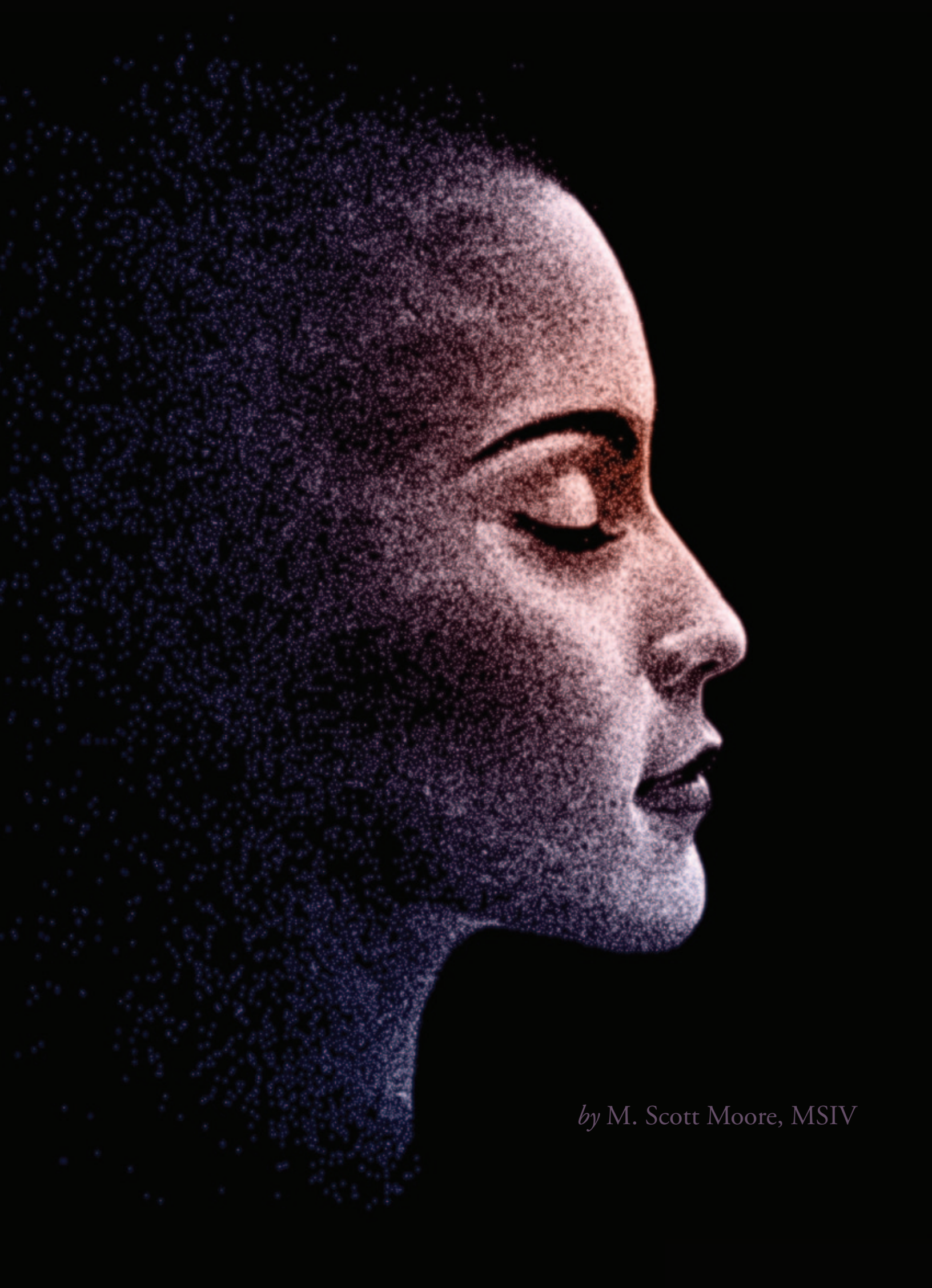

by M. Scott Moore, MSIV

SPIRITUAL PRESCRIPTION:

A Necessary Component *of* Modern Patient Care

In many ancient societies medical practitioners were not only healers of the body, but also healers of the spirit.[13,14] While today, we do not rely upon sorcery, spells or charms, we do recognize a definite improvement in the outcome of many patients who demonstrate religious activity.[1-4,6,7,10,11] Furthermore, as LDS practitioners, we also recognize the power of faith and priesthood in the healing of the sick, but also do not deny the unspoken element in medical care, namely the will of the Lord.[19,20]

With this in mind, it is still apparent that physicians do have an effect on patients and it is the physician's duty to practice evidence-based medicine in all aspects of patient care. Recently, there has been a surge of literature indicating benefits in patient outcomes who engage in religious activities.

There are many aspects of life that provide religious patients with assistance to recover from their illnesses and afflictions. The more commonly studied are; hope, social support, worship service attendance, sense of purpose and volunteerism. These aspects of life are hypothesized to function in tandem through at least five different mechanisms to improve patient outcome, namely, increased access to health care, increased compliance with physician prescriptions, improvements in nutritional status and quality of life, modulation of the immune system, and a decrease in depressive affect.[6,21,22] Depression alone was seen as an important variable in recovery speed and appears to be a factor that increases length of hospital stay.[7,11]

Lately, evidence has mounted in favor of promoting attendance at worship services, having hope, social support, volunteerism, and a sense of purpose among patients to improve clinical outcomes.

Materials and Methods

Multiple publications were reviewed comparing spirituality and mortality rates using keywords.

Results

"Religious activities" for the sake of this publication will be broken down into 5 main aspects; hope, sense of purpose, social support, worship service attendance and volunteerism. Each of these aspects is hypothesized to function via multiple mechanisms to improve patient mortality rates and quality of life with many different chronic diseases.[6,21,22]

Hope: A study performed by Craig[11] showed that spirituality, hope, low level of depression, and social support had positive overlapping influences on survival, although self-reported spirituality was not shown to have an independent effect. Moreover, a rural lifestyle in patients suffering from chronic disease yielded higher hope and less depressive affect. The Contrada study involving a cohort of patients undergoing a Coronary Artery Bypass Graft (CABG), demonstrates a decreased length of hospital stay and complications with increased religious belief.[3] The same study also defined depression as a factor in length of hospital stay but was not related to complications after their CABG. The Shoshanah study represented that emotional support from religious organizations provided women with breast cancer the most common variable in improved outcomes when comparing a sense of purpose and social support from institutions of religion.[4]

Sense of Purpose: Of the women with breast cancer considered "religious" which were enrolled in the Shoshanah study, 61% of their improved outcome can be contributed to the sense of purpose in life that is portrayed by their involvement in a religious organization.[4] While this is a lower percentage than other factors, a sense of purpose may still be an important factor in achieving improved clinical outcomes.

Social Support: Ironically, there is much evidence that suggests a greater association between improved patient outcomes and perceived social support rather than actual social support.[2-4,6,10] Especially regarding recovery from substance abuse, perceived social support has been shown to decrease anxiety, improve resiliency to stress, and foster optimism. These effects have been shown to significantly reduce relapse in recovering alcoholics and improve the efficacy of treatment programs.[2] Contrada suggests that actual social support has no relationship to outcomes of patients after CABG surgery.[3]

Worship Services: Patients who had stable Multiple Sclerosis (MS) and patients with chronic but controlled MS were more likely to worship in religious services than patients with unstable MS.[10] Attendance at weekly worship services was also seen to drastically decrease mortality in older adults who also volunteered.[15]

Volunteerism: Interestingly, volunteerism was seen to have a protective effect on those who attended religious services as well as those who did not.[15] There was a slightly higher protective effect demonstrated in the group that attended religious services. In fact, mortality rates dropped 60% in weekly attenders of religious services who had any level of volunteering. Volunteering also had a positive effect on self reported health and psychological well-being.[25] This effect was also modulated by level of social integration, whereby those who were less socially integrated benefitted the most from volunteering.

Discussion

As evidence based medicine is showing the associations between religious activity and health, the scientific world is accepting a principle which has been practiced by many religious leaders in the past. This was mentioned recently in the April 2010 General Conference of the LDS Church, "The use of medical science is not at odds with our prayers of faith and our reliance on priesthood blessings. When

a person requested a priesthood blessing, Brigham Young would ask, "Have you used any remedies?" To those who said "no, because we wish the Elders to lay hands upon us, and we have faith that we shall be healed," President Young replied: "That is very inconsistent according to my faith. If we are sick, and ask the Lord to heal us, and to do all for us that is necessary to be done, according to my understanding of the Gospel of salvation, I might as well ask the Lord to cause my wheat and corn to grow, without my plowing the ground and casting in the seed. It appears consistent to me to apply every remedy that comes within the range of my knowledge, and [then] to ask my Father in Heaven … to sanctify that application to the healing of my body."[18]

In order to provide comprehensive care for the patient, a prescription to increase spirituality may be a beneficial adjuvant to conventional treatment. Depression and pain have been shown to delay the healing process after major surgery and it appears that healing is not a purely physiological process.[1,7,11] Although there is an increased acknowledgement, we lack the complete understanding of the interplay between body, mind, and spirit. These three entities are all involved in the healing process.[8]

Lately, evidence has mounted in favor of promoting attendance at worship services, having hope, social support, volunteerism, and a sense of purpose among patients to improve clinical outcomes.[7,23,24] It would not seem unreasonable for practitioners to consider the application and utilization of religious resources to improve overall patient health and longevity. These resources would have to provide patients with five aspects to improve patient well-being; hope, perceived social support, worship services, volunteer opportunities, and a sense of purpose. Use of these resources could be prescribed more easily than physical therapy or over-the-counter medications as religious resources are usually free of cost and readily available.

While it is not the only organization that can provide all five aspects for improved patient well-being, The Church of Jesus Christ of Latter-day Saints (LDS) is an excellent example of a stable world-wide organization with standardized religious practices. Hope can be induced by peers in the congregation and the ward leadership. Perceived social support is provided through home teaching and visiting teaching programs as well as ward socials, activities, and weekly worship services. Volunteer opportunities in the community are frequently offered and most members have the opportunity to volunteer at the church itself. The doctrine of the LDS Church provides a strong sense of purpose with an understanding of the "Plan of Salvation."[9] The LDS Church is an outstanding model to provide the necessary elements of spiritual care to patients.

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