Good Posture and its Wealth of Benefits to the Workplace

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Executive Summary

Corporate wellness programs have received a rejuvenating jolt from the wave of wearable fitness devices coming into the market. As SCG Health reports, “Wearable technology is becoming the rage both in and out of the workplace.”¹ As organizations adopt wearables to monitor employees’ physical activity and health, another area that should not to be overlooked is employee posture. Like physical activity, good posture is known to have wide-ranging benefits on a person’s health and well-being.

On the other hand, poor posture can have serious consequences, affecting an organization’s wellness efforts and its bottom line. For the employee, extensive research shows an association between poor posture and a wide variety of health problems, including back, neck, spine, organ, muscle, joint and internal organ ailments. Each of these can lead to missed work, lost productivity, costly disability claims, and lower profitability.

Until recently, there was no way to easily monitor and improve posture. Fortunately, modern technology has provided an answer to correcting poor posture in the form of the Lumo Lift, a low-cost and lightweight wearable device that can easily be integrated in employee wellness programs.

The enthusiastic reception of Lumo Lift in the consumer market shows that employees will welcome the opportunity to improve their posture via a Lumo Lift wearable device. Companies, in turn, can realize a significant return on investment, as well as a boost to the work environment and employee morale, by reducing posture-related health problems.

Lumo Lift fits nicely into corporate wellness cultures. It provides the same services as the standard fitness trackers and adds the ability to monitor and improve another important wellness variable – posture. Given these features, and it’s slight form factor, it makes an attractive and healthy addition to reward and incentive programs, as well as a great gift that can be branded with a corporate logo.

Poor Posture a Health Epidemic

Scientific studies have linked poor posture to a litany of ills, including back pain, neck pain, spinal stress, reduced lung capacity, joint and muscle injury, headaches, fatigue, high blood pressure, stroke, dental problems, diabetes, and a higher susceptibility to injury. Poor posture also has been shown to affect mood, and sleep, and is associated with depression.

“Bad posture is a modern day health epidemic that is much worse than most people naturally assume,” said Dr. David Jockers in Wellness News.” Similarly, Collective Wizdom reports how

¹ http://www.scghealth.com/blog/include-wearable-technology-use-in-workplace-policies
scientific research reveals that “bad posture can cause a surprisingly wide range of health problems or make others worse.”

As Dr. Jockers explains, bad posture causes one of the worst types of health problems, the loss of the natural curve of the spine, which chiropractors refer to as “the arc of life.” This curve affects the spinal cord and nerves that travel to every region of our body, which means that poor posture and spinal health will lead to an overall decrease in brain and organ function. In a nutshell, says Dr. Jockers, “Bad posture equals bad health.”

Emphasizing the critical role bad posture plays in overall health, orthopedic surgeon Allston Stubbs of Wake Forest Baptist Medical Center asserts that posture is “probably the 800-pound gorilla when it comes to health and wellness.”

Similarly, The Wellness Center describes how “poor posture can wreck your health,” explaining that bad posture changes the natural alignment of your spine and makes you more prone to abnormal degeneration of joints, ligaments and muscles, which in turn can result in medical complications such as arthritis and joint pain. Slouching and hunching forward have their detrimental effects. For instance, poor posture in the upper back places the scapulae (shoulder blades) in a more forward leaning position, changes the biomechanics of the shoulder, and predisposes to shoulder impingement. It also results in a compensatory increase in the curve of the lower back, increasing strain on specific regions of the lower back.

Bad posture positions can have impact outside of the spine, the joints and the muscles. When you slump, says Dr. Mladen Golubic, medical director for the Center for Lifestyle Medicine at Cleveland Clinic's Wellness Institute, you reduce your capacity to inhale properly, which can lead to feeling tired, exhausted, and sleepy. Maintaining good posture, says Dr. Golubic, helps you stay alert and focused. Hunching forward, says Dr. Rene Cailliet, former director of University of Southern California’s Department of Physical Medicine and Rehabilitation, can affect your lung capacity by as much as 30 percent, which can lead to shortness of breath, clouded thinking, and heart and vascular disease.

**Back Pain Is Rampant**

The most prevalent health problem associated with poor posture is back pain, which affects more than 70 percent of Americans, according to a 2010 report from the University of Ottawa. Forty-five percent of Americans between the ages of 35 and 55 suffer acute back pain each year, according to a University of Washington study, while the Social Security Administration identified back pain as the top cause of disability under the age of 45 in the United States. A study in the

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Annals of the Rheumatic Diseases reports that nearly one in 10 people worldwide suffer from low back pain.

Multiple studies have found an association between back pain and poor work posture, including studies by Nowotny et al. (2011), Wong et al. (2009), Tissot et al. (2009), Maria et al. (2006), Burdorf et al. (1993), and Keyserlinga et al. (1988). That bad posture plays a major role in back pain was also found in a 2012 study from the San Diego University for Integrative Studies and McGill University, Montreal, Québec, Canada.

As reported by back health publication Yorback reports, prolonged sitting with poor posture can cause back, neck, shoulder, and knee pain. Worst of all, the author notes, poor posture can cause nerve constriction. “When the spine shape changes from bad posture, pressure is placed around the spinal nerves, and the result is pinched nerves that can cause back and neck pain, as well as pain to other areas of the body.”

“Posture is the key,” said Mary Ann Wilmarth, chief of physical therapy at Harvard University Health Services. “If your spine is not balanced, you will inevitably have problems in your back, your neck, your shoulders, and even your joints.”

**Poor Posture and the Psyche**

Studies show that a person’s posture affects the mind, mood, self-esteem, and perception. Among the most famous studies are those of Amy Cuddy of Harvard in collaboration with Dana Carney of UC-Berkeley, whose research revealed that assuming different postures affected a person’s psyche and how that person was perceived by others. Their research also showed that strong and weak postures affected hormone levels in different ways. Based on her findings, Cuddy advised adopting strong posture positions to create positive feelings, noting that “tiny tweaks can lead to big changes.”

Other studies took Cuddy’s and Carney’s work even further. An Ohio University study found that opinions can be subconsciously influenced by physical behavior, while a study by researchers at Columbia and Harvard Universities showed that power body language can affect decision-making subconsciously. This study also showed that posture can alter hormone levels.

In a recent study published by the *Journal of Health Psychology*, researchers found that subjects who maintained poor posture for 30 minutes significantly increased their stress levels, depression, and fear.

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Lumo Lift Benefits

The good news is that bad posture can be corrected through the use of innovative technologies like Lumo Lift. As research experts report,11 “Recent technologies allow for promising new breakthroughs in delivering individualized, sensor-based biofeedback to improve posture and spinal pain.”

“This is an important innovation” says Matthew Smuck, MD, Associate Professor and Chief of Physical Medicine and Rehabilitation at Stanford University. “Posture is a combination of a person’s anatomy and learned behavior. For each of us, there are two barriers to improving posture. The first is awareness, and the second is consistency. Surmounting each of these is required to improve posture. In the past, doctors and therapists could provide awareness during occasional visits, but there was no way to promote consistency. The Lumo Lift provides solutions to both. Awareness comes from the device itself as well as its accompanying app, and each provide consistent feedback in a users normal daily life. This is the combination needed to support beneficial changes, and this was not possible before the Lumo Lift.”

Lumo Lift has proven effective in correcting poor posture and can contribute significant benefits to corporate cultures and wellness programs. Besides eliminating physical ailments like back pain, Lumo Lift reduces stress, fatigue, and other mood disorders associated with poor posture, while also giving users more self-confidence. This translates into higher worker morale, performance, productivity, as well as reduced healthcare costs.

The Lumo Lift is the only monitor to focus on posture. It can show how to improve it within the context of one’s normal daily life. Thus, the Lumo Lift represents the state-of-the-art in posture-improving technology. Lumo Lift is a small, lightweight wearable device that is nonintrusive and functions as an attractive accessory that can be worn as a piece of jewelry or hidden under your clothes.

Lumo Lift works by enabling users to track their individual progress over time, and through the use of personalized coaching sessions, to build muscle memory, develop new habits, and support good posture. Users can adjust the settings for the posture correction modes and periods they find most helpful.

When Posture Alert is enabled, the Lumo Lift sensor will gently vibrate when you have been in a bad posture position for a period of time that you specify. In Coach mode, Lumo Lift senses when you are not in ideal posture and immediately vibrates to remind you to keep your shoulders back and your head lifted.

Lumo Lift tracks your posture, steps, calories, and distance wherever you go. It gives people a new ability to track posture and receive customized insights about each individual’s activities.

Lumo Lift has proved to be popular among a diverse set of users, both men and women across all age groups. Because posture can positively impact various areas of an individual’s health, well-being and appearance, in addition to the metrics valued by corporate wellness programs, the goal of improved posture can be shared between employers and employees.

**Lumo Lift Works**

Lumo products have been proven effective in trials and real-life use by customers. A 60-day study, for example, showed that 54% of Lumo users sat less, 48% improved their posture, 37% stood more, and 45% were more physically active.

The effectiveness of Lumo lift also can be seen in the numerous customer testimonials as well as the large number of positive reviews and recommendations Lumo Lift has received from a wide variety of medical, wellness, back health, technology, fashion, sporting, and business publications.

Take, for example, this media sampling of Lumo Lift reviews:

- Paul Lamkin of *Wareable*: “Ultimately, the Lumo Lift succeeds. It will without doubt improve your posture.”

- Julia Roy of *Workhacks*: “Don’t start 2015 without the Lumo. It’s a tiny device packed with big, mind-altering productivity power.”

- Sophie of *YorBack*: “Whether you are suffering from back pains, poor spinal conditions, or you just want to stand with confidence, the Lumo Lift is the ideal tool to turn to.”

- Gregory Ferentstein of *Venture Beat*: “The Lumo Lift does what it promises and could help alleviate the back pain and headaches associated with poor posture.”

- *Lively Science*: “The Lift is highly effective and is unique in terms of its Posture monitoring abilities. If it can help you avoid future back problems, then it is worth its weight in gold. Just ask someone who is suffering from back pain how excruciating it can be.”

- Katherine Bernard of *Vogue*: “Lumo Lift got me to register my comfort level and take a more mindful approach to the immediate present. And I’m proud to say I can write this final sentence without slouching.”

- Kelly Clay of *Wearable World*: “After spending a few weeks with the Lift, I was impressed with how the Lift actually did help build confidence and muscle memory.”

- *C/NET*: “The Lumo Lift goes beyond typical fitness metrics to measure your posture. It’s also comfortable to wear and can even pass as an accessory.”

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Lumo Data Supports Posture Science

Lumo lift not only corrects individuals’ posture, but makes a valuable contribution to the study of posture-related health problems, which in turn aids the development of better treatments. Lumo Lift is the first device that can objectively measure posture behavioral habits at a large scale and in the context of a user’s normal life. The data that Lumo Lift gathers from its user base comprises the largest posture-related database.

In one study, the data gathered from 15,000 Lumo BodyTech users over a three month period showed that during the workday, on average, people spend only 36% of their time in good posture, which means that workers spend as much as 38 minutes per hour slouching. When comparing genders, it was demonstrated that on average women had 20% worse posture than men.

Another significant finding was the confirmation of the “2 pm Slump.” While it is common knowledge among ergonomics experts and office workers that energy levels falter around 2:00 pm during the workday, this study was the first to objectively document the phenomenon and show 2:00 slump contributing to poor posture.

Sitting Ourselves to Death

It is now widely recognized that prolonged sitting can be hazardous to your health. In fact, sitting is now commonly referred to as “the new smoking.” The person credited with coining that phrase is Dr. James Levine, director of the Mayo Clinic-Arizona State University Obesity Solutions Initiative and inventor of the treadmill desk. "Sitting is more dangerous than smoking, kills more people than HIV and is more treacherous than parachuting,” says Dr. Levine. “We are sitting ourselves to death.”

Health researcher and author Tom Rath agrees, calling sitting the most underrated health threat of modern time and citing research that shows that sitting more than six hours in a day will greatly increase your risk of an early death.

A recent study shows that after the age 25 an individual’s life expectancy is reduced with every hour spent slouching on a couch. Moreover, spending most of the time sitting has been found to double the risk of developing diabetes and increase the risk of developing cardiovascular disease.

Modern Life Breeds Poor Posture

With the increasing amount of time spent in front of a computer or bent over mobile devices, the negative effects or poor posture are becoming increasingly prevalent in a variety of occupations and at a younger age. For example, a study of 1,593 adolescents by the Curtin University of Technology in Perth, Australia, found that bad posture with a bent neck and hunched shoulders was linked significantly with pain in these areas.
Dr. Kenneth Hansraj, chief of spine surgery at New York Spine Surgery and Rehabilitation Medicine, showed that poor posture resulting from cell-phone use can strain the spine. His research revealed that tilting the head forward while using a cell phone increases stress on the spine from the head’s weight pulling forward. “These stresses may lead to early wear, tear, degeneration, and possibly surgeries,” the study reported.

Although many companies take steps to provide healthy workplace ergonomics, the increased popularity of working remotely—while traveling and from home—means employees can inadvertently bypass the systems put in place to support healthy habits.

**Posture Care a Sound Investment**

The ability of wellness programs to provide a significant return on investment (ROI) has been shown in a large number of studies. Besides reducing health claim costs, well-run wellness programs reduce costs related to sick leave, workers’ compensation, disability insurance, absenteeism, and presenteeism. Healthier work environments also have higher morale and are more productive.

The success of wellness programs, however, can be undermined if employee posture is neglected. Back pain alone, which is associated with poor posture, is the most widespread and costly workplace health problem.

A study by the National Institute of Neurological Disorders and Stroke found that back injury is the leading contributor to missed work, with one-third of all U.S. work-related disability related to low back pain. Americans spend at least $50 billion each year on low back pain, the study showed. In fact, back pain has been found to be the most expensive condition in all industrialized countries, more than cancer or heart disease.

Add to back injury the myriad other ailments linked to poor posture, and the value of posture-correction measures becomes apparent. Money spent on reducing posture-related problems will pay off handsomely by reducing a significant amount of lost productivity, medical costs, absenteeism, and presenteeism, and by increasing employee morale, productivity and overall performance.

The ROI of posture care can be significant. Studies show that the combined cost of absenteeism, presenteeism, health care plan, workers compensation, and disability leave totals from about $10,000 per employee to as much as $35,000 per employee. With so many posture-related problems contributing to these costs, a 10% to 20% reduction in posture-related costs would comprise a sizeable savings. A company with 1,000 employees, for example, would save $1M to $7M per year. The ROI for a low-cost posture-correcting device like Lumo Lift would be 1,000% to 7,000%.

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Absenteeism and Presenteeism a Costly Combo

Presenteeism is a syndrome in which people come to work but underperform because of illness, injury, or stress. While the cost of employee absenteeism is widely recognized, presenteeism has been found to take an even larger toll on an organization’s productivity.

- A 2009 study by Dr. Ronald Loeppke and colleagues of absenteeism and presenteeism among 50,000 workers at 10 employers showed that lost productivity costs are 2.3 times higher than medical and pharmacy costs.
- A Dow Chemical study from 2002 found that for the average annual health costs for a Dow employee an estimated $6,721 were attributable to presenteeism, $2,278 to direct health care, and $661 to absenteeism.
- A Sunlife Financial director estimated the cost of presenteeism to be about four times larger than absenteeism in terms of hours lost.

As Harvard Business Review reports, while presenteeism is a less obvious factor than absenteeism, research consistently shows that the costs to employers from health-related lost productivity dwarf those of health insurance. Moreover, says the report, a variety of studies shows that the health conditions that contribute most to lost productivity are depression, anxiety, migraines, respiratory illnesses, arthritis, diabetes, and back and neck pain.

All of those ailments can be caused by poor posture. Wellness programs that fail to address poor posture are neglecting the potential root cause of a bevy of health problems that lead to higher incidences of absenteeism and presenteeism.

As the downside of presenteeism has become more widely recognized, organizations are taking steps to combat the problem. A CDI (Career Development International) study advises employers to approach presenteeism like any other health risk, with both prevention and mitigation strategies. “To limit the potential impact of presenteeism on productivity,” said CDI, “companies should identify key worksite risk factors driving it and develop strategies to minimize it.”

ROI of Wellness Programs

That hard dollar returns can be achieved by instituting corporate wellness programs has made them a strategic imperative for many organizations. Studies over the years have shown a return of from $3 to $6 for each $1 spent, with the most recent findings showing a return in the $6 range.

- A Harvard University study of 100 peer-reviewed journal articles found that a properly designed wellness program can expect to yield an ROI of 3.27:1 on health care cost reductions and another 2.73:1 on absence and related costs after about three years.

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A 2012 meta-study of 56 peer-reviewed journal articles conducted by wellness program expert Larry S. Chapman found that the more recent studies documented ROI in the range of 6:1 compared to 3:1 in the older studies. He also discovered it generally takes three to five years for wellness programs to realize their full impact.

In a 2013 CFO.com report, Chapman cites more than 70 peer-reviewed studies of the economic return of work-site wellness programs that show average annual ROI from 150% to almost 2,000%, with the traditional average being 300%.

A study by American Journal of Health Promotion found that for every dollar invested in wellness, employers saw an average savings of $5.81 resulting from improved employee health and reduced medical claims. The study also found that worksite health promotion programs see on average a 27% reduction in sick leave absenteeism, 26% reduction in health costs, and 32% decrease in workers’ compensation and disability claims.

Studies by Towers Watson and National Business Group (2011-2012) found that companies with highly effective wellness programs achieved average revenues that were up to 40% higher than companies with less effective programs, yielding a difference of $132,000 per employee. An earlier study (2009-2010) showed that employers with the most-effective health and productivity programs experienced 28% higher shareholder returns.

Citibank and Bank of America reported an estimated saving of $4.5 dollars in medical expenditures per dollar spent in employee wellness, while Johnson & Johnson reported saving $250 million on health care costs within a decade.

Wearables Are the Future of Wellness

The media is abuzz with stories describing the skyrocketing popularity of wearable devices and their uptake into corporate wellness programs. As CiteWorld reports, “Employee wellness programs are one of the driving forces behind wearables in the workplace today.”

Like the smartphone revolution, workers are embracing fitness wearable and bringing then into the workplace. At the same time, healthcare providers are adopting wearables into their programs.

A spate of recent studies confirms the growing popularity of wearable fitness devices in the workplace:

- An ABI Research study reports that more than 13 million wearable fitness tracking devices are expected to be incorporated into employee wellness programs within the next 5 years.
- A survey by Kronos of 9,126 adults in eight countries, including the United States, found that 73% of the respondents saw at least one benefit to using wearable technology in the workplace.

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A study by PricewaterhouseCoopers showed that 53% of Millennials were “excited” about the future of wearables, including personal healthcare applications. A number of forces, including cost-cutting and a growing focus on proactive wellness, are accelerating wearable device adoption in the workplace. As ABI Research reports, “Suffocating employee healthcare costs and a growing push to extend healthcare services into proactive health management are driving wearable wireless devices into corporate wellness programs.”

As Workforce Institute director Joyce Maroney notes, there’s a strong belief that wearable technology will take off in the workplace because wearable devices such as fitness and health monitors can provide organizations with uncharted data collection points to greatly improve safety, productivity, collaboration, and overall workplace effectiveness.

As wearable technology seeps into the workplace, organizations are adjusting their policies to make wearable fitness devices part of their corporate wellness culture. A basic approach is to incorporate wearables into corporate health care benefits. Employers also can provide lower insurance premiums for workers who wear fitness technology. Some companies are encouraging or formalizing healthy competition among employees around metrics and milestones measured by wearables, and are rewarding winners with prizes.

Caring Companies Consider Posture

As the market has evolved, more and more organizations have recognized that there is more to wellness program ROI than medical cost savings. For example, in a recent study by Humana, 86% of those surveyed cited morale and engagement as the top reason for implementing a wellness program.

Similarly, HRonline reports that while employers initially implemented health-management programs primarily to stem rising healthcare costs, today programs have a broader vision that has companies seeking to build a “culture of health, safety, productivity and enhanced quality of life.”

A focus on employee wellness and satisfaction is reflected in the work environments and “cultures of happiness” that are embodied in companies like Google, Zappos, Kaiser Permanente, GE, EMC, Microsoft, Mayo Clinic, and many others that have been recognized as having the best wellness programs and success cultures. These companies regularly top lists like Fortune 100’s “Best Companies to Work for.”

Providing a satisfying work environment is a win-win situation for employer and employees alike, with research showing that companies that establish a culture of happiness are more prosperous. The secret to establishing a culture of happiness is building trust, which is accomplished through a commitment to helping employees stay healthy and happy.

Those savvy organizations that forge “cultures of happiness” continually revise their wellness programs and incorporate new approaches that over time become best practices. As the trend towards wearable devices escalates, these organizations will lead the way in integrating wearable fitness devices into their corporate cultures and wellness programs. As the benefits of poor posture correction become more widely recognized, it is only natural that posture-correcting devices like Lumo Lift will be included in the mix of wearable fitness devices made available to employees.

On the flip side, companies that fail to include posture correction in their wellness programs risk undermining the success of those programs. As wellness program expert Larry Chapman notes, there are strategic approaches that can significantly increase or decrease the ROI and effectiveness of worksite wellness programs in the five major areas that incur costs—health-benefits, sick leave, workers’ compensation, disability insurance, and presenteeism.

When you consider that back problems are the most prevalent and costly workplace health problem, reducing back ailments via posture correction alone becomes a compelling business case. Add to that myriad other health risks associated with poor posture, and adding posture correction to wellness programs becomes a virtual no-brainer.

**Lumo Lift an Excellent Fit for Corporate Wellness Culture**

Progressive companies have been combatting the ailments associated with prolonged sitting with a number of strategies and devices, such as standing desks, treadmill desks, lumbar chairs, walking meetings, and exercise breaks.

As wearables work their way into corporate wellness programs, companies are discovering ways to integrate these devices into their cultures and optimize their use. As Physical Solutions relates, 24 “The adoption of wearable tech into workplace fitness programs opens up a world of opportunities for employees to interact with one another, allowing them to compare, compete, and motivate each other to succeed.”

As Larry Chapman points out, researchers for decades, have been studying the higher costs associated with behaviors such as smoking, obesity, lack of exercise, poor eating habits, not using seat belts, excess stress, and a host of other problems. When you consider the vast amount of research that shows the widespread and damaging effects of poor posture, you have a compelling reason to include posture correction in the list of critical problems that should be addressed by workplace programs.

As CFO.com reports, 25 there are more than 500 well-designed scientific studies that document the ability of wellness programs to change unhealthy behaviors and modify health-risk factors. With

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25 http://www2.cfo.com/health-benefits/2013/01/nine-reasons-why-wellness-works/
so much data showing the health risks associated with poor posture, neglecting posture correction within a wellness program can be a costly omission.

William Updyke, DC chiropractor at the Cisco Life Connections Health Center states, “My patients have used the data from wearables and connected medical devices to help them manage their posture and activity level, which accelerated their recovery. Proper biomechanics, such as good posture, as well as moving regularly and avoiding extended sitting contributes to reductions in some of the most common conditions like neck, back and shoulder pain. If better posture and more regular movement was widely adopted it could lead to significantly decreased healthcare costs for companies and certainly a better quality of life for individuals.”

**No Better Gift**

Many companies reward employees with gifts, and some have formal Thank You programs in place. Lumo Lift makes an excellent addition to corporate gift programs and can be branded with a company’s corporate logo. Wearables like Lumo Lift have a cool factor, wow factor, and are stylish and utilitarian.

That wearables are hot gift items is reflected by the scores of media outlets—including gadget, fashion, business, and sporting publications—that are recommending wearable fitness devices as gifts. Wearables are popular worldwide and were the number-one gift in the U.K this past holiday season.

A look across the various media sites reveals that Lumo Lift is among the most popular fitness wearable devices being recommended. Mashable, for example, lists Lumo Lift as the #1 gift on its list of “14 health and fitness wearables and gadgets worth giving.”

With the emphasis on wellness and healthy lifestyles in today’s culture, Lumo Lift makes a wise and healthy choice as a corporate gift offering. Companies that bestow gift items on customers, prospects, partners, employees, and other associates will find a branded Lumo Lift a welcome addition to their programs. With Lumo Lift you can give the most precious gift—the gift of health and wellness.
For inquiries about Lumo Lift for your company, please contact bizdev@lumobodytech.com or visit www.lumobodytech.com/partners