

## **Mayo Clinic's Mindful Movements in the Workplace**

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### **Introduction**

Mayo Clinic in Rochester Minnesota is one of the largest integrated medical centers in the world, providing comprehensive diagnosis and treatment in virtually every medical and surgical specialty. More than 350,000 patients with diverse backgrounds and medical concerns seek answers and treatment at Mayo Clinic each year. Approximately 80 percent of the patients who come to Mayo Clinic seek outpatient services. The remaining 20 percent require inpatient care.

The mission of Mayo Clinic is to inspire hope and contribute to health and well being by providing the best care to every patient through integrated clinical practice, education and research. Mayo Clinic's primary value is "the needs of the patient come first." To achieve success with Mayo Clinic's mission, the safety and health of employees must also be of utmost importance and fully integrated in all of Mayo Clinic's functions and operations. Mayo Clinic in Rochester is comprised of more than 32,000 employees while occupying over 15 million square feet of hospital, laboratory and office space.

In an effort to make employee health and well being a priority and to address wellness barriers, Mayo Clinic in Rochester opened the Dan Abraham Healthy Living Center (DAHLC) in 2007. This was achieved using a gift from Mr. Dan Abraham, Founder of Slim Fast International.

To encourage employee wellness, Mayo Clinic's Dan Abraham Healthy Living Center provides a wide range of wellness activities and services for employees, Mayo Clinic Program students, volunteers, retirees, spouses and same-gender domestic partners. The wellness services include group fitness classes, individual wellness evaluations, massage therapy, wellness coaching, small group training, demonstration kitchen, nutritional programs, a healthy cafe and stress management offerings.

The DAHLC's 115,000 square foot facility has over 16,500 members and employs operations managers, member service representatives, worksite wellness coordinators, membership and media coordinators, group fitness instructors, dieticians, and health and wellness coaches. The group fitness instructors teach a myriad of group classes including Pilates, yoga,

cycling, cardiovascular, strength, aqua, Alexander Technique and more. Since the DAHLC is located on the Mayo Clinic's downtown campus, it is convenient to the majority of Mayo Clinic employees. Some work locations like the Mayo Inventory Center (MIC) are located off-campus. This makes accessing the facility a bit more challenging.

MIC is an 80,000 square foot warehouse that receives stores and delivers over 10,000 different products to over 5,000 customers on the Mayo Clinic campus. MIC maintains a 24-hour, 6-day-per-week operation with 52 employees. MIC's job duties include but are not limited to:

- Picking
  - Retrieve materials in boxes/totes and transport to consolidation staging area, utilizing order pickers or carts
- Consolidating
  - Transport pallets of boxes/totes from staging area to consolidation pallet arrangement
  - Consolidate tote items as needed
  - Stretch wrap pallets and transport to shipping
- Receiving/Put-away
  - Remove pallets from trucks using forklifts
  - Check-in product on purchase order system
  - "Breakdown" boxes
  - Restock and rotate supplies

Because of the high volume of material handling and mobile equipment operation, minimizing the risk of injuries at MIC has been challenging.

## **Evaluating the Injury Reduction Needs**

In 2008, MIC instituted process changes to improve efficiency of the warehouse/distribution system. Process improvements included moving the supply consolidation from the downtown campus to the MIC. At the same time, a more efficient cross-dock system was implemented. These changes required new training programs while maintaining the necessary throughput to keep the hospitals and laboratories effectively operating. The warehouse was also expanded with an additional 20,000 square feet. Once employees learned the new processes, productivity increased, unfortunately also with a corresponding upsurge of injuries. There was an expectation by management that after the new processes were learned and implemented in 2009, the incidents would decrease. As evident in Figure 1, the injury reduction did not occur; rather, number of injuries remained high.



**Figure 1: MIC Rolling 12 Month Rate steadily increased in 2008 and remained high through 2010.**

In 2010, an executive safety/ergonomic committee was established to provide management support and commitment to take action on reducing MIC incidents. With the executive committee's leadership, an ergonomic workgroup was formed with the goal of identifying hazards, risks and solutions. The workgroup included MIC management, MIC employees, Mayo Clinic Occupational Safety and Mayo Clinic Ergonomics. A review was conducted of the MIC job tasks to identify hazards, risks and solutions. Improvements were made to the work environment by adding conveyors and adjustable workstations, improving storage location of heavy or more frequently pulled items and improving housekeeping. Lean management techniques were implemented with a 5s + Safety strategy (see Exhibit 1) that integrated safety in the quality management process.

**New Initiative:**  
**5s + Safety**



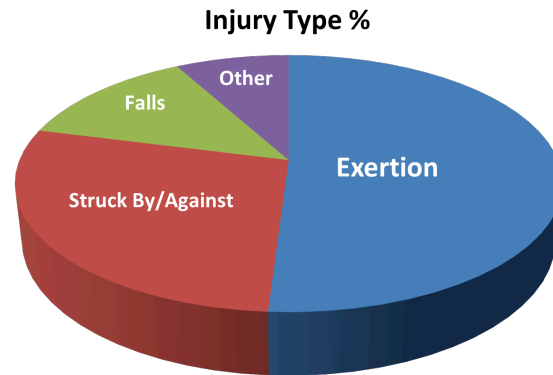
**Exhibit 1: This graphic illustrates integrating safety into the 5-S quality program.**

However, even with work environment improvements, it was recognized that boxes/totes still need to be picked and transported; and thus risks remained.



**Exhibit 2: MIC employee is using an order picker to obtain supplies.**

As part of the injury reduction initiative, MIC management and Occupational Safety partnered with DAHLC to develop a pre-shift 15-minute stretching/exercising program tailored to MIC's needs. The program, Mindful Movements, addressed the top three MIC injury types: Exertion, Struck By/Against, and Falls (see Figure 3).



**Figure 2: The above chart demonstrates distribution of MIC injury types.**

### **Mindful Movements: Understanding Environmental, Physical, and Behavioral Constraints**



**Exhibit 3: Employees are demonstrating improving flexibility with Mindful Movements.**

To understand the environmental, physical and behavioral constraints at MIC, a site visit was required. During the initial site visit, DAHLC staff met with MIC warehouse employees and respectfully observed their working environment, tasks and conditions. This process became the catalyst for slowly integrating the program with mutual respect rather than just enforcing it all at once. After careful observation the DAHLC team noted the following environmental constraints:

- Lack of designated stretching area
- Noisy
- High Traffic
- Distractions
- Restrictive work attire (steel toe boots and work uniforms)
- Hot and cold temperatures (lack of air conditioning during summer months)
- Time considerations (only 15 minutes to execute)

In addition to environmental constraints, DAHLC staff intuitively explored the physical and behavioral barriers that could create program issues or limitations. This served a dual purpose because it also demonstrated compassion and showed a vested interest in the employees' well being rather than approaching this solely as a productivity initiative. The following physical and behavioral constraints were observed:

- Natural resistance to change
- Individual challenges with basic exercise movements
- Pre-existing conditions and injuries
- Language barriers
- Fear of the unknown
- Variety of body shapes, sizes and movement capabilities
- Resistance toward a mandatory program
- Lack of motivation to participate

The site observation provided invaluable information necessary for understanding the physical, environmental, and behavioral constraints at MIC. In addition, interacting with the employees was a beneficial mechanism for establishing trust. After gathering all vital background information, the Mindful Movements program was designed and tailored for MIC employees, specifically addressing constraints.

## **Mindful Movements: Program Design**

The Mindful Movements program was designed so MIC employees would receive a “movement intervention” fifteen minutes prior to their work shift. This set the tone for their shift and also planted a seed of mindfulness to be carried out throughout the day. The basic stretching format followed the American College of Sports Medicine guidelines used for group fitness classes, which states that all fitness classes shall have a warm-up and cool-down (Nadelen, 2012).

Program format included the following elements:

- Integrate (arrive)
- Warm up (2 minutes)

- Stretch (8 minutes)
- Cool down (2 minutes)
- Mindful stillness (3 minutes)

The program focused on moving mindfully and embracing the body as a whole, including sitting in stillness. Body movements originate from a mental process and are an inspiration of the mind. Mental awareness and acuity were vital components, whether sitting or standing in stillness. Meditation was introduced as part of the program and the weekly practice. Meditation can be a challenging component to sustain. Stillness brings awareness, which can be uncomfortable however, it proved to be invaluable.

The format encompassed some basic range of motion movements that the body normally experiences on a daily basis. Special attention was given to the areas considered high risk for injury:

- Shoulders
- Spine/torso
- Hips
- Knees

## Establishing Program Measurement

Mindful Movements goal is to attain a reduction of injuries. However, injury measurements are lagging indicators and we needed a proactive approach. For a baseline, employees were asked to rate their flexibility, balance, mindfulness and fitness *before* Mindful Movements was instituted. After 8 weeks of Mindful Movements, employees were again asked the same questions and the results were compared:

**How would you rate your flexibility,  
balance, mindfulness, and fitness?  
(One is low and Five is high)**

	Pre	After 8 wks	% Increase
Flexibility	2.96	3.27	10.5
Balance	3.36	3.34	(0.65)
Mindfulness	3.57	3.75	5
Fitness	2.94	3.38	15

**Table 1: The table compares pre-program and 8 weeks into Mindful Movements ratings.**

The following questions were also asked:

1. Do you feel this program has been beneficial to your health? 78% yes
2. Have you seen an improvement in balance? 59% yes

3. Have you seen an improvement in flexibility? 69% yes
4. Have you seen an improvement in mindfulness or awareness of body movement throughout your day? 57% yes
5. Have you continued the stretching/exercise program on you own on days when it was not instructor led? 32% yes
6. Do you “feel” any differences between days when you stretch/exercise compared to days when you do not? 59% yes
7. Would you be interested in leading stretching/exercise program to your shift if given training and coaching? 3 employees

With the employee self-reported positive results, it was determined that the program was on the right track. It also was very important that management and the instructor maintained open dialogue with employees as to what was working and what was not.

Other metrics can include measuring the number of employees who changed to healthier lifestyle as evidenced by obtaining DAHLC membership or joining an off-work fitness center. Some employees also indicated that they practiced Mindful Movements at times when not being led by an instructor.

## **Establishing a Sustainable Program**

Safety is a priority at Mayo Clinic, and it is linked to the strategic plan. Employees are educated about safety and are required to complete annual trainings. Below is an example of the institution’s commitment to safety from an internal Mayo Clinic staff web page.

Mayo Clinic’s Commitment to Safety is a multifaceted, ongoing effort to strengthen our culture of safety and eliminate preventable harm to our patients and staff. The goal of this endeavor is to establish a more open work environment built on shared understanding and clear expectations — one where hierarchies are leveled so staff can speak up regarding concerns, collectively learn from errors and respectfully work together to create safer patient care and support.

Through this Commitment to Safety:

- Every Mayo staff member will be expected to embed five safe behaviors into daily work.
- Behavioral choices will be managed using the principles of a fair and just culture.
- Safe behaviors and principles will be integrated throughout all work areas and HR employment processes (recruiting, hiring, orientation, performance management, etc.).

A team-based engagement model will be implemented in units to effect needed changes and promote sustainability. As Mayo employees, our shared beliefs, behaviors and collective values create the culture of Mayo Clinic. What we do, whether involved in direct patient care or not, ultimately impacts the patient experience. How we interact and respond to each other, the responsibility and integrity we bring to our job, and the relationships and communication we foster, all impact the safety of our patients and the effectiveness of our work environment.

In an effort to create a sustainable program for MIC the following criteria had to be met:



- Supervisor involvement
- Initiative aligned with strategic plan
- Leadership commitment
- Consistency and engagement of all stakeholders
- Concrete program design and execution
- DAHLC staff required to respect MIC environment
- DAHLC staff to establish rapport with MIC employees
- Goal to reduce injuries explicitly communicated

MIC's sustainability efforts were directly aligned with the organization's strategic plan. This aided in providing rationale for pursuing sustainability. The goal for reducing, minimizing and limiting workplace injuries would be achieved through pre-shift movement and mindfulness. Supervisors and employees were engaged to ensure that all stakeholders involved in the efforts understood the compelling reasons for pursuing sustainability.

## **Program Costs**

Implementing the Mindful Movements Program at the Mayo Inventory Center (MIC) was cost effective and straightforward to implement. Initial program development costs, totaling \$270.00, consisted of:

- Meeting with MIC managers and Mayo Safety Department
- Visiting MIC site
- Attending MIC staff meeting
- Creating program by Dan Abraham Healthy Living Center (DAHLC) staff

After an initial meeting with MIC, DAHLC and Occupational Safety, it was determined that a site visit was imperative to understand the nature of MIC work and warehouse conditions. A site visit was conducted in order to evaluate the environment and also to gain insight surrounding the daily tasks and job functions performed by MIC employees. After the visit, a DAHLC instructor leading the initiative attended a MIC staff meeting to establish a relationship with the employees and build trust with the team. Insights and details gained from the site visit and staff meeting were used to develop a standard, consistent program that would be delivered to the group on a weekly basis.

Due to the nature of the work conditions at MIC, it was imperative that Mindful Movements be adaptable to any location or space and flexible enough to be executed in the rapidly changing environment of the warehouse. Considering the aforementioned conditions, it was critical that Mindful Movements require minimal to no equipment. During the pilot phase, Mindful Movements was administered using a 200-hour certified yoga instructor; no equipment required. This helped keep costs to a minimum as just the instructor time was billed to MIC on a weekly basis. Mindful Movements was launched and held twice a week at the beginning of all three work shifts (6:00 a.m., 2:00 p.m. and 10:00 p.m.). Weekly cost to execute: \$243.00. The MIC pilot ran for eight weeks. To track the Mindful Movements pilot effectiveness, MIC staff was surveyed for program satisfaction and injury reports were reviewed. At the eight-week conclusion, both staff satisfaction and injury reports showed favorable results, transforming the

pilot into a permanent program and culture change. Instructor-led sessions were increased from two to three days per week with an additional expense of \$81.00. Table 3 below outlines all costs associated with the Mindful Movements Program:

Meeting with MIC managers, DAHLC staff and Mayo Safety Department	2 hours
Site visit to MIC	2 hours
Instructor meet and greet at MIC staff meeting	1 hour
Program creation by DAHLC staff	5 hours
8-week pilot instructor fees	48 hours
44 weeks instructor fees	396 hours
Total cost \$12,258.00	Total hours 454 hours

**Table 2: The table summarizes total costs of Mindful Movements.**

The total cost incurred by MIC to successfully plan, create and execute phase one of the Mindful Movements program was \$12,258.00. While at first glance this may appear to be a substantial investment, it is eclipsed by the staggering costs associated with workplace injuries. A work-related injury may include the following:

Direct costs include:

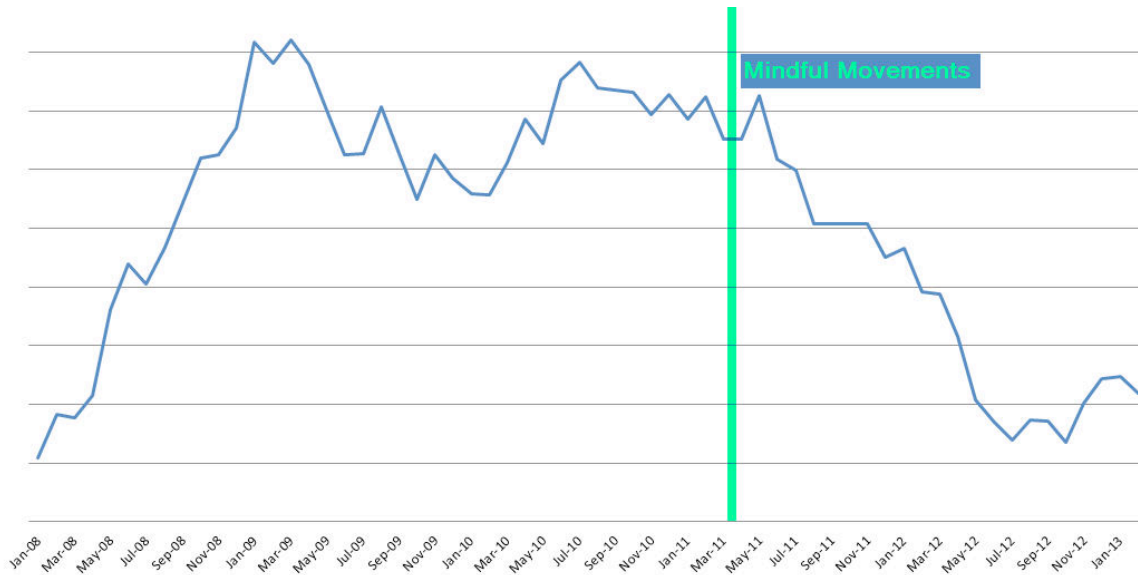
- Workers compensations premiums
- Case file management
- Medical costs (Gagne, 2011)

Indirect costs include:

- Decreased or loss of productivity
- Possibility of hiring new staff to replace injured employee
- OSHA penalties
- Administrative costs
- Attorney fees
- Higher worker's compensation premiums
- Possibility of paying overtime to meet work demands
- Loss of staff time to attend medical appointments
- Negative media attention (Gagne, 2011)

Studies concluded that from 2004-2006 medical costs associated with musculoskeletal injuries averaged \$6429.00. Indirect costs added an additional \$3118.00 to the calculation for an eye-opening bill of \$9518.00. (United States, 2011)

## Summary



**Figure 3: After instituting Mindful Movements, MIC experienced a steady injury reduction.**

The various improvements in the work environment in conjunction with Mindful Movements program led to a significant reduction in workplace injuries. Tailoring a stretching/exercise program to the needs of the work area requires program designers to meet with employees and management to learn the culture and observe the tasks in order to gather data necessary to plan prior to program development. The types of injuries should be summarized and movements targeted according to the types of incidents being experienced. Engaging employees early in the program and continuing to gather feedback as the program continues can lead to a more sustainable program. A well-designed program can have a very positive effect not only on cost savings but most importantly on the wellness of employees. Mindful Movements is just one injury reduction tool available and needs to be supported by a strong safety culture. The safety culture needs to continually review itself and evolve as it grows and changes. Successful safety culture involves safety and wellness, not as a separate program, but integrated into all business practices.

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