Mayo Clinic’s Mindful Movements in the Workplace

By Kim Van Rooy, Stephanie Sutherland & Mike Squillace, CSP

Mayo Clinic in Rochester, MN, with Saint Marys Hospital and Rochester Methodist Hospital, creates a large integrated medical center that provides comprehensive diagnosis and treatment in many medical and surgical specialties. More than 350,000 patients with diverse backgrounds and medical issues seek answers at Mayo Clinic each year.

Mayo Clinic in Rochester employs more than 32,000 employees while occupying more than 15 million square feet of hospital, laboratory and office space. Approximately 80% of the patients who come to Mayo Clinic seek outpatient services, with the remainder 20% inpatients.

Mayo Clinic’s mission is to inspire hope and to contribute to health and well being by providing the care to every patient through integrated clinical practice, education continued on page 8
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and research. Mayo Clinic’s primary value is the “needs of the patient come first.” To achieve success with Mayo Clinic’s mission, employee safety and health must be of utmost importance and fully integrated in all of Mayo Clinic’s functions and operations.

To encourage employee wellness, Mayo Clinic’s Dan Abraham Healthy Living Center (DAHLC) provides a wide range of wellness activities 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, nutritional and wellness programs, a healthy cafe and stress management offerings. DAHLC’s 115,000 sq-ft facility has more than 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. Group fitness instructors teach a wide range of group classes, including Pilates, yoga, indoor cycling, cardio and strength, aqua, Alexander Technique and more. Since DAHLC is on Mayo Clinic’s downtown campus, it is convenient for the majority of Mayo Clinic employees. However, some work locations are located off campus, including its distribution warehouse, Mayo Inventory Center.

The 80,000 sq-ft Mayo Inventory Center (MIC) receives, stores and delivers more than 10,000 SKUs to more than 5,000 customers on the Mayo Clinic campus. MIC maintains a 24-hour, 6-days-a-week operation with 52 employees. MIC jobs include:

• Picking:
  — Use mobile equipment (order pickers) or carts to retrieve materials in boxes/totes and to transport to consolidation staging area.

• 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.
  — Break down boxes.
  — Restock and rotate supplies.

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

After a review of MIC employee injury history, it was decided to develop a preshift stretching and exercise program that targeted the main contributing causes of those injuries: flexibility, balance and mindfulness.

Evaluating Injury Reduction Needs

In 2008, MIC began process changes that improved efficiency of the warehouse/distribution system. Process improvements included moving the supply consolidation from the downtown campus to MIC. At the same time, a more efficient cross-dock system was instituted. These changes required new training programs while maintaining the necessary throughput to keep the hospitals and laboratories operating effectively. The warehouse was also expanded with an additional 20,000 sq ft. Once employees learned the new process, production increased but so did injuries. There was an expectation that after the new processes were learned in 2008-09, the incidents would decrease. The injury reduction did not occur (Figure 1).

In 2010, various interventions were enacted to understand the incident causes and to take action to reduce the risk of injury. An executive safety/ergonomic committee was established that included MIC management, occupational safety/ergonomic management and medical director. The executive committee established the guidelines for an ergonomic committee, which includ-
ed MIC management, MIC employees, Mayo Clinic Occupational Safety and Mayo Clinic Ergonomics. A review was conducted of the 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 that integrated safety in the quality management process.

However, even with work environment improvements, it is recognized that boxes/totes still need to be picked and transported and risks remain.

MIC management and occupational safety obtained DAHLC to develop a preshift 15-minute stretching/exercising program tailored to MIC needs. The program, Mindful Movements, addresses the top three MIC injury types: exertion, struck by/against and falls (Figure 3).

**DEVELOPING THE MINDFUL MOVEMENTS PROGRAM**

To understand the physical and environmental needs and constraints of the workplace, Mindful Movements instructors conducted a tour and general introduction to each work area. Each job description in the work area was reviewed. This provided firsthand information on locating the actual space available for a stretching program and gave instructors a general view of the work tasks that staff performs.

During this initial tour, instructors had the opportunity to meet the staff and to observe their work environment and tasks. Mindful Movements instructors introduced the general concept of the program through light conversation. The instructor-student discussions provided an easing of program installation with mutual respect rather than just enforcing it at once.

Considerations made to physical constraints included:
- initial tour;
- evaluate work area and tasks;
- meet and talk with staff;
- scout possible stretching program area;
- open area;
- low traffic;
- video and audio accessible (optional);
- equipment storage (mats, blocks, straps, all optional);
- work attire;
- time considerations (preshift, midshift or postshift, amount of time).

The development of Mindful Movements considered behavioral constraints to understand natural human resistance to change. It is beneficial to approach the initial communication with mutual respect to receive input while still maintaining that the program is implemented as support for staff in overall work/life balance. Mindful Movements was structured as compassion for the overall employee, rather than just wanting a healthy employee for better work output.

One important consideration in implementing the Mindful Movements program was the program’s sustainability and consistency. The program was designed to fit everyone on the MIC staff in one way or another. This achieved a big-picture consideration by taking the varied staff into account.

Mindful Movements required management’s support and direct involvement. This became a vital component to the program’s sustainability. Since scheduling with busy calendars is always a challenge, the entire staff’s commitment and discipline made the program effective.

When implementing a program similar to Mindful Movements, remember to:
- consider behavioral constraints;
- expect natural resistance to change;

Figure 2 Integrating Safety Into the 5-S Quality Program

![5S Diagram](image)

**Figure 3 Distribution of MIC Injury Types**

![Injury Type Chart](image)
• maintain staff’s support in overall work/life balance;
• respect individual challenges of basic movements;
• respect preexisting conditions when considering program design;
• recognize vocabulary/language challenges;
• gain management team’s support and involvement;
• commit to adherence and sustainability.

**Program Design**

For a program to be successful, it must be designed with all stakeholders involved and all constraints and considerations reviewed. Things to consider include time, constraints, attire, shifts, area, accessibility and equipment. After all considerations, the best approach was the simplest. The Mindful Movement program was maintained with simple, basic movements that allowed MIC to reach obtainable goals, the first being sustainability. A simple, basic program will also be the consistent winner for developing adherence.

In developing the format of Mindful Movements, the most common injuries reported in the workplace were considered, and specific stretches were added to the Mindful Movement format. However, the program focused on the overall mindful movements embracing the body as a whole, including the mind sitting in stillness. Body movements originate from the mental process and inspiration of the mind. Therefore, mental awareness is a vital component of the program through sitting or standing in stillness, better known as meditation. Meditation is the most challenging piece to maintain. Stillness brings awareness, and generally speaking, not only can that be uncomfortable, it is something we struggle to find value in. Trust that the value of stillness has deep roots.

Program design options can have several different approaches. Currently, Mindful Movements is instructor-led; however, audio- and video-led sessions could be used. All options depend on the basic needs:
• time (length, preshift or postshift, shift issues);
• area (space to hold program sessions);
• constraints (physical and behavioral).

Regardless of delivery, the program format should cover the basic range of motion and movements that the normal body moves through on a daily basis covering the large joints, spine and supporting major muscle groups.

Mindful Movements framework supports the main areas of mobility:
• shoulders;
• spine/torso;
• hips;
• knees;
• mindful awareness in stillness (meditation).

The MIC Mindful Movements program was developed around a 15-minute preshift program instructed three times per week on three shifts. The basic stretching format should follow the typical guidelines used in group fitness classes as noted in ACSM (Nadelen, 2012): “All fitness classes should have a warm-up and cool-down.”

Basic class format design should include:
• integrate (arrive);
• warm-up;
• stretch;
• cool-down;
• mindful stillness (place at the beginning or the end).
Mindful stillness can at first seem like unchartered territory. It is a simple time of presence with no expectations. In Mindful Movements, instructors use 3 minutes of breathing space. It is a time to sit or stand for 3 minutes of stillness with awareness of the breath in and the breath out. This can be done before stretching or after and can be delivered using several different methods. In Mindful Movement, mindful stillness is instructor-led but potentially could be achieved by an audio recording or video.

Mindful stillness or meditation was found to be a valuable component of the Mindful Movements program.

In summary, the Mindful Movements program was designed to:
- use simple, clear language or verbiage for movements;
- offer various modifications for safety and respect for individual needs;
- periodic program refreshing while maintaining a consistent format;
- feedback obtained by surveys and open dialogue with employees.

### Establishing Program Measurement

Mindful Movements’ goal is to attain a reduction of injuries. However, injury measurements are lagging indicators and a proactive approach was needed. 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 (Table 1).

How would you rate your flexibility, balance, mindfulness and fitness?

<table>
<thead>
<tr>
<th></th>
<th>Preprogram</th>
<th>After 8 Weeks</th>
<th>% Increase</th>
</tr>
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<tbody>
<tr>
<td>Flexibility</td>
<td>2.96</td>
<td>3.27</td>
<td>10.5</td>
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<tr>
<td>Balance</td>
<td>3.36</td>
<td>3.34</td>
<td>(0.65)</td>
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<tr>
<td>Mindfulness</td>
<td>3.57</td>
<td>3.75</td>
<td>5</td>
</tr>
<tr>
<td>Fitness</td>
<td>2.94</td>
<td>3.38</td>
<td>15</td>
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</table>

### 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. Following is an example of Mayo’s commitment to safety adapted from an internal Mayo Clinic staff webpage.

Mayo Clinic’s commitment to safety is a multifaceted, ongoing effort to strengthen the culture of safety and to eliminate preventable harm to patients and staff. This endeavor’s goal 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 their 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 human resources employment processes (recruiting, hiring, orientation, performance management, etc.).

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

The following criteria needed to be met for MIC to create a sustainable program:

- Supervisors needed to be involved.
- Initiative must be linked to the strategic plan.
- Commitment was required from leadership.
- Consistency and engagement were expected of all stakeholders.
- Program design and execution needed to be concrete.
- DAHLC staff was required to respect MIC’s environment.
- DAHLC staff expected to create trust with MIC employees.
- The goal to reduce injuries was shared and communicated.

MIC’s sustainability efforts were directly aligned to the organization’s strategic plan. This aided in providing rationale for pursuing sustainability. Along with engaging the entire MIC community, a goal was defined for reducing, minimizing and limiting workplace injuries through preshift movement and mindfulness. Working directly with supervisors and ensuring that all stakeholders were involved in the efforts helped underscore the reasons for pursuing sustainability.

### Program Costs

Implementing the Mindful Movement Program at the Mayo Inventory Center (MIC) was cost-effective and straightforward to implement. Initial program development costs, totaling $270, consisted of:

- meeting with MIC managers and Mayo Safety Department;
- visiting the MIC site;
- attending the MIC staff meeting;
- creating a program by DAHLC staff.

After an initial meeting with MIC, DAHLC and 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 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 to build trust with the team. Insights and details gained from the site visit and staff meeting were used to develop a standard, consistent repertoire that would be delivered to the group on a weekly basis.

Due to the nature of work 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 these 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 am, 2:00 pm and 10:00 pm). The weekly cost to execute was $243. The MIC pilot ran for 8 weeks.

To track the Mindful Movement pilot’s effectiveness, MIC staff was surveyed for program satisfaction and injury reports were reviewed. At the 8-week mark, 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 2 to 3 days per week with an additional expense of $81. Table 2 outlines all costs associated with the Mindful Movements program.

The total cost incurred by MIC to successfully plan, create and execute phase one of the Mindful Movement program was $12,258. While at first glance this may appear to be a substantial investment, consider the costs associated with workplace injuries. A work-related injury may include the following:

- **Direct costs:**
  - workers’ compensations premiums;
  - case file management;
  - medical costs (Gagne, 2011).

- **Indirect costs:**
  - decreased or loss of productivity;

### Table 2 Total Costs of Mindful Movements

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Cost</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting with MIC managers, DAHLC staff and Mayo Safety Department</td>
<td></td>
<td>2 hours</td>
</tr>
<tr>
<td>Site visit to MIC</td>
<td></td>
<td>2 hours</td>
</tr>
<tr>
<td>Instructor meet and greet at MIC staff meeting</td>
<td></td>
<td>1 hour</td>
</tr>
<tr>
<td>Program creation by DAHLC staff</td>
<td></td>
<td>5 hours</td>
</tr>
<tr>
<td>8-week pilot instructor fees</td>
<td></td>
<td>48 hours</td>
</tr>
<tr>
<td>44 weeks’ instructor fees</td>
<td></td>
<td>396 hours</td>
</tr>
<tr>
<td>Total cost:</td>
<td>$12,258</td>
<td>Total hours: 454 hours</td>
</tr>
</tbody>
</table>
• possibility of hiring new staff to replace injured employee;
• OSHA penalties;
• administrative costs;
• attorney fees;
• higher workers’ 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 2004-06, medical costs associated with musculoskeletal injuries averaged $6,429. Indirect costs added an additional $3,118 to the calculation for a bill of $9,518 (U.S. Bone & Joint Initiative, 2011).

SUMMARY

Various improvements in the work environment in conjunction with the 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 to observe the tasks prior to program development. Types of injuries should be summarized and movements targeted according to the types of incidents 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 positive effect not only on cost savings, but most importantly on employee wellness. 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 to evolve as it grows and changes. A successful safety culture integrates safety and wellness into all business practices.

REFERENCES


Kim Van Rooy, Stephanie Sutherland and Mike Squillace, CSP, are with Mayo Clinic in Rochester, MN.