Early Intervention in the Utilities Sector – Best Practices Lead to Real Results

Jim Allivato, ATC, CEIS - ATI Worksite Solutions
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About Jim

Jim Allivato, BS, ATC, CEIS - Director of Operations for ATI Worksite Solutions

- University of Illinois Chicago – BS in Kinesiology
- 20+ years of exp. in Clinical Rehabilitation
- 10+ years of exp. within Occupational Health
- 8+ years of experience with ATI Physical Therapy
  - Senior Regional Director, Clinic Operations
- 3+ years of experience with ATI Worksite Solutions
  - Operational Director overseeing 25+ staff, rollout of 6 new clients within the last 2 years
Session Objectives

In this session you will gain:

✓ Understanding what Early Injury Intervention methods are.
✓ Understanding how Early Injury Intervention methods can impact site culture leading to enhanced injury prevention.
✓ Knowledge of how to implement the method to impact culture.
✓ Best practices and results from the utilities sector
The Need for Better Methods

U.S. Bureau of Labor Statistics reports 650,000 work-related musculoskeletal disorders (WRMSDs), resulting in costs to employers of over 20 billion dollars. These costs include Worker's Compensation and medical expenses, the latter of which are increasing 2.5 times faster than benefit costs.

- $1 of every $3 of Worker's Compensation costs are spent on occupational musculoskeletal disorders (MSDs)
- Employers pay $15-20 billion per year in Worker's Compensation costs for lost workdays.
- Mean costs per case of upper extremity MSD are $8,070 versus a mean cost of $4,075 per case for all types of work-related injury.
- Worker's Compensation claims per injury equal $29,000 - $32,000 per year.
- Medical bills for the average shoulder injury (excluding surgery) are $20,000 per year.
- Indirect costs are 3 to 5 times higher, reaching approximately $150 billion per year.
Traditional H&S Focus

- (Tomorrow) Prevention of Injuries & Loss
  - Policies and procedures
  - Risk assessment and corrective action
  - Hazard identification and correction
  - Near miss reporting

- (Yesterday) Reaction to Injuries & Loss
  - Accident Investigation and correction
  - Engineering risk out
  - Enforcement of rules (discipline)
  - Re-education of work force
  - Management of recovery (claim mgmt)
EHS Pros Have No Time Today!

• Dealing with Issues in real-time takes time.

• EHS Pros have constraints:
  • There are not enough to go around!
  • We are focused on strategic improvement.
  • Maintaining required documents and processes.
  • Meetings, meetings, meetings...

• The Athletic Trainer is our representative in the field.
Today is Where the Action is

**Today!**
(Golden Moment)

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**Prevention:**
- Policies
- Training
- Risk Assessment
- Hazard ID
- Corrective Action

**Intervention:**
- Real-time Encounters
- Job coaching
- Stretch & Strength Coaching
- Fitness Coaching

**Reaction:**
- Accident Investigation
- Case Management
- Trend Analysis
- Near Miss Reporting
- Lean Six Sigma
With early intervention, we turn this curve around and into the right direction.
The Injury Continuum

Healthy / No Pain
Discomfort
Pain
Reduced Capability
Onset of Disease
Surgery
Recovery

Action
Education
Job Coaching
Postural Awareness
Ergonomics
Wellness
Active Lifestyle
Fitness & Nutrition

Action
Education
Job Coaching
Postural Awareness
Ergonomics
Protective Limits
Physician

Action
Education
Job Coaching
Postural Awareness
Ergonomics
Protective Limits

Action
Physician
Job Restrictions
Physical Therapy
Job Coaching
Communication with Providers

Action
Physician
Surgical Consult
Physical Therapy
Hospital Stay

Action
Surgeon
FMLA / WC
Hospital Stay

Acute Onset? Or Straw that Broke the Camel’s Back?

PROACTIVE

REACTIVE

ATI WORKSITE SOLUTIONS
The Industrial Athlete

• Workplaces are leaner than ever before: Amazon requires employees to be able to walk 15 miles.

• “Increasingly employers are using a smaller permanent work force, and they’re trying to keep everybody at the wheel as much as possible,” said Tom Juravich, a professor of labor studies at the University of Massachusetts.

• Meanwhile, laborers are “realizing that demands today are quite high, and that to survive this, they’re going to actually have to start thinking outside the box.”

Sources: http://www.businessinsider.com/working-conditions-at-an-amazon-warehouse-2013-2
http://www.nytimes.com/2006/10/26/fashion/26Fitness.html?pagewanted=all&_r=0
Athletic Trainer Skill-Set

• Prevention
  • Physical examinations
  • Training and conditioning programs
  • Ensuring a safe environment
  • Selecting, fitting and maintaining PPE
  • Coaching diet and lifestyle choices
  • Ergonomics/Biomechanics

• Clinical Evaluation and Diagnosis
  • Understanding pathology of injury and illness
  • Immediate care
  • Incorporating therapeutic modalities
  • Treatment, rehab and reconditioning supervision
  • Psychosocial intervention
Certified Early Intervention Specialists Apply their Athletic Training background in the workplace:

• In the Field Job Coaching
• Basic Job Risk Analysis (JRA) and suggest Corrective Actions
• Culture Shift toward Early Reporting
• Functional Task Analysis – development and education
• Body Awareness Program for STF
• Ergo Training for Supervisors/EE
• Wellness and Health Coaching
• Return to Work (RTW)
What a CEIS Does

• Resource for employees to get consultation on pain/discomfort – no matter the source or severity.
• Triage and administer first aid according to OSHA.
• Utilize clinical reasoning to efficiently direct the employee via job coaching, posture coaching, stretching, education, other interventions.
• If a PWR injury requires treatment beyond first aid, the CEIS communicates to H&S, supervisors and/or health services (depending on protocol).
• Effective reporting from supervisors & employees of early on-set of symptoms allows for the largest impact of this program.
• Remains an objective healthcare professional dedicated to preventing Injuries in the people he/she serves.
Functional Task Analysis (FTA)

• Define Critical & Essential functions of the job.
• Postures
  • Repetitive
  • Static
• Movements
  • Frequency
  • Duration
• Weights
  • Lifts
  • Push / Pull
• Work Environment, Schedule, Certifications
• Essential for Post offer testing, RTW and NHO
Functional Task Analysis (FTA)

### Job Title: Substation Operator

#### SUMMARY

<table>
<thead>
<tr>
<th>MOVEMENT</th>
<th>0% NEVER</th>
<th>0-10% MINIMAL</th>
<th>11%-33% OCCASIONAL</th>
<th>34%-66% FREQUENT</th>
<th>67%+ CONSTANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITTING</td>
<td></td>
<td>X</td>
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<td></td>
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<tr>
<td>STANDING</td>
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<tr>
<td>WALKING</td>
<td></td>
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<tr>
<td>FORWARD BENDING</td>
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<tr>
<td>SQUATTING</td>
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<tr>
<td>KNEELING</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>CRAWLING</td>
<td>X</td>
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<td>CLIMBING</td>
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<tr>
<td>REACHING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BALANCING</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CERVICAL SPINE MOTION</td>
<td></td>
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<tr>
<td>DRIVING</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LOWER EXTREMITIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIMPLE GRASP</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>FIRM GRASP</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PINING</td>
<td></td>
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</tbody>
</table>

### MEASUREMENTS

#### LIFT

- **Nitrogen Tank**
  - Approximately 110 lbs.
  - Occasional 11-33% of Workday
  - Lift: Origin - height of around 36' Destination - waist height
  - Replace nitrogen tank performed in a descending lift 110 lbs, however braced by truck bed.

#### CARRY

- **Nitrogen Tank**
  - Approximately 110 lbs.
  - Occasional 11-33% of Workday
  - Lift: Origin - ground to waist Destination - ground to waist shoulder and above head.

- **Hot stick and hand tools**
  - Up to 10 lbs.
  - Frequent 33-66% of Workday
  - Lift: Origin - ground and waist Destination - ground to waist to shoulder above head.

#### PUSH/PULL

- **Nitrogen Tank**
  - Approximately 110 lbs.
  - Occasional 11-33% of Workday
  - Lift: Origin - height
  - Distance: 2’ - 5’

- **Switches**
  - Up to 10 lbs.
  - Frequent 33-66% of Workday
  - Opening and closing switches 10’ - 20’ high with hot stick
Jobsite Risk Analysis (JRA)

• Thorough analysis of the job site to identify cases of:
  • improper use of equipment
  • unsafe body mechanics
  • misapplication of equipment

• Analyze actions within a job task such as:
  • the amount of force needed to push, pull, or grip an object
  • body motion required to manipulate items in the workspace
**Jobsite Risk Analysis (JRA)**

<table>
<thead>
<tr>
<th>Task</th>
<th>Weight Rating</th>
<th>Rep Rating</th>
<th>Foot Rating</th>
<th>Zone Rating</th>
<th>Force</th>
<th>Other Rating</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Breaking Tire Bead</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Removing Old Tire</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

**Description:**
- **Breaking Tire Bead:** EE removes valve stem to expel the air from the tire. EE rolls wheel and tire parallel to tire change machine inside of swing arm bead breaker. EE holds bead breaker arm handle and activates swing arm with feet pedal, bead break arm swings in and pushes bead of tire inward. EE lifts tire to spin it to do either end of tire. EE lifts and turns tire to repeat on other side.

- **Removing Old Tire:** EE positions tire in front of tire change machine. EE reaches over the top of tire and lifts wheel and tire by grasping holes in wheel. EE places wheel and tire on the tire change machine platform. EE activates grasping teeth with feet pedal. EE uses dock head to depress tire from wheel rim. EE uses tire lever to pry underneath bead of tire. EE activates tire change machine to spin while maintaining pressure down on tire lever. EE lifts tire up and repeats. EE lifts tire and places it on the ground.
# Jobsite Risk Analysis (JRA)

## Task: Breaking the Bead

<table>
<thead>
<tr>
<th>Task</th>
<th>Score</th>
<th>Description</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Weight Rating</td>
<td>3</td>
<td><strong>Description:</strong> Use proper posture when lifting wheel and tire so as not to put undue stress on low back</td>
<td></td>
</tr>
<tr>
<td><strong>Tool</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awkward Posture</td>
<td>3</td>
<td><strong>Description:</strong> Change location of foot pedal for bead breaker arm or lengthen handle of bead breaker so EE can stand erect when operating machine</td>
<td></td>
</tr>
<tr>
<td>Zone Rating</td>
<td>3</td>
<td><strong>Description:</strong> Change location of foot pedal for bead breaker arm or lengthen handle of bead breaker so EE can stand erect when operating machine</td>
<td></td>
</tr>
<tr>
<td>Preventative Activities</td>
<td>3</td>
<td><strong>Description:</strong> Finish this task with gentle back extension (located on work appropriate stretches) to reset the spinal joints/disks.</td>
<td></td>
</tr>
</tbody>
</table>
Body Awareness Program

What is Body Awareness?

Body awareness is described as the body’s recognition of where it is in relation to space. Essentially, it is another term for human balance. Body awareness consists of balance-oriented movements that incorporate multiple muscle groups in order to keep the body in a stable position. Body awareness is an important aspect of our human balance and without it, one may be at a higher risk for injury.

What Muscles Are Involved?

Body awareness involves numerous muscles throughout the body functioning together to help maintain posture and balance. The body awareness program will focus on the muscle groups that help stabilize the spine, pelvis, and both upper and lower extremities. Specifically, the “core muscles” located in the midsection of the body will be targeted and strengthened. These include areas like the hip flexors, abdominal muscles, lumbar/back muscles and thighs.
## Body Awareness Program Week 1

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
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<tbody>
<tr>
<td>Balance Exercises</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Single Leg (SL) Stand *</td>
<td>3</td>
<td>15 sec</td>
<td>3</td>
</tr>
<tr>
<td>Balance Ball (BB) Sitting #</td>
<td>3</td>
<td>15 sec</td>
<td>3</td>
</tr>
<tr>
<td>Split Squat *</td>
<td>3</td>
<td>10 each leg</td>
<td>3</td>
</tr>
<tr>
<td>Front Squat *</td>
<td>3</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Prone Opposite Arm and Leg Lift</td>
<td>3</td>
<td>10 each side</td>
<td>3</td>
</tr>
<tr>
<td>SL Stand Eyes Closed *</td>
<td>3</td>
<td>15 sec</td>
<td>3</td>
</tr>
</tbody>
</table>
Ergonomic Education

Proper Posture for Working Overhead

- Poor posture and body mechanics can lead to undue stress to the whole body.
- From the neck into the shoulders down the spine all the way down to your knees and feet.

Proper posture is:
- Keep your shoulders back
- Use your stomach muscles to keep your back straight
- Slightly bend your knees to ease pressure on the hips and knee(s)
- Use quality shoes that offer good support

POWER Zones

Ready Position=POWER!
Ergonomic Education

Postures to look out for

WEEK #3

Bottom Up. Keep loads close and in front of you.

Limit Chicken Wing when possible. Elbows In.

Avoid Excessive Bending over

Minimize overhead reach when possible.

Excessive looking up. Counter balance by looking down after looking up.

The Flexibility Program

WEEK #4

A daily warmup routine will help to maintain range of movement of joints and tissue and prepare the body part for the task at hand.

See your Athletic Trainer for job specific stretches/warm up activity
Health and Wellness

• Those with a chronic disease (HTN, DM) AND/OR are obese are
  • 2 times more likely to have a WR injury
  • 5 times more likely to NOT RTW
Health and Wellness

• Contests
• Educational Classes and Posters
• Stretching Programs
• Heighten awareness of trends
• Identify Wellness Captains or Committee
• One on One interactions
Goals of Early Intervention

- Injury Prevention – Stop the progression
- Task modification to avoid injury
- Identify and Diminish Root Cause
- Body Awareness & Postural Endurance
- Develop Injury Management Onsite
- Set Expectations for Long Term Health
  - Life style choices
  - Strength and conditioning
  - Education on preventative medicine
- Establish a Culture for Early Reporting
Data Driven Process

- Sophisticated Electronic Medical Records system used to capture and utilize data.
  - Ensures efficient tracking of case details to speed recovery
  - Allows for extensive trend analysis
  - Generates predictive data regarding risk potential.
Intervention Changes Culture

• Relationship based:
  • Effective listening skills
  • Psychosocial training
  • Objective Health Care professional

• Effective evidence-based solutions

• Consistent, Certain and Positive feedback and reinforcement
The Early Reporting Culture

The Early Reporting Culture is characterized by:

- Decreased threshold of perception for developing injury situations.
- The need to take immediate action to bring risk levels down to acceptable levels.
- The assumption that reports of elevated risk will be effectively acted upon.
- A continuous awareness of the risk potential in situations.
How to Implement

• Typically takes 90-days to get process implemented.
• Changes in culture start at about 3 months.
• Normal Steps to implement are:
  1) Conduct Risk Analysis – MSD risk high?
  2) Determine who will provide the CEIS services.
  3) Identify partner to provide personnel and systems.
  4) Inform managers and supervisors of the program and how it works.
  5) Inform workforce of the program
  6) Begin services and locate immediate wins with employees.
  7) Conduct monthly process reviews with management.
Questions?
Thank You!

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