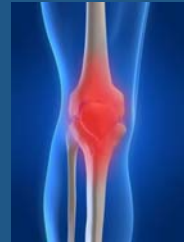




The Technology of Human Performance

## Are You Hiring Your Next Injury? A Best Practice for Prevention



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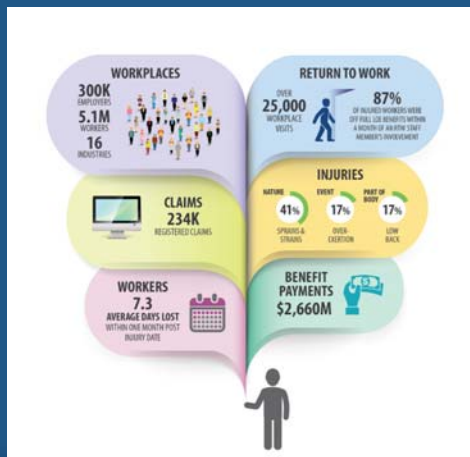


## Overview

- What are the Issues?
- What is Post Offer Employment Testing?
- Steps to Developing a Program
- Research
- Legal Requirements



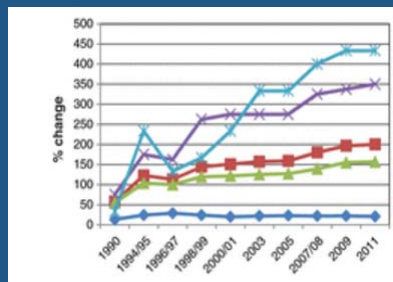
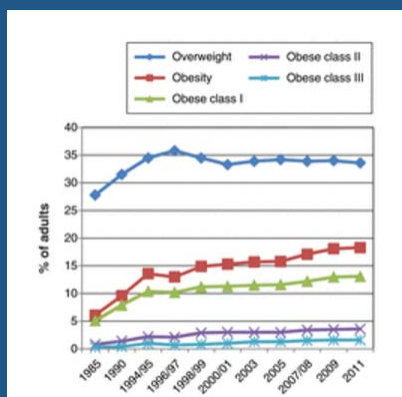
## Issues Facing Employers Today - MSDs



2014 WSIB Highlights Schedule 1 and 2



## Issues Facing Employers Today - Obesity





## Issues Facing Employers Today - Age

### Aging Workforce

- Stats Canada – 2011
  - Between 2001-2009 – 55 and over grew from 10% to 17%
  - By 2021 - 1 in 4 in labour force projected to be 55 or over (25%) [Stats Canada (2011)]



## Issues Facing Employers Today - Age

### Ageing Workforce [CCOHS]

- Older Workers Are Injured Less Frequently, But Have Higher Severity.
- More back injuries vs. eye and hand injuries
- Increase MSDs
- Older Workers Have A Higher Number of Co-Morbidity Conditions (Heart Disease, Diabetes, Pulmonary, etc.)



## Issues Facing Employers - Age

- Ageing workforce
  - Physical Changes
    - Changes start around 40-50 yo
    - 15-20% ↓ in strength between 20-60 yo – older workers are working closer to their max
    - ↓ ROM – problem if they need to make unusual movements
    - 40% ↓ functional breathing capacity between 30-65 yo
    - ↓ dynamic balance
    - Less sleep regulation – problems with shift workers
    - Vision and auditory functions decrease



What is Post Offer Employment Testing?



## Who Can Safely Lift 50 Ibs?



How Would You Know?



## Identifying Program Necessity

- Data - Trends
  - Significant MSD injuries
  - Short Tenure Employees Getting Hurt
  - Older Workers Being Hired/General Worker conditioning
  - Frequent Repeaters
  - Costs/Durations of Claims (WC and Disability)





## Identifying Program Necessity

- What is the cost of MSD to your company?
- What is the cost of the program?
- What is the return on investment?
- How long will it take to see a positive return on investment?



## Steps to Developing a Program



## What is the Process?

- 1 • **Project Orientation**
  - Review Existing Data – Labour/Mgmt Meetings– Establish Timelines
- 2 • **Job Site Analysis**
  - Physical Demands Analysis – Interview SME’s – PDA Reports
- 3 • **Develop/Validate Test Protocol**
  - Develop Test Protocols – Validation Testing
- 4 • **Program Deployment**
  - Establish Cut Scores & Test Procedures- Training – Validation Report
- 5 • **Post Implementation Management**
  - Pass-Fail Disposition- Summary Reports- Ongoing Review



## Physical Demands Analysis

PHYSICAL DEMANDS ANALYSIS											
Job Title:	Grade "C" Fur Grader		Area/Department:		Fur Grader						
STRENGTH REQUIREMENTS	Duty	Reg.	Frequency					Mass (lb)		Comments	
			Est.	1	2	3	4	5	Max.		Usual
Streer	Lifting	Floor-Bench	X						60	20	Lifting boxes of furs for sorting or packaging.
		Bench-Shoulder									
		Above-Shoulder									
Lifting - shipping	Carrying		X						20		Carrying furs 10-20 feet to sorting racks.
Lifting - Crate	Pushing	Cart									
Carrying - crate		Shoulder									
	Pulling	Cart	X			X					Pulling furs to counting and stringing area.
Pushing - double		Shoulder									
Pushing - garbage	Grip		X					X			8 in
Pulling - pallet jack	Push										2 in
Pulling - garbage	Handing		X					X	6.75		Lifting fur for inspection.
Lower Extremity	Fingering		X					X			
Pedal	Reaching	Floor-Bench									
		Bench-Shoulder									
Grip R.		Above Shoulder									
	Hand Grip - band	Ab/Ad-duction									
	Foot Action										

prorated forearm, cylindrical grasp with a 18 inch hand spread. This pull was completed from the storage unit to the loading dock on a daily basis. The height of this pull occurs with the hands located between elbow/waist height. This pull was completed in the warehouse on a concrete surface.



## POET Protocol Development



Task Performed

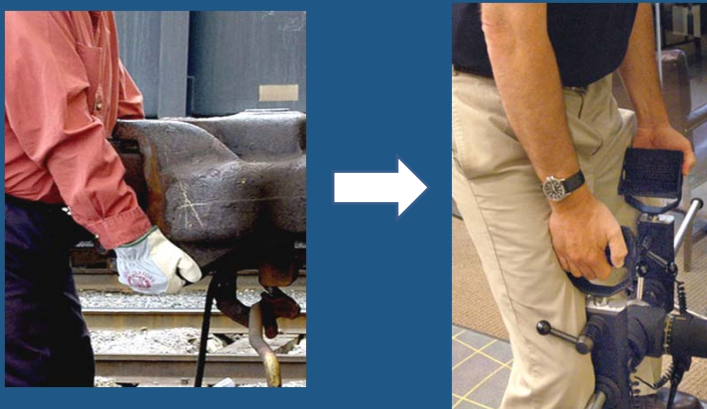
Task Measured

Task Simulated



Develop Test Protocol

## POET Protocol Development







## POET Protocol Development



## Post Offer Employment Testing



Clinical Test



Objective, Measureable Data

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## Post Offer Employment Testing

**Informed Consent for Physical Testing and Release of Medical Information**

I agree to engage voluntarily in a physical testing program in order to ascertain whether or not I have the ability to perform the essential functions of work as an employee of XX. This information may also be used in the future to assist XX in ergonomic research or in the event of an injury to compare your functional abilities at the time of test with those at the time of injury and/or any time during the return to work process. I understand that the activities are designed to cause a gradually increasing workload on the cardiovascular system. There is a risk of cardiac changes that might occur during or following the exercise. These changes might include abnormalities of blood pressure or heart rate.

I understand that I will be performing activities that will involve gripping, pushing, lifting, standing, cutting, manipulating objects, and reaching above the level of my head. If I am unable to perform any of these activities due to disability, I understand that it is my responsibility to advise of the need for accommodation in the testing process. The administration of the test may be delayed in order to make appropriate arrangements for accommodation and to obtain the necessary verification of the disabling factors which need to be taken into consideration.

I understand that I am responsible for monitoring my own condition throughout the testing process and should any unusual symptoms occur, I will advise my participation and inform the evaluation of the symptoms. In the event that medical clearance must be obtained prior to my participation in the testing program, I agree to provide written permission from my physician and to the release of any required medical records.

I further agree that all test results and related records may be shared with XX and/or its designated agents, and to BTE Technicians.

I agree to assume the risk of all activities required to determine my suitability for the essential job functions. I further agree to hold harmless XX, BTE Technicians, and any staff members conducting the testing program, from any and all claims, both, tortious, or medical causes of action for damages, including but not limited to such claims that may result from my injury or death, accidental or otherwise, during or arising in any way from the test activities.

In signing this consent form, I affirm that I have read this form in its entirety and that I understand the nature of the testing program. I also affirm that my questions regarding the physical testing program have been answered to my satisfaction.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
Address: \_\_\_\_\_  
(Street) (City) (Postal code)  
Telephone # (home) \_\_\_\_\_ (work) \_\_\_\_\_  
Personal Physician: \_\_\_\_\_ Telephone # \_\_\_\_\_  
Physician's Address: \_\_\_\_\_  
(Street) (City) (Postal code)

Common sense is your best friend. NO one wants to be hurt.

YES NO

Have you had any back pain in the last 12 months?  
Do you often have pain in your neck?  
Do you often have pain in your arms or wrists?  
Do you often have pain in your shoulders or with mild weather?  
Do you ever have any dizziness?  
Are you ever short of breath?  
Are you ever in there a good bit longer?

Comments: \_\_\_\_\_

I hereby certify that the above information is true and correct.

Participant's Signature: \_\_\_\_\_  
Any "YES" response cannot be used as a basis for medical clearance.


Medical Clearance Form

I hereby certify that, to the best of my knowledge, the above information is true and correct.

List Any Limitations or Precautions: \_\_\_\_\_

Signature of Physician: \_\_\_\_\_  
Type or Print Name: \_\_\_\_\_  
Date: \_\_\_\_\_



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## Post Offer Employment Testing

- What it is not
  - Isokinetics (if cut scores employed)
  - Tests with standards beyond the measured requirements of the work
  - Tests with cut scores that are not relative to how the work is performed
  - Tests that unlawfully discriminate against prospective employees



## On-Going Program Management

- Program oversight
  - Regulatory compliance
  - Quality management
  - Test administration process
- Program results reporting
- Program update and evaluation



Research



## What Does the Research Say?

### **Study 1 - The Effects of Pre-work Functional Screening on Lowering an Employer's Injury Rate, Medical Costs and Lost Work Days.**

- Significantly less lost work days in screened population
- Screen employees significantly lower medical costs

### **Study 2 - Post Offer, Pre-Placement Testing Industry**

- Medical costs dropped from over \$70,000 – < \$10,000 for sprains & strains
- Severity and overall costs significantly reduced



## What Does the Research Say?

### **Study 3 - A New Pre-employment Functional Capacity Evaluation Predicts Longer-Term Risk of Musculoskeletal Injury in Healthy Workers**

- Predicted risk of any injury, any back injury, any manual handling injury and any back injury from manual handling during the long term (1.6-6 years)

### **Study 4 - Shoulder injury reduction with post-offer testing**

- Incidence of shoulder injuries 0% in tested group vs. 3.8% in untested group
- 37% decrease in costs related to shoulder injuries
- For every \$1 spent, saved \$14.



## What Does the Research Say?

### **Study 5 – Medical & Pharmacy Costs for New Hire Nurses Following a Physical Strength Evaluation Screening on a Large Health System**

- Examined health care & pharmacy claims within 1<sup>st</sup> year of employment
- 3,205 nurses included in study (86% females)
  - 1,120 part of historical control group,
  - 2,085 included in the tested group
- Total estimated cost avoidance over 2 years was \$2,692,152
- Total estimated reduced pharmacy costs over 2 years was \$504,653
- Less cost of program estimated savings - \$1,598,403 per year (ROI 7.8:1)



## Legal Considerations



## Post Offer Employment Testing

### Consider:

- If you are going to rescind a job offer based on functional ability – you'd better be right
- The process is highly regulated
- If requirements are met – the process is legal



## Legal Considerations

- Canadian Human Rights Act (CHRA)
- Employment Equity Act (EEA)
- Provincial Human Rights Legislation
- Case Law (i.e. Merion and Grismer cases)
- Union Grievances



## Best Practices for POET

- Need to have accurate physical demands analysis
- Consistent testing from one candidate to the next
- Testing standards not set in relation to age or gender of candidate
- Open and able to accommodate those with disabilities
- Test current employees against standards set
- Third party validation to statistically prove protocols are predictive
- Monitor results of candidates to identify adverse impact



## How is Success Measured?

- **Direct Costs**
  - Reduction in Injuries
  - Reduction in Early Turnover
  - Reduction in Claim Severity



## How is Success Measured?

- Indirect Costs
  - Reduction in Overtime
  - Reduction in New Hire Time to Productive
  - Improved Productivity/Presenteeism



Thank you!

[http://www.btetech.com/impact\\_assessment.htm](http://www.btetech.com/impact_assessment.htm)

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