

An Overview of Occupational Health

Jeremy Beach

Westin Hotel, Edmonton

19th September 2009

Learning objectives

1. Attendees should have acquired or updated their knowledge of the scope of occupational health
2. Attendees will understand the interactions of the main stakeholders in the provision of occupational health services, and how these interact with health services generally.
3. Attendees should have acquired or improved skills allowing them to better recognize, assess and manage individuals in whom illness and injury may impact on ability to perform the full range of their normal work duties

What is Occupational Health

The promotion and maintenance of the highest physical, mental, and social well-being of workers in all occupations by preventive departures from health, controlling risks, and adapting of work to people and people to their jobs

(ILO/WHO 1950)

More simply

- The effects of work on health
 - Work related health problems
- The effects of health on work
 - Fitness for work

Individuals and populations

- Individuals
 - Investigation and management
 - Assessment of fitness
 - Adapting work and workplace
- Populations
 - Investigations identifying cause and effect
 - Health surveillance
 - Health promotion

Who is involved

Managers/employers

Workers/representatives

Government

Alberta

prevention/legislation/enforcement

- Alberta Human Resources and Employment
 - Legislation, Policy and Technical Services.
 - Compliance and inspection
 - Investigation
 - Partnership program
 - Information and awareness
 - Regulatory review

Alberta compensation/rehabilitation

- Workers Compensation Board
 - Not for profit mutual insurance
 - Funded by employers
 - Protects against being sued by employees
 - Not compulsory for all industries
 - 90,000 employers, >1,000,000 workers
- Millard Health Centre

Role of the physician

- Effects of work on health
 - Consider possibility injury/illness is work-related. If more likely than not report to WCB
 - Management usually similar to non work-related BUT consider effect of continued exposure and ‘public health’ issues
- Effects of health on work
 - Fitness for work at various points – including post-illness

Risk assessment

Hazard x likelihood = risk

- Crucial role in
 - understanding individual has had significant exposure at work
 - Prevention
 - Fitness for work

How common are work-related illness and injury

- Data sources
 - WCB
 - Reportable incidents
 - Both have problems – incomplete + fragmented
 - Specific surveys/industry data
 - Population data
 - International comparisons

Injuries and diseases reported to WCB – Alberta 2003-2007

	2003	2004	2005	2006	2007
Person years	1,263,113	1,353,214	1,470,321	1,560,078	1,611,892
LTclaims	36,575	34,432	35,460	36,701	34,227
LTC rate*	2.9	2.5	2.5	2.4	2.1
Median w'days lost	8	8	7	7	7
Duration rate*	82	66	57	54	48

Fatalities, Alberta, 1996-2005

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
MVI	33	49	37	33	30	40	29	44	34	39
Work incident	32	36	33	39	51	33	28	25	35	34
disease	26	35	35	42	37	45	44	58	55	70
Fatality rate (mil /per/yrs)	90	115	92	98	102	98	80	100	89	97
Total	91	120	105	114	118	118	101	127	124	143

Types of work-related disease

- Musculo-skeletal
- Psychological
- Respiratory
- Dermatological
- Special senses
- Cardiovascular
- Neurological
- Infectious

Examples

Case 1



Straightforward diagnosis

- Lots of potential causes in differential diagnosis
 - Investigations for underlying causes normal
 - Clear history of vibration exposure – grinding rough edges off castings

Management

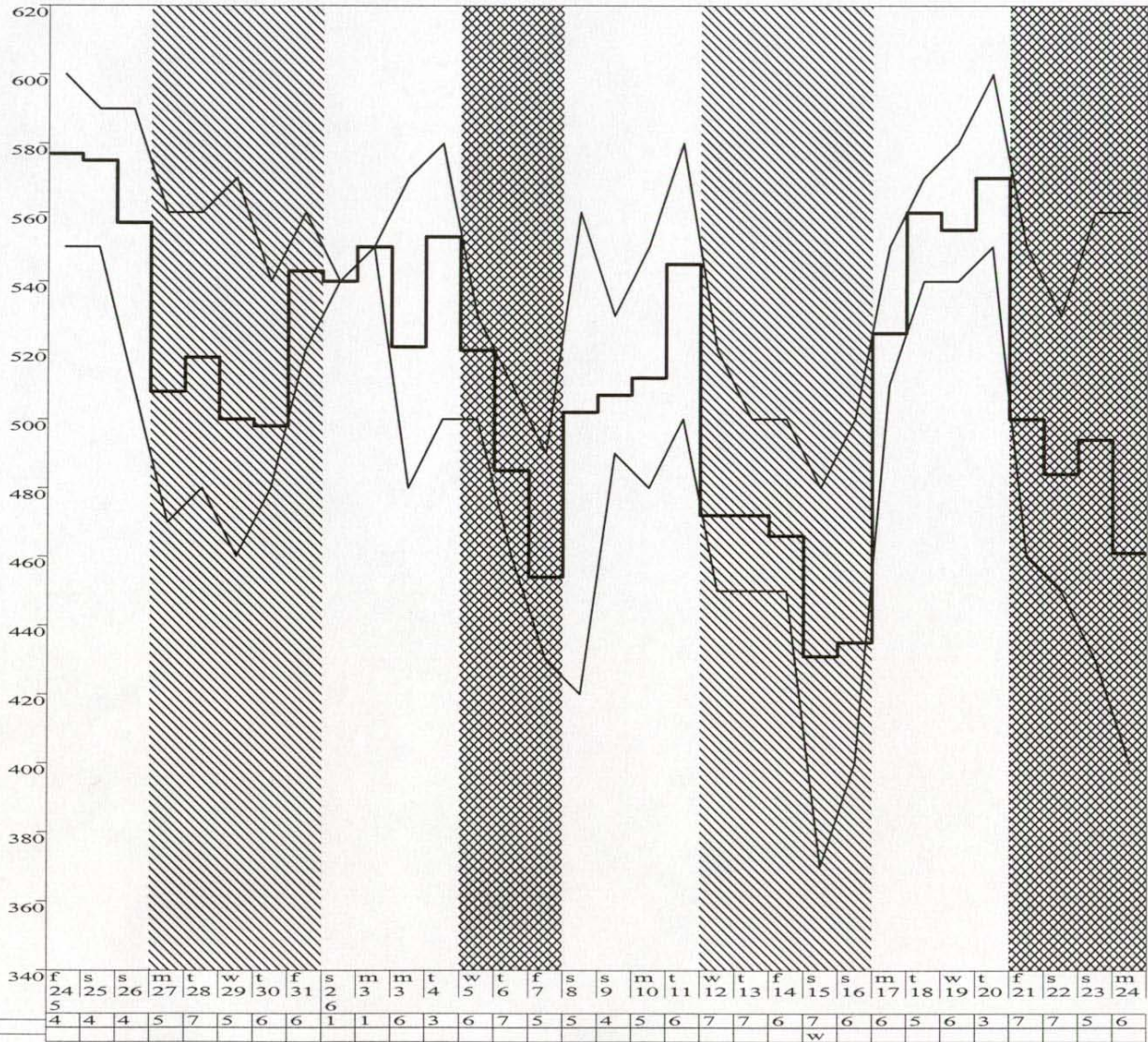
- Stop smoking, avoid cold exposure, hand care aspirin, possible calcium antagonist
- Reduce exposure – unlikely to eliminate
- Should we consider recommending job change
- What about other workers
 - They could have disease
 - They may be at risk of future disease
 - Reporting – can this help reduce risk?

Case 2

- New onset respiratory symptoms over several years – gradually worsening
 - Better at weekends and on holidays
- Works manufacturing OSB
 - No access to workplace
- Normal lung function
 - FEV1 3.35 (83%) – 13% reversibility
 - FVC 4.15 (85%) – 10% reversibility
- Methacholine test normal

*Interpreted
Pg:1,1;1,1 Pr:0
P#:HHoffman
Pn:
Sd:24/05/02
Ed:24/06/02
Db:DEFAULT

PEF (1cm = 20 l/m)



OASYS score 3.83

Diagnosis

- Work-related asthma
 - True occupational asthma
 - Work aggravated asthma
- Commonest type of work-related respiratory disease – look out for new onset adult asthma
- Many different causes - >250

Management.....

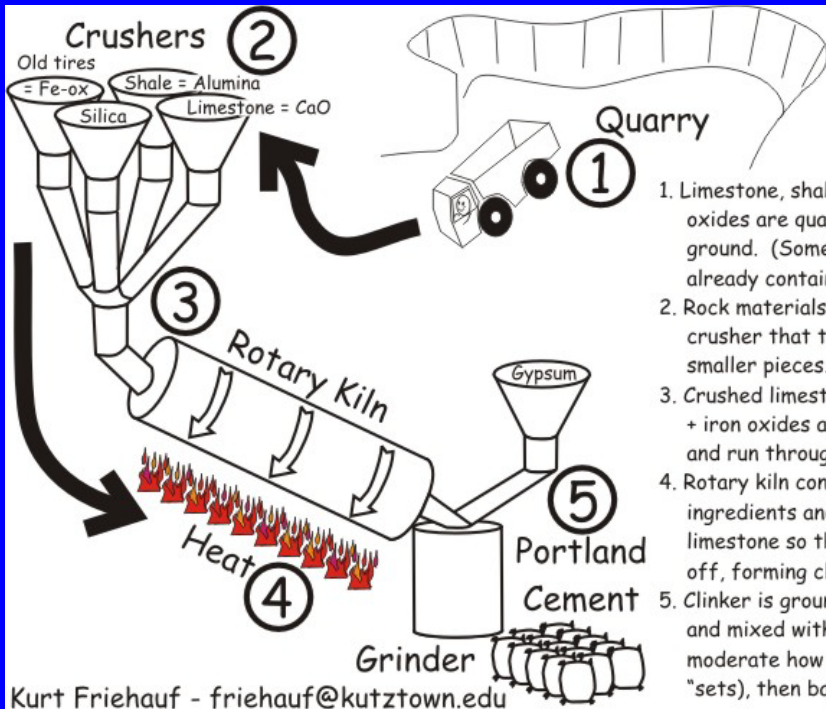
- Standard asthma drugs
- Importance of eliminating exposure for individual
 - Many end up unemployed
- Implications for controlling risk in the workforce
 - Not a simple dose response relationship
 - Atopy and smoking as risk factors

Case 3

- 53 year old man has an acute MI – no complications.
- Six weeks post MI has occasional angina on relatively strenuous exercise – otherwise well.
- Wants to return to work

Job

- Works ‘on the shelf’ in cement works
- Stands on platform in pre-heat area next to kiln entrance - adds components into cement mixture as it is being prepared
 - Kiln temp up to 1000°C
 - Wears heavy heat resistant clothing
 - Communication poor
 - Temp up to 50°C inside suit
 - Difficult to drink and maintain fluid balance



1. Limestone, shale, silica, and iron oxides are quarried from the ground. (Some limestones already contain enough silica).
2. Rock materials are run through a crusher that turns rock into smaller pieces.
3. Crushed limestone + silica + shale + iron oxides are mixed together and run through a rotary kiln.
4. Rotary kiln continuously mixes ingredients and "calcines" limestone so that CO_2 is driven off, forming clinker.
5. Clinker is ground to fine powder and mixed with gypsum (helps moderate how fast the cement "sets"), then bagged for sale.

Kurt Frieauf - frieauf@kutztown.edu



Questions

- Is he fit to return to his own job?
 - Not work-related but clear implications for work
- If not, why not?
- Can he return to another job?
 - What happens if the cement works has no other jobs?

Fundamental issue in Fitness for work

Selection v discrimination

Don't substitute fitness for safety!

The importance of workplace exposure assessment

You might think hazards are well
controlled!

Summary

- Scope of OH
- Stakeholders
- Need to consider work-health interaction