

Overview of Occupational and Environmental Medicine

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Faculty/Presenter Disclosure

- **Faculty:** Anil Adisesh, MB ChB, MSc, MD, FRCP, FFOM, FRCPC
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 - **Other:** Director - OccupAI Inc. start-up in occupational health informatics, Chief Medical Officer at Canadian Health Solutions Inc.

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 - None

Mitigating Potential Bias

- The information presented in this program is based on recent information that is explicitly “evidence-based”.
- This Program and its material is peer reviewed and all the recommendations involving clinical medicine are based on evidence that is accepted within the profession; and all scientific research referred to, reported, or used in this CME/CPD activity in support or justification of patient care recommendations conforms to the generally accepted standards

Learning Objectives

By the end of this session, participants should be able to:

1. Describe the roles and functions of an occupational health team and those of occupational physicians
2. Recognize the common categories of occupational medical conditions
3. Explain the relationship between the occupational and environmental aspects of OEM

Occupational Health

Occupational health is an area of work in public health to promote and maintain the highest degree of physical, mental and social well-being of workers in all occupations.

Its objectives are:

1. The maintenance and promotion of workers' health and working capacity;
2. The improvement of working conditions and the working environment to become conducive to safety and health;
3. The development of work organization and working cultures that should reflect essential value systems adopted by the undertaking concerned, and include effective managerial systems, personnel policy, principles for participation, and voluntary quality-related management practices to improve occupational safety and health.

Occupational Health Teams

- Certified Occupational Nurses – Occupational Health Nurses
- Nurses working in Occupational Health – non-certified in OH
- Administrative Assistant
- Physician
 - Specialty trained in Occupational Medicine
 - Canadian Board of Occupational Medicine
 - Other qualifications / experience
- Occupational Hygienist
- Safety Professional

Occupational Health Teams

- In-House provision
- Group provision
- Contracted services
- Social provision



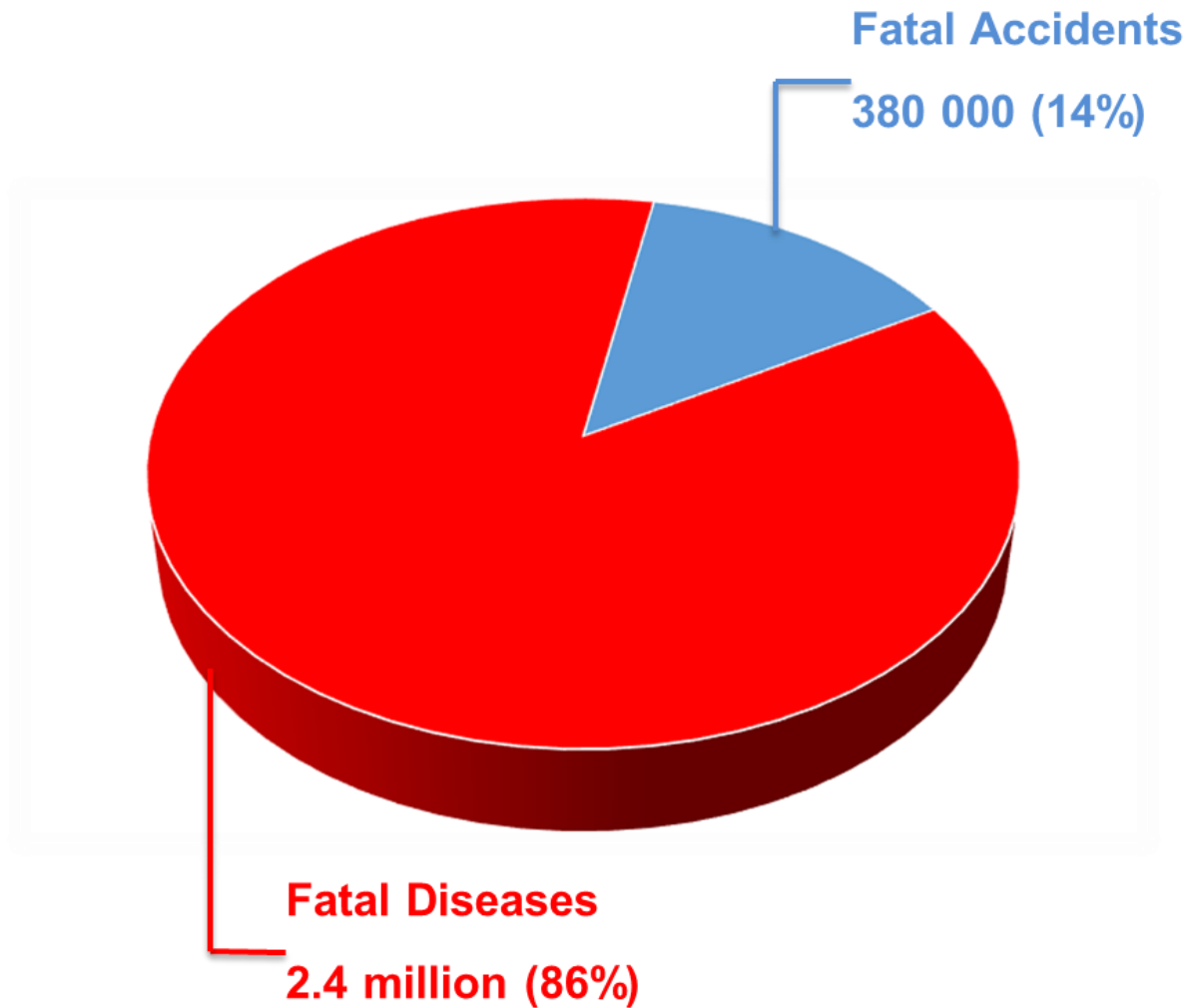
Occupational &
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Mad-Hatter Symptoms Confused By Diabetes

Mims Magazine 1993; 20:30



Global Estimates of Occupational Accidents and Work-Related Illnesses 2017



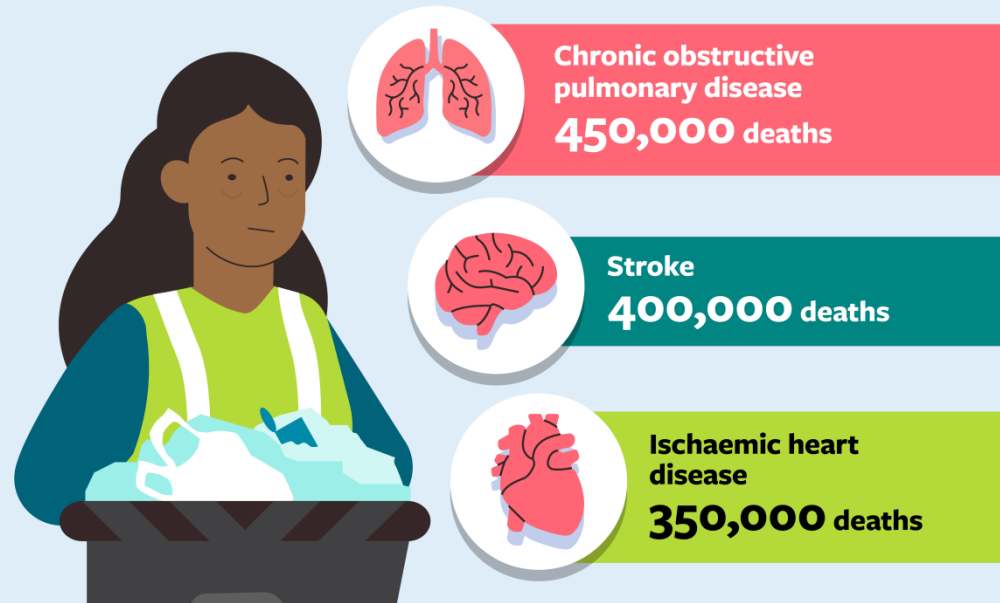
Hot off the press!

WHO/ILO Joint Estimates of the Work-Related Burden of Disease and Injury 2000-2016



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The work-related health conditions that cause the most deaths per year are



#WorkersHealth

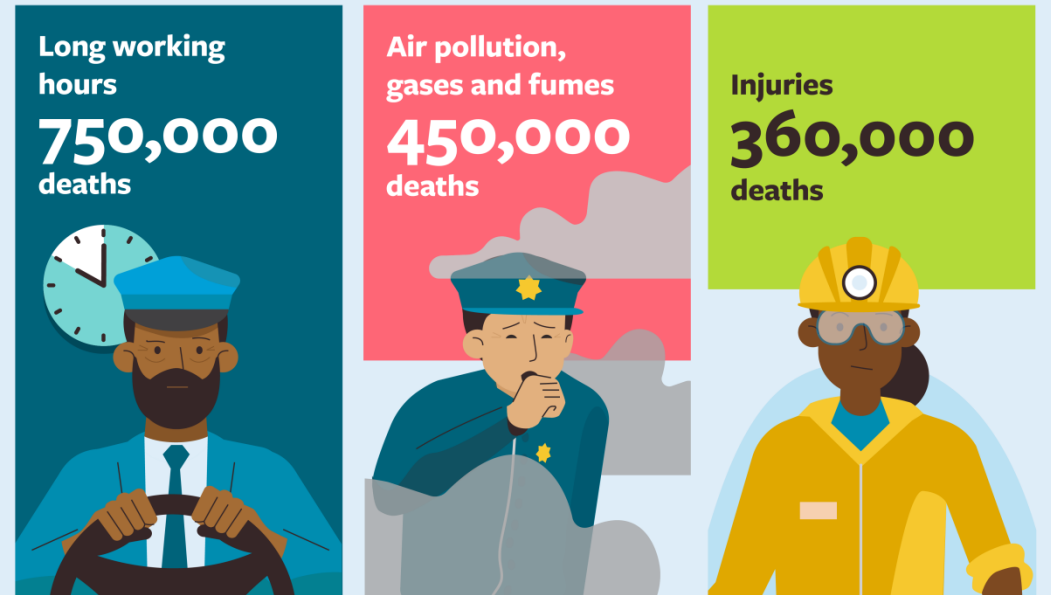


International
Labour
Organization



World Health
Organization

The risk factors at work which cause the most deaths per year are



#WorkersHealth

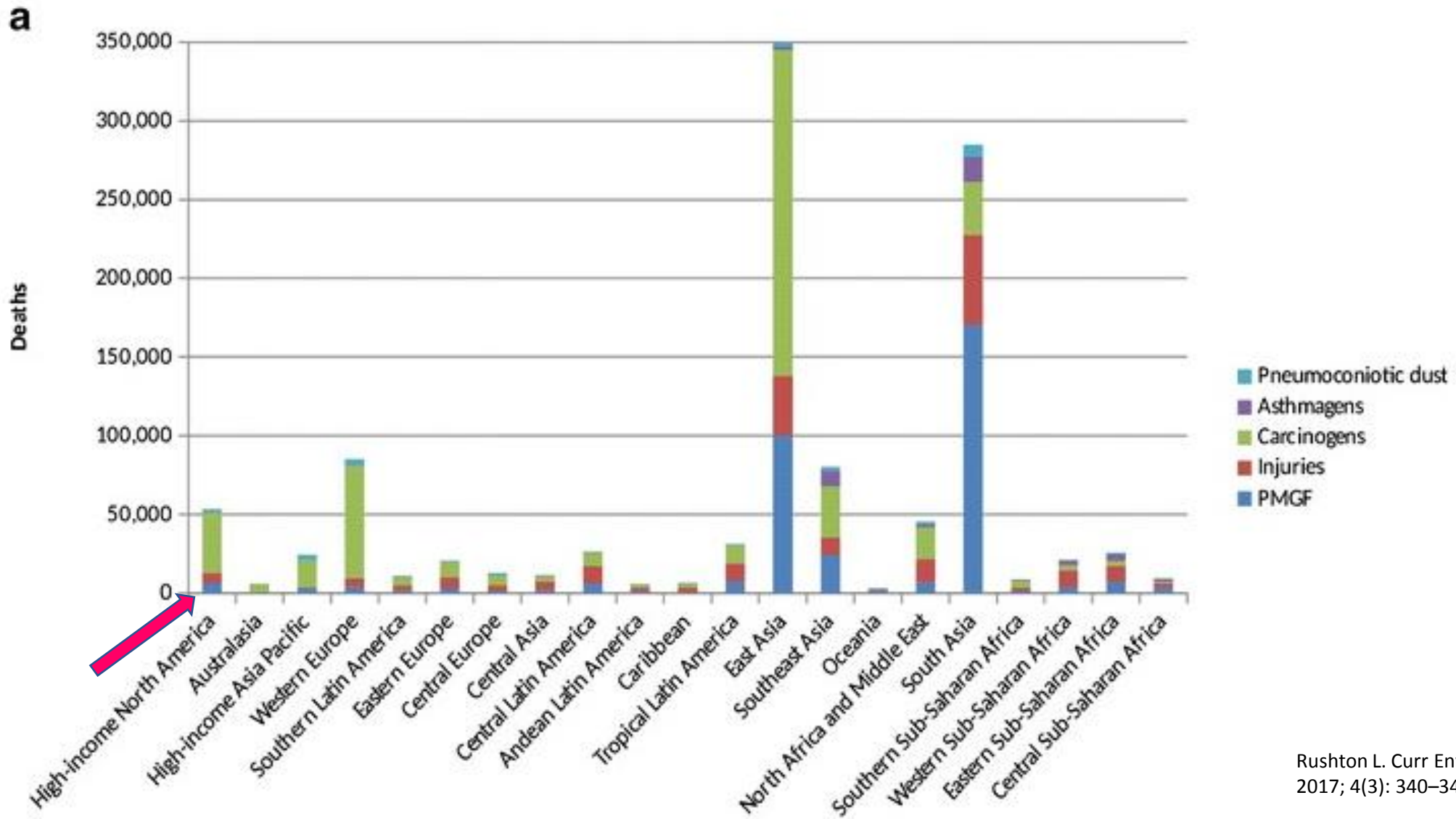


International
Labour
Organization



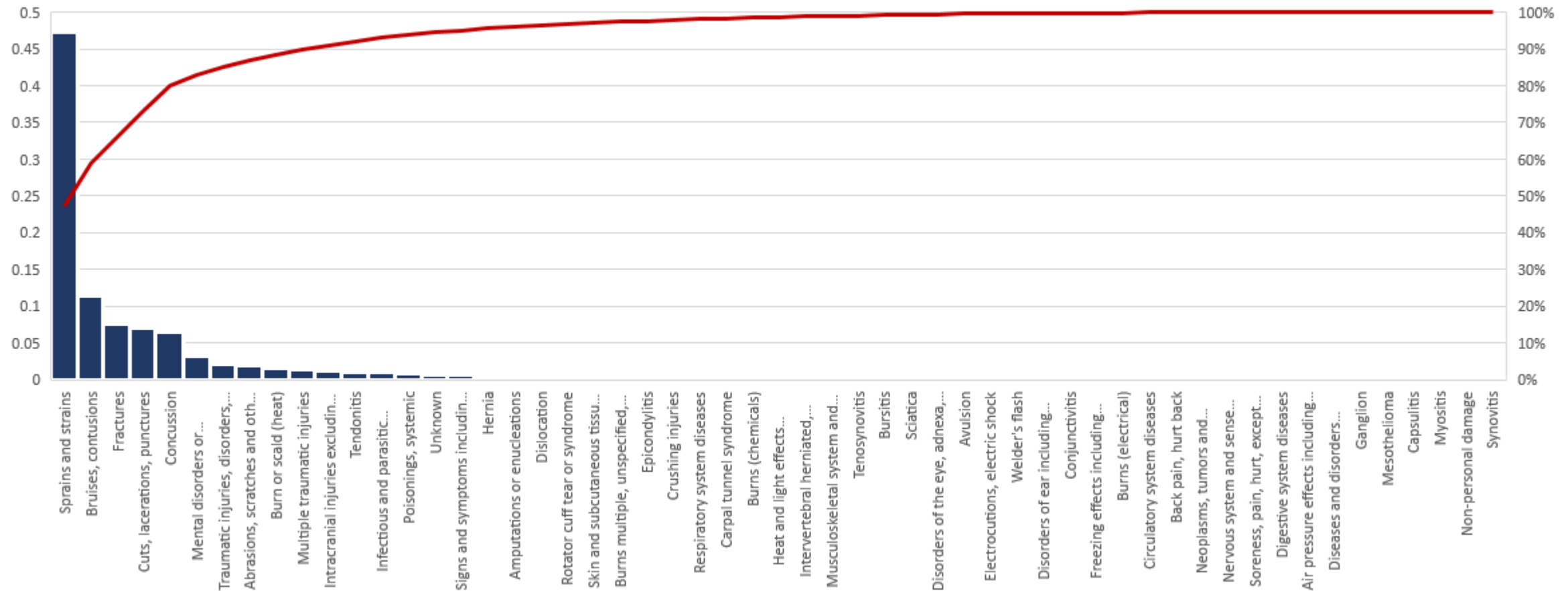
World Health
Organization

Numbers of Global Occupationally-Related Deaths in 2015 by WHO Region and Major Disease Group

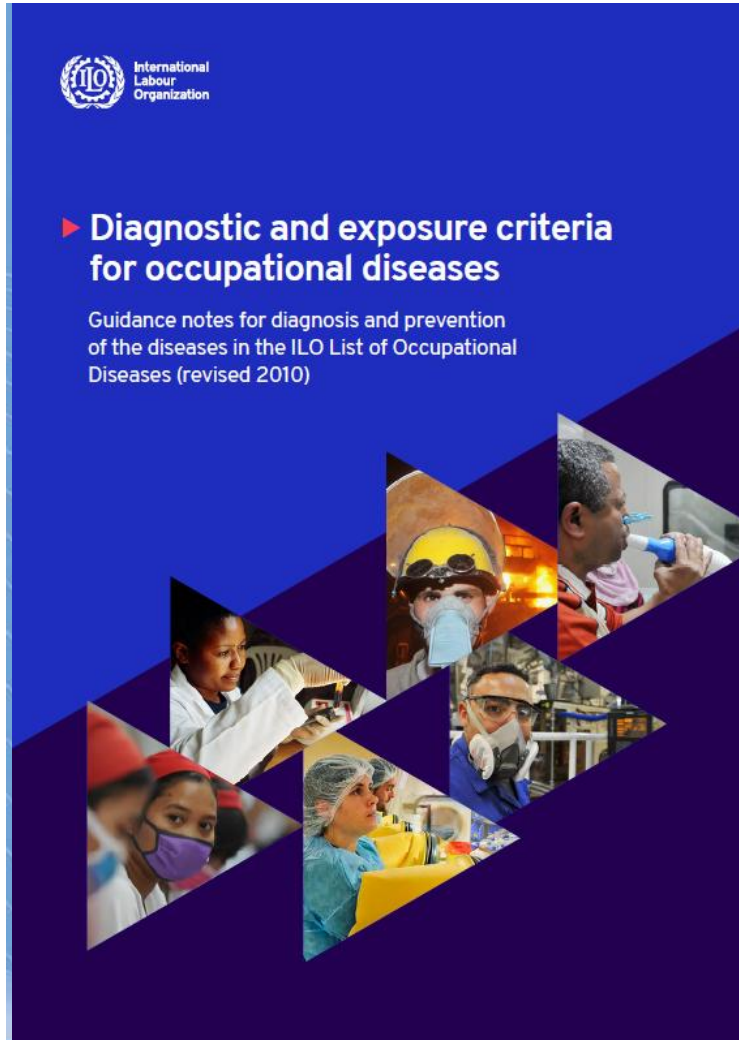


What is Seen in Ontario?

WSIB 2018 Lost Time Claims by Nature of Injury (%)



International Labour Organization (ILO) List of Occupational Diseases



97 listed diseases with 9 open items

4 categories:

Category 1 Occupational diseases caused by exposure to agents arising from work activities, divided into a section for diseases caused by chemical agents, diseases caused by physical agents, biological agents and infectious or parasitic diseases.

Category 2 Occupational diseases by target organ systems; 4 sections; Respiratory, Skin diseases, Musculoskeletal disorders and Mental and Behavioural disorders.

Category 3 Occupational cancer listed by specified agents.

Category 4 other diseases.

What does an Oiler do for a Living?

Job Description: Marine Oiler

- 1) Oils and greases moving parts, such as gears, shafts, and bearings, of engines and auxiliary equipment used to propel maritime vessels: Examines machinery for specified pressure and flow of lubricants.
- 2) Fills oil cups on machinery with grease and lubricating oil, according to machinery lubrication instructions.
- 3) Reads pressure and temperature gauges and records data in engineering log.
- 4) Assists Engineer in overhauling and adjusting machinery.
- 5) May lubricate deck machinery when vessel is unloading cargo

Think Work!

- What is the patient's job?
- Could the disease be due to a work exposure?
- What has the patient been exposed to at work?
- Is the exposure enough (dose) to cause the disease?
- Did the exposure start long enough ago (duration) to cause the disease?

Taking an Occupational History

What job do you do now (job title)?

What do you do at work (activities)?

Chronologically list all jobs from leaving school
(with dates, if possible)

Do you know of any Hazards or Risks in your work?

Are there any vapours, gases, dusts or fumes?

- List all materials used by the worker (Safety Data Sheet, SDS)
- Estimate duration and intensity of exposure to substance

Do you have to wear any protective equipment at work e.g.
masks / gloves

Taking a History for Occupational Disease



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Environmental Medicine

Is there any special ventilation of the workplace?
(general, local, enclosed process)

Are your symptoms the same, better or worse on rest days? *Followed by* Are your symptoms the same, better or worse on holidays?

If better to either question = Work-effect

Have you had to take time off work because of this condition?

Do you know of anyone else in your workplace with similar problems?

Had anything changed in your work or workplace before the onset of your symptoms?

Occupational History Recording Tool

Why use it?

- Time management
- Record keeping
- Communication
- Collaboration
- Assessment
- Environmental exposures
- Disclosure of information
- Prognosis
- Special populations (adolescents, pregnant workers)

About Your Work and Your Health and Wellbeing

Your answers to these questions will help your healthcare provider understand the possible effect of your current or previous work on your health/wellbeing and of your health on your ability to do your work.

- What is your current employment status? (Check and then circle most appropriate answer)
 - ☐ Employed by an organization full-time / part-time / on leave (Go to question 3)
 - ☐ Self-employed full-time / part-time / on leave (Go to question 3)
 - ☐ Full-time university or college student / Homemaker / Not employed / Long term disability benefits/ Retired (Go to Question 2)
- If not currently employed, when was your last approximate date worked and how long did you work at that job? Last date worked YYYY/MMM ____ / ____

How long were you employed in your last job ____ Years ____ Months (Go to question 4)
- How long have you been at your current job? ____ Years ____ Months
- For your current or last job worked, what was your occupation/job title? (Please give your full job title and be specific. For example: Fruit picker, Legal secretary, Restaurant manager, Secondary school teacher, Dry waller, Heavy Equipment Mechanic ...)
- For your current or last job worked, what are/were your main tasks or duties in the job? (Please give details, for example: picking and carrying apples and peaches, preparing legal documents, managing the operations of a restaurant and serving customers, teaching mathematics, taping and sanding walls, grinding and using impact wrenches...)
- Do / did you work in more than one job at the same time? Yes / No

Details _____
- Which one of the following best describes your working schedule in your current main job (or last job worked)?

A night shift is work during the early hours of the morning, after midnight. An evening shift is work during the evening ending at or before midnight. Check ONE only:

<input type="checkbox"/> Regular daytime schedule or shift	<input type="checkbox"/> Regular evening shift
<input type="checkbox"/> Regular night shift	<input type="checkbox"/> Irregular schedule, or on call
<input type="checkbox"/> Rotating shift, changing periodically from days to evenings or to nights	<input type="checkbox"/> Split shift, consisting of two or more distinct periods each day
<input type="checkbox"/> Other, please specify _____	
- Are there any hazardous exposures (toxic chemicals, dusts such as silica or asbestos, blood or infectious agents, noise, vibration, radiation, temperature extremes, lifting, awkward postures, work at heights, stressful work, bullying, violence etc.) that you are worried about in your current job or for your previous jobs? Yes / No

About Your Work and Your Health and Wellbeing

Your answers to these questions will help your healthcare provider understand the possible effect of your current or previous work on your health/wellbeing and of your health on your ability to do your work.

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2. If not currently employed, when was your last approximate date worked and how long did you work at that job? Last date worked YYYY/MMM ____ / ____

How long were you employed in your last job ____ Years ____ Months *(Go to question 4)*
3. How long have you been at your current job? ____ Years ____ Months

4. For your current or last job worked, what was your occupation/job title? *(Please give your full job title and be specific. For example: Fruit picker, Legal secretary, Restaurant manager, Secondary school teacher, Dry waller, Heavy Equipment Mechanic ...)*
-

5. For your current or last job worked, what are/were your main tasks or duties in the job? *(Please give details, for example: picking and carrying apples and peaches, preparing legal documents, managing the operations of a restaurant and serving customers, teaching mathematics, taping and sanding walls, grinding and using impact wrenches...)*
-
-

6. Do / did you work in more than one job at the same time? Yes / No

Details

7. Which one of the following **best describes** your working schedule in your **current main job** (or last job worked)?

A night shift is work during the early hours of the morning, after midnight. An evening shift is work during the evening ending at or before midnight. Check **ONE** only:

- | | |
|---|---|
| <input type="checkbox"/> Regular daytime schedule or shift | <input type="checkbox"/> Regular evening shift |
| <input type="checkbox"/> Regular night shift | <input type="checkbox"/> Irregular schedule, or on call |
| <input type="checkbox"/> Rotating shift, changing periodically from days to evenings or to nights | <input type="checkbox"/> Split shift, consisting of two or more distinct periods each day |
| <input type="checkbox"/> Other, please specify _____ | |

8. Are there any hazardous exposures (*toxic chemicals, dusts such as silica or asbestos, blood or infectious agents, noise, vibration, radiation, temperature extremes, lifting, awkward postures, work at heights, stressful work, bullying, violence etc.*) that you are worried about in your current job or for your previous jobs? Yes / No

What concerns you and why? _____

9. Do you have to use any personal protective equipment at work? (*For example: respirator / breathing mask, gloves, ear plugs or defenders, other special items*) Yes / No

What items and why? _____

10. Do you have or have you had a medical condition caused or made worse by work? Yes/ No

Please name the condition and what you believe was the workplace cause:

11. Do any of your co-workers that do or did the same job or work you have previously done, develop medical conditions that were caused or made worse by the job? Yes / No

Details: _____

12. Current work ability (*how well you can do your job*) compared to highest work ability ever:
Assume that your work ability at its best has a value of 10 points. How many points would you give your current work ability? (*Circle the most appropriate answer*)
(0 means that you currently cannot work at all) (10 work ability at its best)

0 1 2 3 4 5 6 7 8 9 10

13. Are you satisfied with your current job? Y/N

Details:

14. If you were employed in other jobs before your current job/last job worked, please provide the approximate dates of employment, job title, and job duties for each of these jobs:

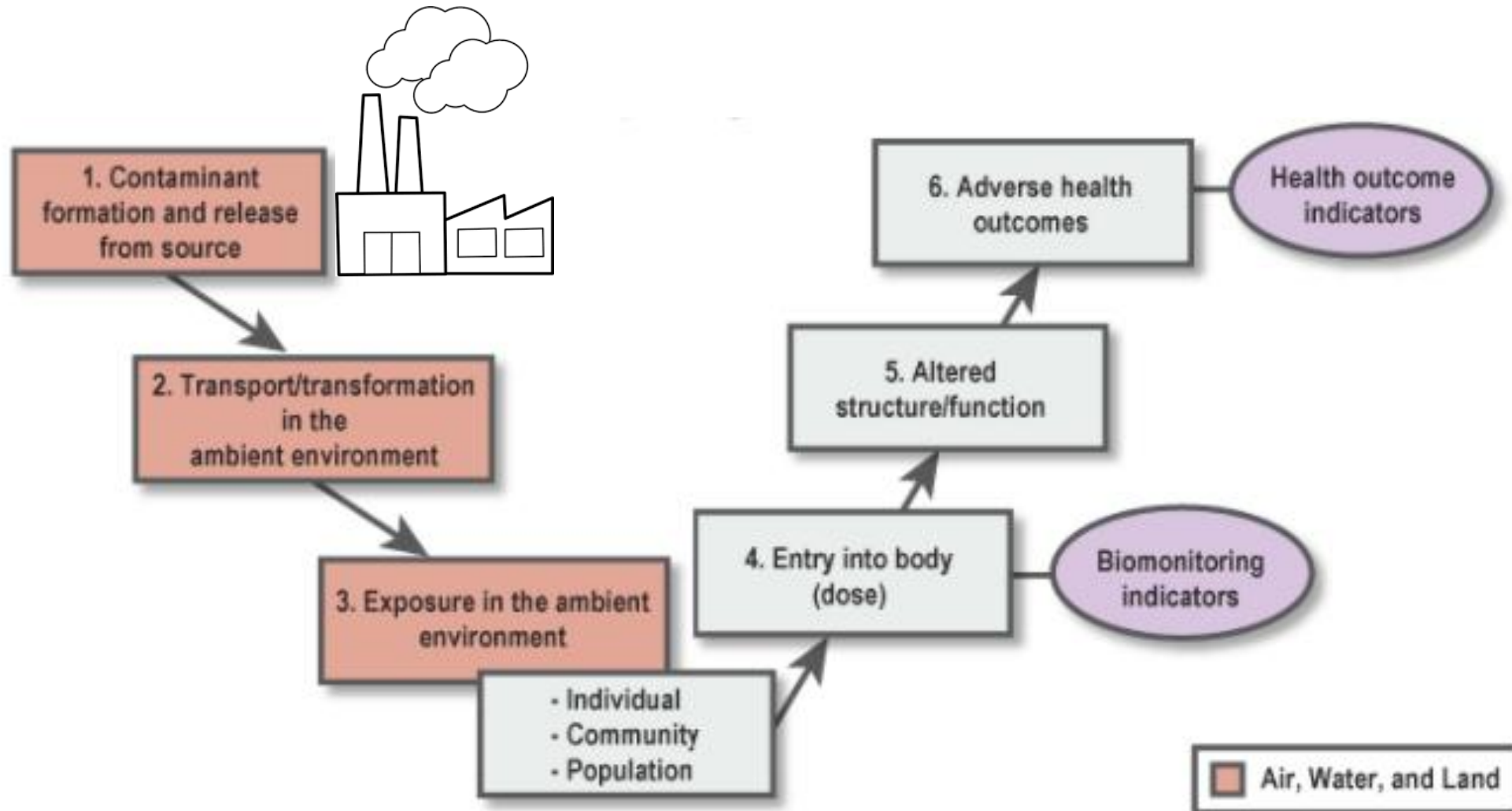
Dates of Employment	Job Title	Job Duties Description

Office Use: Questionnaire completed ☐ Intake ☐ Regular Appointment ☐ Periodic Health Exam ☐ Other_____

☐ self-completed ☐ interviewer completed

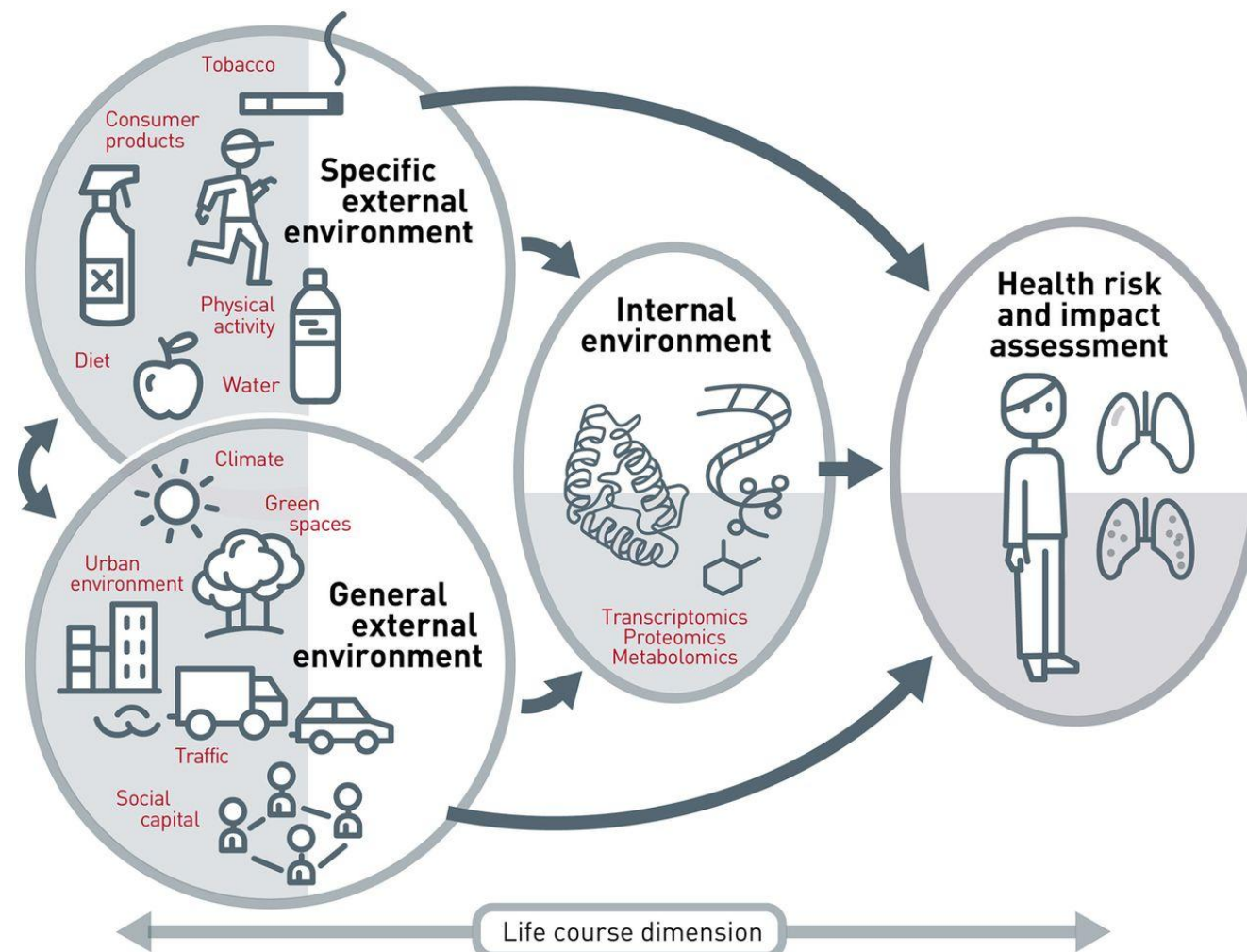
Provider role: ☐ Nurse Practitioner ☐ Nurse ☐ Physician ☐ Other_____

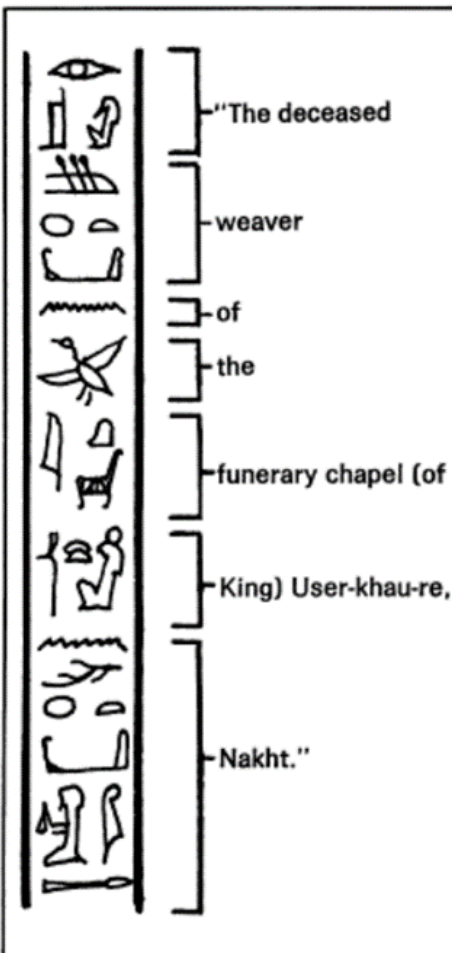
Environmental Exposure and Health



What is the Exposome?

The Exposome: Exposure to Disease





Thank you,

Anil Adisesh

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Coffin for the Mummy of Nakht

Western Thebes, Egypt, about 1190 BC

Nakht was a young weaver from a small temple on the west bank of the Nile. His mummy was autopsied in Toronto in 1974. When Nakht died about three thousand years ago, someone in his family loved him enough to ensure that he was buried in a good quality coffin, where his name and occupation were recorded for all eternity.

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