

# The Assessment Survey - Key elements

Lecture 2

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## Goals of the assessment survey

- 1° identify, measure and control all exposures
  - Be sure that all hazardous exposures are identified and controlled to a tolerable level
- 2° continuous improvement
  - Establish priorities for remedial action based on air sample data and OELs
    - Keep priority list current
    - Use priority list to allocate control resources

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Determine the purpose and scope  
(i.e., what you want or need to know)

- Inventory of exposure agents
- Personal exposures
- Process emissions
- Non-routine activity exposures
- Assess exposure of a worker or groups of workers
- Developing worst case scenarios, etc.....

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Characterize the workplace, worker exposure(s) and the  
exposure agent(s)

- Plant layout
- Process description
- Chemical agents and their exposure risk – examples
  - Airborne
  - Dermal
- Number of workers
- Duration of shifts

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## Determine the level of survey effort needed to provide information

- Walk through or initial survey
  - very qualitative generally at the level of the “smell test”
- Basic survey
  - Generally semi-quantitative: detector tubes, limited samples, etc
- Field survey
  - Quantitative: analytical methods with better accuracy and precision, more thorough sampling

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## Comprehensive occupational hygiene survey

- Primary objective is to create and maintain a database describing the exposure of individuals and populations of workers over time.

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## Comprehensive occupational hygiene survey

- Regular, periodic exposure measurements
- Done on workers representative of a similar exposure group or population
  - The information gathered helps the IH develop groupings of workers having similar exposures called similar exposure groups

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## Comprehensive occupational hygiene survey

- Done on selected agents
- Done over extended periods of time – up to the working life of the worker or the plant
- Serve multiple purposes
  - Complies with OSHA requirements
  - Historical exposure profiles
  - Documents process changes and improvements
  - Epidemiological issues etc,.....

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## Specific – Limited survey

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- Deals with unusual exposures or non-routine exposures or emergency exposures
- May typically deal with maintenance type activities.

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## Compliance Survey

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- Done to satisfy legal obligations imposed most commonly by OSHA or MSHA
- Done to document compliance or non-compliance with a standard
- Typically done on the “worst case “ individual or work situation
- May overlook significant exposure of other individuals or work areas

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## Response to specific complaint

- Important because they may be real and evaluation may reduce anxiety and improve trust and confidence of the OSH department and personnel
- Can be common with “smelly” substances or part of group hysteria – indoor air for example

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## Medical/Epidemiological Interface

- Retrospective evaluations of cause and effect or dose response relationships

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## Evaluation of Controls

- Done to evaluate exposure levels before and after a control has been implemented
- Done to document exposure control accomplished by the control

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## Develop an appropriate sampling strategy for the assessment

- The strategy should address:
  - Selection of instrumentation
  - Selection of analytical method
  - Steps to assure, as much as possible, the sample's representativeness and quality in concert with the purpose and scope of the survey
  - Sample data interpretation

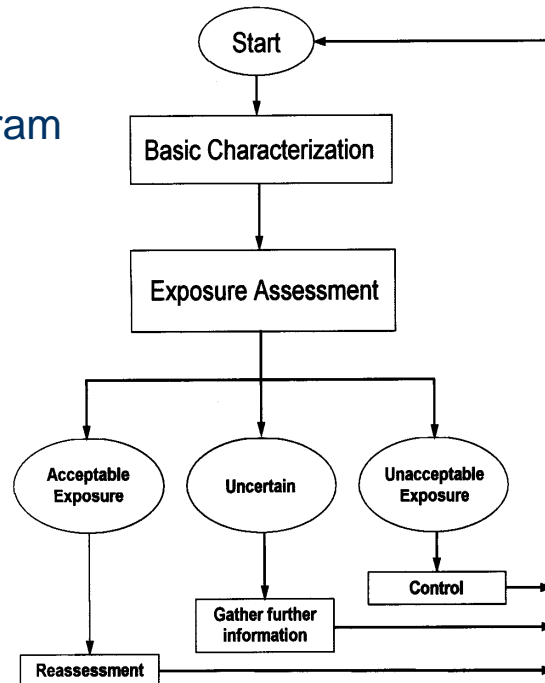
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## Determine what resources you'll need to conduct the survey

- What budget do you have vs. what you'll need for your level of survey effort
  - Analytical
    - Sampling media, postage, lab analysis cost, etc
  - Team support
    - Travel, per diem, etc
- Do you have sufficient time & technical help
- Do you have proper PPE for your survey team, etc.....

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## Process Diagram



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## Final Thoughts

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- Developing an assessment survey is an iterative process between the key elements
- Many steps and issues must be addressed in each of the key elements to accomplish that element
- We're going to look at those steps and issues over the next weeks

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**The End**

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