



# **Mercury Reduction in Hospitals through P2 Planning**



**CPPR, Calgary, Alberta. June 12, 2003**

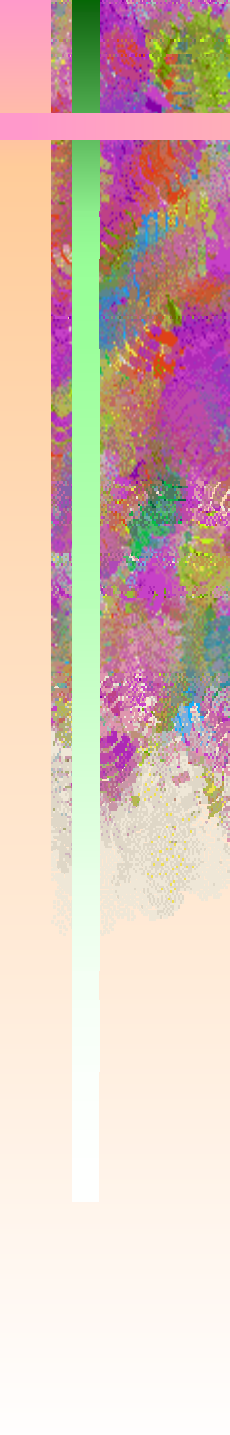
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# Presentation Outline

- **Overview of P2 Planning steps**
- **Addressing mercury reduction in each of the P2 Planning steps**

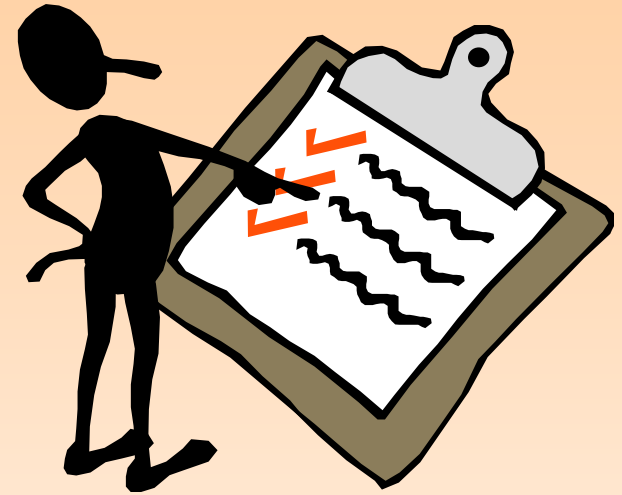


# What is P2 Planning?

**a systematic, comprehensive method of identifying options to minimize or avoid the creation of pollutants or waste**

# P2 Planning Steps

- 1) Commitment and policy**
- 2) Baseline review**
- 3) Planning**
- 4) Implementation**
- 5) Monitoring & reporting**
- 6) Evaluation, review and improvement**



# Engaging Hospitals

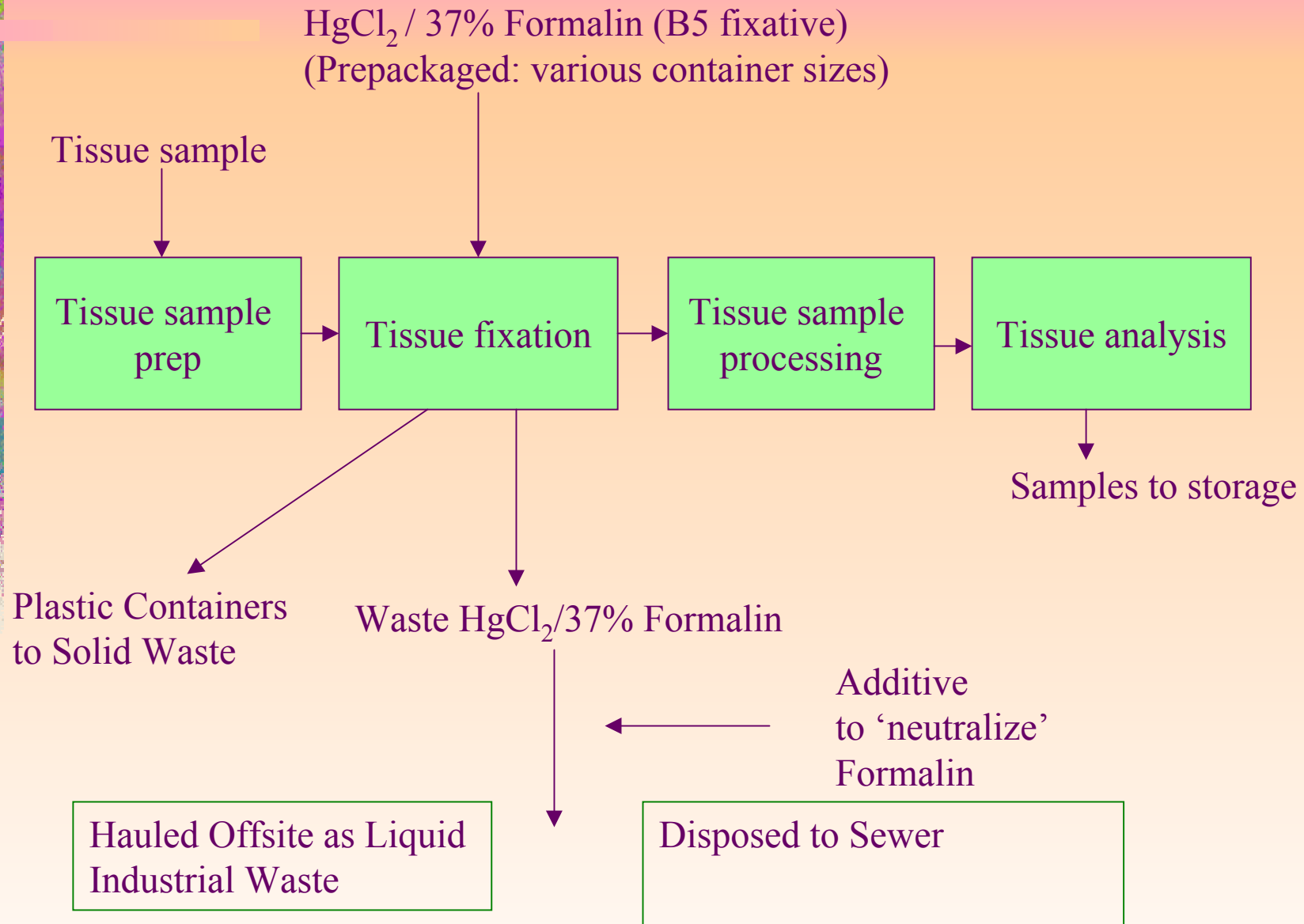
- **Want to do the right thing but some challenges...**
  - understaffed
  - crisis management
  - scarce budgets for non patient care activities
  - hospital mergers
  - construction projects
  - hospitals are like small communities (>5000 employees)

# **Step 1: Commitment and Policy**

- **Obtain senior management commitment**
- **Prepare and communicate written P2 policy**
- **Assign an accountable manager**
- **Establish P2 planning team and commit adequate resources**
- **Integrate the P2 planning process with existing management systems (i.e. EMS)**

# Step 2: Baseline Review

- **Define the system boundaries (scope) of the plan**
- **Assess existing situation**
  - **Establish process & material flow profile**
  - **Quantify inputs and outputs & mass balance**
  - **Calculate total costs & benefits of current approaches**
- **Assess other internal and external factors to consider**
  - **Identify relevant legal requirements**
  - **Identify related company policies**
  - **Identify stakeholder concerns**



**Process Flow Diagram for Mercuric Chloride (HgCl<sub>2</sub>) / Formalin Use in Histology Laboratories**

# **Establish process & material flow profile**

- **Identify where in hospital mercury products are used and in what processes, for example:**
  - **patient care (thermometers, blood pressure cuffs, medications)**
  - **laboratories (fixatives & stains, reagents)**
  - **physical plant (switches, relays, lights, )**



# **Establish process & material flow profile**

- **Challenges:**

- **MSDS info does not list ingredients less than 0.1%**
- **MSDS info can contain over 100 synonyms for Hg**
- **Hg is often ingredient as a contaminant from the product manufacturing process & can only be determined from lab analysis**
- **Staff may not be aware of Hg content of products**
- **Equipment info lacks description of Hg content**
- **MSDS documentation may not be up to date**
- **Proprietary information**

# Step 3: Planning

- **Identify P2 opportunities**
- **Establish objectives targets & performance indicators**
- **Define and involve the affected community & employees**
- **Identify specific P2 options, their environmental, technical and cost aspects**
- **Evaluate and rank options based on environmental benefits, technical feasibility, costs and applicable strategic considerations**
- **Select preferred options & assign responsibilities**
- **Develop action plans**

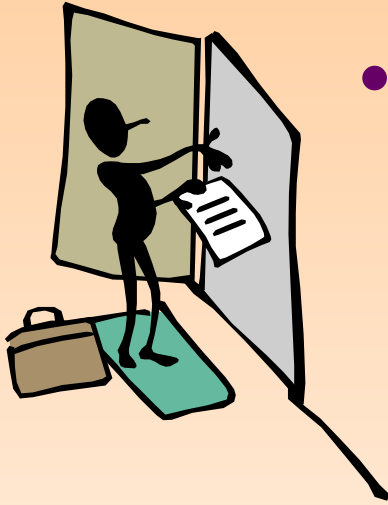
# Potential P2 Options

- **Purchasing practices**
  - work with suppliers/ group purchasing org.
- **material substitutions**
  - fixatives, preservatives
- **New equipment**
  - digital x-ray processors to replace photo processing
  - blood pressure cuffs
  - thermometers

## **Step 4: Implementation**

- **Implement selected options**
- **Identify employee training needs and provide training**
- **Integrate with existing management system**
- **Create support mechanisms and encouragement (e.g. incentives, internal and external communications, reporting forms)**

# Social Marketing



- **Education on mercury and:**
  - health and environmental issues
  - **costs for management and disposal**
  - **alternatives that work**
  - **Hospitals across North America are striving to eliminate Hg**



## **Step 5: Monitoring and Reporting**

- **Monitor implementation of pollution prevention plan and performance against objectives and targets**
- **Document the results, including costs and benefits**
- **Take corrective action if necessary**
- **Report to the management and to the public**



# **Step 6: Evaluation, Review and Improvement**

- **Conduct regular review of progress**
- **Identify changing internal and external circumstances**
- **Revise objectives and targets, resource allocation, pollution prevention action plan, as required**

**For more information:**

**Healthcare EnviroNet:  
Promoting Pollution  
Prevention and Sustainability  
in the Health Care Sector**

***Healthcare EnviroNet***  
***[www.c2p2online.com](http://www.c2p2online.com)***  
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