

Accident & Incident Prevention & Investigation

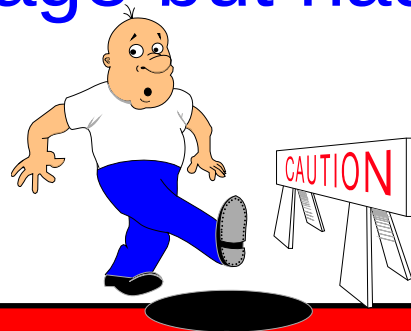


Course Objectives

- ❑ Understand the need to investigate
- ❑ Know what to investigate
- ❑ Determine the causes of accidents
- ❑ Identify the methods of investigation
- ❑ Understand the need to be thorough and comprehensive
- ❑ Identify prevention methods
- ❑ Identify sources of assistance

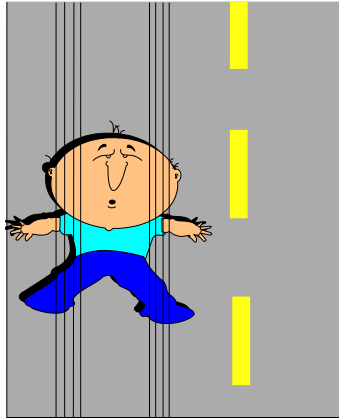
What is an Accident ?

- ❑ Any undesired, unplanned event arising out of employment which results in physical injury or damage to property, or the possibility of such injury or damage.
- ❑ “Near miss” situations must also be addressed - events which did not result in injury or damage but had the potential to do so.

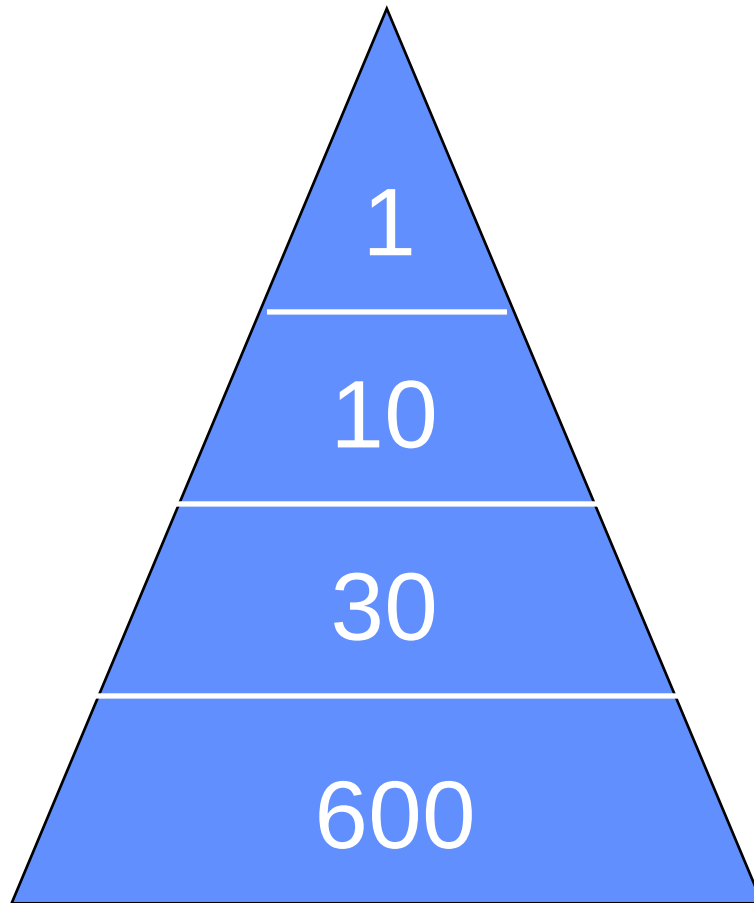


What's in a name ?

- ❑ Accident
- ❑ Injury -v- S.B.I.
- ❑ Dangerous Occurrence
- ❑ Significant Incident
- ❑ “Near-miss” accident
- ❑ “Near-hit”



Accident Ratio Study



Serious or Disabling

Includes disabling & Serious Injuries

Minor Injuries

Any reported injury less than serious

Property Damage & Accidents

All Types

Accidents with no visible
Injury or Damage
(Critical Incidents)

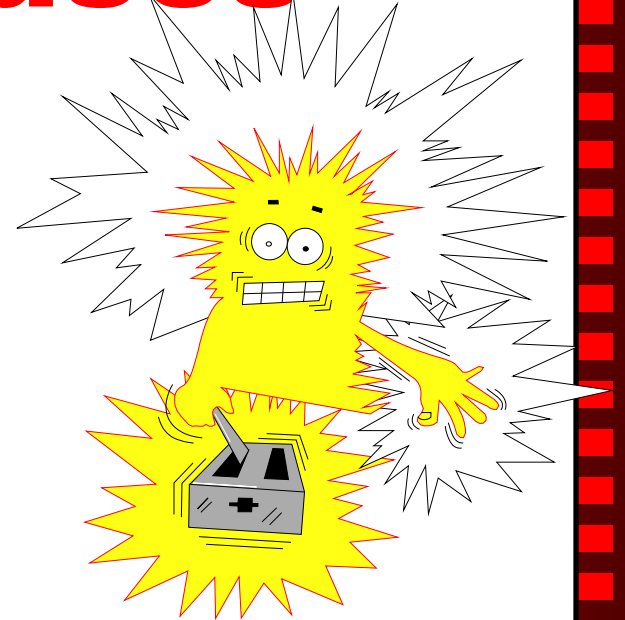
Accident Causes

□ Unsafe Act

- an act by the injured person or another person (or both) which caused the accident; and/or

□ Unsafe Condition

- some environmental or hazardous situation which caused the accident independent of the employee(s)

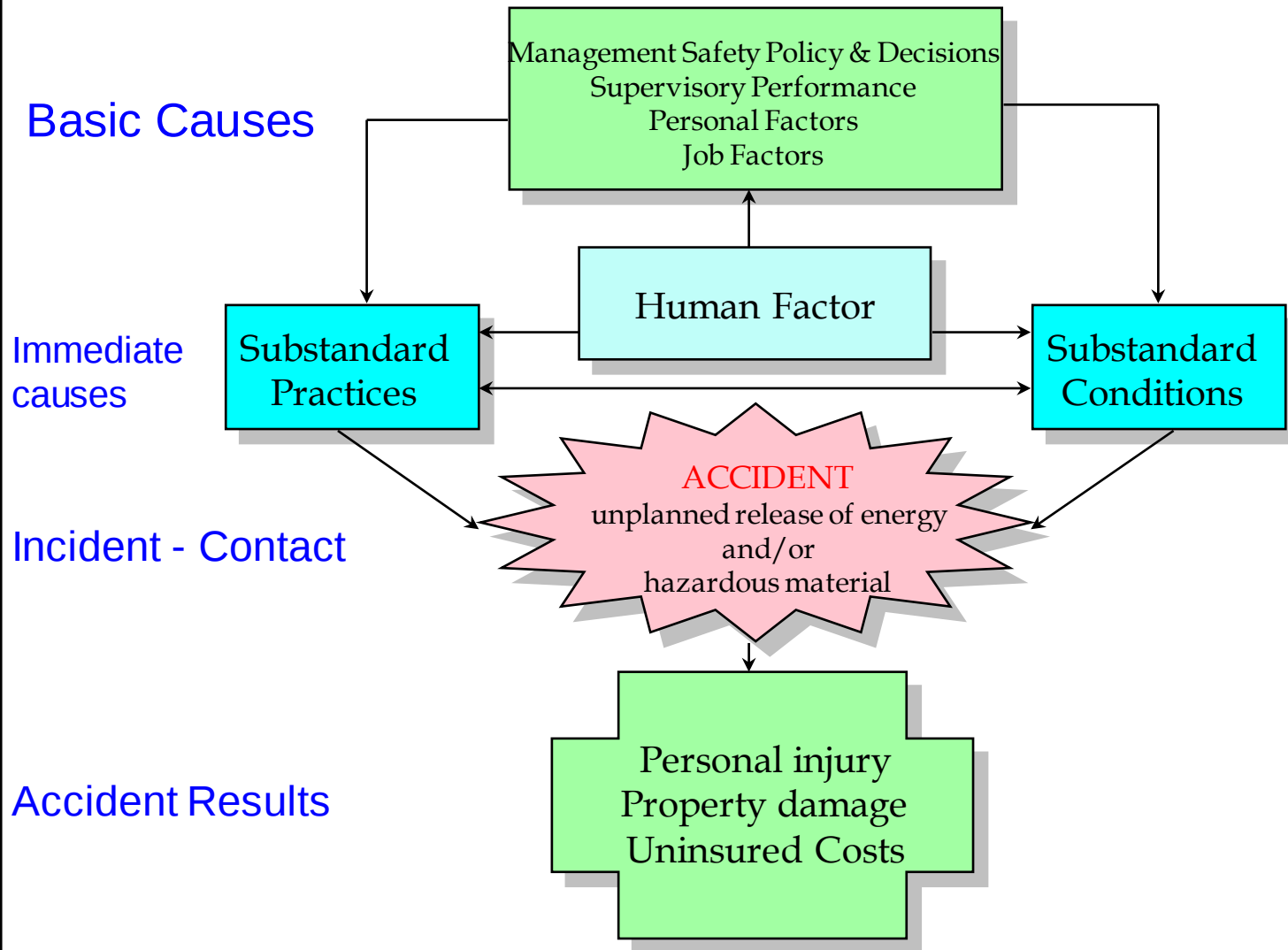


Accident Causation Model

- ❑ 1. Results of the accident - (harm or damage)
- ❑ 2. Incident - Contact (Accident)
- ❑ 3. Immediate causes (symptoms)
- ❑ 4. Basic causes (real problems)



CHAIN OF ACCIDENT CAUSATION



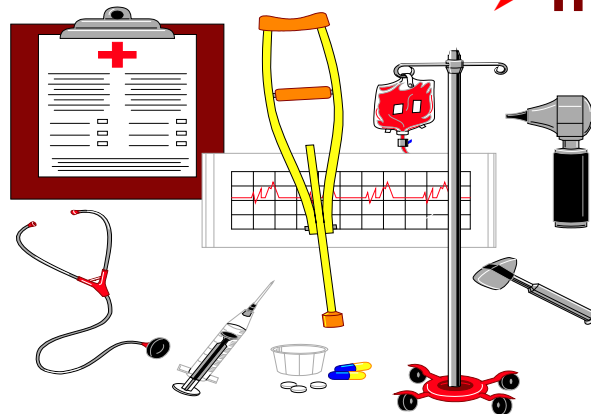
1. Results of Accident

□ Physical harm (Injury or illness)

- catastrophic (multiple deaths)
- death
- disabling, lost time, major
- serious
- minor
- notifiable
- compensatable

□ Property damage

- catastrophic
- major
- serious
- minor



2. Incident - Contact

- struck against
- struck by
- fall to below
- fall on same level
- caught on
- caught in
- caught between
- over exertion
- chemical contact



□ Contact with

- electricity
- plant & equipment
- noise or vibration
- hazardous substances
- radiation
- heat & cold
- animals or insects
- microbiological agents

3. Immediate Causes

□ Standard Practices

- operating with authority
- use serviceable equipment
- use equipment properly
- use of PPE where required
- correct lifting
- no drinking & drugs
- no horseplay
- secure equipment or warnings

□ Standard Conditions

- effective guards & devices
- serviceable tools & equipment
- adequate warning systems
- good housekeeping
- non polluted environment
 - noise
 - hazardous substances
- good illumination & ventilation
- good working, storage & travelling space

4. Basic Causes

□ Personal Factors

- lack of knowledge or skill
- improper motivation
- physical or mental conditions
- literacy or ability (NESB)

□ Job Factors

- physical environment
- sub-standard equipment
- abnormal usage
- wear & tear
- inadequate standards
- design & maintenance
- purchasing standards

□ Supervisory Performance

- inadequate instructions
- failure of SOPs
- rules not enforced
- hazards not corrected
- devices not provided

□ Management Policy & Decisions

- set measurable standards
- measure work in progress
- evaluate work-v-standards

correct performance if
nec

Why Investigate ?



- ❑ Legal Requirement
- ❑ Establish Causes
- ❑ Prevent Recurrences
- ❑ Accurate record
(courts & enquiries)
- ❑ Statistical data base

Accident Investigation

- A systematic approach to accident investigation, the identification of causal factors and implementation of corrective actions is essential to a good H&S program and management system. Good procedures:
 - provide information needed to determine injury rates, identify trends or problem areas, permit comparisons and satisfy Workers Compensation requirements;
 - identify, without placing blame, the basic causal factors that contributed directly or indirectly to each accident;
 - identify deficiencies in management systems;
 - suggest corrective action alternatives for a given accident;
 - suggest corrective action alternatives for the management system.

What, When & How to Investigate

□ What to Investigate ? □ Who should Investigate?

- all accidents & near misses

- as soon as possible

- scene interference

- survey of scene

- chronology of data

- measurements, maps & sketches

- eyewitnesses

- reconstruction ?

- statistics & trends

- injury types & groups

- Supervisor ?

- WH&S Officer?

- WH&S Representative?

- Team?

□ Training & Skills

- investigative & recording skills

- technical knowledge

- interviewing skills

- report writing skills



Qualifications

- ❑ Technical Knowledge
- ❑ Objectivity
- ❑ Analytical approach to problems
- ❑ Familiarity with the job, process or operation
- ❑ Tact in communicating
- ❑ Intellectual honesty
- ❑ Inquisitiveness & curiosity



Tool Kit

- ❑ clipboard, paper (incl graph)
- ❑ pens
- ❑ camera & spare films
- ❑ tape measure
- ❑ cassette recorder & spare tapes
- ❑ reporting forms
- ❑ hi-viz barrier tape for scene preservation
- ❑ first aid kit
- ❑ identification tags for parts
- ❑ gloves (industrial & medical)
- ❑ safety helmet
- ❑ specimen containers
- ❑ magnifying glass
- ❑ compass
- ❑ danger tags
- ❑ yellow crayon
- ❑ orange flouro spray paint
- ❑ torch with batteries
- ❑ hi-viz orange vest
- ❑ hearing & eye protection
- ❑ plastic containers for samples
- ❑ roll of paper towelling

Let Us Begin !



- ❑ Take all necessary steps to provide emergency rescue and medical help for the injured; and
- ❑ take those actions that will prevent, or minimise the risk of further accidents or physical harm to the victim or others

Action Plan

- ❑ Identification of the individual who is in charge and assigns responsibilities;
- ❑ Authority to conduct investigation;
- ❑ Securing the accident site for the duration of the investigation, after rescue and damage control are complete;
- ❑ Photographic support or capability;
- ❑ Procedures & equipment to ensure observation and recording of fragile, perishable or transient evidence (instrument readings, control panel settings, weather & other environmental conditions, chemical spills, stains, skid marks);
- ❑ Development of a comprehensive report.

Determine the Facts

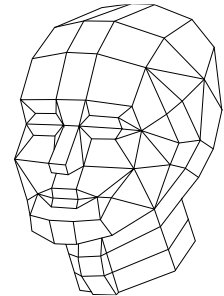
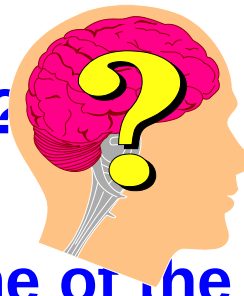


- ❑ Visit accident scene
- ❑ Take samples
- ❑ Visual records
- ❑ Preserve accident items
- ❑ Identify people involved
- ❑ Interview witnesses
- ❑ Review information

Finding Facts

(logic method)

- ❑ What was the exact injury or damage ?
- ❑ What was the damaging energy source ?
- ❑ What event immediately preceded the damaging event ?
- ❑ What happened before that ?
- ❑ What happened even before that ?
- ❑ What happened in between ?
- ❑ What else was going on at the time of the accident ?
- ❑ Was anyone else involved ?
- ❑ Interview witnesses



Interviewing Techniques

- ❑ Put at ease
- ❑ Assure “no blame”
- ❑ Ask witness to relate their account of the accident
- ❑ Listen carefully
- ❑ Ask questions - reinforce
- ❑ Repeat if necessary
- ❑ Ask witness for suggestions for future avoidance
- ❑ Encourage further contact
- ❑ Be polite and thank the witness



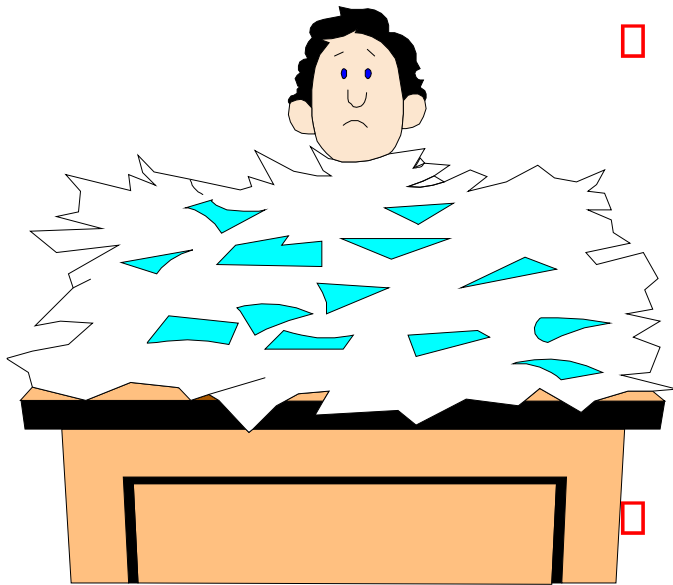
A Good Report

- ❑ Accuracy & completeness of information
- ❑ Clarity & completeness of the description of the sequence of events leading up to the accident
- ❑ Correct identification of all causal factors
- ❑ Clarity & completeness of all causal factors
- ❑ Recommendations made for corrective actions to reduce or eliminate the probability of recurrence of a similar accident
- ❑ Recommendations for corrective actions to improve management system
- ❑ Timelines - specific time periods, monitoring and responsibilities
- ❑ Proper review and sign off



Documentation

- ❑ Accident investigation Form
- ❑ Witness Statements & Records of Interview
- ❑ Checklists:
 - Victim(s)
 - Witnesses
 - Environment & Locations
 - Equipment & Parts
 - Documentation
- ❑ Accident/Incident Record



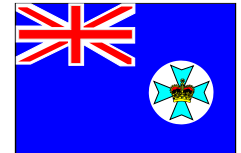
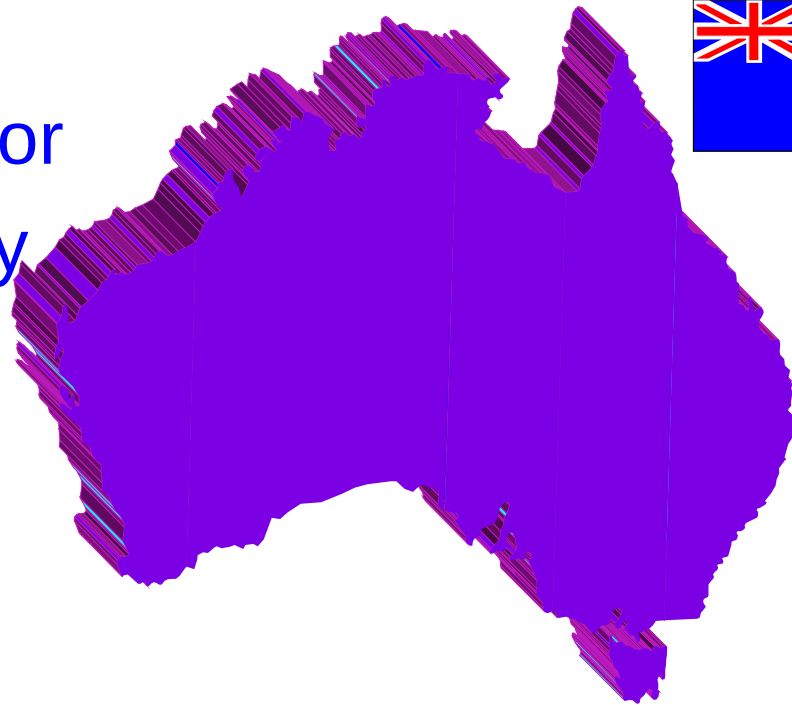
Records

- Specified forms
 - records maintained
 - periods
- Notifiable injury - S.B.I.
 - admitted as an “in-patient”
- Times
 - S.B.I. - within 24 hours
 - death - immediately



Effects of Accidents

- ❑ 1. On the Victim
- ❑ 2. On the Supervisor
- ❑ 3. On the Company
- ❑ 4. On the Nation



1. The Victim



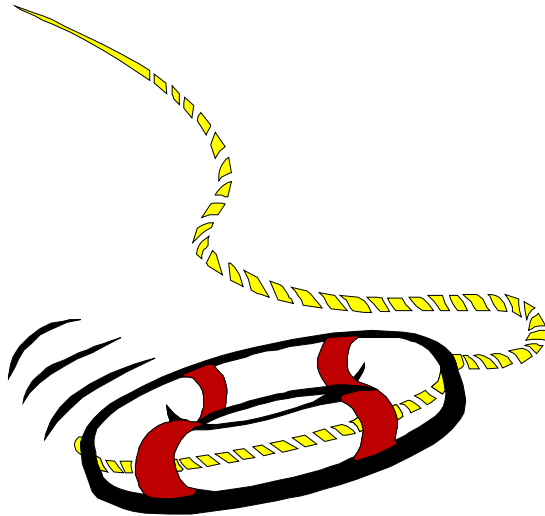
- ❑ Death
- ❑ Pain & suffering
- ❑ Permanent disability
- ❑ Effects on family & dependants
- ❑ Loss of earnings
- ❑ Extra expenditure
- ❑ Inability to resume occupation
- ❑ Psychological effects
- ❑ Feeling of uselessness
- ❑ Fear of further injury
- ❑ Social effects
- ❑ Loss of sports or hobby

2. The Supervisor

- ❑ loss of trained worker
- ❑ loss of production
- ❑ extra work
- ❑ investigations & reports
- ❑ training new employee
- ❑ loss of prestige by:
 - management
 - other workers
- ❑ effects on promotion
- ❑ worry (could I have prevented it ?)
- ❑ Stress



3. The Company



- ❑ loss of trained worker
- ❑ loss of production
- ❑ damage to machinery
- ❑ damage to equipment
- ❑ wasted materials
- ❑ increased insurance premiums
- ❑ prosecutions
- ❑ fines
- ❑ civil actions
- ❑ legal costs
- ❑ loss of prestige - customers

4. The Nation



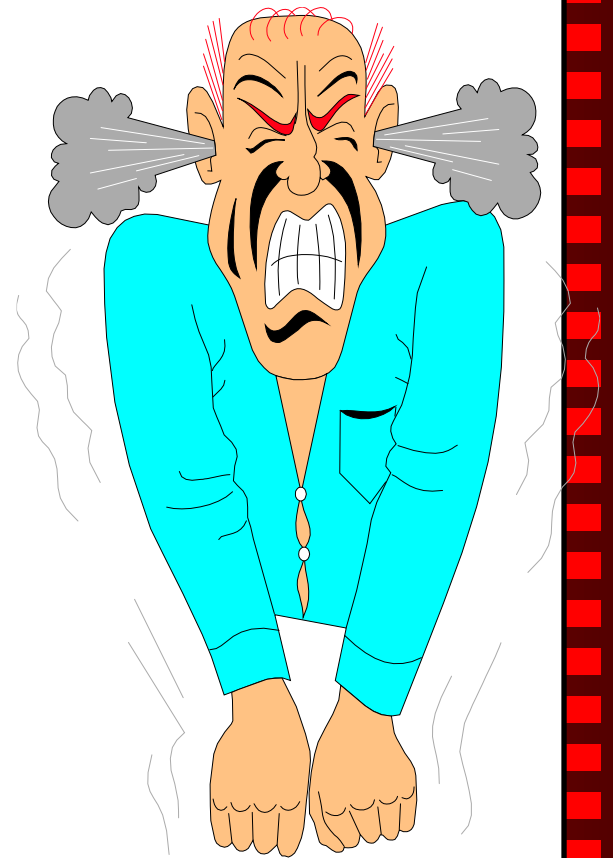
- ❑ loss of section of workforce
- ❑ loss of production
- ❑ increased cost of production
- ❑ effects on imports
- ❑ effects on exports
- ❑ effects on balance of trade
- ❑ the community pays !

Prevention

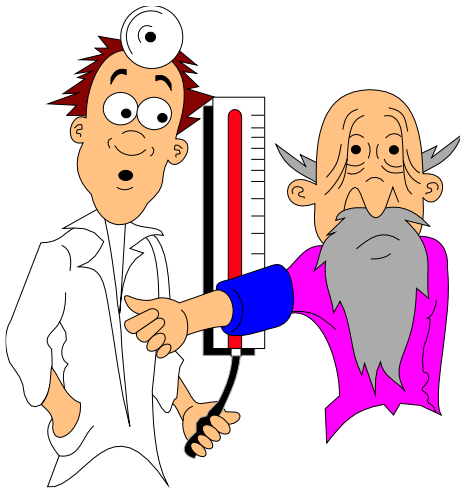
- ❑ Effective Management & Supervision
- ❑ Commitment to Accident Prevention
- ❑ Effective Policy & Procedures
- ❑ Effective Reporting & Recording
- ❑ Regular Consultation & “Toolbox” Meetings
- ❑ Risk Assessments
- ❑ Specific Training
- ❑ Literature & Culture
- ❑ Incentive Schemes ?

Warning Signs

- ❑ Increases in breaches of safety procedures
- Increase in reportable incidents
- Technical concerns
- Friction or disputes
- ageing or suspect equipment
- Introduction of new procedures or equipment
- New employees
- Age of employees
- Long periods of work
- Environmental issues



Resources



- ❑ Safety Officers
- ❑ Bureau of Emergency Services
- ❑ Div Workplace Health & Safety
- ❑ Workers Compensation Board
- ❑ Queensland Health
- ❑ Doctors & Specialists
- ❑ Rehabilitation Experts
- ❑ Consultants
- ❑ Psychologists
- ❑ Employee Assistance Programs