

With crippled limbs and mangled feet,
a million man-hours we did meet;

With records kept such as these,
we'll reach a zillion it'll be a breeze;

Rewards are for achievements met,
but we ain't reached a million yet;

Their safety program is a sham,
As for you and me? They don't give a damn.

**Hourly worker
Chemical processing plant**



The Steelworker Perspective on Behavioral Safety

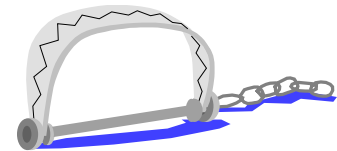
**Welcome to your
indoctrination in BS:**

**Global Trends in Health and Safety
Mismanagement**

88%-96% of all injuries are caused by unsafe acts

- Originated from Herbert William Heinrich (88%)
- Insurance investigator (Travelers Insurance Company)
- Studied supervisor accident reports
- 1931 drawn conclusions from supervisor recommended corrective actions

**1930's Safety Theory BST (80%-95%)
and DuPont (96%) call it "leading edge"**



It's a trap!

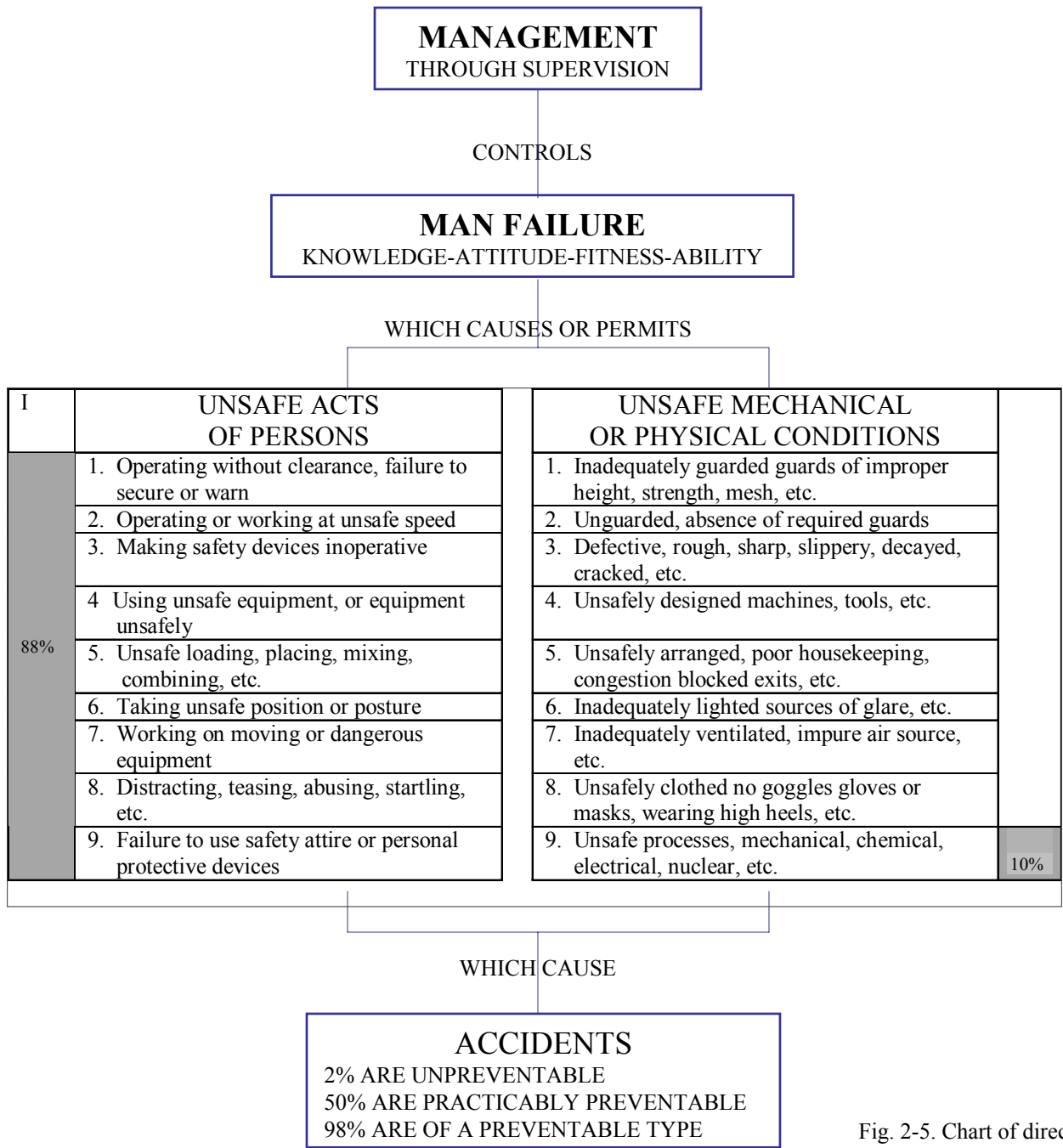


Fig. 2-5. Chart of direct and proximate accident causes. Industrial Accident Prevention: A Scientific Approach

**MANAGEMENT
THROUGH SUPERVISION**

CONTROLS

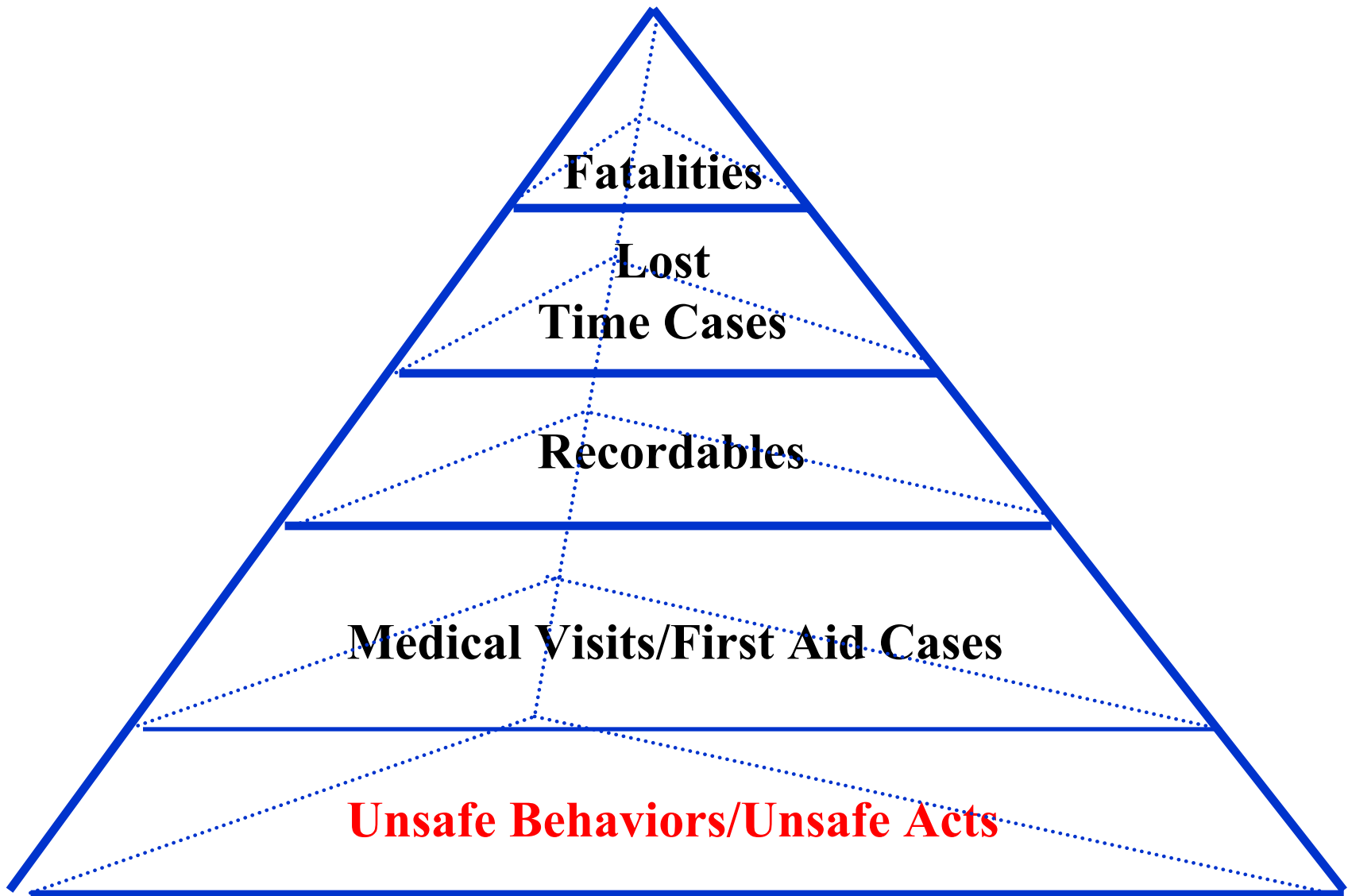
I	UNSAFE ACTS OF PERSONS	UNSAFE MECHANICAL OR PHYSICAL CONDITIONS	
88%	1. Operating without clearance, failure to secure or warn	1. Inadequately guarded guards of improper height, strength, mesh, etc.	
	2. Operating or working at unsafe speed	2. Unguarded, absence of required guards	
	3. Making safety devices inoperative	3. Defective, rough, sharp, slippery, decayed, cracked, etc.	
	4. Using unsafe equipment, or equipment unsafely	4. Unsafely designed machines, tools, etc.	
	5. Unsafe loading, placing, mixing, combining, etc.	5. Unsafely arranged, poor housekeeping, congestion blocked exits, etc.	
	6. Taking unsafe position or posture	6. Inadequately lighted sources of glare, etc.	
	7. Working on moving or dangerous equipment	7. Inadequately ventilated, impure air source, etc.	
	8. Distracting, teasing, abusing, startling, etc.	8. Unsafely clothed no goggles gloves or masks, wearing high heels, etc.	
	9. Failure to use safety attire or personal protective devices	9. Unsafe processes, mechanical, chemical, electrical, nuclear, etc.	10%

WHICH CAUSE

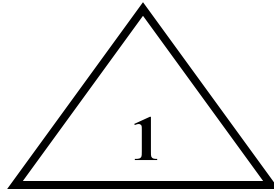
ACCIDENTS

2% ARE UNPREVENTABLE
50% ARE PRACTICABLY PREVENTABLE
98% ARE OF A PREVENTABLE TYPE

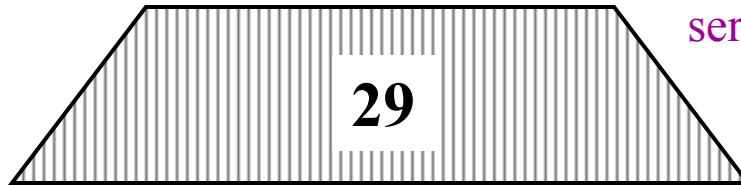
Fig. 2-5. Chart of direct and proximate accident causes. Industrial Accident Prevention: A Scientific Approach



**1930's Safety Theory BST & DuPont call this folk lore
"Cutting-Edge Technology"**



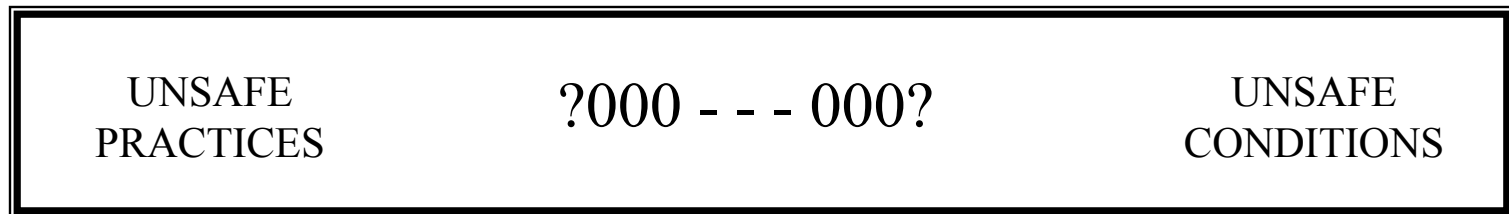
Major Injury



Minor Injuries



The ratios - 1-29-300- show that in a unit group of 330 similar accidents occurring to the same person, 300 will result in no injury, 29 will produce minor injuries, and 1 will cause a serious injury.



00.3 per cent of all accidents produce major injuries
08.8 per cent of all accidents produce minor injuries
90.9 per cent of all accidents produce no injuries

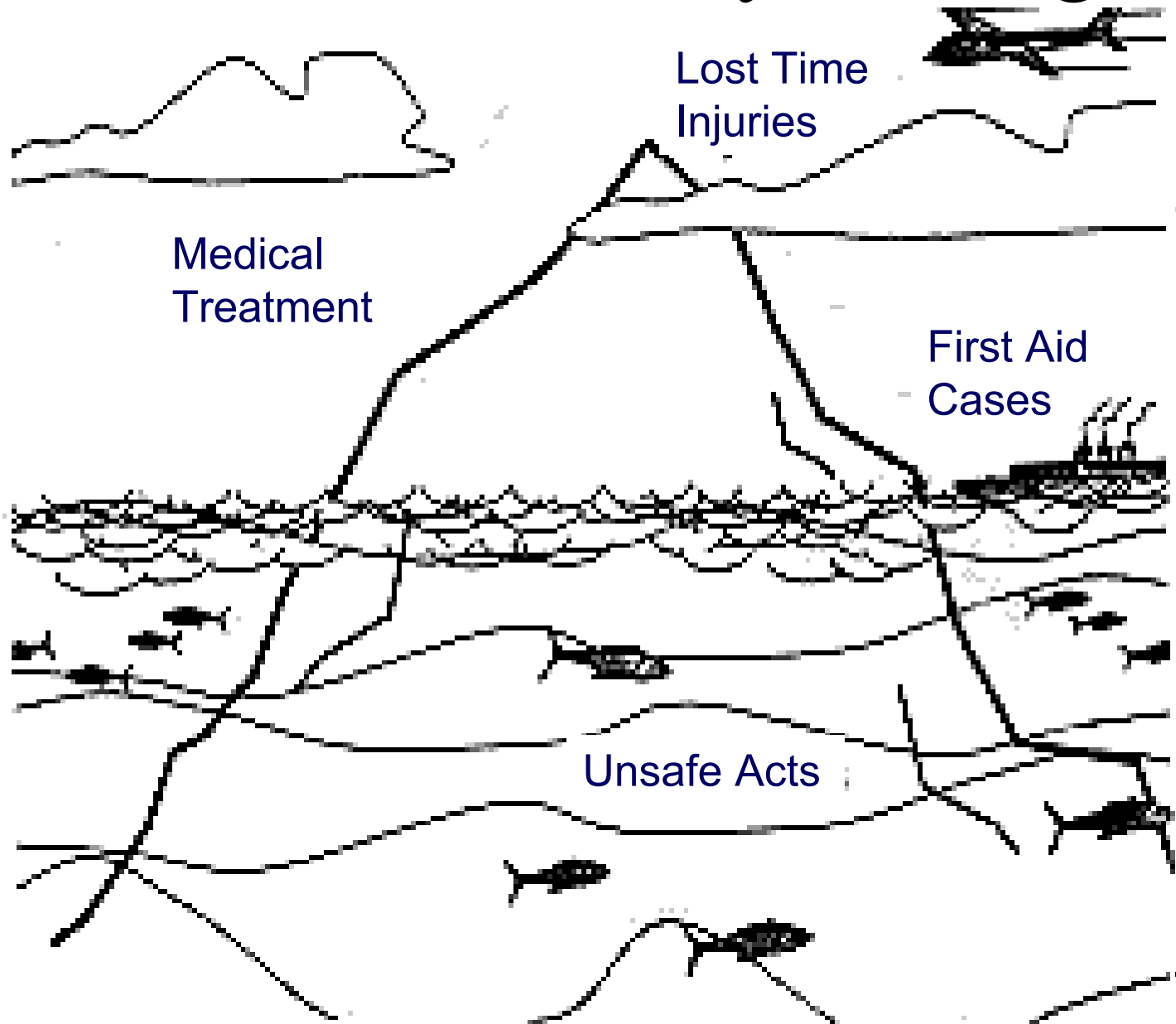
Causes of Lost Workday and Restricted Workday Injuries

Results of a 10-year DuPont Study

Unsafe Acts Associated with:

Personal protective equipment	12%
Positions of People	30%
Reactions of People (Actions of People)	14%
Tools and Equipment	28%
Procedures and Orderliness	<u>12%</u>
Total Injuries Caused by Unsafe Acts	96%
Total Injuries with Other Causes	<u>4%</u>
	100%

Behavioral Safety Iceberg



In order to have an
“at-risk” behavior,
what must be present?

A HAZARD!

**All injuries and illnesses
are the result of exposure
to hazards.**

There are no exceptions!

Occupational Safety & Health Act 1970

General Duty Clause

5. Duties

(a) Each employer --

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

Occupational Safety & Health Act 1970

General Duty Clause

5. Duties

(a) Each employer -

(1) shall
employment
to cause death

(2) shall
promulgated unde

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Health and Safety Process Model



Data Analysis

- OSHA 200 & 300 Logs
- Medical Visit

Surveys and Questionnaires

Interviews

Worker Complaints

Government Regulations

Inspections/Audits

Prioritize Hazards

Risk Analysis

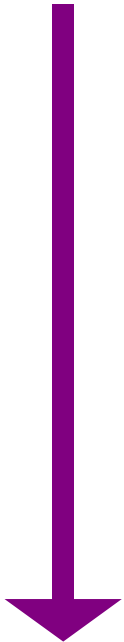
Select Controls

**Based Upon
Hierarchy**

How do we
CONTROL hazards
in our workplaces?

Hierarchy of Controls

Most Effective



Least Effective

- 1) **Elimination or Substitution**
- 2) **Engineering Controls
(Safeguarding Technology)**
- 3) **Warnings**
- 4) **Training and Procedures
(Administrative Controls)**
- 5) **Personal Protective Equipment**

Behavior Based Process Model



Data Analysis

- OSHA 200 & 300 Logs
- Medical Visit

Surveys and Questionnaires

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Prioritize Hazards

Risk Analysis

Duck!

Duck

Dodge

Jump Out of the Way

Lift Safely

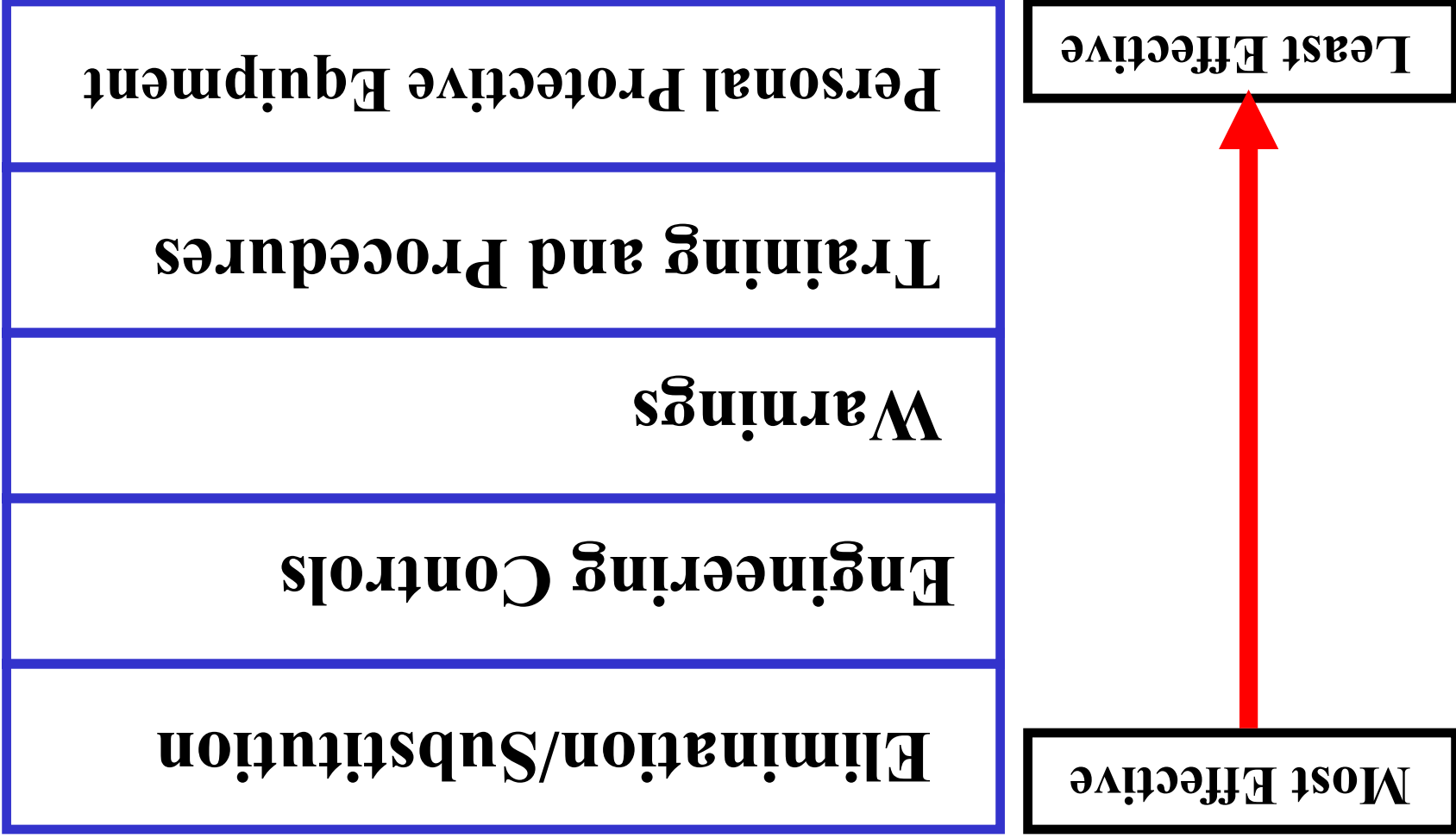
Wear PPE

Avoid “Line of Fire”

Eyes on task

Do this or be disciplined!

Hierarchy of Health and Safety Controls





Consequences Of A Behavior Based Program Is To Turn The Hierarchy Upside Down

**They Say,
“Most Effective”**



**They Say,
“Least Effective”**

Personal Protective Equipment

Training and Procedures

Warnings

Engineering Controls

**Elimination &/or
Substitution**

Common Behavior Based Program Elements

- **Critical behavior lists**
- **Workers observe workers**
- **Training for observers**
- **Frequent observations of workers to identify at unsafe behaviors**
- **Heavy emphasis on PPE, “body position” and “line of fire”**
- **Commitment of resources**



ADVANCED CORE TECHNIQUE CRITICAL BEHAVIORS INVENTORY

Task Being Performed _____ Observer _____ Date _____

1.0	Body Use and Position	Safe	Concern
1.1	Body Placement	?	?
1.2	Pinch Points	?	?
1.3	Eye Contact	?	?
1.4	Stability	?	?
1.5	Lifting/Pushing/Pulling	?	?
2.0	PROCEDURE		
2.1	Sequence/Step	?	?
2.2	Work Pace	?	?
2.3	Stable Equipment Placement	?	?
2.4	Tag-Lock-Try	?	?
2.5	Communication	?	?
3.0	Selection/Technique		
3.1	Tool	?	?
3.2	Equipment	?	?
3.3	Vehicle	?	?
4.0	Personal Protective Equipment		
4.1	Gloves	?	?
4.2	Proper Clothing	?	?
4.3	Eye Protection/Face Shield/Goggles	?	?
4.4	Fall Protection	?	?
4.5	Hearing Protection	?	?
4.6	Hard Hat	?	?
4.7	Foot Protection	?	?
4.8	Respirator	?	?
5.0	Facility		
5.1	Building Condition	?	?
5.2	Pot Condition	?	?
5.3	Housekeeping	?	?
6.0	Ohters		
6.1	Special Items	?	?

Item No.	Comment	
_____	_____	Advanced
_____	_____	CORE
_____	_____	Technique

**ADVANCED CORE TECHNIQUE
CRITICAL BEHAVIORS INVENTORY**

Task B
Perfo

1.0

4.0 Personal Protective Equipment

4.1 Gloves ? ?

4.2 Proper Clothing ? ?

4.3 Eye Protection/Face Shield/Goggles ? ?

4.4 Fall Protection ? ?

2.0

4.5 Hearing Protection ? ?

4.6 Hard Hat ? ?

4.7 Foot Protection ? ?

4.8 Respirator ? ?

3.0

3.5

4.0

Personal Protective Equipment

4.1 Gloves ? ?

4.2 Proper Clothing ? ?

4.3 Eye Protection/Face Shield/Goggles ? ?

4.4 Fall Protection ? ?

4.5 Hearing Protection ? ?

4.6 Hard Hat ? ?

4.7 Foot Protection ? ?

4.8 Respirator ? ?

5.0

Facility

5.1 Building Condition ? ?

5.2 Pot Condition ? ?

5.3 Housekeeping ? ?

6.0

Others

6.1 Special Items ? ?

Item No.

Comment

**Advanced
CORE
Technique**

“Staying out of the line of fire” replaces effective safeguarding and design.

“Proper body position” has become a replacement for a good ergonomics program and well designed work stations.

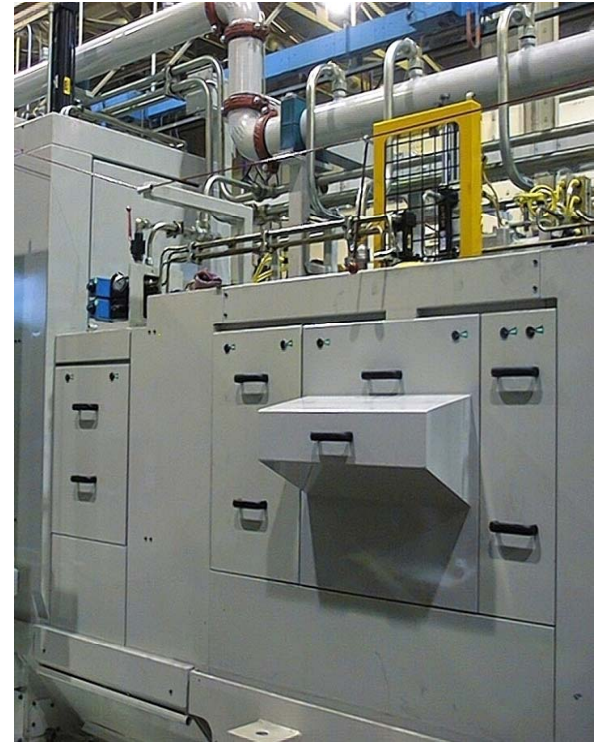
And *“Personal Protective Equipment”* becomes a substitute for noise control, chemical enclosures, ventilation, and toxic use reduction.

Why eliminate the hazard when you can buy personal protective equipment?



“So putting up a guard might in fact encourage them (workers) to get closer to the hole that’s being guarded, or encourage them to take more risks because of the extra perceived safety by that guard.”

E. Scott Geller, NACOSH Meeting,
Washington D.C. , April 9, 1997



- **The implication is that it is not hazards on the job that cause injuries and illnesses, but it is the **behavior** of those exposed to the hazards (victims) that cause injuries and illnesses.**
-

- **BS Theory:**
 - Workers are the problem, not the solution.
 - Change the worker, not the hazard.

Why Behavior Based Programs Can Be Attractive

- New management commitment to health and safety
- Involves workers, allows them to impact the work environment
- Give management authority to workers
- Does address some fraction of injury and illness causation
- Many workers and victims believe this stuff

Management will provide “*PERKS*”

- Time off the job
- Access to management
- Willingness to correct some conditions that they would not correct for the union
- Office
- Status

Employer Programs, Policies & Practices Related to Behavior-Based Safety

- Behavioral Observation Programs
- Safety Incentive Programs
- Injury Discipline Policies
- Accident Repeater Programs
- Programs that focus *solely* on Lost Work Days or Reported Injuries

Disincentives to Reporting Injuries and Illnesses

- Awards (prizes and money) for not have a recordable or lost time case (or having a low rate)
- Discipline and/or counseling issued after workers are injured
- Drug testing after every injury
- Peer pressure



Examples of incentive programs

- In a Washington state workplace, workers were offered three tokens worth \$1.00 each for every month they went without reporting carpal tunnel syndrome, heat stress or any other work-related injury or illness. More tokens were offered quarterly if the entire workforce did not report an injury or illness.
- A Midwestern industrial firm invited all workers who did not report a job injury or illness for the year to an annual banquet. There, the name of a banquet attendee was pulled out of a hat; that person left with a check for \$10,000.
- At a Northeastern construction site, money is made available on a monthly basis to contractors who have low injury rates; that money is then divided among the contractor's workers who did not report injuries.

Safety Incentive Program Claims **Not** Supported by Evidence, OSHA Official Says

A review of literature for the Occupational Safety and Health Administration concludes there is no basis for employer claims that their safety incentive programs actually make workplaces safer, an agency official told an OSHA advisory committee.

Marthe Kent, director of OSHA's office of Regulatory Analysis said the agency's review of safety incentive programs also indicates there is "often a **chilling effect**" when the programs discourage the reporting of injuries and illnesses.

Kent reported the findings to the National Advisory Committee on Occupational Safety and Health, which asked for the review. She said, "empirical evidence is sadly lacking" that these programs improve safety.

The review was prepared for OSHA by the consulting firm Dennison Associates of Washington, D.C.

Safety incentive programs are used by employers to encourage workers to maintain good safety records. In some cases, workers who avoid accidents are rewarded with bonuses, jackets, briefcases and other items. Other incentive programs use feedback and positive reinforcement as rewards.

OSHA's review found two basic programs: those that require improved work practices, such as the increased use of safety glasses; and others that reward reductions in the number of injuries and illnesses reported.

Excerpt from BNAC Safety Communicator, Winter 1999

Safety Incentive Program Claims **Not** Supported by Evidence, OSHA Official Says

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Excerpt from BNAC Safety Communicator, Winter 1999

New OSHA Recordkeeping Rule:

§ 1904.36 Prohibition against discrimination

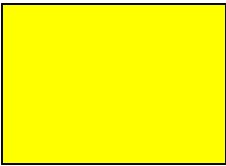
Section 11(c) of the Act **prohibits** you from **discriminating** against an employee **for reporting a work-related fatality, injury or illness**. That provision of the Act also protects the employee who files a safety and health complaint, asks for access to the Part 1904 records, or otherwise exercises any rights afforded by the OSH Act.

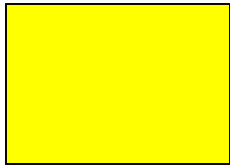
Phillips Chemical Company, Pasadena, Texas 1989

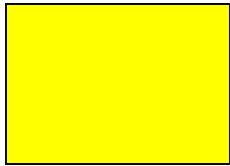
- Had just completed 5,000,000 hours without a lost time injury
- Explosion and fire
- 23 dead
- 232 injured

Phillips Co. Pasadena, TX (continued)

- **March 2000 explosion**
 - 1 worker killed
 - 69 workers injured
- **September 2000 OSHA citation**
 - \$2.5 million proposed penalty
 - 34 alleged willful violations (lockout tagout, process safety management, training)
- **January 2002 OSHA settlement agreement**
 - Phillips to pay \$2.17 million
- *Plant produces plastic resins for use in medical and consumer products*

It has been  days
since USWA local union
1234 told management to
fix the broken
ventilation and they still
have not addressed this
worker health hazard...

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“Everyone, and that includes you and me, is at some time careless, complacent, overconfident, and stubborn. At times each of us becomes distracted, inattentive, bored, and fatigued. We occasionally take chances, we misunderstand, we misinterpret, and we misread. These are completely human characteristics.”

**Al Chapanis, Former Professor of Human Factors
Engineering Department, Johns Hopkins University**

“Because *we are human* and because all these traits are fundamental and built into each of us, *the equipment, machines and systems* that we construct for our use have to *be made to accommodate us* the way we are, and not vice versa.”

Al Chapanis, Former Professor of Human Factors
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“All too often, however, **victim-blaming** has characterized responses to the problem, and emphasis on training and education have taken precedence over more effective ergonomic and ‘passive’ approaches that do not place the burden of prevention on the workers.”

Susan Baker, Professor of Health Policy and Management
Director of the Johns Hopkins Injury Prevention Center

Fundamental Principles of A Union Approach to Safety and Health

- Injuries and illnesses are the result of exposure to hazards
- Labor and management goals differ
- Union only mechanism to protect our interests
- Worker and Union involvement in every aspect of program
- Union representatives need time, access and resources

Union Approach to Comprehensive Worksite Safety and Health Program

Elements Include:

- Management commitment
- Worker and Union involvement
- Hazard identification and assessment
- Hazard prevention, elimination and control
- Worksite inspections and incident investigations
- Evaluation of program effectiveness
- Medical care

Mechanisms:

- Health & Safety Committees (*union only & joint*)
- Procedure to shut down hazardous jobs
- Right to refuse unsafe work
- Mechanism to review workplace changes
- Measure hazards and control efforts, not just reported injuries
- Training and Education



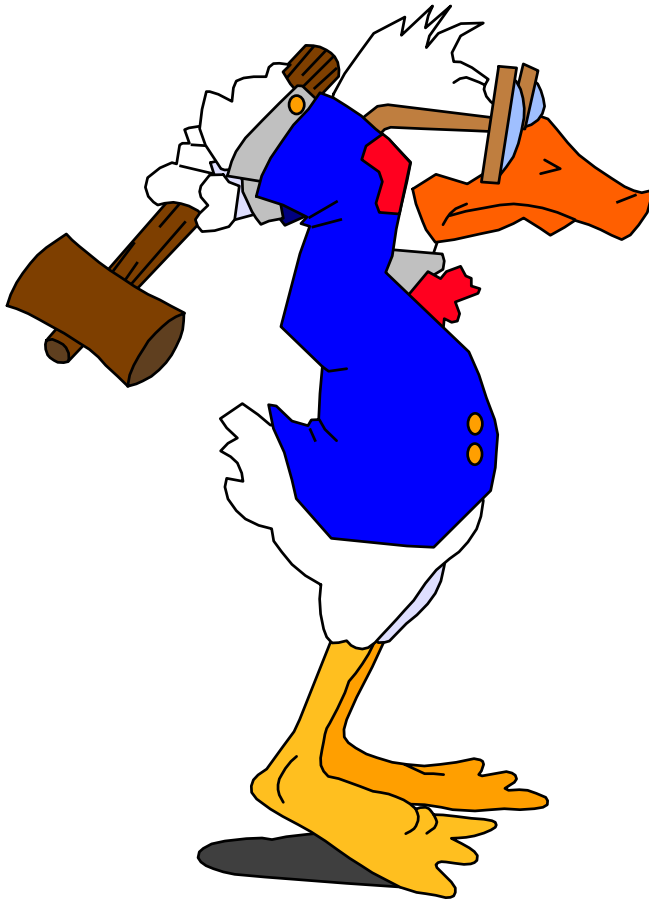
Union View - Identify Hazards

A hazard is a condition or set of circumstances that can cause harm

- Crushing
- Shearing
- Noise, vibration
- Chemical, gases, fumes, mists, dusts
- Entanglement
- Pinch point
- High pressure
- Electrical
- Ergonomics-posture, force, repetition
- Lifting
- Slips, Trips, Fall
- Fire
- Radiation
- Excessive hours of work
- Inadequate staffing
- Production pressures

Union View of Critical Worker Behaviors

- Identify root causes of injuries and illnesses
- Communicate problems to Union health & safety committee
- Filing health and safety grievances when needed
- Refusing hazardous and/or unsafe work
- Reporting injuries and illnesses
- Identifying management who are not addressing health and safety problems



Behavior Based
and
Incentive Programs

Modify the program as needed!

Union Forces Management to Abandon DuPont STOP Program for Employees

- **An employer planned to implement the DuPont STOP program without bargaining**
- **The Union demanded to negotiate about the safety program**
- **Management refused to bargain or provide requested information to the Union**
- **In an unfair labor practice charge filed by the American Postal Workers Union (APWU) - Philadelphia Local - the National Labor Relations Board supported the Union's position that management must bargain with the Union over a safety program that affects its members**

Remember - health & safety is a mandatory subject for bargaining!

“Rather than being the main instigators of an accident, operators tend to be the inheritors of system defects created by poor design, incorrect installation, faulty maintenance and bad management decisions. Their part is usually that of adding the final garnish to a lethal brew whose ingredients have already been long in the cooking.”

James Reason, University of Manchester
Preventing Accidents at Oil and Chemical Plants

“Back in my days as a general manager, I kicked more behavioral scientists out of my facilities than you can shake a stick at. I would not let them come in and screw up my work force. Behavioral psychologists usually have very limited work experience and can do more damage to an organization in a day or week than you can straighten out in 10 years. I have experienced it, I’ve seen it. I don’t feel bad toward these guys for cashing in on their education but I wouldn’t give them 15 cents to conduct a class for me on anything. Most of the articles several of the modern day psychologists have written about safety are written to impress themselves. Their 2 dollar words are accurate and what they write is academically correct but they fail to offer a blueprint of how on earth the organization can apply their lofty principles.”

Thomas Creswell, “Thoughts on Behavior-Based Approaches,” *The Communiqué*, National Safety Management Society, Nov. 1997



It is better to slay a dragon than to teach people ways to live peacefully with him!



"Management's blame the worker programs are as dangerous to our members as any other challenge that we face today. The USWA must oppose these programs with all our

energy. Instead we must work just as hard to implement comprehensive health and safety programs that find and eliminate unsafe workplace conditions that cause injuries and illness to our members."

Leo Gerard, USWA International President