

Rescate en Espacios Confinados



Training Program for Prevention of Occupational Diseases and Incidents of Firefighters in Venezuela

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GENERAL OBJECTIVE

To do a literature review to present a model of Safety Educational Program for Firefighters to avoid occupational diseases and incidents in this specific type of work, contributing to healthy development of this professional people in Venezuela.



SPECIFIC OBJECTIVES

To include:

- Documentation of Risk Prevention theoretic information, (with the OS&H information in the first period of education)
- Practical sessions into the Education Program

To develop:

- A positive impact in life quality with extension for family and community.
- A contribution to integral education of Metropolitan Firefighters in Caracas -Venezuela.
- Decrease of incidents, morbidity and mortality of firefighters in Venezuela.



TRAINING SESSIONS IN OH&S

- Justification and Background
- Legal References to the program
- Occupational Risks for firefighters
- Type of lesions - Major injuries
- Prevention Measures
- Detailed Training Program



JUSTIFICATION AND BACKGROUND

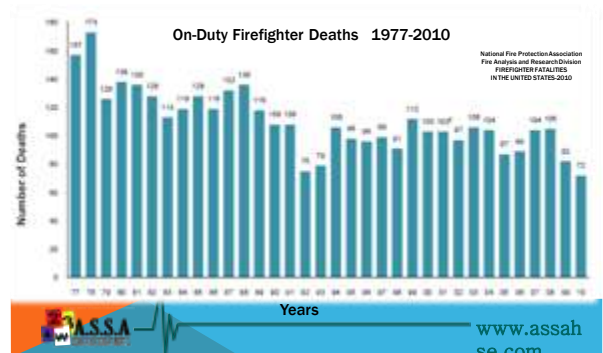
- Extremely dangerous activity.
- Generating several lesions and diseases
- NFPA/NIOSH >> +10 years studying programs to avoid occupational exposure in this type of occupation.
- OIT: 1.2 millions of deaths
- Venezuela, 2006: 20.843 incident reports.



- Firefighters lesions are generating chronic disability.
- Need to develop training programs to avoid/decrease occupational incidents and diseases.
- Decrease of costs associated to occupational incidents.



JUSTIFICATION AND BACKGROUND



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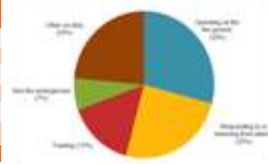


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JUSTIFICATION AND BACKGROUND

FIREFIGHTERS DEATHS BY ACTIVITY, ANNUAL % 2000 - 2010

Type of duty	Nº of Deaths (n)
Fire Operations	27
Responding / Returning	23
Others, on work time	24
Training	14
Emergencies without fire	6
After fire	21
TOTAL	115



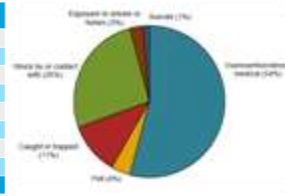
National Fire Protection Association - Fire Analysis and Research Division
FIREFIGHTER FATALITIES IN THE UNITED STATES 2010



JUSTIFICATION AND BACKGROUND

FATAL INCIDENT CAUSES, ANNUAL % 2000 - 2010

CAUSE of DEATH	Nº of Deaths (n)
Stress / Overeffort	62
Vehicular collision	25
Trapead	9
Fallen	5
Beating by	4
Contact / Exposition	3
Assault	1
Others	6
TOTAL	115



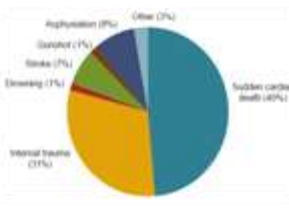
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JUSTIFICATION AND BACKGROUND

NATURE LESSON / DEATH, ANNUAL % 2000 - 2010

LESSION NATURE	Nº of Deaths (n)
Hearth attack	55
Internal Trauma	32
Asphyxiation	8
Stroke	6
Burns	3
Runover	2
Electrocution	2
Excessive heat	1
Others	6
TOTAL	115



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LEGAL REFERENCES TO THE PROGRAM

LOPCYMAT

(ORGANIC LAW OF PREVENTION, WORK CONDITIONS Y ENVIRONMENT, Venezuela)
Articles No 53 and 56

Workers need to receive:

- Information about the risks previously to initiate the work, hazards and prevention measures to avoid them.
- Information about specific physical, chemical, biological, meteorological, psychosocial risks and ergonomics



OCCUPATIONAL RISKS FOR FIREFIGHTERS

- Combustion Products and Chemical Exposition
- Injuries and lesions
- Non ergonomic conditions and postures
- Biological Hazards
- Physical Hazards
- Reproductive Hazards
- Stress and Shift work



TYPE OF LESIONS - MAJOR INJURIES

Internal and External

- Short time effect
- Long time effect



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PREVENTION MEASURES

Basic Preventive Measures:

- Safe Operation Procedures Training and Health & Safety information

PPE:

- Use and Maintenance Training
- Adjustment testing
- Posture hygiene with simulated interventions
- Tools adaptation and use



Unspecific risk factors knowledge:

- Stress and fatigue, uncertainty, event conditions
- Work process evaluations
- Diseases transmission prevention and protection (**Blood Pathogens**)



TRAINING PROGRAM



Essential Requirements:

- Management and Governmental Support
- Policy implementation and written work procedures
- Orientation about PPE correct use
- Continue feedback about the system



DETAILED TRAINING PROGRAM

1. Introduction – Basics
2. Justification (safety Officer)
3. Background and legislation
4. The man and work environment
5. Occupational incidents and diseases
6. Firefighters Risks
7. Absorption, Inhalation and Ingestion effects
8. Heat effects



DETAILED TRAINING PROGRAM

9. Infections / Diseases Transmission
10. Work Ergonomics and Lifting
11. Psychosocial effects of firefighting work
12. Special groups of duty
13. Exercise and nutrition: protection factors
14. Personal Protection Equipment
15. Occupational Medical Evaluation Program
16. Wellness and recreation program



Academic Curriculum

Name at the academic Curriculum	Trimester	Requirement	Theoretical hours	Hours on practice	Total of hours	Academic Credits
Occupational Health and Safety I: Introduction, Justification, Safety Officer function, Background and Legislation, The man and work environment, Personal Protection Equipment: Basics	01	NO	01/every two weeks	00	02	02
Occupational Health and Safety II: Firefighters Risks - Prevention and Control, Occupational incidents and diseases on duty, Safety Officer function, Work Ergonomics and Lifting	02	Yes, OH&S I	02/every two weeks	02	04	02



Academic Curriculum

Name at the academic Curriculum	Trimester	Pré-lación	Theoretical hours	Hours on practice	Total of hours	Academic Credits
Occupational Health and Safety III: Absorption, Inhalation and Ingestion effects, Occupational incidents and diseases on duty, Heat Effects, Safety Officer function, Personal Protection Equipment: Tests, Maintenance and Use, Infections / Transmission Diseases	03	Yes, OH&S II	01/week	02	06	02
Occupational Health and Safety IV: Psychosocial effects of firefighting work, Special groups of duty and team work, Exercise and nutrition: protection factors, Occupational Medical Evaluation Program, Wellness and recreation program: healthy habits	04	Yes, OH&S III	01/week	02	06	02



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METHODS

Learning process through:

- Theoretical Exposure with students participation
- Interaction mechanism to reinforce learning
- Students Presentation: Research about the theme
- Special Guests for specific themes
- Discussion Forum



METHODS



Evaluation and followup:

- Continue system (Theoretical and practical)
- Refresh in every module
- Feedback from students, every period



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