Chapter I. Introduction – Excerpts from the Chapter

Introduction

What is an Ergonomics Program?

This document emphasizes the engineering aspects of ergonomics as a design and evaluation tool. However, it should be emphasized that ergonomics can and needs to go beyond engineering controls in order to be its most effective. The "holistic" application of ergonomics in a structured system can be referred to as an **ergonomics program**. There is a growing emphasis on the development of ergonomic programs within industry. Examples of this emphasis are contained in several recent regulatory publications:

- "Ergonomics Programs Management Guidelines for Meatpacking Plants" (OSHA, 1990),
- ANSI Z-365 Draft Standard on Cumulative Trauma Disorders (draft; 1993, 1994)
- Occupational Safety and Health Administration Ergonomics Program Proposed Rule (64 FR 65767; 1999). Note proposed rule was rescinded in 2001.
- Various state ergonomic rules (California, Washington, and others; in various stages of development / enforceability).

The emphasis on ergonomics programs recognizes that, for ergonomics to be its most successful, it must become systemic within an organization, and it must involve a wide range of resources from within the organization.

Components of an Ergonomics Program

Across the various standards and guidelines mentioned in the introduction, there is a commonality in the components that should be included in a comprehensive ergonomics program. The program components are:

- health and risk factor surveillance,
- job analysis and design,
- medical management,
- training,
- ongoing program documentation and evaluation.

Chapter I. Introduction – Excerpts from the Chapter

Medical Management

Table I.2. Roles of Employers, Workers and HCPs in a Medical Management Program

Party	Roles and Responsibilities
Employer	• Ensure that they do **not** discourage prompt, early reporting of potential CTDs • Facilitate a prompt evaluation by an appropriate HCP • Provide HCP with information necessary to make him/her familiar with the worker's job tasks • Ensure confidentiality regarding medical conditions identified during the HCP's assessment • Select or recommend HCP's with familiarity in upper-extremity CTDs • Modify jobs or otherwise accommodate employees with functional limitations as part of a RTW program. • Encourage employees to report ergonomic risk factors in the work place.
Worker (Employee)	• Report potential CTDs promptly • Keep all appointments with HCP • Be honest with the HCP regarding both on-the-job and off-the-job activities associated with CTD risk. • Maintain all treatments recommended by the HCP.
HCP	• Evaluate the symptomatic worker • Become familiar with the physical requirements of the worker's job • Refer the worker to a HCP who is familiar with CTD case management, if the HCP is not familiar with such management.

Chapter I. Introduction – Excerpts from the Chapter

Starting the Program — c. Writing the Mission Statement

Ergonomics Team Mission Statement for
_____

Program Goals

An Ergonomics Program has been established at _____ on this date. The program has been established for the following purposes:

1. To identify all possible ergonomic issues that might adversely impact the company and workers in terms of health and safety, productivity and efficiency, and customer and worker satisfaction.
2. To evaluate means to address these issues which will satisfy the goals of ergonomic design within the reasonable abilities of the company.
3. To reduce injuries/illnesses by at least __% within the first two years of the program's existence.
4. To increase productivity by at least __% within the first two years of the program's existence.
5. .....

Team Objectives and Responsibilities

The Team accepts the following responsibilities and challenges associated with membership on the team:

1. The team will meet no less than monthly on a formal basis. Management will release Team members from regular assignments, or provide them flexibility in meeting regular assignments, for purposes of attending the meetings.
2. Meeting agendas and minutes will be taken to document Team progress.
3. Within the first __ months of its existence, the Team will summarize all necessary and available passive surveillance data to identify priority areas within the plant for ergonomic analysis.
4. Within the first __ months of its existence, the Team will conduct an ergonomic assessment of identified priority areas within the plant, and will present to management an ergonomic Action Plan for addressing identified ergonomic issues.
5. Within the first __ months of its existence, the Team will implement ergonomic controls agreed-upon in the Action Plan.
6. Within __ weeks of the implementation of the controls, the team will conduct an active surveillance of workers to determine the effectiveness of controls. This information will be shared with management on an ongoing basis.
7. .....
8. At the end of each six month period, the program will be reviewed to document the effectiveness of the team's efforts.

Chapter I. Introduction – Excerpts from the Chapter

ID. Standards and Guidelines

Table I.6. General Ergonomic Issues: Guidelines and Standards (no listing in the "Year" cell indicates a draft standard or technical program)

Organization and Standard	Year	Title
ANSI Z-365		Control of Work-Related Cumulative Trauma Disorders - Part 1: Upper Extremities
ISO 6385	1981	Ergonomics Principles in the Design of Work Systems
ISO 10075	1991	Ergonomic Principles related to Mental Work-Load - General Terms and Definitions
ISO 10075-2	1996	Ergonomic Principles related to Mental Work-Load - Part 2: Design Principles
ISO 7250.2		Basic List of Anthropometric Measurements
ISO 8996	1990	Ergonomics - Determination of Metabolic Heat Production
ISO 9921	1996	Ergonomic Assessment of Speech Communication
ISO 11226	2000	Ergonomics - Evaluation of Static Working Postures
ISO 11228		Ergonomics - Manual Handling - Part 1: Lifting and Carrying
ISO 15534 1-3	2000	Ergonomic Design for the Safety of Machinery
JIS Z 8500	1994	Ergonomics – Anthropometric and Biomechanical Measurements
TC 159/SC 1		Ergonomic Guiding Principles
TC 159/SC 3		Anthropometry and Biomechanics
TC 159/SC 4		Ergonomics of Human-System Interaction
TC 159/SC 5		Ergonomics of the Physical Environment

Chapter I. Introduction – Excerpts from the Chapter

ID. Standards and Guidelines, cont.

Table I.7. Thermal Environment: Guidelines and Standards (no listing in the "Year" cell indicates a draft standard or technical program)

Organization and Standard	Year	Title
ISO 7243	1989	Hot Environments - Estimation of Heat Stress on the Working Man, based on the WBGT-Index
ISO 7726	1985	Thermal Environments - Instruments and Methods for Measuring Physical Quantities
ISO 7730	1994	Moderate Thermal Environments - Determination of the PMV and PPD Indices and Specification of the Conditions for Thermal Comfort
ISO 7933	1989	Hot Environments - Analytical Determination and Interpretation of Thermal Stress Using Calculation of Required Sweat Rate
ISO 9886	1992	Evaluation of Thermal Strain by Physiological Measurements
ISO 10551	1995	Ergonomics of the Thermal Environment - Assessment of the Influence of Thermal Environment Using Subjective Judgment Scales
ISO/TR 11079	1993	Evaluation of Cold Environments
ISO 11399	1995	Ergonomics of the Thermal Environment - Principles and Application of International Standards
ISO 9920	1995	Ergonomics of the Thermal Environment - Estimation of the Thermal Insulation and Evaporative Resistance of a Clothing Ensemble
ISO 13731		Ergonomics of the Thermal Environment - Definitions, Symbols, and Units
ISO/WD 15265		Ergonomics of the Thermal Environment – Risk Assessment ... in Thermal Working Conditions

Chapter I. Introduction – Excerpts from the Chapter

ID. Standards and Guidelines, cont.

Table I.8. Office Environment: Guidelines and Standards (no listing in the "Year" cell indicates a draft standard or Technical Program)

Organization and Standard	Year	Title
ANSI/HFS 100-1988	1988	American National Standard for Human Factors Engineering of Visual Display Workstations
ANSI/IES RP-1-1993	1993	American National Standard practice for office lighting
ISO 9241 – 1	1997	Ergonomic Requirements for Office Work with Visual Display Terminals (VDTs) - Part 1: General Introduction
ISO 9241 – 2	1992	... Part 2: Guidance on Task Requirements
ISO 9241 – 3	1992	... Part 3: Visual Display Requirements
ISO 9241 – 4	1998	... Part 4: Keyboard Requirements
ISO 9241 – 5	1998	... Part 5: Workplace Requirements
ISO 9241 – 6	1999	... Part 6: Environmental Requirements
ISO 9241 – 7	1998	... Part 7: Display Requirements with Reflections
ISO 9241 – 8	1997	... Part 8: Requirements for Displayed Colors
ISO 9241 – 9	2000	... Part 8: Requirements for Non-Keyboard Input Devices
ISO 9241 – 10	1996	... Part 10: Dialogue Principles
ISO 9241 – 11	1998	... Part 11: Guidance on Specifying and Measuring Usability
ISO 9241 – 12	1998	... Part 12: Presentation of Information
ISO 9241 – 13	1998	... Part 13: User Guidance
ISO 9241 – 14	1997	... Part 14: Menu Dialogues
ISO 9241 – 15	1997	... Part 15: Command Dialogues
ISO 9241 – 16	1999	... Part 16: Direct Manipulation Dialogues
ISO/IEC 15411	1999	Information Technology – Segmented Keyboard Layouts

Chapter I. Introduction – Excerpts from the Chapter

ID. Standards and Guidelines, cont.

Table I.9. Lighting, Controls, and Displays: Guidelines and Standards (no listing in the "Year" cell indicates a draft standard or Technical Program)

Organization and Standard	Year	Title
ANSI/IES RP-1-1993	1993	American National Standard practice for office lighting
ISO 7731	1986	Auditory Danger Signals
ISO 8995	1989	Principles of Visual Ergonomics - The Lighting of Indoor Work Systems
ISO 9355 – 1	1999	Ergonomic Principles for the Design of Displays and Control Actuators - Part 1: Human Interaction with Displays and Control Actuators
ISO 9355 – 2	1999	... Part 2: Displays
ISO 11064 – 1-3	1999, 2000	Ergonomic Design of Control Centers
ISO 11428	1996	Ergonomics – Visual Danger Signals
ISO 11429	1996	Ergonomics – System of Auditory and Visual Danger and Information Signals
ISO 13406 1-2	1999, 2001	Ergonomic Requirements for Work with Visual Display Units Employing Flat Panel Technology