A PROGRAM FOR ACCIDENT PREVENTION DURING CAFETERIA AND HOSPITAL TRAY-LINE FOOD SERVING OPERATIONS

Thesis for the Degree of M. S.
MICHIGAN STATE UNIVERSITY
Sister Mary Marcel
DeJonckheere, S. C.
1968

ABSTRACT

A PROGRAM FOR ACCIDENT PREVENTION DURING CAFETERIA AND HOSPITAL TRAY-LINE FOOD SERVING OPERATIONS

by Sister Mary Marcel DeJonckheere, S. C.

The purpose of this study was to plan a safety program specific to cafeteria and hospital tray-line food serving operations. The assumption has been made that the attitudes and knowledge possessed by individual employees are the most important factors in accident prevention. These form the basis of the safety program.

A supervisor's manual has been developed which contains background information on possible causes of accidents and procedures designed to prevent them. The manual presents a section on training methods and the use of visual materials, demonstrations, and case studies as a part of training. Plans for three training sessions to be held with employees along with suggested visual materials for each session are included. The manual is intended to be used as a tool for supervisors in conveying to employees the knowledge needed to insure safe working procedures. Employee involvement in the safety program should contribute to an attitude conducive to safety.

For the workers, an illustrated handbook of accident preventive measures has been developed. Included are general

safety principles, methods of fire prevention and control, instructions for the correct methods of lifting, and specific safety principles for cafeteria and hospital tray-line employees.

A PROGRAM FOR ACCIDENT PREVENTION DURING CAFETERIA AND HOSPITAL TRAY-LINE FOOD SERVING OPERATIONS

By

Sister Mary Marcel DeJonckheere, S. C.

A PROBLEM

Submitted to the College of Home Economics
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

Department of Institution Administration

1968

TABLE OF CONTENTS

A PROGRAM FOR ACCIDENT PREVENTION DURING CAFETERIA AND HOSPITAL TRAY-LINE FOOD SERVING OPERATIONS

INTRODUCTION

An accident has become a symbol of inefficiency and usually represents a monetary loss to the organization. Simonds and Grimaldi found that the elucidation of costs, both direct and indirect, was a primary motivating factor for development of safety programs (39). They also noted high employee morale in organizations having an active safety program because the employee sensed the concern of management for his personal worth. Therefore, Simonds and Grimaldi suggested management should provide employee safety training programs for economic as well as humanitarian reasons.

National Safety Council statistics rank the food service industry about midway in all industry classifications in the number of working days lost due to accidents. However, in terms of frequency of accidents, the food service industry is nearly twice as high as the averages for all industries (1). Food serving periods have been identified as the time when approximately thirty-four per cent of the accidents occur (36, 50).

The use of visual materials and methods has been suggested as a means of improving learning efficiency (48). Selection and development of suitable materials depends on the subject taught, the background and level of understanding of students, and the availability of appropriate materials (10).

Development of a safety program specifically for cafeteria and hospital tray-line food serving operations could result in a reduction of accidents during these periods. The effectiveness of the program could hopefully be increased by incorporation of appropriate visual materials as well as by involving all employees in training sessions and the work of a safety committee.

The purpose of this problem was to plan a safety program specific to cafeteria and hospital tray-line food serving operations. A supervisor's manual has been developed which contains information regarding accident causes and prevention as well as plans for three training sessions to be held with employees. For the workers, a handbook of preventive measures has been developed. Included are general safety principles, methods of fire prevention and control, instructions for the correct methods of lifting, and specific safety principles for cafeteria and hospital tray-line employees.

Although this program is designed only for employees engaged in food serving operations in cafeterias and hospital tray-lines, it is hoped that in the future the program may be extended to other areas of food production.

SUPERVISOR'S MANUAL

FOR A SAFETY PROGRAM FOR

FOOD SERVING OPERATIONS

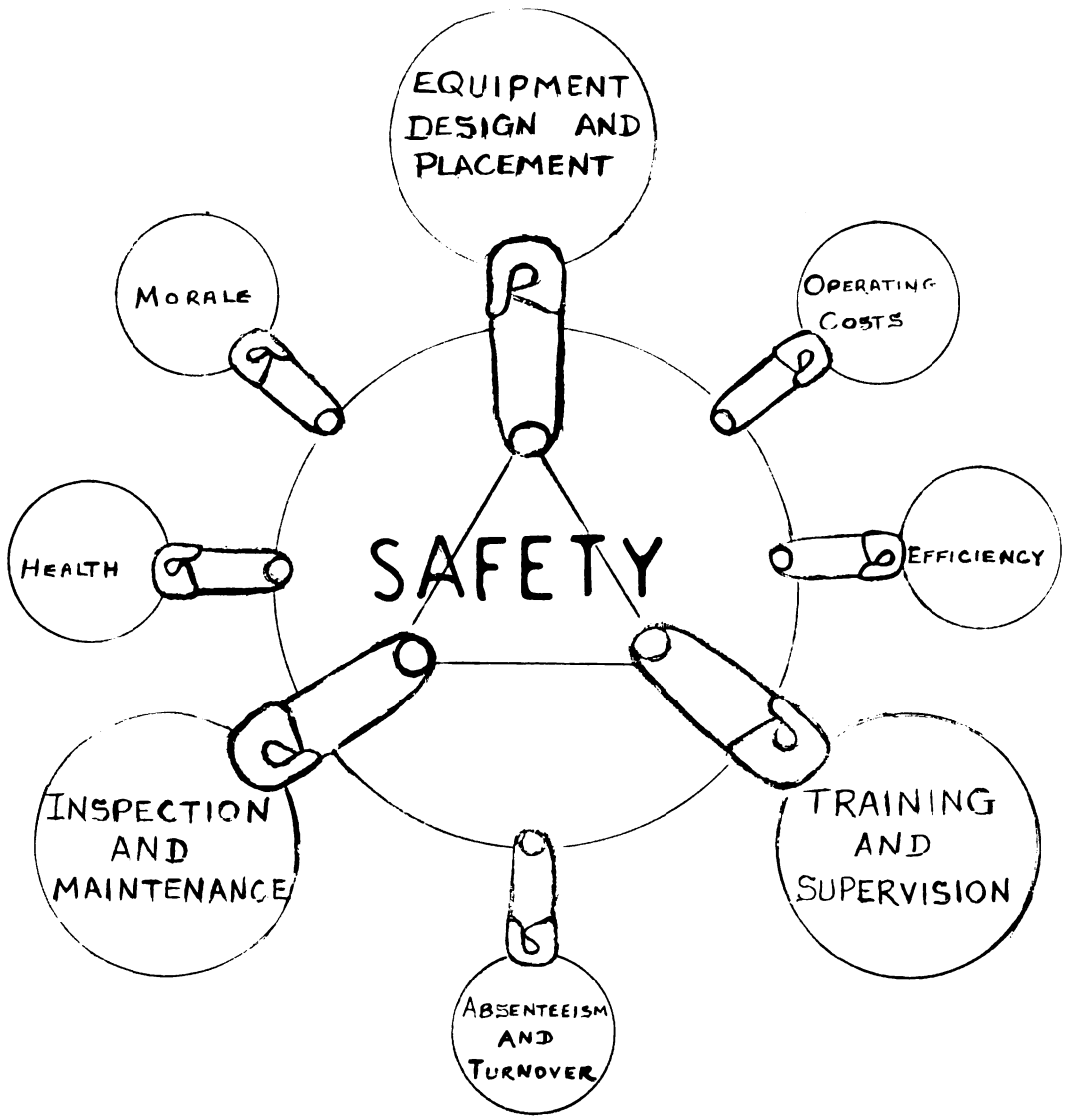


TABLE OF CONTENTS

INTRODUCTION

Accident prevention is a major responsibility of management. A safe place to work and safe work procedures are essential to accident prevention.

This safety manual has been developed to provide background information on possible causes of accidents and procedures which will, hopefully, prevent them. The manual presents a section on training methods and the use of visual materials, demonstrations, and case studies as a part of training. The assumption has been made that the attitudes and knowledge possessed by individual employees are the most important factors in accident prevention. The manual should be used as a tool for the supervisor in conveying to employees the knowledge they must have to insure safe work procedures in the course of their daily duties.

The program outlined here is geared toward accident prevention during the food serving period and is, therefore, to be used primarily for training persons working on cafeteria or hospital tray-lines. The material in this manual and the suggested training aids are intended to be used in conjunction with the employee handbook, thus integrating methods shown to be most effective in training (48).

ADVANTAGES OF A SAFETY PROGRAM

What are the benefits of a good safety program? Basically, there are five: health of employees, reduction of operating costs, decreased absenteeism and labor turnover, high employee morale, and increased efficiency in work.

Health of Employees

A primary purpose of any safety program is the protection of the physical health of the employee (39). Good performance can be expected only when the employee has the best possible use of his physical and mental capacities.

Excluding the effect of injuries on production costs, there are several other possible consequences of personal injuries. One is the immediate suffering of the injured person. Another is the possibility that some permanent impairment will result. Studies show (39) that about one out of every fifteen injuries where the worker is unable to report to work the day following his injury, results in some permanent disability. There are also economic effects felt by the workers and their families, the most direct being the loss of earnings. **SINCE 98% OF ALL ACCIDENTS CAN BE PREVENTED, THE INJURIOUS EFFECTS OF ACCIDENTS CAN ALSO BE ELIMINATED OR GREATLY REDUCED.**

Reduction of Operating Costs

Management must seek an efficient operation. History bears out the truth of the following statement made in 1944 by R. B. Blake, Senior Safety Engineer of the Division of Labor Standards, U. S. Department of Labor. "The main driving force behind the industrial safety movement is the fact that accidents are expensive. Substantial savings can be had by preventing them."[1]

The less time and effort a supervisor expends on accident prevention, the more money he will have to expend on insurance premiums and operational costs (31). Uninsured operational costs resulting from accidents might include seven items.

* Cost of wages paid for working time lost by those who were not injured.
* Cost to repair, replace, or clean up the material or equipment that was damaged in the accident.
* Extra costs due to overtime necessitated by an accident.
* Cost of wages paid the supervisor for time spent on activities relating to the accident, such as filling out accident report forms and training replacement employees.
* Wage costs due to decreased output of the injured worker when he returns to work.
* Wage costs due to decreased output of a substitute or new worker.
* Medical costs such as first aid which are paid by the volume feeding operation.

---

[1]Cited in "Safety Subjects," U. S. Department of Labor, Bureau of Standards, Bulletin No. 67, 1955, p. 14.

The above items appear to be incidentals, but a study of accident records can show very surprising figures. According to the National Restaurant Association (9), an estimated sixteen million dollars are spent annually for every 5,000 restaurants for workmen's compensation and the indirect costs of employee accidents. SINCE 98% OF ALL ACCIDENTS CAN BE PREVENTED, THE OPERATING COSTS DUE TO ACCIDENTS CAN BE ELIMINATED OR GREATLY REDUCED.

Decreased Absenteeism and Labor Turnover

Accidents interrupt a well-ordered process. When, due to an accident, an employee is unable to report for work, his position must be filled by a newly hired worker or by re-scheduling an existing employee to fill the position temporarily. In either case, the employee is usually not familiar with the job to which he is assigned.

Employees on the job less than a year have the most accidents. They have yet to be thoroughly trained in their work. If permitted to learn by experience, and without adequate supervision, they invariably develop unsafe working habits (18,28). It is important that workers have the security of knowing the safest method of doing their jobs. Safe working conditions are high on the list of needs of employees, and are among the factors which determine job stability (43). BECAUSE 98% OF ALL ACCIDENTS CAN BE PREVENTED, HIGH RATES OF ABSENTEEISM AND LABOR TURNOVER CAN BE ELIMINATED OR GREATLY REDUCED.

High Morale

High morale exists when an individual perceives himself as a member of a group, and perceives a high probability of achieving both individual and group goals through a course of action. The average person in our society generally prefers a safe, orderly, predictable world, which he can count on, and in which unexpected, dangerous things do not happen. Individual and group goals are more likely to be realized if management fulfills its responsibility to provide safe working conditions for the safety of individual workers (43).

Providing adequate training for an employee is one way of increasing morale. The training, which involves not only safe production skills but also an understanding of what the employee is doing and its relation to the goal of the organization, could make the employee's job more meaningful and thus contribute to job satisfaction and morale (40).

An orderly dietary department can contribute to safety as well as to the employee's feeling of management's concern for his welfare. Much of the responsibility for a neat, orderly dietary department rests with the supervisor (40). If employees feel their superiors do not care about neatness, they tend to think they need not be concerned with it either.

Participation on a safety committee may contribute to high morale (40). This activity would increase self-esteem as well as job meaningfulness. BECAUSE 98% OF ALL ACCIDENTS CAN BE PREVENTED, MANAGEMENT SHOULD BE AWARE OF THE EFFECTS OF MORALE ON SAFETY.

Increased Efficiency in Work

In most cases, the safest job method is the most efficient method. The Committee on Safety and Production of the American Engineering Council (39) carried out an extensive study to determine the relationship between safety and efficiency. The study showed effective accident prevention is no bar to peak efficiency, and they concluded that working safely is conducive to maximum efficiency in production.

Training for safe working is not different from training for efficient working. For safe, efficient performance the employee needs to know and understand the step-by-step sequence to follow to complete the job. The safety aspect of job performance should be stressed equally with quality and speed.

Safety and efficiency both attempt to keep the elements of fatigue on the job to a minimum. For example, the correct and safe method for lifting an object from the floor uses the least amount of physical energy. SINCE 98% OF ALL ACCIDENTS CAN BE PREVENTED, THE INEFFICIENT EFFECTS OF ACCIDENTS CAN ALSO BE PREVENTED.

ACCIDENT FACTS

Simonds and Grimaldi (39) have defined an occupational or work accident as an unintended occurrence arising out of employment that causes personal injury, property damage, or interference with production under such circumstances that personal injury might have resulted.

Causes of Accidents

The National Safety Council (9) has long maintained that accidents do not just happen, they are caused. With rare exceptions, an unsafe condition and/or an unsafe act is behind every accident. According to their report, unsafe conditions may be present and/or unsafe acts may occur if production processes are not adequately under control. Controlling operations according to carefully developed plans, therefore, eliminates or greatly reduces the number of accidents.

Unsafe Physical Conditions and Personal Acts

Unsafe physical conditions are those accident-causing factors which are present due to defective equipment, errors in design, faulty planning, or omission of essential safety requirements for maintaining a relatively hazard-free physical environment. Simonds and Grimaldi (39) listed the

following categories in which unsafe physical conditions may be grouped:

* Inadequate mechanical guarding.
* Defective condition of equipment and/or physical facilities.
* Unsafe design or construction of equipment and/or physical facilities.
* Hazardous procedures or operations.
* Inadequate or incorrect illumination.
* Inadequate or incorrect ventilation.
* Unsafe dress or apparel.

Unsafe personal acts are those types of behavior which lead to accidents. In developing the following categories, Simonds and Grimaldi (39) made no attempt to probe the reasons for behavior, but were concerned only with listing common unsafe acts.

* Performing operations for which supervisory permission has not been granted.
* Removing safety devices or altering their operation so they are ineffective.
* Operating equipment or moving at unsafe speeds.
* Using unsafe or improper equipment.
* Horseplay, such as teasing.
* Failure to wear safe attire or personal protective devices.

Underlying Causes

Simonds (38) later suggested three reasons for unsafe personal acts of employees.

* The worker does not understand his job, or his talents are inadequate for the position assigned to him.

* The employee works in an atmosphere of apprehension. This may be a temporary situation following a reprimand or other stress condition.

* The worker harbors a dislike for his job, his company, and/or his supervisor.

The apprehensions of the employee may be caused by off-the-job situations. For example, credit problems may have an effect on safety behavior. Young (49) reported that employees who were involved in difficult credit situations had 51.7 per cent more accident-connected medical visits than employees who were free from these concerns.

The state of health may influence safety behavior. Fatigue, for example, has been cited as an underlying cause of accidents (16).

The highly educated employee tends to have more accidents than those who meet minimum educational requirements for specified jobs (49). Over-education may result in a mixture of boredom, apathy, and frustration which tends to reduce safety awareness.

Types of Accidents in Volume Feeding Operations

The facts indicate that many food service operations should pay more attention to accident prevention. The National Restaurant Association, with assistance from the National Safety Council (9), conducted a survey to determine where the food service industry ranked in relation to other

industries reporting disabling injuries.[1] The findings indicated that accident prevention in the food service field is far less advanced than in other industries. In 1962, the average for all industries reporting to the National Safety Council was 6.19 disabilities per million man hours. The average for volume feeding operations was 16.82. This figure shows that the food service industry ranked above all other industries except mining, lumber, marine transportation, and the construction field.

A recent survey of food service employees in Illinois indicated slips and falls accounted for fifty-seven per cent of the accidents, costing almost $100,000 in compensation (11). Data from 4,442 hospital food services ranked prominent injuries in the following order: strains and sprains, 593; bruises and contusions, 572; cuts and lacerations, 539; scalds and burns, 447; and fractures, 282.

The New York Insurance Conference on Occupational Safety (30) outlined the main causes of accidents in the food service industry. The investigators reported accidents were due to the following actions and situations:

* Moving too fast through congested areas, not looking where one is going.
* Handling knives improperly.
* Lifting or carrying too heavy a load.

---

[1]A disabling injury is defined as one which results in permanent impairment or inability to work the day immediately following the day of the injury.

* Failure to use handles in opening or closing refrigerators, drawers, and doors.
* Exposed blades of cutting machines.
* Failure to use pot holders or towels.
* Improper use of "entrance" and "exit" doors to and from the kitchen.
* Failure to get prompt first aid.
* Improper loading of trays.
* Wet and slippery floors.
* Pot handles protruding in the aisles.
* Improperly stored cleaning equipment or supplies.
* Improper lifting methods.

"Surprise factors," or the unexpected, are cited by Kotschevar and Terrell (25) as the cause of the largest percentage of accidents in volume feeding operations. Hazardous surprise elements which may be found in a volume feeding operation are blind corners, cross traffic, irregular surfaces, slick spots on floors, bumping by swinging doors, equipment out of place, sticking and wrong-way doors, and unexpectedly hot surfaces.

Pinpointing the Cause

Investigation of an accident to determine the specific unsafe physical condition(s) and/or unsafe personal act(s) may indicate what action must be taken to correct the condition(s). The investigation may be simple in some cases or it may be complex if it is necessary to determine the cause of a chain sequence of accidents.

Accident Investigation

The investigation of accidents is especially suited to the "questioning approach." Asking "why" frequently exposes the faulty condition or personal act when an attempt is made to answer the question. Simonds and Grimaldi (39) believe that at no time should the investigator think that because he asks "why," he in any way reflects an embarrassing lack of knowledge. He may, in fact, know nothing of the operation, but no person can be expected to know all phases of all subjects, and safety concerns itself with all of the broad areas of behavior and technology. According to Simonds and Grimaldi (39), the accident investigator should consider himself as a teacher or searcher for facts who asks "why" in order to stimulate the thinking of the student and to draw forth new ideas.

Simonds and Grimaldi (39) caution that delving into the cause of an accident is apt to be considered as a personal affront by the individuals concerned. The supervisor, for example, may consider the accident investigation an attempt to prove his neglect. The injured employee may consider the investigation to be a probe of his ability as a workman. The assignment of the blame for an accident, however, is by no means the fundamental purpose that motivates an accident investigation, according to Simonds and Grimaldi (39). The investigation is an attempt to find the accident causes so that they may be controlled or eliminated.

Simonds and Grimaldi (39) have suggested some guidelines for determining the cause(s) of accidents.

* Begin as far back in the history of the event as it is practical to explore. Determine what the injured employee was doing just before the accident.
* Secure pertinent facts from witnesses.
* Examine the physical environment in which the accident occurred.

Analyses of Data

Written reports of all accidents provide valuable information for the supervisor. Periodically, a tabulation of the information should be made. An analysis of the data may indicate trends in accident causes and hence, provide management with valuable information on necessary steps to eliminate or control accidents. Simple but complete records also permit management to compare departmental safety experience with similar departments of other organizations.

Examination of reports may show the involvement of a particular employee in a number of accidents. An early and still existing view in safety literature is that a significant percentage of people are accident prone. Simonds and Grimaldi (39) state that originally the term was used exclusively to identify workers who had recurring accidents. Later, accident proneness was employed as an explanatory term for an individual's repetitious accident experience. More recent studies identify the person whose record shows recurring accidents as an "accident repeater." This term is

intended merely to describe the state of an individual's accident record and does not indicate why he experienced repeated accidents. The accident causes may or may not be directly due to some personal deficiency.

A report by Schulzinger (37) indicates the accident repeater is not a significant factor in the safety problem. The study showed that persons who consistently experienced injuries accounted annually, for only 0.5 per cent of all accidents included in the study which extended over a three-year period.

PREVENTIVE MEASURES

Three areas of safety control are inherently involved with the smooth and optimum functioning of a food service unit. These are design, layout, and equipment; training and supervision; and inspection and maintenance.

Design, Layout, and Equipment

Good design, layout, and equipment are as essential in safety as they are in production. Safety factors should be considered during the planning stages of a food service unit. The International Labor Office (18) suggests a number of principles in planning for safe, as well as efficient, production.

* Keep the handling of materials and utensils to a minimum.
* Provide safe walking surfaces on floors, stairs, and platforms.
* Provide adequate space for all equipment.
* Provide safe access to every place workers have to go.
* Provide for the safety of maintenance and repair personnel.
* Provide safe transport facilities.
* Provide adequate means of escape in case of fire.
* Allow for expansion.
* Purchase equipment with built-in safety devices whenever possible.

"Surprise factors" such as blind corners, cross traffic patterns, and irregular surfaces should be eliminated in planning a safe volume feeding operation, according to Kotschevar and Terrell (25). There are other external factors which should be considered in kitchen planning, such as illumination, noise, temperature, fire prevention and storage.

Inadequate lighting can be a cause of accidents. A worker who cannot readily see where he is going or what he is doing may be expected to have accidents. The Traveler's Insurance Company estimated that twenty-four per cent of all accidents were due to poor lighting, according to a report made by Gray (15). Hence, it appears to be essential that lighting be adequate in every area of the food service operation.

The effect of noise on a worker's safe performance is indicated in studies reported by Farmer (12). According to this report, the response time of people tends to decrease and the number of errors tends to increase when noise levels are high.

The design of equipment and its placement within the dietary department should be considered with reference to its noise level in so far as possible. Loud talking should never be permitted. Employees should converse as quietly as possible.

A relation between temperature and accident rate has been reported (39). The study indicates the accident rate increases as the temperature rises or falls from the normal

comfort level of approximately 70°F. Temperatures can be regulated by air conditioning or by the use of windows and fans.

It should be understood that extensive steps must be taken to prevent and when necessary, control fires. In general, preventive steps include inspection and maintenance of electrical equipment and wiring, careful handling and storage of combustible materials, and the correct design and use of equipment which generates heat or uses fuel in its operation.

Kotschevar and Terrell (25) stress that fire control should be planned when designing the building by incorporating fire resistant materials as well as detection and extinguishing facilities into the design. For example, self-closing doors may be installed so that ducts close on reaching excessive temperatures.

Facilities for storing heavy objects should be provided to prevent hazardous removal from high storage places. Shelves should be adequate to bear the weight of items stored on them. Cleaning compounds and other toxic items should have a planned storage space so that they are not placed in darkened areas or near stored food.

Training and Supervision

Some form of systematic training and supervision of food service employees is necessary if they are to do their jobs safely and efficiently. This is an inescapable requirement

regardless of how carefully employees are selected or how much aptitude and experience they may have for the jobs to which they are assigned.

Methods of Training

There are many methods of imparting instructional information to food service employees. Each has a particular application for the situation in which it is used. For example, McGehee and Thayer (28) suggest that cost and profitability of training methods should be kept in mind. Lectures require a minimum of time to prepare and present information to large trainee audiences. However, the amount of information transferred and retained on the job needs consideration. If the lecture results in no behavioral changes, it is an extremely unprofitable training technique. In their discussion of employee training, West et al. (47) indicate job orientation should be followed by group and/or on-the-job training. Phases of a safety program may be incorporated into orientation as well as training.

During orientation, the newcomer should be shown generally how the institution operates and given an opportunity to ask questions. He should be introduced to his supervisor and fellow workers in an effort to show there is a personal interest in him. The worker should be made to feel that if he encounters an unexpected difficulty in the course of his work, there is someone to whom he may go for information and advice. This procedure will also make him feel at ease in

the department and will add to his job satisfaction which subsequently results in the peace of mind that reduces the probability of accidents.

General safety instructions should be given and explained fully and clearly, and care should be taken to insure that the worker really understands them. Group safety training sessions for all employees are one method used to impart this information. A value of a safety training program is that the worker sees that management considers safety essential for satisfactory job performance.

In training for accident prevention, it is important that the supervisor analyze the job before he begins to train a new employee. In this way he can identify the various difficulties and hazards which the trainee will encounter. Safe methods of work should be taught and the risks explained so the worker will understand that deviation from safe work methods may result in an accident. One of the reasons statistics show a relatively high number of accidents among newly engaged workers is failure to initiate and train them properly (31).

If the immediate supervisor indicates in any way that the methods taught and the safety attitudes desired are not really important, the trainee will quickly depart from them. Since the supervisor is the source of rewards and punishments, the learner will generally try to behave in the manner which he considers acceptable. This means the supervisor must

know the job being taught, safety standards required, potential hazards in the dietary department, and attitudes and abilities essential to performance. He will then be in a position to reinforce training procedures by his approval or disapproval of the learner's conformance or nonconformance to safety requirements.

The supervisor should keep an eye on the newcomer throughout the training period or until he has acquired the necessary routine to be sure he does not depart from safe methods of working. It should be noted that a particularly dangerous time may come when the trainee begins to think he knows the job and slackens his attention. He begins to take risks and looks up from his job while his hands continue to work. At this point, supervision and tactful explanations are needed. Subsequently, regular checks should be made to insure that his work is done in the prescribed manner and that no departures from safe work habits have occurred (39).

Training for a specific job might be supplemented by instruction for jobs common to many employees such as lifting heavy loads, using transport equipment, and loading and stacking (18,28). Isolating common skills in this manner can save time, training costs and impress upon the workers that safety must be the concern of every employee in the department.

Aids to Training

The use of audiovisual materials for all types of subject matter, including employee training, was encouraged by

McCluskey (27). He emphasized that audiovisual materials 1) provide concrete experiences which are essential to enrich learning, 2) provide more accurate communication of ideas, 3) aid in accurate thinking, and 4) contribute to the development of attitudes.

Several types of audiovisual materials have been developed for use in teaching of various skills. Training was found to be considerably more effective if the learner is shown, as well as told, how to perform a particular skill (5).

The visual materials selected for use throughout this program were planned to suit the training content, employees, supervisor, physical facilities, and available equipment. Use of the overhead projector, demonstrations, and posters, including those available from commercial sources, have been integrated in a proposed program for accident prevention.

Use of the overhead projector has many advantages. It may be used in the front of a lighted room with the instructor facing the class and the large, clear image visible to all. The transparencies are easily and inexpensively prepared. Tracings, drawings, writing, and typewritten material can be put onto a variety of projectable materials such as plastic, cellophane, and acetate sheets. These materials may be prepared in color as well as black and white.

The instructor can build up his presentation one step at a time by means of overlays. In addition, from his position beside the projector he can point to, write, or draw on the transparency while talking.

Demonstration materials offer the instructor the opportunity of accompanying verbal explanations with the actual objects relating to the skill he is presenting. He can evaluate the employees' understanding by allowing them to put the skill into practice (48).

Bulletin boards can effectively be used to display posters which illustrate a pertinent point on safety or remind employees of the importance of safety. Notices of training sessions and safety committee meetings may be displayed on bulletin boards (48).

The study of cases is frequently used as a training technique. Participants in a discussion group are given a case or problem. Through questions and discussion, they bring out principles and practices integral to the case. Rather than begin with the principle and give illustrations of its application, the trainees are to study, discuss, and discover the underlying principles. A basic premise is that material so taught will be more meaningful and that the individual will learn and remember better those things which he discovers for himself (28).

Safety Committees

Committees may be established to promote safety by cooperation between employer and workers. Management uses the committee to explain and interpret safety policies of the organization to employees. Employees may, in turn, use the committee to suggest to management their ideas on safety.

Safety committees should preferably consist of representatives from management, employees, and in some instances, the union. Because membership on the committee is very likely to stimulate interest in safety, as many persons as possible should serve on a rotation plan on the committee. Therefore, employees could be appointed or elected for a limited time to allow all the workers to serve on the committee. In most cases, it works best if the employee representatives are elected by their peers, although they may be nominated by the employer. By this latter method, a supervisor may nominate an employee for whom safety has little or no meaning in his work or a person possessing much enthusiasm for the safety program who could thereby motivate committee members as well as employees.

In some undertakings safety committees have been working successfully for many years and have built up good relations between management and workers. In others, safety committees have been less successful. After a good start, members have found themselves at a loss for topics to discuss and have lost interest. Investigations into circumstances that have had a favorable influence on the work of safety committees have shown the following considerations to be of particular importance.

* The items of the agenda for meetings must be carefully prepared, so that, if necessary, the chairman can give the members clear guidance on every point that may come up. In some operations the first item on the agenda for every meeting is communications from management which convey information of general interest, covering, for example, new developments and plans. (31)

* Failure has often been due to overlooking the fact that promoting safety is a matter not only of good will but also of competence. This does not mean that every member of a safety committee has to be a safety expert, but it does mean that enough members should know enough about safety to make the committee competent to perform its task. (39)

* Employees should always feel free to express their opinions and should not have cause to fear that if they make criticisms their supervisors will make life difficult for them. (18)

* A safety committee must feel that it is backed by management. This can be assured by having a member of management for its chairman, by providing suitable facilities such as comfortable, well-furnished room for meetings, allowing members time off to attend them, furnishing secretarial assistance, and perhaps in other ways. (17)

* The committee should meet regularly, for instance, once a month. One item on the agenda of every meeting should be a discussion of any accidents that have occurred since the last meeting. The discussions should be directed to determining the cause of each accident and working out measures to prevent its recurrence. (18)

* Committee members should make periodic inspections of the department. In this way they will see conditions for themselves and have opportunities for discussing them; it is important that the members should understand why the different safety precautions are taken and be able to judge their practical value. Inspections of the department will also reveal how safety measures are carried out, and the members will be particularly interested to see the effect given to their recommendations. (39)

* The committee should be consulted on all proposals for new safety measures so that as far as possible those finally adopted have the support of both the employer and the employees. (18)

* If a proposal made by the committee is rejected by management, the committee should be informed of the reasons. (17)

* All needful information, such as statistics, should be given to the committee members, not only to keep them informed of the general situation and the accident trend, but also to provide them with a sound basis for discussing improvement. (31)

Inspection and Maintenance

The safety picture is not complete even after care has been taken to see that all equipment has been designed and placed to insure the safest possible operation; nor is it complete when each employee has been trained to do his job with safety precautions. The planning or repair and maintenance work is another factor which must be considered. The poor condition of a piece of equipment is often the cause, not only of an accident, but also an interruption of work. Regular inspections of the total operation, good maintenance, and prompt repair will considerably reduce the number of accidents.

Inspecting all the facilities of the department can be a valuable aid in detecting potential causes of accidents. Daily inspections can be made by workers trained to check the equipment they use in their jobs before beginning their day's work. A supervisor may wish to draw up a simple check list for his employees to make certain the inspection is carried out.

The supervisor can make "spot checks" of his department at least once each day, making sure that:

* Utensils and equipment are in safe, usable condition;
* All guards and danger signs are in place;
* No dangerous condition is unguarded if it is possible to guard it;
* Aisles and passageways are clear;

* Materials are stacked and stored properly; and

* Workers are performing their jobs safely.

This inspection can consist of an observation tour through the department at least once a day. The supervisor will accomplish two objectives according to Simon and Grimaldi (39). First, he will be continually informing his personnel that he is interested in maintaining safety in his department; and secondly, he will be in close touch with the usual safety infractions and hence, good safety order will be maintained.

The work of the maintenance department is extremely important in prevention of accidents. A guiding principle is that nothing should be allowed to deteriorate to the point at which it might quickly become a hazardous condition. Repair must be scheduled so that interference with production is minimal.

PLANS FOR SAFETY TRAINING

Plans for three training sessions follow. By creating an informal atmosphere, it is hoped that all employees will participate in the discussions, case studies, and demonstrations. Employees should be encouraged or led into expressions of their opinions by the supervisor, who tries to stimulate the thinking of the group so the points he has planned to put across will be volunteered as part of the discussion (39).

The supervisor should know his subject well and be especially clear about the material he plans to present to the group at each session. He may wish to list the points to be made at the session. Pertinent questions might be prepared that will suggest the answer desired. The supervisor will use these questions to redirect the group's trend of thought when the discussion has wandered for too long a time from the objective wanted (39).

The National Safety Council has available at low cost many posters dealing with accident prevention. Included after the third training session plan are samples of ready-made posters that would be complimentary to a safety training program for food service employees.

TRAINING SESSION ONE

Title of Training Session: General Principles of Accident Prevention

Objectives:

1. Increase the employee's understanding of accident causes and the general principles of accident prevention.

2. Begin to involve employees in an active safety program by use of the case study method.

3. Motivate employees toward observance of recommended safety measures in on-the-job performance.

Method of Instruction:

1. Discussion of advantages of safety training, accident causes, and general principles of accident prevention.

2. Use of visuals (overhead projections) to reinforce points of the discussion.

3. Case study.

4. Demonstration of fire extinguishing equipment.

Time Segments:

1 and 2. 15 minutes.

3. 10 minutes.

4. 5 minutes.

Necessary Equipment:

1. Employee handbooks.

2. Overhead projector, projections (suggested visual materials follow training session plan), screen or wall space, outlet, extension cord (if needed).

3. Case studies.

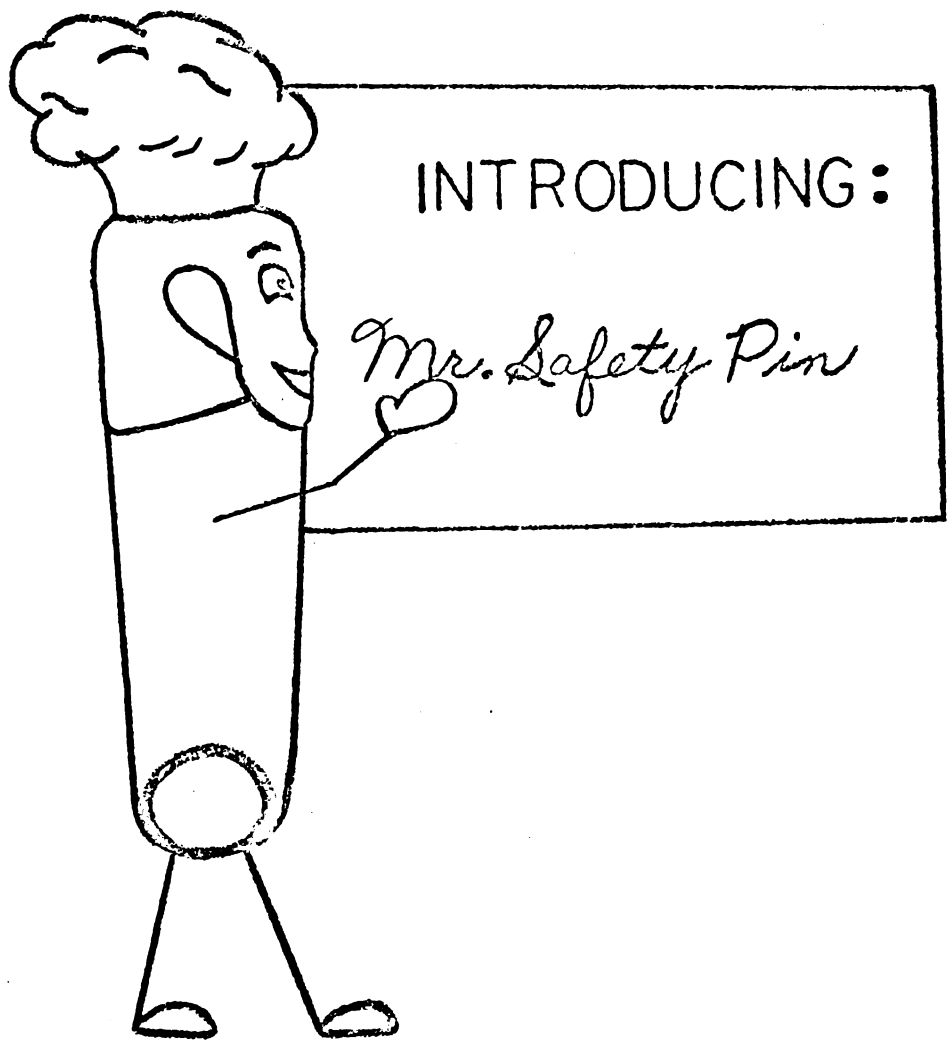
4. Fire extinguishers.

Handout Materials:

1. Employee handbooks.
2. Case studies.

Special Points of Stress:

1. Importance of safety.
2. Obligation of every person to be a DANGER DETECTIVE.
3. IF IN DOUBT ABOUT THE SAFE WAY TO PERFORM A TASK, ALWAYS ASK BEFORE BEGINNING.


INTRODUCING:
Mr. Safety Pin

FIRE SAFETY

- HELP PREVENT FIRES.
- REPORT THE FIRE.
- CONTROL THE FIRE.
- WHAT YOU DO TO HELP.
- FIRES AND EXTINGUISHERS.
- HOW TO USE EXTINGUISHERS
- FIRE ALERT

REPORT THE FIRE

FIRE WHICH IS NOT OUT:

▷ REPORT THE FIRE TO THE TELEPHONE OPERATOR

1. DIAL 412.
2. STATE: YOUR NAME
   WHERE THE FIRE IS
   HOW LARGE IT IS
   WHAT TYPE IT IS

FIRE WHICH IS OUT:

▷ 1. DIAL 597.

2. STATE: YOUR NAME
   WHERE FIRE WAS
   HOW LARGE IT WAS
   THAT IT IS OUT

CONTROL THE FIRE

1. CLOSE ALL WINDOWS AND DOORS.

2. A SMALL FIRE - SMOTHER IT.

3. A LARGER FIRE - USE THE PROPER EXTINGUISHER.

4. SMOKE DOORS - KEEP CLOSED AT ALL TIMES.

WHAT YOU DO TO HELP

1. BE CALM.

2. STAY IN YOUR OWN WORK AREA UNLESS DIRECTED OTHERWISE.

TRAINING SESSION TWO

Title of Training Session: Specific Accident Prevention Principles for Cafeteria and Tray-Line Food Service Employees.

Objectives:

1. Increase the employee's understanding of principles of accident prevention specific to cafeteria and/or tray-line food serving operations.

2. Encourage employee participation in an active safety program by a) use of the case study method, and b) citing and reporting hazards.

3. Motivate employees toward observance of the recommended safety measures in on-the-job performance.

Method of Instruction:

1. Discussion of specific accident principles for cafeteria and tray-line food service employees.

2. Use of visuals (overhead projections) to reinforce points of the discussion.

3. Case study.

4. Instructions and demonstrations on the safe way to lift objects.

Time Segments:

1 and 2. 15 minutes.

3. 10 minutes.

4. 5 minutes.

Necessary Equipment:

1. Employee handbooks.

2. Overhead projector, projections (suggested visual materials follow training session plan), screen or wall space, outlet, extension cord (if needed).

3. Case studies.

4. Demonstration supplies.

Handout Materials:

1. Employee handbooks.

2. Case studies.

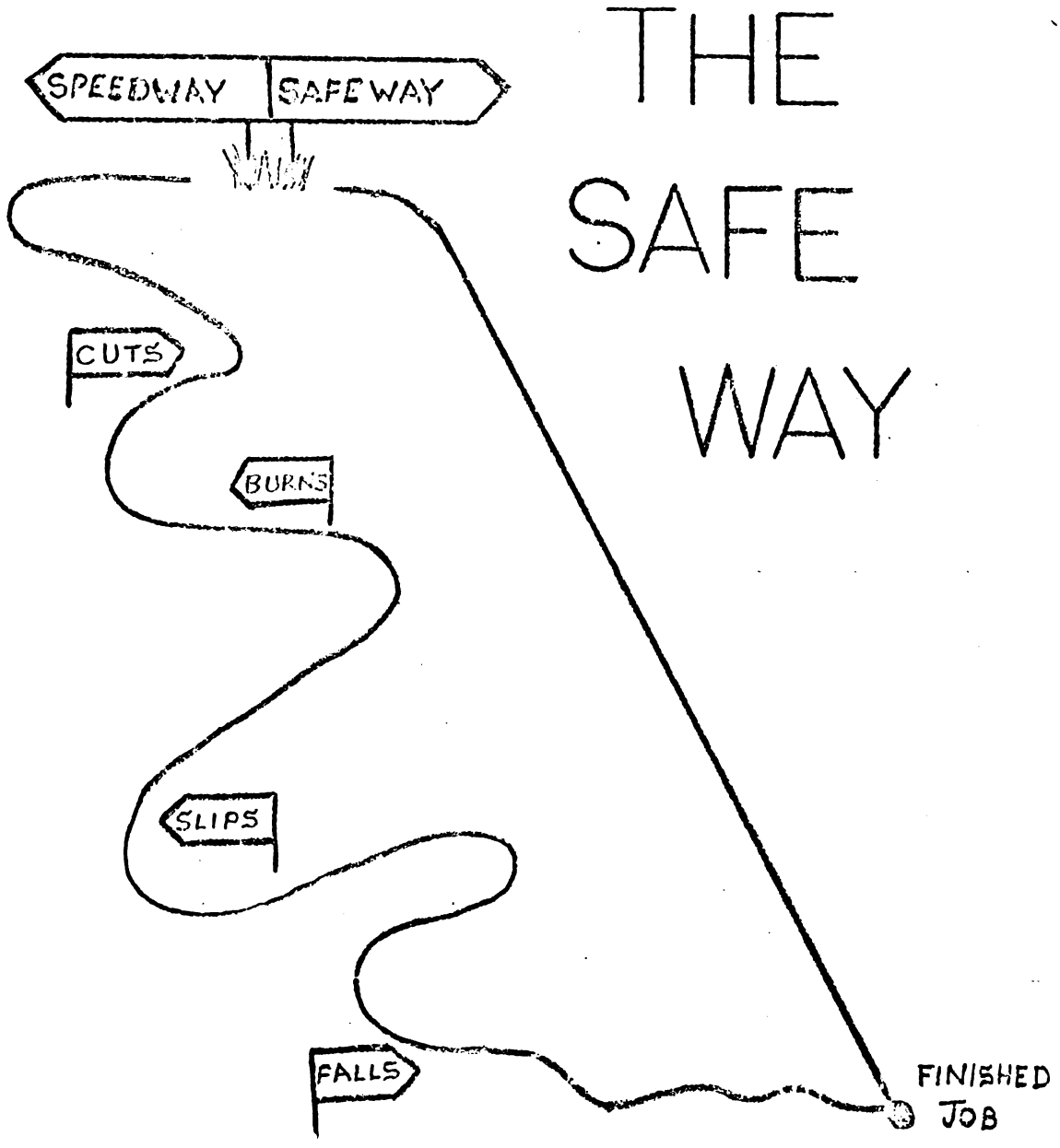
Special Points of Stress:

1. Damaged utensils should be repaired or replaced.

2. Avoid overloading trays.

3. Obligation of every person to be a **DANGER DETECTIVE.**

4. **IF IN DOUBT ABOUT THE SAFE WAY TO PERFORM A TASK, ALWAYS ASK BEFORE BEGINNING.**



IS THE
BEST WAY

SAFE WAYS TO LIFT

CROUCH DOWN

GRIP FROM UNDERNEATH

LIFT BY PUSHING UP WITH LEGS - KEEP BACK STRAIGHT

GET HELP WITH HEAVY LOADS

REMEMBER:

TRAINING SESSION THREE

Title of Training Session: Accident Reporting and Investigation.

Objectives:

1. Increase the employee's understanding of accident reporting and investigation.

2. Describe the role of safety committee.

3. Encourage employee participation in an active safety program by their roles a) on the safety committee, and b) as DANGER DETECTIVES.

4. Motivate the employees toward observance of the recommended safety measures in on-the-job performance.

Method of Instruction:

1. Lecture and discussion of accident reporting, investigation, and role of safety committee.

2. Use of visuals (overhead projections) to reinforce points of the discussion.

3. Selection of safety committee (committee composed of three members: chairman selected by the supervisor and two elected members).

4. Demonstration and employee participation in filling out accident report.

Time Segments:

1 and 2. 10 minutes.

3. 10 minutes.

4. 10 minutes.

Necessary Equipment:

1. Employee handbooks.

2. Overhead projector, projections (suggested visual materials follow training session plan), screen or wall space, outlet, extension cord (if needed).

3. Accident report forms.

Handout Materials:

1. Employee handbooks.
2. Accident report forms.

Special Points of Stress:

1. Look for and report accident hazards.
2. Report all accidents immediately.

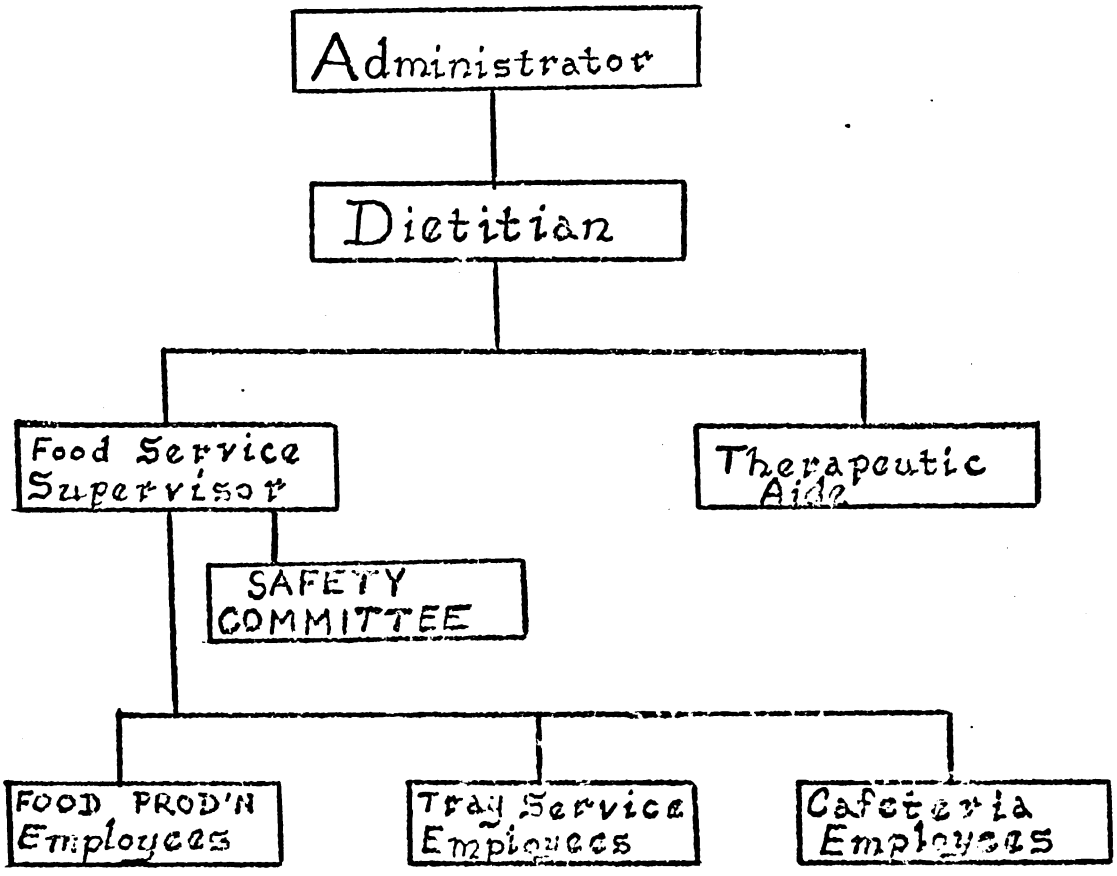
ACCIDENT REPORTING

- TAKE IMMEDIATE STEPS TO PREVENT FURTHER ACCIDENTS BY REMOVING HAZARDS.
- ASK ASSISTANCE IF NEEDED.
- NOTIFY SUPERVISOR AS SOON AS POSSIBLE.
- FILL OUT ACCIDENT REVIEW FORM.

INJURY?

- REPORT TO SUPERVISOR FOR FIRST AID. A PASS MUST BE OBTAINED FOR EMERGENCY ROOM CARE.
- IN IMMEDIATE EMERGENCIES, INJURED WORKER SHOULD BE TAKEN TO EMERGENCY ROOM AND SUPERVISOR NOTIFIED.
- FILL OUT ACCIDENT REVIEW FORM.

ORGANIZATION CHART



ACCIDENT REVIEW FORM

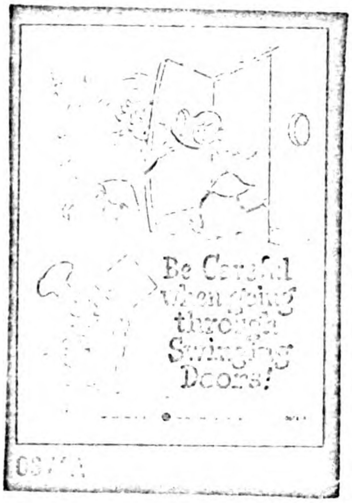
- NAME
- DATE
- DESCRIPTION OF ACCIDENT
- CAUSE OF ACCIDENT
  - PHYSICAL CONDITION
  - UNSAFE ACT
  - OTHER
- PREVENTIVE ACTION

1757-A

0326-B

0022-A

1681-B



0694-A

2554-A

0776-A

2549-A

2551-A

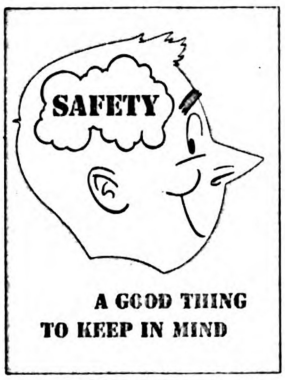
1540-A

1453-B

0632-A

2538-A

2657-A



0688-A

1968-A

1841-A

Dietary Dept.
City Hospital

CONTENTS

A MESSAGE FROM MANAGEMENT

Safety is vital to your work. Accidents bring suffering and hardships to the injured and their families, and for us they mean delays in accomplishing our goal of serving food to the sick as well as the many people needed to care for them. It is with this in mind that these instructions have been prepared. YOUR OBSERVANCE OF THESE INSTRUCTIONS IS ESSENTIAL TO THE SUCCESS OF OUR WORK AS WELL AS PROTECTION TO YOURSELF.

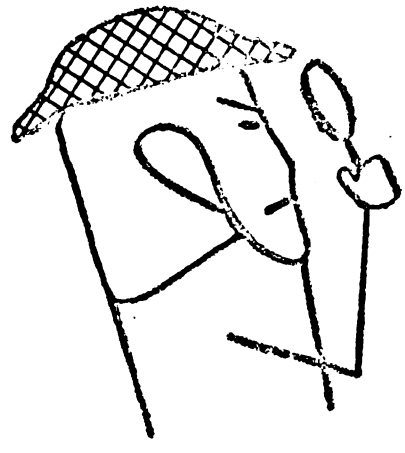
As a member of the Dietary Department team, this handbook is yours. The instructions should make each of you aware of the importance of on-the-job safety. BE SAFETY-MINDED AND WE SHALL HAVE A SAFE AND HAPPY PLACE IN WHICH TO WORK.

Very sincerely,

EVERY JOB IS IMPORTANT ENOUGH THAT YOU SHOULD TAKE TIME TO DO IT IN THE SAFE WAY.

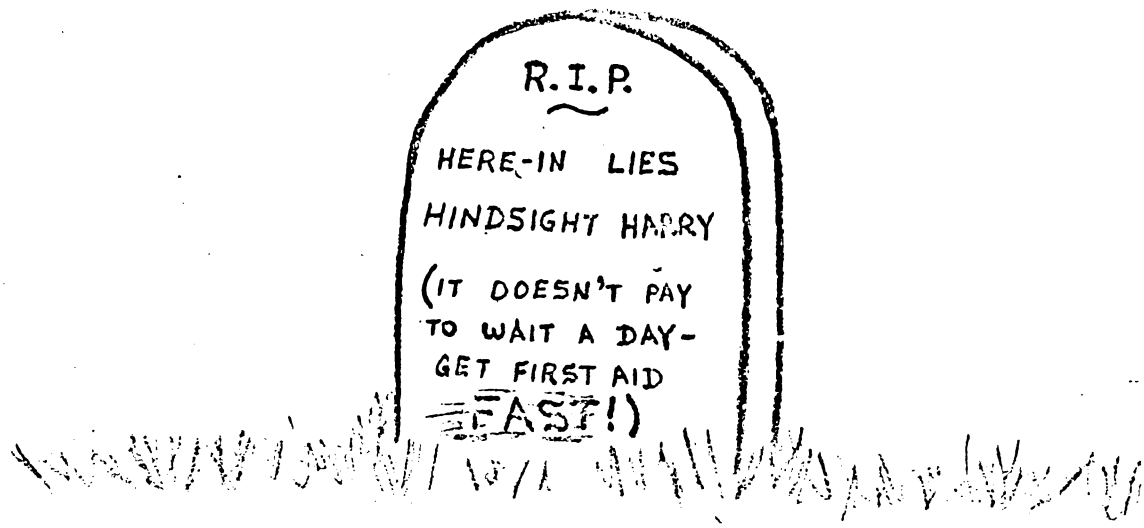
General Safety Principles

* Follow departmental regulations concerning SUITABLE CLOTHING; namely, wear-
  - shoes that will protect your feet from injury.
  - clothing free of parts that could get caught in equipment.
  - no jewelry that could come loose and fall into food.
* If in doubt concerning the safe way to perform a task, ASK YOUR SUPERVISOR before beginning the task.
* Report promptly to the supervisor any EQUIPMENT that is NOT in good working condition.
* Do not engage in HORSEPLAY, teasing, or distraction of fellow employees.
* Wipe up spills immediately.
* Walk, DO NOT RUN, in work areas.
* Never leave carts standing in an aisle.
* Never load a cart so high that you cannot see over the top of it.



* Do not push carts at a rapid speed.
* Be sure you have adequate clearance for hands when passing objects or going through doors with carts.
* Be careful when going through swinging doors. Always look through the glass and open slowly.

* Do not allow electrical cords to lie in water.
* Do not plug in tangled electrical cords.
* Keep hands dry when using electrical equipment.
* Always return utensils to their proper places after use.
* Push cabinet drawers and doors back immediately to prevent bumps.
* SWEEP UP broken glass and place in proper container.
* When reaching, use a stool or step ladder. Never stand on chairs, open drawers, or cartons.
* When lifting, bend knees and keep back straight. Always get help with a heavy load.
* Report any accident or injury at once. Prompt first aid may avoid serious consequences.



A CONSTANT AND SERIOUS THREAT TO SAFETY IS FIRE. WE NEED AND DEPEND UPON YOUR HELP TO BECOME ALERT TO HAZARDS, TO KNOW YOUR PART IN CORRECTING THEM, AND TO ACT CALMLY AND EFFECTIVELY IN A FIRE EMERGENCY.

General Fire Safety

* Smoke only in designated areas. USE AN ASHTRAY- not a wastebasket.
* Report promptly all electrical equipment that is not working properly or that has frayed cords.
* Keep flammable liquids in safe containers and cool areas.
* Do not obstruct fire exits at any time.
* Be sure to know where fire extinguishers are located and how to use them.

Alarm System

FOR A FIRE WHICH IS NOT OUT:

- Report fire to Telephone Operator- dial "412".
- State:

  Your NAME.

  Where fire is LOCATED.

  How LARGE it is.

  What TYPE it is.

FOR A FIRE WHICH IS OUT:

- Report fire to Telephone Operator- dial "596".
- State:

Your NAME.

Where the fire was LOCATED.

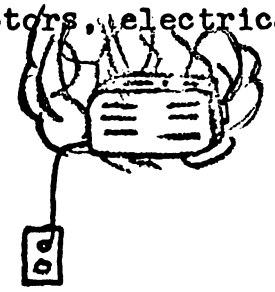
What TYPE it was.

That the fire is OUT.

FIRES AND FIRE EXTINGUISHERS

Different extinguishers are used to control different types of fires. It is important that the correct type of extinguisher be used for the fire. Fires have been classified as A, B, or C depending upon their origin.

TYPE OF FIRE	EXTINGUISHER USED
1. Class A Fire Paper, rubbish, wood.	Soda Acid Foam Pressurized Water Water Hose Blanket
2. Class B Fire Grease, oil, gasoline.	Carbon Dioxide Foam Dry Chemical Blanket
3. Class C Fire Motors, electrical wiring.	Carbon Dioxide Dry Chemical



How To Use Fire Extinguishers

There are six basic types of fire extinguishers. The one(s) found in your department is (are) number(s) _____.

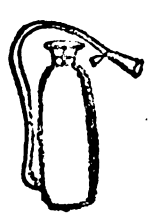
TYPE

1. SODA ACID- Carry in upright position. Grasp nozzle firmly between thumb and index finger. Invert extinguisher. Direct stream of water at base of flames,(30-40 ft. for 55 seconds).

2. FOAM- Same as Soda-Acid except: On class B fires, allow foam to drop lightly on burning surface or direct foam against side of container. On class A fires, direct stream of foam at base of flames. (30-40 ft. for 55 seconds).

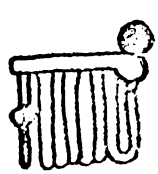
3. PRESSURIZED WATER- Carry in upright position. Pull pin with twisting motion to break wire seal. Press lever. Direct stream of water at base of flames. (40 ft. for 55 seconds).

4. CARBON DIOXIDE- Pull pin with twisting motion to break seal. Point horn at base of fire and squeeze handles together. Wave horn slowly across burning material. (6-8 ft. for 42 seconds).



5. DRY CHEMICAL- Carry in upright position. Three types: Pull pin or collar and then
   1. Open valve (or)
   2. Press lever (or)
   3. Turn over and pump

   Then squeeze nozzle. Direct stream at base of flame; use side to side motion. (14 ft. for 25 seconds).



6. WATER HOSE- Three People- Two persons take nozzle end of hose and extend it to fire. Third person remains at hose rack (be sure that last loop of hose is off rack) and opens valve slowly upon signal from first person.

THE RESULTS OF MOST ACCIDENTS IN YOUR WORK ARE CUTS, BURNS, SLIPS, AND STRAINS. IF YOU ARE INJURED, IT MEANS THAT...

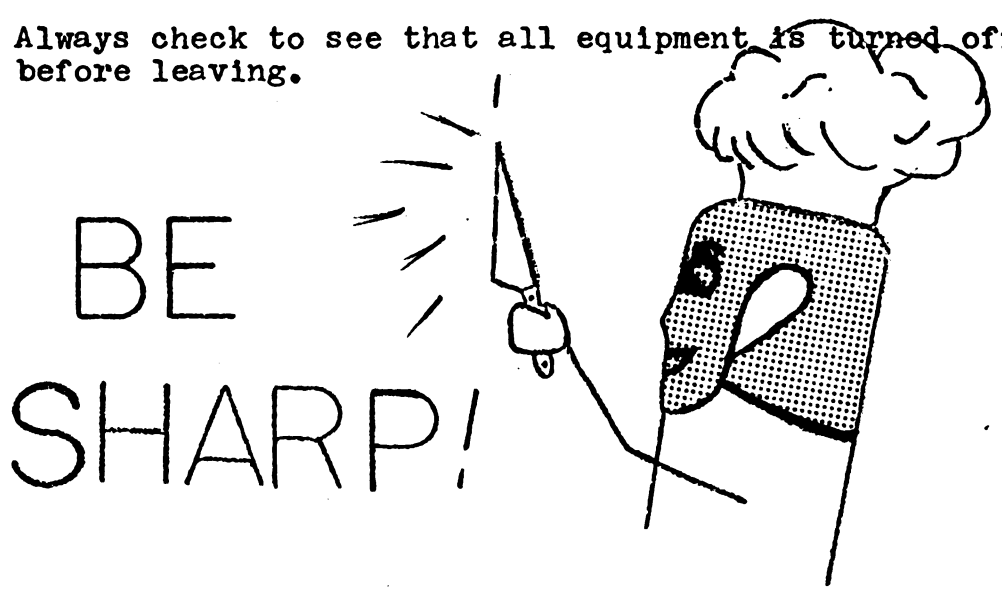
...SOMEONE NEGLECTED TO CORRECT A WORK HAZARD, or

...YOU DID NOT WORK SAFELY.

Specific Principles for Cafeteria and Tray-Line Workers

* Keep floors in your area clean and dry.
* Avoid overloading of trays. Carefully place containers and dishes of food on the trays so that they will not slip or spill when the trays are carried or moved.
* Use care in stacking dishes.
* Be sure to check all glassware, dishes, and silver for possible defects before placing these items in service. Remove defective items immediately.
* Be constantly vigilant about glass chips. They usually come when moving glassware to and from storage.
* Cups and bowls should be centered on saucers or liners before being placed on the counter or tray.
* Avoid over-filling containers with liquids or hot foods. Make sure the edges of the plate, bowl, or cup are free of food. Warn guests of hot dishes.
* Pay strict attention when drawing hot water or coffee from an urn. Turn the spigot slowly so as to avoid splashing.
* Coffee pots should be placed on trays with spouts toward the center, handles out; other hot liquids should be placed with handles in.
* Protect foods from foreign substances. If you break an article near open food containers, immediately report this to your supervisor so the food can be removed from service.

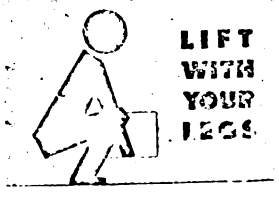
* Avoid cuts by removing can lids completely.
* Promptly report broken slats in deck boards.
* After dish racks or lowerators have been emptied, store them carefully out of the way of traffic.
* Place scraps of food and refuse in proper containers.
* Use only DRY cloths, towels, mitts, or pot holders when handling hot utensils.
* Be careful when lifting steam table pans or insets.
* Lift farther edge of inset covers first to prevent the steam from clouding up into your face.
* Do not leave serving utensils hanging over the edge of the counter. This is a frequent cause of scalds and burns.
* Remember! A dull knife is more dangerous than a sharp knife. Keep knives in good cutting condition.
* Do not lay hands on steam table. It may be hot.
* Do not handle pellets for patient plate service when they are hot.
* Never put a fork or knife into a toaster to remove bread.
* When maintenance men are working in your area, stay out of their way.
* Never leave your cleaning equipment around on the floor when not in use.
* Always check to see that all equipment is turned off before leaving.

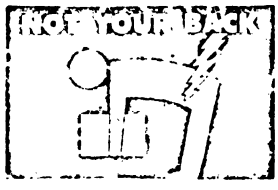


Correct Lifting Procedure

MANY OF THE MOST SERIOUS INJURIES ARE DUE TO IMPROPER LIFTING. THEY HAPPEN BECAUSE EMPLOYEES HAVE NOT BEEN TAUGHT OR HAVE FORGOTTEN THESE RULES FOR LIFTING:

* Always crouch down to the load you are going to lift.
* Get a good footing. Keep your feet 8 to 12 inches apart.
* When possible, get a firm grip under the load.
* Keep your arms straight, and your back as vertical as possible.
* Lift gradually. Avoid jerky motions.
* Shift the position of the feet as necessary; do not use twisting motions.
* Lift by pushing up with your legs. Leg muscles are stronger than back muscles.
* Always get help with a heavy load. Never lift beyond your strength.
* Put things down by reversing the lifting methods above.





Accident Policies

All injuries or accidents must be reported to the dietitian or immediate supervisor AT ONCE. In case of urgent necessity, and the supervisor cannot be located immediately, go directly to the emergency room. The supervisor must then be notified so that a report can be filed. Unless all injuries or accidents are reported immediately, the hospital will not be responsible for what may result.

When an injury occurs, the supervisor fills out an accident card and sends the employee with the card to the emergency room. An accident review form is to be filled out by the worker and supervisor and a copy should be sent to the safety committee.

ACCIDENT REVIEW FORM

Name of injured (or involved) worker_____

Date of alleged accident_____Date reported_____

Brief description of alleged accident_____

_____

_____

Check, in your opinion, the causes of the alleged accident:

Physical Causes

____Defective equipment
____Improper illumination
____No mechanical cause
____Not listed. Describe_____
____Hazardous arrangement
____Improper dress

Sometimes the injured employee is not directly associated with the causes of an accident. Using an X to represent the injured worker and an O to represent any other person involved, indicate whether the alleged accident was caused by:

Unsafe Acts

____Operating equipment without authority
____Working at unsafe speed
____Unsafe loading, placement
____Taking insafe position
____No unsafe act
____Not listed. Describe____

_____

Personal Causes

____Physical handicap
____Lack of knowledge of skill
____Wrong attitude
____Not listed. Describe__

_____

_____

Actions taken to prevent an accident similar to the one reviewed above:_____

_____

_____

Employee's signature_____

Supervisor's signature_____

Chairman, Safety Committee_____

Date_____ Time Lost_____ Cost_____

BIBLIOGRAPHY

1. "Accident Facts." Chicago: National Safety Council, 1965.

2. Ahrens, E. F. "Training Employees for Safety," Institutions Magazine, XLII (April, 1958), p. 7.

3. "A Safety Guide for Food Handling Employees," Industrial Commission of Ohio, Division of Safety and Hygiene.

4. "At Your Service," New York: Educational Service Department, Bristol-Myers Products Division, 1956.

5. Backman, J. S. How to Use Audio-Visual Materials. New York: Association Press, 1956.

6. Bass, B. M., and Vaughan, J. A. Training in Industry: The Management of Learning. Belmont, California: Wadsworth Publishing Company, 1966.

7. Brown, J. W. Instructional Materials Manual. San Jose State College, Spartan Book Store, 1957.

8. Brown, J., Lewis, R., and Harcleroad, F. A-V Instruction Materials and Methods. New York: McGraw-Hill Book Company, 1964.

9. "Communicate Safety," Chicago: National Restaurant Association, 1963.

10. deKieffer, R. E. Audiovisual Instruction. New York: The Center for Applied Research in Education, Inc., 1965.

11. Elsby, C. "The Costly Enemy," Food Management, IX (March, 1966), p. 68.

12. Farmer, E. The Causes of Accidents. London: Sir Issac Pitman & Sons, Ltd., 1932, p. 56.

13. "Food Service Safety Check List to Locate Hazards," National Safety Council.

14. Grace, A. G. Educational Lessons from Wartime Training. Washington, D.C.: American Council on Education, 1948.

15. Gray, J. S. Psychology in Industry. New York: McGraw-Hill Book Company, 1952, p. 229.

16. Hall, D. W. "Safety Management in Michigan State University Residence Halls." Unpublished Master's problem, Department of Institution Administration, Michigan State University, 1963.

17. Heinrich, H. W. Industrial Accident Prevention. New York: McGraw-Hill Book Company, 1941.

18. International Labour Office. Accident Prevention: A Worker's Education Manual. Geneva: 1964.

19. Jardine, M. E. "Selecting and Developing Audiovisual Materials for the Equipment Unit of a Quantity Foods Course." Unpublished Master's problem, Department of Institution Administration, Michigan State University, 1965.

20. Jucius, M. J. Personnel Management. Homewood, Illinois: Richard D. Irwin, Inc., 1963.

21. Kinder, J. Audio-Visual Materials and Techniques. New York: American Book Company, 1959.

22. Kingsberry, M. E. "Audio-Visual Techniques for Dietetic Internship Curricula." Unpublished Master's problem, Department of Institution Administration, Michigan State University, 1963.

23. Klein, M. W. An Experimental Evaluation of Audio-Visual Methods: Changing Attitudes toward Education. Los Angeles, California: John Tracy Clinic, 1963.

24. Kotschevar, L. H. Quantity Food Production. Second edition. Berkeley, California: McCutchen Publishing Corporation, 1966.

25. Kotschevar, L. H., and Terrell, M. E. Food Service Layout and Equipment Planning. New York: John Wiley & Sons, Inc., 1961.

26. Lukowski, R. F., and Eshbach, C. E. "Employee Training in Food Service Establishments." Food Management Leaflet No. 7, Cooperative Extension Service, College of Agriculture, University of Massachusetts, 1963.

27. McCluskey, F. D. Audio-Visual Teaching Techniques. Dubuque, Iowa: William C. Brown Company, 1949.

28. McGehee, W., and Thayer, P. Training in Business and Industry. New York: John Wiley & Sons, Inc., 1964.

29. Minor, E. Simplified Techniques for Preparing Instructional Materials. New York: McGraw-Hill Book Company, Inc., 1962.

30. New Jersey Insurance Conference on Occupational Safety, "Causes of Accidents," Journal of the American Dietetic Association, 45 (November, 1964), p. 428.

31. Perkins, C. E. "What Every Supervisor Should Know About Hotel/Motel Safety," Cornell Hotel and Restaurant Administration Quarterly, V, No. 4 (February, 1965), p. 95.

32. Pfiffner, J. M., and Fels, M. The Supervision of Personnel. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964.

33. Pirrie, P. Blueprint for Preventive Maintenance. New York: American Trade Publishing Company, 1961.

34. Richardson, T. M. "Sanitation for Food Service Workers," Institution Magazine, XL (June, 1957), p. 83.

35. "Safe Ways to Life Things," Journal of the American Dietetic Association, 49 (August, 1966), p. 421.

36. Schiller, S. M. R. "An Accident Profile of Food Service Workers in Residence Halls at Michigan State Universsity," Unpublished Master's problem, Department of Institution Administration, Michigan State University, 1966.

37. Schulzinger, S. "Accident Proneness," Industrial Medicine and Surgery. 23 (April, 1964), p. 151.

38. Simonds, R. H. "The Cost and Control of Accidents," Journal of the American Dietetic Association, 42 (June, 1963), p. 496.

39. Simonds, R. H., and Grimaldi, J. V. Safety Management: Accident Cost and Control. Homewood, Illinois: Richard D. Irwin, Inc., 1963.

40. Sorcher, M., and Mayer, H. "Eight Ways to Motivate Plant Employees," Supervisory Management, 13 (February, 1968), p. 2.

41. State of Utah, Department of Health. "Food Service Sanitation Manual." 1962.

42. Strauss, L. H., and Kidd, J. R. Look, Listen, and Learn. New York: Stratford Press, Inc., 1948.

43. Sutermeister, R. A. People and Productivity. New York: McGraw-Hill Book Company, Inc., 1963).

44. U. S. Department of Health, Education and Welfare, Office of Education. Food Service Industry Training Programs and Facilities. Vocational Bulletin No. 298. Washington, D. C.: U. S. Government Printing Office, 1961.

45. U. S. Department of Labor, Bureau of Standards. Safety Subjects, Bulletin No. 67. Washington, D. C.: U. S. Government Printing Office, 1955, p. 14.

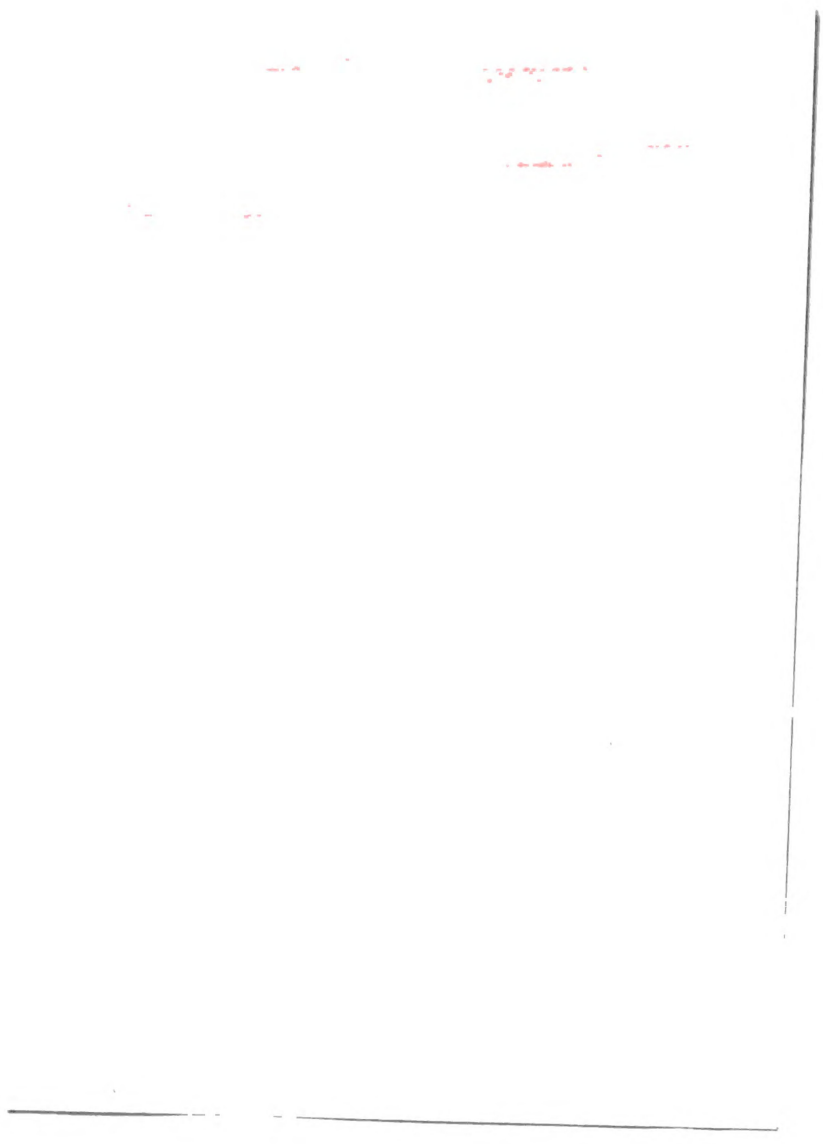
46. U. S. Department of Labor, Bureau of Labor Statistics. Vocational Division. Injuries in Hospital Food Service, Bulletin No. 1219. Washington, D. C.: U. S. Government Printing Office, 1958.

47. West, B. B., Wood, L., and Harger, V. F. Food Service in Institutions. Fourth edition. New York: John Wiley & Sons, Inc., 1966.

48. Wittich, W. A., and Schuller, C. F. Audiovisual Materials: Their Nature and Use. New York: Harper and Brothers Publishers, 1967.

49. Young, L. D. "Credit Difficulties and Accidents," Personnel Journal, 38 (October, 1959), p. 168.

50. "Your Responsibility for Safety." Chicago: National Restaurant Association, 1966.



MICHIGAN STATE UNIVERSITY
COLLEGE OF HOME ECONOMICS
EAST LANSING, MICHIGAN

DeJonckheere, Sister Mary Marcel,S.C.

A Program for Accident Prevention During Cageteria and Hospital Tray-Line Food Serving Operations.